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# ONLINE OPERA: AN APPLIED COLLISION OF OPERA AND WEB CREATIVITY

LEE TIMOTHY DAVID SCOTT

A thesis submitted in partial fulfilment of the requirements of Bath Spa  
University for the degree of Doctor of Philosophy

School of Design, Bath Spa University

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# Table Of Contents

Abstract

List of Tables

List of Figures

1. Introduction	1
1.1. Original Contribution to Knowledge	1
1.2. A Definition of 'Opera' for this Study	4
1.3. Online Opera in Context	7
1.4. Trajectory of Research	15
2. Digital Opera	18
2.1. Unpacking the Term 'Digital Opera'	19
2.2. A Survey of Digital Opera	24
2.2.1. Responsive Environments	31
2.2.2. Distributed Performance	36
2.2.3. Co-Creation	41
2.3. Opera for Computing Platforms (OCPs)	48
2.3.1. OCPs and Interactivity	50
2.3.2. Opera for Mobile Media	53
2.3.3. Machinima Opera	56
2.3.4. Towards Videogame Opera	59
3. Research Methodology	65
3.1. A Practice-Based Approach	65
3.1.1. Ensuring Rigour	67
3.2. Data Collection	71
3.2.1. Mixed Methods Research	72
3.2.2. Data Collection Instruments	73
3.2.3. Ethical Considerations	82
3.3. Documentation	85
4. The Imaginary Voyage	89
4.1. An Overview	89
4.2. Towards an Online Opera	91

4.3. Surfing the Semantic Web	93
4.4. 'Pataphysics (Un)Defined	96
4.5. The Syzygy Surfer	97
4.6. The Isle of Cack	100
4.6.1. Pataphysicalisation in Cack	104
4.7. The Amorphous Isle	107
4.8. The Land of Lace	111
4.9. Evaluation	114
4.9.1. Keyword Analysis	115
4.9.2. Exposing Context	116
4.9.3. The Syzygy Surfer	117
4.9.4. Interactivity	119
4.9.5. The Imaginary Voyage as Opera	122
5. The Village	125
5.1. An Overview	125
5.2. The Village as Creative Research	127
5.3. The Core Elements of Opera	128
5.4. The Libretto	130
5.5. Archetypes in Characterisation and Visual Production	133
5.6. The Music of The Village	139
5.6.1. A Framework for Co-Creation	140
5.6.2. Reflections on the Music of The Village	145
5.7. Liveness and The Village	150
5.7.1. Liveness Devices in The Village	156
5.7.2. The Planned Event	158
5.7.2.1. Reflections on the Planned Event	161
5.7.3. Social Liveness	166
5.7.3.1. General Engagement	170
5.7.3.2. Digital Chorus Activity	174
5.7.3.3. Reflections on Social Liveness	176
5.7.4. Contemporaneity	180
5.7.4.1. The Role of the Visitor	181
5.7.4.2. Contextual Awareness	182

5.7.4.3. The Election: Temporal Alignment with Real-World Events	184
5.7.4.4. The Election: Influencing Narrative Trajectories	188
6. Conclusions and Future Work	193
6.1. The Survey of Digital Opera	193
6.2. Research Methods	197
6.3. Reflections on The Village	200
6.3.1. Mode of Encounter	200
6.3.2. Liveness	204
6.4. Towards Fragments: an Opera for Mobile Opera	209
6.4.1. An Overview	210
6.4.2. Fragments as Creative Research	212
Appendix I - The Imaginary Voyage	218
1. Focus Group Individual Responses (Consolidated)	218
A. The Isle of Cack	218
B. The Amorphous Isle	219
C. The Land of Lace	221
D. General Comments	222
2. Focus Group Interview Transcripts (Clean Verbatim)	223
A. Session 1	223
B. Session 2	236
C. Session 3	241
D. Session 4	254
Appendix II - The Village	260
1. Online Survey Responses	260
2. Composer Written Structured Interview Responses	265
3. Visit Counts by Date and Originating Country	282
4. Visitor Journey Data	283
5. Villager Feed Data	300
Endnotes	305
References	315

# Abstract

This practice-based research explores the collision of opera and web creativity through the development and evaluation of a new 'online opera' called *The Village* (2015). Contrasting existing offerings that position the web as a means of disseminating more familiar representations of opera, *The Village* draws on concepts of participatory culture, digital storytelling and co-creativity to advance a culturally novel apprehension of online opera that treats the web as a unique creative space. This interpretation is intrinsically digital, unable to be realised through conventional forms of theatrical presentation, and transformative in its approach to the core elements of opera. *The Village* in addition serves as a vehicle to investigate how the phenomenon of 'liveness' - that is, a feeling of 'now-ness' experienced in live performance - may be reimagined in the context of an entirely mediated opera. A range of theoretical perspectives are drawn on to establish a set of liveness devices that attempt to evoke in visitors to *The Village* a sense of contemporaneity and shared experience. These include temporal alignment between virtual and real-world events and the facilitation of social interaction through a narrative mechanism called the 'Digital Chorus', amongst others. Evaluative activities critique the effectiveness of such devices, and offer means in which they may be modified to better construct 'the live'.

# List of Tables

Table 1.1. Outline of my role in the development and evaluation of <i>The Imaginary Voyage</i> and <i>The Village</i> .	3
Table 2.1. A survey of digital opera with examples of practice.	29
Table 3.1. Key data collection parameters for an evaluation of <i>The Imaginary Voyage</i> .	77
Table 3.2. Key data collection parameters for an evaluation of <i>The Village</i> .	82
Table 4.1. An overview of three pataphysical tropes: antinomy, clinamen and syzygy.	98
Table 4.2. Overview of the operation of the Syzygy Surfer as proposed by Fania Raczinski.	100
Table 5.1. An overview of the astrological context for each of the five episodes of <i>The Village</i> .	132
Table 5.2. An overview of the main characters of <i>The Village</i> .	136
Table 5.3. Summary of composer impressions of the co-creative process used to generate character arias in <i>The Village</i> .	147
Table 5.4. An overview of the liveness devices explored in <i>The Village</i> .	157
Table 5.5. Proposed methods for reconfiguring <i>The Village</i> to better draw attention to impermanence.	165
Table 5.6. Categorisation of Digital Chorus member engagement.	171
Table 5.7. Four types of social interaction exhibited by Digital Chorus members.	176

# List of Figures

Figure 3.1. Diagram that describes the sequential flow of milestones within this research.	70
Figure 3.2. An overview of the data collection instruments used in this research.	74
Figure 3.3. An overview of the documentation methods used in this research, with reference to Peter Hulton's AIPP approach.	88
Figure 4.1. Representation of the primary user interface in <i>The Imaginary Voyage</i> .	91
Figure 4.2. An example of a semantic relationship between 'bulb' and 'black hole'.	96
Figure 4.3. Capture of the opening of <i>The Imaginary Voyage</i> moving into the Isle of Cack [Video].	101
Figure 4.4. Capture of a portion of the constraint tables used to source audio and visual materials for use in the Isle of Cack.	104
Figure 4.5. Interactive demonstration of the operation of the clinamen patalgorithm in the Isle of Cack [Web Artefact].	105
Figure 4.6. Interactive demonstration of the operation of the syzygy patalgorithm in the Isle of Cack [Web Artefact].	106
Figure 4.7. Capture of the Amorphous Isle [Video].	109
Figure 4.8. Demonstration of the how settlements are constructed in the Amorphous Isle [Web Artefact].	110
Figure 4.9. Capture of the text excerpt table used in the Amorphous Isle.	111
Figure 4.10. Capture of a full iteration of the Land of Lace [Video].	112
Figure 4.11. Visualisation that describes how content is sequenced in the Land of Lace.	113
Figure 4.12. Keyword analysis of focus group participant descriptions of islands within <i>The Imaginary Voyage</i> .	116

Figure 5.1. Libretto for <i>The Village</i> with character descriptions and aria lyrics [PDF].	131
Figure 5.2. The village map.	135
Figure 5.3. An outline of the four key work packages that underpin the development of <i>The Village</i> .	142
Figure 5.4. An extended showreel of the music of <i>The Village</i> [Video].	143
Figure 5.5. A selection of posts made to <i>The Village</i> Facebook page.	159
Figure 5.6. <i>The Village</i> as an 'echo of the past' [Web Artefact].	160
Figure 5.7. Graph showing number of visits to <i>The Village</i> for each day during its live period.	162
Figure 5.8. Graph showing duration of visits to <i>The Village</i> organised into five time ranges.	162
Figure 5.9. Graph showing engagement with character arias in <i>The Village</i> organised into five levels.	163
Figure 5.10. Overview of the Digital Chorus that includes the villager creation process [Video].	170
Figure 5.11. Graph showing total number of posts per episode by Digital Chorus members.	172
Figure 5.12. Graph showing average number of posts per episode by Digital Chorus members.	172
Figure 5.13. Graph showing number of posts per Digital Chorus member (ranked).	173
Figure 5.14. Mock up of a proposed revision of the Villager Feed [Video].	180
Figure 5.15. Screen capture of <i>The Village</i> that shows how its visual production reflects a visitors's local environment (weather and time).	183
Figure 5.16. Graph showing the originating countries of visits to the <i>The Village</i> during it's live period.	187
Figure 5.17. Visualisation of factors that contribute to an online opera's capacity to respond to current affairs.	187



Figure 5.18. Capture of the <i>The Village</i> that shows how live poll results were presented to voters.	190
Figure 5.19. Visualisation that describes how the story of <i>The Village</i> could be adjusted to account for all possible election outcomes.	191
Figure 6.1. Edited walkthrough of <i>Fragments</i> , an opera for mobile media [Video].	212

# 1. Introduction

## 1.1. Original Contribution to Knowledge

There exists at the time of writing very little practice that is described as online opera, or indeed variants such as web opera and Internet opera. *Soul Seek* (Studio Minailo 2013) and the more recent *The Web Opera* (Michael Roth 2019) *Extricate Oneself* (Alexandra Hallén 2020) are amongst only a handful of works that occupy this conceptual space. Although often compelling dramatic narratives in their own right, such examples appear consistently as filmic representations of opera that treat the web more as a tool for content dissemination than a platform for creative exploration. They do little to reimagine opera as an online experience. This practice-based research presents a culturally novel apprehension of online opera. Rather than a means of curating or in some cases archiving the outputs of established operatic forms, I define online opera as a 'distinctive and creative collision of opera, Internet culture and web architecture that is intrinsically digital, delivered entirely via a web browser and constructed using web technologies'. This new way of seeing online opera allows for outputs that range in their approach to narrative, visual production and musical composition, yet establishes a condition that eligible works must be conceived for the web specifically and respond to its technological and/or sociocultural characteristics.

The primary output of this research is *The Village* (2015). This is an online opera

that over five weeks and through co-created music and animation tells the story of a fantastical virtual world that exists in parallel to our own. A key component of the practice is the exploration of a set of devices that together lend *The Village* a live quality. These include reflecting a user's local context in the opera's visual production, aligning village affairs with those taking place in the real world, allowing visitors to collectively determine the outcome of a mayoral election, and establishing a 'digital chorus' of participants that contribute text-based reactions to the story as it unfolds. *The Village* is an independently devised online opera that makes an original contribution to knowledge in the emerging field of 'digital opera' (Hugill et al. 2014). It is the first opera conceived for the web that spotlights the social dimension of the operatic form, and is furthermore significant as a piece of creative research in its novel treatment of 'liveness' in a digital context.

The conceptual direction of *The Village* is in part a response to an earlier work called *The Imaginary Voyage* (2013). This is an online opera conceived by Andrew Hugill and developed by Hugill and I in partnership with The Opera Group (now Mahogany Opera). *The Imaginary Voyage* is based on a section of Alfred Jarry's *Exploits and Opinions of Dr. Faustroll, Pataphysician* (1911) that describes Faustroll's travels across the 'squitty sea'. Individuals engaging the opera follow a similar journey to encounter a collection of islands that vary in atmosphere, audiovisual composition and mode of interaction. Given the scope of my engagement in the development of *The Imaginary Voyage* (see Table 1.1), I

position the opera in this research as a practical case study rather than an original contribution to knowledge. A description of the work is however provided to support comprehension of the trajectory of my original practice, and alongside *The Village*, to outline two distinctive approaches to online opera that align with my proposed definition of the form. I in addition design and conduct an evaluation of *The Imaginary Voyage* to understand what potential audiences expect of an online opera, and to enrich the insights generated by the research at large.

My Role	Description
<i>The Village</i>	
<ul style="list-style-type: none"> <li>■ Principle Investigator</li> <li>■ Librettist</li> <li>■ Sole Developer</li> <li>■ Visual Designer</li> <li>■ Songwriter</li> <li>■ Producer</li> <li>■ Researcher</li> </ul>	I conceived <i>The Village</i> , wrote the core text, designed and implemented all aspects of visual design and development, and led the co-creative composition process. As researcher I devised, conducted and analysed the results of all data collection activities. I however drew on a range of artists, composers and singers to generate character illustrations and much of the opera's music.
<i>The Imaginary Voyage</i>	
<ul style="list-style-type: none"> <li>■ Visual Designer</li> <li>■ Sole Developer</li> <li>■ Producer</li> <li>■ Researcher</li> </ul>	<i>The Imaginary Voyage</i> is conceived and composed by Andrew Hugill. The opera is a result of a shorter Knowledge Transfer Partnership (sKTP) between De Montfort University and The Opera Group. As sKTP associate I implemented the opera's core technologies, delivered the visual design (excluding the Land of Lace), recorded and mixed original music materials, and assumed the role of general producer. As researcher I independently designed and conducted evaluation activities that include a series of focus groups funded by the Paul Hamlyn Foundation and administered by The Opera Group.

Table 1.1. Outline of my role in the development and evaluation of *The Imaginary Voyage* and *The Village*.

## 1.2. A Definition of 'Opera' for this Study

To secure the above definition of online opera, it is beneficial at this point in the commentary to define the term 'opera' for the purposes of this study. This section offers an understanding of the challenges of this task, before offering a definition of opera that underpins the status of *The Village* (my original contribution to knowledge) as an opera.

Opera is a long-established and continually evolving musical form. Over its 400 year history, opera has been shaped by multiple social, cultural, and political factors as well as numerous musical influences and performance traditions (Cannon 2012; Abbate and Parker 2015). A highly condensed history includes early segregation of opera into works that were composed for the European court (e.g. *opera seria*) and those for the general public (e.g. *opera buffa* or 'comic' opera), through to the emergence of grand styles of opera in the Romantic period (c. Nineteenth Century) that were in part driven by nationalistic thinking (such as those composed by Wagner and Verdi), to a more individualistic approach to opera in the Twentieth Century where fundamental assumptions about dramatic structure and the grammar of music were challenged by modernism and the avant-garde. Developments in the Twentieth Century particularly led to a fracturing of what could be considered clear 'trends' in opera into multiple and diverse artistic trajectories, with a notably number of operatic works questioning the necessity of formalised musical structures as well as other previously accepted features of the form. Indicative works of the period include, for

example, non-plot operas such as Phillip Glass' *Einstein on the Beach* (1976) and operas that invite audiences to critically examine the very concept of theatricality such as Igor Stravinsky's earlier *The Rake's Progress* (1951). For Lindemberger this fragmentation is "intrinsically a part of modernist music [...] and an extension of modernism in all the arts" (2010, p.174), and perhaps the result of cross-pollination as more composers began to work across musical forms.

These as well as more recent deviations and resistances to operatic theatricality have given rise to new categories of music-driven theatre that avoid the 'opera' label such as *Neues Musiktheater* (New Music Theatre). This descriptor is often applied to works that feature similar forces as opera - i.e. music, vocalization, language, movement - but typically differ in their societal context, performance setting, scale and aesthetic intentions (Salzman and Desi 2008). In addition, other forms of cultural expression including television and popular music have appropriated the term 'opera', with examples such as 'rock opera' making reference to the melodramatic underpinnings of conventional opera. Although largely considered distinct to the sort of opera that is performed in opera houses, widely known rock opera concept albums such as Pink Floyd's *The Wall* (1979) and *The Black Parade* by My Chemical Romance (2006) offer a dramatic intensity and linear progression of narrative that echoes the traditional manner of opera. As such, one might question precisely what makes these works distinct from opera in contemporary Western culture if they represent many of its first principles.

Such developments result in a lack of clarity around what the term 'opera' represents today, or indeed what qualities make a work 'operatic'. As Lindenberger suggests, "the term 'operatic' implies the exaggeration of a theatrical stance already assumed to be exaggerated [in respect to the reality of daily life]" (2010, p.196), yet this term is less secure when considering the antitheatricity of many Twentieth Century operas. Furthermore, as both Fox (2010) and Sheil (2012) observe, there no longer exists an inseparable link between 'the operatic' and grandeur or 'the spectacle' in an age where large scale digital media productions are commonplace. The consequence of this is that opera scholars and commentators often avoid succinct definitions of opera that focus on features and qualities, and instead set out the histories, contexts and peculiarities of the form. Definitions that are offered tend to be broad or seek a line of best fit, with published descriptions of opera including "a dramatic form whose primary language is music" (Cannon 2012, p.7) and "a type of theatre in which most or all of the characters sing most or all of the time" (Abbate and Parker 2015, p.22).

To draw a line in the sand for the purposes of this study, I have chosen to define opera as 'a story told through music where the human voice is the primary carrier of expression'. Although this definition is just as broad as those by Cannon or Abbate and Robert, it nevertheless captures my attraction to opera as something located at the meeting point of story, music and vocal expression. The definition is as such used to underpin my artistic approach to *The Village*, yet the status of the

work as an opera draws on other typical elements of operatic production. *The Village* first and foremost is driven by a libretto that defines the dramatic structure of the work and that has been written specifically to be set to music. The role of music and vocalisation in *The Village* also follows operatic convention in that it serves to progress the plot and realise its emotional foundations. Furthermore, the visual production of the opera - in the form of animated illustration - contributes to world building, with more unorthodox elements such as visitor character creation and role-play serving to amplify this aspect. All sign systems used in the opera - words (libretto), image (visual production) and sound (music) - engage in an interdependent relationship where each supports the other in the pursuit of drama and affect; an intention that is resonant of Nicholas Cook's (1998) interpretation of Wagner's *Gesamtkunstwerk* as a 'complementation' of the arts under the primacy of music. These factors aside however, one might consider *The Village* to be a work of opera simply because it has been conceived and shaped as such.

### 1.3. Online Opera in Context

Online opera does not exist in isolation. It sits within a wider body of work that may be termed 'digital opera'. Digital opera itself has been informed by and has developed alongside emergent practices in theatre, music, and dance where technology has supported an expansion of aesthetic vocabulary and the creation of new performance strategies. This can be traced back to the Sixteenth Century



in which kinetic machines and incandescent lighting were first proposed for the theatrical stage (Sabbatini 1638, Baugh 2014), through to the so-called 'golden era' of digital performance in the 1990s that saw many performative works engage motion capture technologies and virtual spaces (Dixon 2007), and to more contemporary experiments that examine the expressive capabilities of virtual reality and artificial intelligence.

Many examples of digital opera echo the exploration of interactive systems in various performance disciplines as a route to devise dramaturgical models that incorporate and respond to 'the digital'. One such discipline is dance. Pioneering works in this space include Merce Cunningham's *BIPED* (1999) in which motion capture technologies are used to forge a poetic interrelationship between live dancers and their digital counterparts, where the latter manifests as large-scale projections of animated line drawings (Broadhurst 2007). Other notable early experiments in this space deploy 'MidiDancer' - a software environment created by Troika Ranch's artistic director Mark Coniglio that can interpret a performer's physical movements and use the resulting data to manipulate playback of musical notes and prerecorded or live imagery (ibid). Similar practices are found in operas of the same time period, including Alain Bonardi's *Alma Sola* (2004) and André Werner's *The Jew of Malta* (2002) that both use performer-triggered/controlled media as a means of harmonising the sign systems that underpin opera (words, image, and sound). Such practices, both in dance and opera, explore ideas of intermediality, which Chiel Kattenbelt characterises as "co-relations between

different media that result in the redefinition of the media that are influencing each other, which in turn leads to a refreshed perspective” (2008, p.25).

Intermediality is explored in the above works using computing as a critical interface for media interplay. Furthermore, the use of interactive systems or ‘responsive environments’ to facilitate an entanglement of biology and technology is familiar of a wider movement in arts in the Twentieth Century that sought means of extending the presence and action of the body through space (Giannachi 2004).

More recent explorations of interactive systems in performance focus heavily on immersive technologies such as virtual reality (VR), often with the aim of establishing a more immediate audience encounter than is often possible in staged settings. Examples can be seen to demonstrate multimediality in their merging of several media into a single art object, which differs from intermediality where practice operates *between* media (Kattenbelt 2008). Works of VR theatre include Hamlet VR’s *To Be With Hamlet* (2017). Here a small audience experience a reimagining of Shakespeare’s drama unfolding around them as they explore a fully computer-generated rendering of Hamlet’s castle, thus echoing similar modes of environmental storytelling in VR operas such as The Welsh National Opera’s *Magic Butterfly* (2018). Outside of VR specifically, there also exists an expanding body of theatrical Mixed Reality (MR) pieces such as *Blackmarket* (2015) and those by the Pepper’s Ghost New Media & Performing Arts Collective (e.g. *Manipulation* 2016 and *Flock* 2016) that blend

physical environments and virtual scenographies. Such works attempt to reinstate the presence of the body in space that is arguably diminished in entirely virtual performance settings (Weijdom 2017). Examples of VR performance in dance include *Dust* (Patricia Okenwa et al, 2017), which combines volumetric capture and motion capture facilitated by the Microsoft Kinect to embody interactors as particle fields that move within the same virtual space as a dancer. Smith (2018) categorises this approach to VR in dance as an 'Activity Simulator' to describe a situation in which audiences interact directly with virtual choreography. This term appropriately characterises similar work within opera, notably in the 'hyper-reality opera' *Current, Rising* (Royal Opera House 2021) where participant groups of 4 move through virtual landscapes set to music as if they were characters in the world in which the drama is set.

Although works of the type described above demonstrate a continuing alignment between opera, dance and theatre in the context of digital performance, they aren't considered online opera as it is defined by this study. To begin to locate a more direct context for online opera, and to identify themes that may come to define it, is it first useful to consider practice that engages the Internet as facilitator of musical works. A notable area of concern here is networked or telematic music performance, which is traced in terms of its key artistic figures by William Duckworth in *Virtual Music: How the Web got Wired for Sound* (2005). Drawing on artist groups such as The Hub, technologies such as The Rocket Network, and virtual instruments such as WebDrum, Duckworth builds a picture

of networked music as democratic and centred around social experience. These are qualities that are foregrounded in the tele-music performances of Pauline Oliveros (see Oliveros et al. 2009) amongst other artists, and in opera, encountered in Scott Deal and Matthew Burner's *Auksalaq* (2012) where audiences across multiple sites are brought together in a single performative ecosystem through Internet2 technologies and virtual instruments for participatory music-making. Deal has continued his work through the Telematic Collective at Indiana University, which alongside Oliveros' Tintinnabulate at the Rensselaer Polytechnic Institute and telematic theatre works emerging from the 'Tele-Encounters' artistic research project, and others, demonstrate contemporary artistic and academic interest in technologically-mediated presence that cuts across performance disciplines (Cook 2015).

Other Internet-facilitated works that offer a potential direction for online opera in terms of developmental process include Andrew Hugill's *Symphony for Cornwall* (1999). A work that likely would not have been viable without the connecting qualities of the web, *Symphony for Cornwall* invited pupils from secondary schools across the region to submit 10-15 second sound recordings to Hugill as material for an orchestral composition with live electronics. Similar approaches of using networked communication to blur the distinction between composer, performer and audience appear in Tod Machover's *Brain Opera* (1996), as well as later crowdsourced works such as Opera by You's *Free Will* (2012) and Eric Whitacre's acclaimed *Virtual Choir* projects (2009-present).

Although the staged presentation of these ‘co-created’ works deviate from what may be expected of an online opera as it is defined by this study (with the exception of *Virtual Choir*), the non-hierarchical, participatory processes that underpin them speak of the sociocultural environment (particularly Web 2.0 or the ‘social web’) in which the proposed form exists.

Although telematic performance and networked-facilitated co-creation projects provide useful models for online opera, the most direct context of the form as it is defined by this study is found in practice that treats the Internet as the *site* of performance. As the Internet emerged, so too did artist groups that recognise its alignment to theatre as a space for communal gathering, spectatorship, participation and entertainment (Giannachi 2004; Lavender 2017). Early experimenters in what may be termed ‘Internet Theatre’ include the Hamlet Players, notably with their 1993 parody of *Hamlet* that used a platform for online communication called IRC (Internet Relay Chat) to perform a text-based dramatic exchange to remote spectators. Technological developments that followed enabled the inclusion of images in chatrooms, leading to theatrical works that begin to look like examples of hypermedia rather than hypertext. Desktop Theatre’s Adriene Jenik recognised the potential of these ‘visual chatrooms’ to offer new forms of participatory theatre, describing the environments as “anticipatory spaces ripe for dramatic play” (Jenik, no date). Experiments in such spaces include *Waitingforgodot.com* (1997), a collaboration with Lisa Brenneis that dissolves boundaries between performer and audience as visitors progress

the drama in an entirely improvised manner through avatars and speech bubbles (Jenik 2001). Although Steve Dixon questions the quality and dramatic scope of works derived in *Waitingforgodot.com* (2004, p.490), the often surreal and banal dialogues that comprised them reflect the types of interactions that took place in online chatrooms at the time (and to some extent still do). Jenik's act of exposing the character of Internet interactions offers fruitful aesthetic directions for online opera, and indeed similar directions can be found in the glitchy surreality of David Kanaga's videogame 'dog opera' *Oikospiel* (2017) and the quip-style participant contributions in the original contribution described in this commentary, *The Village* (2015).

The somewhat unpredictable, participant-led encounters facilitated by Desktop Theatre precede more recent yet similar events in multi-user virtual environments and MMORPGs (Massively Multiplayer Online Role-playing Games) including Second Life, Minecraft and World of Warcraft. In many cases these performances are presentational, taking the form of streamed broadcasts of music or dramas played out by professional actors in avatar form. Yet in cases such as the Second Life theatre piece *Babble* (2012) by VOID:Projects - a contemporary retelling of Jorge Borge's 1941 story *The Library of Babel* - visitors are essential to the construction and progression of the work as they navigate a virtual library, collect texts, dance with robot librarians, witness performance miniatures, and eventually escape from a rooftop (Swift 2016). Works of this type demonstrate a narrowing of the gap between theatre and

gaming, where characteristics such as simulation, space, story, drama and time are intrinsic to both forms (Murray 1998; Dixon 2004). Yet they also perpetuate debates on the nature of embodiment, presence and 'liveness' in digitally-mediated performance (Phelan 1993; Auslander 2012; van Es 2017), and indeed raise questions on what 'theatre' may come to mean if its once unique properties cross so fluidly into new forms of digital performance (Causey 2009). Such tensions must be circled when developing praxis in this field, alongside concerns of multimediality, interactivity, participation, connectivity and access that provide important metacontexts that apply to all forms of digitally-mediated performance including online opera. When speaking to theatre on and through the Internet, Andy Lavender suggests that "theatre artefacts are not simply transposed to the Internet, but rather the newer mediality accommodates theatrical presentation similarly to but differently from the mediality of theatre" (2017, p.342, emphasis in original). In the same way, and with connection to processes of remediation (Bolter and Grusin 1999), online opera will retain some qualities of opera as it is traditionally understood, while others will change or be removed. Furthermore, it will draw on digital storytelling more widely to develop new characteristics that have little to do with historical opera convention. Exactly how such transformations will proceed in practice is largely unknown, however what is clear is that online opera will necessary find its own language and production characteristics as new works emerge and are compared to practice in other fields of performance - just as film did when evolving from a means of capturing live action to what we now call 'cinema' (Sant 2013). This aim of this study is to help

move the exploration of online opera forward by offering a novel apprehension of the form that future practitioners can adopt, extend, deviate from, contest or perhaps even reject.

## 1.4. Trajectory of Research

Online opera as a conceptual focus was not arrived at until part way through my research process. The initial target was the wider concept of digital opera, which at the time was beginning to attract interest in academic settings. This form does not encompass only works that are entirely mediated but also examples of staged opera that deploy computing technologies to advance new modes of operatic expression (Sheil and Vear 2012). To identify a gap in knowledge that my research could address, I undertook a survey of digital opera as a first attempt to consolidate and find commonalities in existing practice. The survey most notably reveals a lack of developmental practice in opera conceived for the web<sup>1</sup>. This insight set the conceptual focus of my research, and at the time that the review was conducted, encouraged me to pursue a role in the development of *The Imaginary Voyage*. The survey in addition exposes a cluster of works I term as 'Opera for Computing Platforms' (OCPs) that collide digital storytelling and the operatic form. Exhibiting features such as non-linearity, personalisation and episodic construction, OCPs offer promising points of entry for creative engagement with online opera.

Informed by the survey, this research follows a practice-based approach (Chapter



3) to offer a culturally novel apprehension of online opera. Its objectives are twofold: to extend the scope of developmental practice in this conceptual space, and supply future practitioners of online opera insights that can inform and expedite their own creative enquiries. These objectives are met through the creation of *The Village* with support from *The Imaginary Voyage* as a practical case study. I position the research as explorative, and proceed to respond to 'online opera' as a creative provocation rather than formulate and answer a specific research question. This is appropriate given that a lack of existing scholarship in online opera provides no established creative or technical principles to test, extend or challenge, and no widely acknowledged 'problems' to address. The research however begins to home in on particular areas of academic interest as it unfolds. This is most apparent in how *The Village* responds to the conceptual direction of *The Imaginary Voyage*.

As described in Chapter 4, *The Imaginary Voyage* engages principles of the Semantic Web (Web 3.0) to stack and sequence sound and image materials in a way that is unique and surprising yet 'meaningful'. This is achieved through the application of a novel technology called The Syzygy Surfer. The work is concerned therefore with emerging web architectures and the connection of data, while positioning online opera as an individual and somewhat intimate experience. *The Village* (Chapter 5) in response makes a deliberate effort to engage a different dimension of the web: the Social Web (2.0). Rather than approach online opera as an individual encounter, *The Village* attempts to evoke in visitors a sense that

they are sharing in and contributing to an operatic experience. This leads me to focus on liveness in the context of online opera, and the exploration of a set of devices that enable the work to exhibit a quality of 'now-ness'. The efficacy of such devices, and the reception of the opera as a whole, is evaluated through critical reflections that draw on several datasets collected by an embedded data capture system. Following discussion on how my liveness devices may be enhanced, the commentary concludes by outlining a number of themes that have emerged across the course of the research, as well as establishing trajectories for future creative exploration (Chapter 6).

## 2. Digital Opera

This chapter describes the wider field in which I situate online opera, 'digital opera'. Although there exists many examples of practice that could be described as digital opera, the form itself has received only modest academic scrutiny. This presents a problem for researchers interested in digitally-mediated forms of opera, who without a specific disciplinary home for their study may find it difficult to identify where gaps in knowledge exist. I address this challenge for the purposes of my research by conducting a survey of works that could be categorised as digital opera and identifying concepts that connect them. The survey is undertaken with respect to the wider context of digital performance (see Chapter 1) in recognition that themes such as responsive environments, distributed performance, participatory practice and digital remediation are not distinct to digital opera but rather cut across performance disciplines. The outcome of the survey leads me to focus attention towards the category 'Opera for Computing Platforms' (Section 2.3), and from this, the demonstrably underrepresented form of online opera. This chapter therefore serves three purposes. It firstly traces my line of reasoning towards identifying online opera as a promising target of creative exploration. Secondly, it exposes various features of digital opera that shape my original practice, with for instance works in the 'Co-Creation' category demonstrating participatory approaches that influence the compositional strategy and style of audience encounter that differentiates *The*

*Village* from existing examples of web-based opera. Thirdly, the survey and the writings that surround it offer a resource that future researchers of digital opera can draw upon when initiating their own enquiries.

## 2.1. Unpacking the Term 'Digital Opera'

'Digital opera' is an unexpected juxtaposition of terms. It suggests an attempt to consolidate the affective, expressive quality of operatic performance with the more rigid, cooler nature of binary information representation. Embedded within the neologism is a call for several meaningful unions, included that of art and science, of computation and curation, and of subjective experience and objective precision. On the surface a collision between the 'operatic' and the 'digital' seems difficult to conceptualise, however when scrutinised, resonances with similar, once surprising pairings are revealed. Performance disciplines that have examined virtuality including dance, theatre and music inhabit the same broad territory as digital opera, and as such signpost potential artistic concerns and production strategies for the form. It is expected then that a digital opera would be informed by themes such as intermediality and multimediality (Chapple and Kattenbelt 2006; Kattenbelt 2008), remediation (Bolter and Grusin 1999), the virtual and augmented body (Broadhurst 2007; Giannachi 2004), networked performance (Cook 2015; Dixon 2007) and participatory practice (Duckworth 2005; Lavender 2016). When viewed in this way, digital opera appears not as an attempt to collide opposing concepts, but rather a provocation to propose new

modes of operatic expression that draw on the tools, techniques and practices that characterise performance in the digital age. Like other forms of digital performance that have emerged alongside digital opera, the results of such a provocation are no more than natural extensions into the twenty-first century of something that has a deep and rich history.

Interest in the term 'digital opera' has been rather light historically, with only several instances of the neologism appearing in academic and arts practice. One of its first uses is in the subtitle of Robert Wilson and Phillip Glass' staged opera with stereoscopic animation, *Monsters of Grace: A Digital Opera in Three Dimensions* (1999). The justification for labelling this opera 'digital' beyond its deployment of computer generated imagery is unclear, however it is plausible that the intention was simply to enhance the opera's promotion. This assumption seems reasonable when reviewing hype that led up to the work's premiere, much of which being manufactured by producer Jedediah Wheeler via bold claims that *Monsters of Grace* would inaugurate "a twenty-first century form of theatre" (Wheeler in Cheng 1998).

A perhaps more critical understanding of digital opera is proposed by Jelena Novak in a 2006 article for *e-volucija*. Comparing the broadness of the term to that of 'digital art', Novak generalises digital opera into two types: works whose "digitalism is primarily based on the usage of multimedia means" and those whose "whole structure is built on digital principles" (Novak 2006, no pagination).

Novak's articulation of the first type is rather vague, seemingly encompassing any

operatic work that deploys multimedia as a dramaturgical device. The second type is however more clearly defined, with Novak citing Michel van der Aa's *One* (1999) as an example of opera that embeds concepts of information replication and digitisation into the narrative (lead Barbara Hannigan's character is cloned digitally and subject to visual and audio treatments).

Published around the same time as Novak's discussion, Freda Chapple's study of *The Forest Murmurs* (Opera North 2001) in *Intermediality in Theatre Performance* (2006) similarly positions digital opera as opera that adopts key principles of digitisation in its approach to storytelling. In the case of *The Forest Murmurs* the feature of digitisation exposed is 'multi-layering' (Manovich 2001). The opera presents no story as such, but instead a windowed presentation of fragments of music, recorded voice, film stills and other media elements that find meaning in the organising mind of the audience. Chappel concludes by suggesting that digital opera "displaces the [...] authorial control of music and text" found in traditional opera (2006, p. 99), while acknowledging that the stage format of *The Forest Murmours* only partially fulfils this characteristic given that audience members were not provided with an interface to direct the sequencing of content.

The writings and practices described above provide some evidence of interest in the question of what constitutes a digital opera, yet such scattered accounts at the same time indicate a need for a deeper interrogation of the topic. In 2011, Áine Sheil and Craig Vear responded to a lack of scholarly discourse on digital

opera with a symposium that invited opera directors, composers and theorists to explore the 'new means and new meanings' provoked by the term. Contributions informed the themes of a special issue of the *International Journal of Performance Arts and Digital Media* (IJPADM) titled *Digital Opera: New Means and New Meanings* that supplemented the symposium with both academic contexts to, and developmental practice within, digital opera.

Sheil and Vear's editorial for the special issue comments most strongly on the limited role of computing within mainstream operatic performance. Sheil's contribution for instance observes that institutional opera tends to deploy technology for dissemination and scenographic purposes, and counters by envisioning a "comprehensively digital form of opera" that has potential to make delivery more economical and "offer new scope for creativity" (Sheil and Vear 2012 p.6). Vear's discussion suggests that opera may generate a new set of 'signatures' if technology were applied at the point of composition rather than at the point of presentation. Such ideas relate closely to the thinking of composer Christopher Fox who in an web article titled *Rethinking Opera* voices dissatisfaction with a lack of innovation in new opera, particularly in respect to the continuing practice of using anachronistic theatrical apparatus and vocal mechanics to tell stories in contemporary contexts. Fox calls for opera to undergo a "fundamental reform, a return to first principles", and proposes that the results will "probably use new spaces and new instrumental media" (2010, no pagination).

The perspectives offered in the IJPADM special issue on digital opera led to the formation of the Digital Opera Research Group (DORG). This is a collective of theorists and practitioners with an interest in the renewed role of technology in opera, with a membership that includes Sheil, Vear, composer Simon Emmerson, composer Andrew Hugill, media artist Martin Rieser, The Opera Group director Frederic Wake-Walker, and former head of the Royal College of Music in London Janet Ritterman. DORG was established to amplify and extend the lines of enquiry set out in *Digital Opera: New Means and New Meanings* through the development of operatic works that are conceived in digital terms. The first output from DORG however is not an operatic work, but rather a 'flag in the sand' style article that attempts to outline the motivations and critical attributes of digital opera from the perspective of the collective. Published online via operacompass, the article *Digital Opera: A Manifesto* (Hugill et. al 2014) proposes several key features of the form:

- Qualifying Works: Digital opera does not include digital broadcasts of opera or "stagings that employ digital means of production for purely scenographic purposes" (Hugill et al 2014, no pagination). Computing should drive the origination of the opera and not be considered a 'bolt on' for the purposes of scenic design. Digital operas are "intrinsically digital from conception to finished outcome" (ibid).
- The Audience Encounter: Digital operas are operatic works that "clearly emerge from digital culture" (ibid). The manifesto here calls for creators of



digital opera to respond to contemporary sociocultural phenomena such as two-way creativity. A related idea is that digital operas may be encountered in settings that are very different to the traditional theatre. The site of operatic performance may be the computer or smartphone screen rather than the opera house, and provide experiences that are "closer to [that] of reading or gaming" (ibid).

- Relationship with Opera: Digital opera describes an "explosive encounter between new technologies and the long-established art-form of opera" (ibid). The manifesto proposes that the key characteristics or 'signatures' of opera such as music, mise-en-scène, dramaturgy and the human voice as a vehicle for expression will be subject to transformation in digital opera.

## 2.2. A Survey of Digital Opera

This survey of digital opera seeks to outline conceptual themes that connect examples of existing practice that collide opera and computing. Qualifying works emerge from academic, artistic and commercial settings, and either identify as 'digital opera' or replace the 'digital' prefix with related descriptors such as 'virtual', 'telematic', 'multimedia', 'cyber' and so on. In line with the definition of digital opera in *Digital Opera: A Manifesto*, the survey excludes works that use video projection purely as a scenic design tool (i.e. 'canned' depictions of settings) and situations where performances are streamed primarily for the purpose of wider dissemination (e.g. 'live cinema' or operas delivered via video-on-demand

services). Qualifying works are identified, comparatively analysed and then organised within thematic containers that are termed 'clusters' for the purpose of this survey. Within each cluster can be found smaller groupings, labelled as 'concepts', that share approaches to technology or other characteristics. In cases where an opera appears to straddle more than one cluster or concept, a decision is made to position the work in a container that most strongly represents the work under review. Literature, performance recordings, interview materials and other forms of contextual information are treated as 'data' that inform the organisation of works. Readers should nevertheless acknowledge that the survey and resulting classification is not an exercise in content analysis, but rather an evaluation of the role of computing within digital opera. The premise of works is however often described to contextualise and justify the approach taken by their creators.

Organisation of works is achieved using induction, which seeks to draw conclusions through observation and the identification of patterns in data. This contrasts with 'top down' deductive methods where data is analysed for the purpose of testing a hypothesis. Induction is an appropriate approach for this survey given that there exist no typological frameworks specific to digital opera to test against. Yet on the other hand, inductive approaches can introduce the risk of generalisation and falsifiability through the identification of exceptions (Hammond and Wellington 2013). In part to mitigate such a risk, the survey is not positioned as a typology of digital opera but rather an arrangement of practice

that indicates emerging themes within the field. Although developing a typology of digital opera was an initial aim of this study, such an activity on reflection would require a near exhaustive examination of the form in order to avoid gaps in representation and the risk of generalisation. This is a somewhat ambitious and arguably counterproductive undertaking in the context of a practice-based investigation that spotlights only one subset of digital opera - online opera. Furthermore, proposing a typology of digital opera as part of this commentary would likely direct the focus of academic scrutiny away from chapters that describe and evaluate original practice.

Nevertheless, to support the organisation of the survey as well as a potential future typological analysis of digital opera, there is value in identifying transferable models of classification in other performance disciplines. Hans-Theis Lehmann's (2006) highly regarded examination of what he terms 'postdramatic theatre' is a useful starting point. Although Lehmann does not discuss digitally-mediated work exclusively, he engages his topic through four domains that can be considered the subject of transformation in digital opera: 'text', 'space', 'time', and 'body'. The obvious omission here is music, however this is somewhat expected in an examination of theatre practice. Lehmann's approach is echoed and further legitimised in the organisation of content in Steve Dixon's seminal account of digital performance, in which 'body', 'space', 'time' and 'interactivity' are the concepts chosen to lend structure to a diverse catalogue of digitally-mediated works. Other ways of categorising digital opera may be informed by attempts to

classify the role of technology in theatre and dance. An early attempt to categorise 'virtual theatre' is offered by Gabriella Giannachi (2004), who observed four areas of concern: 'hypertextualities' (the relationship between texts rendered through HTML); 'cyborg theatre' (the augmentation of the human in performance contexts); the '(re-)creation of nature' (the virtual construction of body and environment); and 'performing through the hypersurface' (performance that takes place in the liminal space where real and virtual meet). Although Giannachi's terminology appears somewhat outdated today, the concepts that it expresses is relevant to digital opera in which we see, for example, 'cyborg theatre' in works that deploy computing to extend the capabilities of performers, and 'performing through the hypersurface' in VR operas and those that take place in virtual worlds. Turning to dance, a recent survey of works in Preciado-Azana and Akinleye (2020) offers thirteen categories including costume design, mechanical extensions, and robotics that distill to three broader themes that express the proximity between technology and the body: nearby, median, and distant. Such themes provide a potential classification of digital opera that can adequately represent staged works where technology establishes closer relationships between scenography and performing body (i.e. 'nearby'), as well as networked operas that distribute performance across multiple sites (i.e. distant).

The organisation of works in this survey of digital opera (Table 2.1) echoes themes that appear across the literature introduced above, amongst other accounts of digital performance. The cluster labelled 'responsive environments'

associates with ideas of cyborg theatre, and the proximal relationship between performer and the sign systems of opera (word, image and sound). 'Distributed performance' engages concepts of space and time, while adopting terminology used in several disciplines to describe performances that occur *between* locations. 'Co-creation' is something of a special case in that participatory practice extends across multiple forms of digital performance (e.g. staged, co-located, virtual). Finally, Opera for Computing Platform connects with Dixon's 'interactivity' and Giannachi's 'performing through the hypersurface'. It is more feasible to apply a typological style of analysis to this cluster given the limited number of available works, and as such, 'mobile opera', 'Machinima opera' and 'videogame opera' are proposed as emerging microgenres.

Table 2.1. A survey of digital opera with examples of practice. Persons cited are composers or co-creators unless otherwise stated.

Cluster	Concepts	Role of Computing	Examples of Practice
Responsive Environments	Performer influences scenography, performer influences music	To extend the expressive capabilities of performers on stage	<ul style="list-style-type: none"> <li>■ 5K Pursuit Opera (Pip Greasley 1991)</li> <li>■ The Jew of Malta (André Werner 2002)</li> <li>■ Alma Sola (Alain Bonardi 2004)</li> <li>■ Death and the Powers (Tod Machover 2012)</li> <li>■ The Ring Cycle (dir. Robert Lepage 2012)</li> </ul>
Distributed Performance	Networked music, conjoined spaces, telematic opera	To distribute operatic performance across and between performance locations	<ul style="list-style-type: none"> <li>■ Orpheus Kristall (Manfred Stahnke 2001)</li> <li>■ A Sentimental Journey (Craig Vear 2012)</li> <li>■ Auksalaq (Matthew Burter and Scott Deal 2012)</li> </ul>
Co-Creation	Audience as performer, audience as composer, crowdsourced opera	To offer opportunities for audience/public participation in the performance or construction of opera	<ul style="list-style-type: none"> <li>■ Brain Opera (Tod Machover 1996)</li> <li>■ iOrpheus (William Duckworth and Nora Farrell 2007)</li> <li>■ Twitterdämmerung (Royal Opera House 2009)</li> <li>■ Free Will (Opera By You project 2012)</li> <li>■ The Signing (Tony Conrad and Jennifer Walshe 2014)</li> </ul>

Table 2.1 (continued)

Cluster	Concepts	Role of Computing	Examples of Practice
Opera for Computing Platforms	Interactivity, non-linearity, gaming, mobile media, Machinima, digital installation, virtual scenography	As a platform for entirely mediated representations of opera	<ul style="list-style-type: none"> <li>■ Virtualis (Alain Bonardi and Francis Rousseaux 2002)</li> <li>■ Secret Garden (Andrew Hugill and Martin Rieser 2012)</li> <li>■ Zeit Perlen (Johannes Deutsch 2012)</li> <li>■ Omnivore (Jaakko Nousiainen and Miika Hyytiäinen 2012)</li> <li>■ Libertaria (Sabrina Peña Young 2013)</li> <li>■ Rossum's Universal Replicants (Andrew Hugill and Martin Rieser 2014)</li> <li>■ The Beacon of Mazon Mines (Ivica Ico Bukvic 2014)</li> <li>■ You Are Here (Jaakko Nousiainen and Miika Hyytiäinen 2014)</li> <li>■ Oikospiel (David Kanaga 2017)</li> </ul>

## 2.2.1. Responsive Environments

The term 'responsive environment' in the context of this survey refers to the use of human-computer interaction in staged opera to extend the expressive capabilities of performers. Indicative works deploy computing systems that capture performer movement, vocal utterances and/or in some cases biometric information, and use this data to manipulate scenographic elements (video projection, lighting, kinetic sets) or aspects of the opera's music.

Experimentation with responsive environments in live performance is by no means limited to opera, and in fact appears prominently in the history of dance. Notable precursors include Merce Cunningham's exploration of the 'Life Forms' dance visualisation software in the 1990s (Copeland 1999). Cunningham was interested in challenging the physical possibilities of the human body, and found routes to new choreographic ideas through Life Forms that were realised in such works as *Trackers* (1991) and *BIPED* (1999). Movement towards the development of interactive systems for use in live dance is however more clearly located in the work of Cunningham's contemporaries, including Palindrome, Troika Ranch and the Danish Institute of Electroacoustic Music (DIEM), whose 'Digital Dance' projects utilise wearable motion sensing technologies to allow dancers to influence the parameters of music that accompanies choreography (Siegel 1999). Other examples include Klaus Obermaier's *Apparition* (2005). Here computer vision algorithms extract performer movement data (e.g. speed,



direction and intensity) to generate real-time visuals that approximate a performing partner, therefore establishing a somewhat interdependent relationship between human and virtual dancer where "one begins to understand the properties of the other" (deLahunta no date, para. 5). *Apparition* can be considered as something of a natural extension of Cunningham's *BIPED* which - while achieving a similar visual effect - resolves the interplay of live performer and projected figure in advance with the assistance of Life Forms. More widely, the role of interactive systems in dance to extend the expressive potential of performers connects with Gabriella Giannachi's notion of 'cyborg theatre' as, in part, an "enmeshing of the human with the environment" (2004, p.43).

Responsive environments facilitate a closer relationship between performer and artwork, and further, demonstrate Susan Broadhurst's assertion that, "it is within [the] tension filled liminal spaces of physical and virtual interface that opportunities arise for new experimental forms and practices" (2002 p. 162).

Although explorations of responsive environments within opera are more scattered and certainly less examined academically than in dance, it would be inaccurate to suggest that they are any less evolved. Alain Bonardi's opera *Alma Sola* (2004) for example echoes *Apparition* in its intention to facilitate interplay between performing body and scenography using interactive technologies. In *Alma Sola*, carpet tile sensors are arranged to form scenographic zones that can be visited by the performer as desired, therefore allowing unscheduled movement between the virtual worlds described in the libretto: the 'pleasure

universe', 'love universe' and 'wealth universe' (Bonardi and Rousseaux 2004). These worlds are assigned text fragments that can be rearranged by the performer at will, yet are also associated with distinct transformations of their live image that they manipulate and respond to through voice and movement. The intended result is an open form of opera where the role of scenography is primarily to extend the expressive language of the performer rather than simply illustrate the plot (ibid, p.4).

Responsive environments have been used to address concerns related to the integration of video into operatic practice. Although operas such as Bill Viola's *Tristan and Isolde* (2004)<sup>2</sup> or Randel Packer's *A Season in Hell* (2010)<sup>3</sup> show how video can expose aspects of story and the human condition that are less accessible by non-mediated means, the media screen has nevertheless been criticised as disruptive to the cohesion of live performance. Ben Macpherson's article for *New Means and New Meanings* suggests that media sets can "distract from the primacy of live theatrical performance" (2012, p.55) and in turn diminish the 'presence' of on-stage agents. Similar arguments have been rehearsed in contexts outside of opera. In dance for example, commentators have alluded to 'fears' that technology may lead to a disembodiment of the dancing body (Gündüz 2012), while in digital performance more broadly, artists including Mary Oliver observe an "unequal relationship" between on-stage and virtual performers (2008, p.61) as the presence of the former wanes to that of a 'low wattage' lightbulb when compared to the 'high wattage' imagery of on-stage

screen media (Dixon 2011, p. 47)<sup>4</sup>. Composer Tod Machover recognises such challenges, and in 2010 responded with a self-categorised 'digital opera' *Death and the Powers* that deploys an approach to reactive scenography that he terms 'Disembodied Performance' (Torpey 2012). Here an off-stage actor influences the interactions of on-stage 'objects' (described informally as robots) through body gesture and vocal utterances, with the intention of forging a closer, less fragmented relationship between human and non-human operative forces (ibid).

A similar intention is observed in André Werner's staging of the *The Jew of Malta* (2002), which uses motion capture technologies to position the performing body of lead character Machiavel<sup>5</sup> as an instrument for operating an entirely virtual scenography. Termed by Werner as 'Extended Presence', this mechanism permits Machiavel to assert his power and intellectual dominance across the stage space, thus emphasising his role as 'founder of worlds' in the opera's libretto (Kuhn 2006). Here the function of the responsive environment, like Machover's opera, is to make an explicit and conceptually relevant connection between performer and stage space.

Responsive environments have been used also to afford performers extended influence over the music of opera. Pip Greasley's early digital opera *5K Pursuit Opera* (1992) for example utilises the interactive MIDI system 'Soundbeam' to enable cyclists competing in a velodrome race to trigger musical motifs as they circle the track. These motifs are then relayed to live instrumentalists who generate improvised material in response. The result is a performance scenario

that facilitates a degree of indeterminacy as athletes drive the score and the composer relinquishes some control of the musical outcome (Greasley 2013).

More recent work by Carl Unander-Scharin demonstrates the use of human-computer interaction devices to extend the expressive range of opera singers and, in turn, empower them to shape how the dramaturgical components of a performance unfold. Driven by an observation that "contemporary opera productions have become increasingly hierarchical and singers' influence on the creative process is becoming more and more limited" (Unander-Scharin et al. 2014, p.1001), Unander-Scharin developed an interactive instrument called 'The Vocal Chorder' that, through the bending of wires, enables a singer to direct their own audiovisual accompaniment. The performer may progress through a predefined chord sequence at their own pace, alter the quality of sound synthesis, and manipulate the colour and pattern of projected visuals (ibid).

Unander-Scharin's earlier device 'Throat III' has a similar emancipatory function, yet takes the form of a glove that translates hand gestures to triggers for constructing soundscapes and implementing changes in vocal sound-processing. Throat III is central to the portrayal of Joseph Merick in Unander-Scharin's opera *The Elephant Man* (2012), enabling those performing the title role to approximate the quality of Merick's vocalisations and build aria accompaniments around them (Elblaus et al. 2011; Unander-Scharin et al. 2013).

## 2.2.2. Distributed Performance

The category of 'distributed performance' refers to works that deploy network technologies to situate an operatic event across a number of locations, with musicians and actors engaging one another at a distance. This form is distinguishable from, for example, 'live cinema' opera relays that include the Metropolitan Opera of New York's *Live in HD* series by virtue of its multidirectional approach to content flow. Although *Live in HD* and similar initiatives improve access to institutional opera and follow a trend found in the history of opera of engaging emerging technologies to extend performance beyond the boundaries of the theatre (Schubin 2016), they nevertheless have a distinctly disseminative function. The conceptual design of an opera prepared for live cinema does not rely on network technologies, nor do they play a significant role in the dramaturgical realisation the work. The operas described below, in contrast, construct an aesthetic that responds to the the qualities and effects of network interaction. These include artistic exploitations of latency, efforts to decentralise opera performance, and the idea of telematic encounters as 'distance shrinking'.

Like operas that explore responsive environments, those that fit the descriptor of 'distributed performance' are positioned within a wider body of works that have explored performance across geographical locations and qualities of 'co-presence at a distance' since the emergence of the Internet. To spotlight music as one of

the more active disciplines in this area, works can be broadly categorised into two somewhat interconnected types: 'networked music', which focuses on the mobilisation of technologies (typically the Internet) that enable musicians in different locations to perform together, and 'telematic music' as a "networked musical practice that is more overt with its political and social goals" (Lemmon 2019, p.2). Although networked music often has social functions, much activity in this area is concerned with developing low-latency systems that help musicians to synchronise over the Internet or, such as in the case of Falmouth University's *Online Orchestra* project, controlling latency by making its duration predictable (Rofe and Geelhoed 2017). Other approaches however embrace latency as an intrinsic property to explore creatively, and networked music as something that "requires a departure from the traditional musical strategies of vertical harmony and synchronous rhythmic representations towards aesthetic strategies of liveness and uncertainty" (Wilson 2020, no pagination). Telematic music, although still concerned with the practicalities of music-making over the network, typically engages notions of global connectivity and collective agency in a more prominent manner than other forms of networked music (Lemmon 2019). Such qualities extend from the thinking of early commentators on telematic art, and notably Roy Ascott who counters the idea of the artist as originator of meaning and the viewer as interpreter to offer a perspective of an emerging networked culture where "creativity is shared, authorship is distributed" and "pluralism and relativism shape the configuration of ideas - of image, music and text - that circulate the system" (1990, p.243). We see Ascott's ideas in practice in, for

instance, the telematic translocational concert series *Changing Tides* (2016 and 2020) as an intercultural and collaborative musical response to the climate crisis.

Relatively early thinking towards distributed performance in opera can be traced to Georg Hajdu's experiments in networked music, which later lead to the opera, *Orpheus Kristall* (2001). Hajdu approaches the web as an inherently asynchronous platform that "gives birth to its own aesthetic" as network latency shapes the nature of creative interactions across it (Hajdu 2005, p.27). He suggests that more traditional, tightly arranged musical forms are not suitable for web performance given the effects of latency, and instead looks towards contemporary models of music-making that incorporate elements of improvised performance and real-time composition such as those deployed by John Cage and Witold Lutoslawski (Weisser 2003; Rae 1994). The result of Hajdu's thinking is 'quintet.net', a network performance environment that allows up to five remote performers to make music together over the Internet. Quintet.net clients exchange musical streams via TCP/IP protocols and real-time notation software, and respond to or manipulate each other's contributions using a combination of input devices such as MIDI controllers, microphones, electronic instruments, and the graphical programming language Max/MSP. The use of quintet.net in Manfred Stahnke's *Orpheus Kristall* is notable in a movement called 'Poeme Internet'. Here Orpheus in effect becomes a quintet.net client whose voice is notated by Hajdu's software and then distributed between other clients situated in Amsterdam, New York and San Francisco. The remote musicians respond to the material, returning

back to the theatre a stream of collaboratively created improvised music that accompanies the vocalisations of Orpheus. Crucially, *Orpheus Kristall* presents a situation where "digital media are not only means of transmission but an integral part of the creative process" (D'Aoust 2013, p.281). The Internet is essential to the concept of the opera, and is treated as intrinsic to its musical realisation.

A similar position is adopted by Matthew Burtner and Scott Deal in their 'telematic opera', *Auksalaq* (2012). Here the 'distance shrinking' qualities of telematic performance are used to express notions of interplanetary connectivity and global cause and effect. The opera focuses on conflicting perspectives surrounding climate change in the Arctic and subarctic region, and is designed to be performed simultaneously across five remote stages in Northern America and Europe. In terms of music, each location hosts several short intermedial pieces that incorporate visualisation of scientific data, electronic music, video, and the human voice that are each shared between sites using research-grade networks such as Internet2. In the movement titled *Cloudprints*, ensembles perform collectively over the network. Local sites otherwise perform separate works that are broadcast to other stages serving as live contributions to their respective sound environments. In sum, each location constitutes part of a musical 'ecosystem' where the activity of one site impacts another. The purpose of the telematic medium then, is to remind audiences that "we are separate from some of the things we affect and that affect us" (Deal and Burtner 2011, p.511), and—in the context of climate change at least—that the reach of our actions extends



beyond the local.

The distributed nature of *Ausalaq* exposes an attribute of telematic opera that is typically absent in conventional opera forms: decentralisation. The 'site of performance' in operas such as *Auksalaq* is ambiguous - existing somewhere *between* performance locations - and as such, no special status is afforded to any one venue. This is a departure from historical convention, particularly in 18th and 19th century Europe where the geographical placement and architectural styling of many flagship opera houses was guided by the state in order to capitalise on their utility as symbols of cultural and political power (Till 2012). The prominence of the opera house continues to be expressed today in live cinema broadcasts such as *Live In HD* where audiences are pulled towards a single 'mothership' location. Moreover, decisions by cinecast programmers to enlist internationally recognised opera stars such as René Fleming to host proceedings (in the case of *Live in HD*), and to showcase the scale and authenticity of opera production via behind-the-scenes intermission features, can be seen to advance a powerful 'institutional dramaturgy' that celebrates the opera house as the preferred venue for the art form (Steichen 2009).

Craig Vear's opera *A Sentimental Journey* similarly treats the site of performance to be multiplicitous, yet also indeterminate. The opera intends to express the imaginary dimension of Laurence Sterne's *A Sentimental Journey Through France and Italy* (1768) via a soundscape of field recordings, electroacoustic miniatures, and interpretations by a live ensemble of a computer-generated

visual score of illustrations, dance diagrams and libretto excerpts (Vear 2011). The result of Vear's intermedial approach to composition, which he terms 'gesamptkomposition' (Vear 2016), are heard by an attendant theatre audience, yet also cast to listeners located in airport lounges, coffee shops, hotel lobbies and elsewhere. These sounds are heard through headphones as the listener watches journeying passers-by, thus facilitating new perspectives as the sound landscape transforms how the listener perceives their visual environment (see Emmerson 1998). The individual's surrounding environment is therefore woven into a personalised performance that is "cast by the people that they are watching" and set in the "place they are immersed" (*Opera Yorick LIVE* 2011, para. 1). Place is embedded so firmly into the composition that they are not simply 'tuning-in' to an event unfolding elsewhere – as is the case with live cinema – but are themselves at the origin of a site-specific opera. Audience feedback for *A Sentimental Journey* reveals an awareness of the presence of other listeners (both local and remote) and as such, a sense that the opera engenders a collective imagination that is not limited by the physical constraints of the theatre (Vear 2016).

### **2.2.3. Co-Creation**

This survey cluster examines attempts within opera to respond to participatory culture, or as media scholar David Gauntlett puts it, a shift from a 'sit-back-and-be-told' culture to a 'making-and-doing' culture (2011, pp.8-13). Participatory culture has gained prominence in recent years, largely due to the emergence of

the Internet and, in turn, a proliferation of tools and platforms that support user-led content creation or 'produsage' (Bruns 2008), collaboration, and media circulation (Jenkins, Ford and Green 2013). The phenomenon has influenced how artists and cultural programmers engage audiences (Gere 2008). Works such as *Such Tweet Sorrow* (Royal Shakespeare Company 2010) and Eric Whitacre's *Virtual Choir* projects (2009-present) for instance demonstrate attempts to demystify the act of art creation by encouraging members of the public to participate in its processes. For *Such Tweet Sorrow* this is the act of writing a libretto for a comic opera, whereas in Whitacre's *Virtual Choir* participants gain insight into how to perform and record a vocal part that is intended for presentation alongside other voices. Participatory culture is also engaged in live performance, and notably in the longstanding interactive theatre works of Blast Theory (e.g. *Can You See Me Now* 2001; *Operation Black Antler* 2016) where audience members assume the role of story characters and often drive the progression of narrative through their interactions and decisions. Participants here function as dramaturgical components that are at the "centre of the action [...] the pivot from which everything else spins" (Barrett in Machon 2013, p.159). For Wilson (2016), such approaches can load the theatrical experience with democratic principles and wider political ideas of freedom, choice and equality. Participatory practices used in music have also been found to have positive effects on personal health and wellbeing (Clennon 2013; Perkins et al. 2020), and through engagement with alternative forms of citizenship, can offer benefits in terms of community building and promoting social change (Turino 2016).

The operas in this section engage participatory culture in a variety of ways, from positioning audience members as performers to offering them varying levels of authorial control over elements of operatic production. Across all approaches, computing mediates participation. An appropriate entry point to a discussion on computer-facilitated participatory opera is William Duckworth and Nora Farrell's community opera *iOrpheus* (2007). The opera recounts the myth of Orpheus and Eurydice as a meander through Brisbane South Bank Parklands, and is articulated musically by members of the public who supply audio content via laptops, handheld mp3 players and mobile phones. *iOrpheus* is an extension of the artists' exploration of virtual music, and in particular, observations that the web has increased the availability of music-making tools and enabled large numbers of people to co-ordinate with relative ease (Duckworth 2005). In the weeks leading up to the operatic event, participants were given free access to the music of *iOrpheus* via [iorpheus.com](http://iorpheus.com) in the form of mobile ringtones, a collection of podcasts, and a virtual instrument called PitchWeb. Furnished with instructions from the website on how to participate, audience members organised themselves into several musical ensembles. In particular, participants comprised the 'iPod Continuo', who used the podcast material to provide ribbons of sound that connected the five acts of the opera sonically, and the 'Ringtone Choir', who engaged PitchWeb or played mobile ringtones to add moments of colour to the music of the acts. In *iOrpheus* the distinction between performer and spectator is dissolved as participants are given collective accountability for realising a core element of the operatic work - its sonic landscape.

Duckworth and Farrell's approach can however be criticised for its rather cautious approach to public engagement. Published instructions for playing PitchWeb as part of the Ringtone Choir for example are explicit:

Act 1: The Wedding at the Nepalese Pagoda

Use only the circles and play the following number sequence twice during

Act 1: 480 9270 6630 630846730 32970<sup>6</sup>

Given the ease in which such instructions could be circumvented, it is likely that Duckworth and Farrell are attempting to guide participant interactions in the opera rather than limit creative freedom. In doing so they mitigate certain risks in participatory theatre of interactors misunderstanding the protocol of the theatrical event or being unclear on how they are being asked to interact, which in a live setting may lead to feelings of embarrassment or awkwardness (Alston 2013). Participants in *iOrpheus* nevertheless adopt a distinctly performative role that arguably leaves little room for individual creative expression.

Tod Machover's *Brain Opera* (1996) in contrast reduces risks associated with audience participation and musical coherence not by providing precise instruction, but by positioning audience interaction with virtual instruments *before* the live event. Attendees of *Brain Opera* upon arrival are invited into a lobby called the Mind Forest where they engage a collection of 'hyperinstruments'; a term coined by Machover to describe his musical interfaces that enable both professional and amateur musicians to shape sound using bespoke controllers or body gesture (Machover and Chung 1989). Participant

interactions with such hyperinstruments as the Gesture Wall - a Theremin-like device that maps hand movement to musical timbre - and the Rhythm Tree - a rig of 320 pressure-sensitive pads that allows up to 50 players to collaboratively create chains of rhythm and spoken word derived from the opera's libretto (Paradiso 1999) - produce fragments of original music and text that are collected and integrated into a subsequent live theatre performance. As hyperinstruments are placed in a public setting in *Brain Opera*, Machover is able to encourage audience participation by taking advantage of the 'Honeypot Effect'. This is an observation within the discipline of Human-Computer Interaction (HCI) that "people interacting with a system passively stimulate bystanders to observe, approach and engage in an interaction" (Wouters et al. 2016). Machover's approach promotes low risk, expressive exploration - and in part construction - of the music and text of *Brain Opera* through creative play (Machover no date). Participant contributions in this way can be considered compositional rather than performative.

Contributions to *Brain Opera* are however subject to heavy curation by Machover for the purposes of constructing the live performance. Although participants may have experienced a deeper connection with the opera's music than possible without hyperinstrument interaction, they nevertheless are afforded little authorial control of the final form of the opera. This is however not surprising, given the challenges of providing audience members any form of compositional agency in a typical theatre setting. Henri Pousseurs's *Votre Faust*

("Your Faust") is somewhat infamous in its attempt to do so. In a 1969 staging, audience members were encouraged to interrupt proceedings by exclaiming the word 'no!' when compelled to alter the course of the plot. Pousseur however understood that granting audiences agency over the structure of a narrative-driven work is highly unpredictable in a live setting, and so chose to avoid the risk by planting actors in the stalls to shout 'no!' at prescribed times (Sartori in Lydon 1982). The only viable solution available to him was to fabricate an illusion of authorial control.

The concept of enabling a theatre audience to influence the trajectory of narrative events is revisited in *Echo Chamber* (The Aequitas Collective and Michael Betteridge 2018). In the opera - which interrogates themes of social media backlash - theatre attendees interact with story characters via a live Twitter feed that is projected on stage as an integral element of mise-en-scène. This reflects similar processes found in earlier music-led works including *TweetDreams* (Stanford University's Center for Computing Research in Music and Acoustics 2011) in which Tweets from audience members contribute to growing networks of related hashtags that in turn govern the procedural generation and subsequent performance of melodic motifs (Dahl, Herrera and Wilkerson 2011). In *Echo Chamber* however, Tweets directly influence dialogue content - the audience are asked to submit their 'deepest, darkest secrets' and general perspectives of social media. Offerings are incorporated by performers into improvised sung and recitative passages, resulting in an effortless and rather

humorous disruption of the fourth wall (Tête à Tête 2018, 18:45-20:10). Using computing to manage audience interjection proves effective in *Echo Chamber* as performers are able to govern when they respond, yet like in *Brain Opera* and indeed *TweetDreams*, the procedure offers audiences only a limited degree of authorial control. Contributions made via Twitter are treated passively for the most part, and ultimately have little bearing on broader narrative trajectories.

An alternative approach to authorial control is found in the Opera By You (OBY) project. Here contributions are made towards the construction of an opera rather than in an attempt to influence how a performance instance proceeds. OBY engaged an online community of 400 people to shape the story, music realisation, and scenographic elements of an original opera called *Free Will* (2012). Production tasks were set by six project organisers referred to as 'operatives', and completed by contributors either individually or in self-organised teams over the course of two years. Processes of 'crowdsourcing' used to derive the opera extended also into production stages of the project, in which collaborators were given an opportunity to review live streams of rehearsals and submit suggestions for modifications. The efforts of the OBY community concluded with the premiere of *Free Will* at the 2012 Savonlinna Opera Festival. The democratic processes that underpin *Free Will* challenge creative hierarchies in Western classical music that, although beginning to subside, remain visible in institutional opera. Like Machover to some extent, OBY project co-ordinators eschew the nineteenth century Romantic view of the sole introspective



composer in favour of a "socially conscious and less self-obsessed idea of an inspirational catalyst whose role is to stimulate musical creativity in others" (Laycock 2005, p.25). This approach however leads to questions around how (or if) self-expression and creative focus can manifest in artworks that are created by a larger body of people. Although crowdsourced projects such as Wikipedia demonstrate that online communities can self-moderate and self-correct to create compelling outcomes that bypass institutional hierarchies (Bruns 2008), similar processes when applied to art and design fail to recognise that "distinctive individual voices may be more engaging than a collective swamp of ideas" (Gauntlett 2011, p.201)<sup>7</sup>. Therefore as this survey positions co-creativity as a potential signature of digital opera, it does so cautiously with interest in *process* rather than quality of *output*. *Free Will* itself is not a digital opera, and is arguably unremarkable as a piece of theatre. Yet the way in which its production methods respond to the practices of digital culture may inform how future digital operas are written.

## 2.3. Opera for Computing Platforms (OCPs)

The final focus of this survey of digital opera concerns emergent forms of opera that are conceived for computing platforms. Computing platforms here refers to both hardware (e.g. CD-ROMs, smartphone devices) and software environments (e.g. web browsers, virtual worlds, game engines). Qualifying works are not mediated extensions of staged operas, but rather authored specifically for

computing environments. Educational artefacts such as the games *OperaLand*<sup>8</sup> (Glyndebourne Opera 2015) or *The Show Must Go On*<sup>9</sup> (Royal Opera House 2011) are therefore not considered 'Opera for Computing Platforms' (hereafter OCPs), nor are partner pieces such as Gareth Pugh and Goshka Macuga's interactive explorations of scenography for the staged opera *Antigona* (Gareth Pugh 2017)<sup>10</sup>.

OCPs exhibit qualities that are at their core a result of 'remediation'. This is a concept termed by Bolter and Grusin to describe the way in which "one medium is seen by our culture as reforming or improving upon the other" (1999, p.59). The e-book for example (target medium) is a remediation of the printed book ('old' medium), as it typically retains the linear reading experience yet has a capacity to enhance storytelling by incorporating multimedia content. OCPs result from a similar process of remediation from the theatrical stage to the computer environment, which leads to questions around which qualities of the former are retained, altered or removed entirely when this takes place. Works by Jackko Nousiainen (*Omnivore* 2012, *You are Here* 2014) for instance enlist a familiar operatic singing style, yet reject the typical presentation of opera as linear and continuous. Alain Bonardi and Francis Rousseaux's *Virtualis* (2002) represents the core elements of opera (text, music, and visual production), yet positions the 'user'<sup>11</sup> as architect of how such elements interact during the 'performance'. OCPs represent a more transformational approach to opera than works observed in other clusters in this survey. Exhibiting features that include

non-linearity, interactivity, personalisation and virtual sceneography, they challenge expectations of opera in terms of its look, structure and mode of audience encounter.

### 2.3.1. OCPs and Interactivity

Steve Dixon in *Digital Performance* (2007) delineates interactivity into four types: 'navigation', 'participation', 'conversation' and 'collaboration'. Participation for instance can be detected in projects situated in the 'Co-Creation' cluster of this survey, with *iOrpheus* and *Brain Opera* as representative works. Forms of interactivity described by Dixon as navigation (i.e. determining a route through content) and conversation (i.e. engaging in a two-way exchange) are however more difficult to establish in staged opera given that the communal nature of live performance provides little room for individual influence. These types can however be realised in OCPs given that they are built for digital media formats that allow for replication and personalised interaction with creative content.

The OCPs *Soul Seek* (Studio Minailo 2012)<sup>12</sup> and *Secret Garden* (Andrew Hugill and Martin Rieser 2012) offer a distinctly navigational form of interactivity, yet with it, varying degrees of non-linearity and user choice. 'Internet Opera' *Soul Seek* features five short cinematic episodes between 3-5 minutes in duration that are selected with a mouse click. Film segments are however titled numerically, which suggests that viewers are expected to navigate the opera in a sequential manner. The installation iPad opera/ballet *Secret Garden* in contrast adopts a

modular or 'hub and spoke' narrative structure (Miller 2008) that demands no fixed route through the work. Users encounter the Eden myth across eleven stations or 'viewports' that can be visited in any order, where each viewport delivers an animated scene set to music (Rieser and Hugill 2013). Individuals can therefore uncover as much or as little of the opera as they wish, while also setting the tempo of their experience. Although free movement across the work could lead to different interpretations of the myth, navigation of *Secret Garden* is limited in terms of user control. The story as a whole is fixed, and there is little indication of what lays behind each viewport to inform a choice of which station to visit next. Navigation of *Secret Garden* is as a result somewhat arbitrary, and can be argued to lack user agency if defining the term as "the satisfying power to take *meaningful* [emphasis added] action and see the results of our thoughts and decisions" (Miller 2008, p.126).

User control in Johannes Deutsch's *Zeit Perlen* (2012), a work for the Virto|Stage virtual opera house at Haus der Musik, is in contrast to *Secret Garden* apparent in that interactor actions translate explicitly to changes in scenographic content and musical development. Designed for single person interaction, *Zeit Perlen* positions a user as the conductor of a dramaturgy comprising multiple layers of image and sound. A conductor is able to focus on layers by approaching pertinent areas of the screen, and manipulate musical density or instigate variations in the storyline via hand gestures (Casini 2017). *Zeit Perlen* therefore exhibits a fluidity of action and response that is atypical of

artefacts that deploy navigational interactivity, where interaction tends to determine the sequencing of content fragments. The opera presents a two-way dialogue between user and art work that, although abstracted, approaches Dixon's understanding of a conversational type of interactivity as an 'exchange' (2007, p.584).

A similar situation is encountered in Alain Bonardi and Francis Rousseaux's CD-ROM opera, *Virtualis* (2002). *Virtualis* is a computer application that deploys GUIDO musical notation to present graphical metaphors of musical properties that "make explicit musical structures and processes handled by composers and analysts" (Bonardi and Rousseaux 2002b, p.287). Users construct and traverse corridors where roof contours follow melody lines, bends and colour represent phrasing, and passageway widths map to voicing density. The work features a number of 'opera tools', including a 'multimedia zoom' that mimics the function of opera glasses by allowing users to inspect specific melodic passages (the slur level) or further, individual notes (the note level) (Bonardi and Rousseaux 2002a). Other interactive modes include 'the monologues of the story', where representations of a male and female voice are set on screen and subject to attraction forces akin to gravity and electric charge. Users may reposition the representations to guide the effects of such forces, which results in musical and narrative variations that map to movement vectors (ibid). Like *Zeit Perlen*, interactivity enables dynamic control of operatic forces and lends it a performative flavour, yet here the goal here is for users to navigate a musical

process rather than steer the trajectory a pre-authored work. The interactor arranges, manipulates and explores a bank of prepared musical entities in order to actualise a performance of *Virtualis*, therefore positioning the opera as an example of an open work (Eco 1989; Bonardi and Rousseaux 2002b).

### 2.3.2. Opera for Mobile Media

A relatively prominent variant of OCPs is opera conceived for mobile media. This form includes operas that adopt features of location-based art and performance, which for digital artist Martin Rieser (2011) include a blurring between physical and virtual space, serendipitous individual discovery, and the concept of landscape as interface. Such qualities are found in the *The Swamp that Was* (Kaffe Matthews 2012), a 'Bicycle Opera' located in Ghent that encourages participants to uncover the marshland beginnings of the city. Riders traverse the landscape using a satellite linked 'audio bicycle', discovering sonic archeologies of voice, electronic music and acoustic music as they explore (Vooruit Gent 2012). Opera for mobile media can alternatively exist not as an intervention within physical spaces but rather an interaction with the 'always on' nature of mobile communications. An example of this type is Hugill and Rieser's *Rossum's Universal Replicants*, which in 2014 was delivered as a series of coordinated live news links and updates across various social media channels (Rieser 2014). Here the operatic experience permeates the daily lives of its viewers in a manner akin to transmedia storytelling (Bernardo 2011), lending it an asynchronous quality that opposes the focused listening experience of staged opera (Till 2012).

Although developmental practice in the field of opera for mobile media is emerging, there remains little available academic discourse on the topic. Indeed at the time of writing, Jaakko Nousiainen's doctoral thesis on the production of *Omnivore* (2012) exists as the only expansively documented investigation of the form. *Omnivore* explores the topic of food, eating and culinary habits as an episodic opera for iOS and Android devices, and is positioned by Nousiainen (2015) as a 'personal, direct distribution opera' to reflect the intimate, individual experience that the mobile medium lends to the work. The opera is in essence an exchange between the user and a mezzo-soprano voiced character called 'O' that occurs in short interactions over the course of a week. 'O' manifests in two forms: in short video arias that frequently address the user directly as if conversing with them, and in text as push notifications that complain about the user's absence if inactive for too long. Both 'O's representation and subject of her culinary musings are determined by a 'media manuscript' that selects content in response to the time and regularity of user activity (Nousiainen 2012). 'O' for instance will sing of breakfast if a user engages her for the first time that day at 8am. The media manuscript therefore augments the function of the traditional score as *urtext* that conveys the composers intentions, to include the logic that governs how the opera unfolds for a specific individual. In this way, the media manuscript exhibits an adaptive quality that supports *Omnivore's* status as a performance (Nousiainen 2015).

*Omnivore* however exposes technical considerations that creators of opera for

mobile media and OCPs more widely must be mindful of. The first relates to the dynamic nature of emerging technologies, and their tendency to undergo frequent revisions and refinements as "evolving organisms that exist in a state of coming into being" (Veletsianos 2016, p.8). Mobile communications and location-based services (LBS) in particular have been subject to rapid advances in recent years (Huang et al. 2018), and as such it can be difficult for application developers to remain up-to-date with contemporary methods and user behaviours in this field. Nousiainen encounters this challenge during the five year development of *Omnivore*, which initiated in 2007, could not access the opportunities that mobile media offered to theatre makers by the time of its completion. This led to the opera appearing as somewhat outdated when it was launched (Nousiainen 2015), and particularly when compared to marginally later examples such as Blast Theory's *Karen* (2016) that similarly establishes a persistent interpersonal connection with the user (Karen engages them as a life coach) yet deploys computing tools for personal data-mining and psychological profiling to reinforce the conversational, individualised quality of the work. A second consideration concerns the transitory nature of computing technologies and their natural tendency towards obsolescence. Apple's iOS for instance has undergone numerous significant version updates since *Omnivore* was released, with each likely requiring application developers to modify code to meet revised standards. This and similar forms of maintenance can be an expensive undertaking, yet creators of OCPs must account for them if they wish their operas to remain accessible in their intended form. *Omnivore* is regrettably no longer available as a



mobile experience, and instead exists as a video-based web documentation that is less susceptible to obsolescence<sup>13</sup>. This online manifestation is however only an echo of the original work that, by bypassing the media manuscript, omits the performative quality that made the opera unique.

### **2.3.3. Machinima Opera**

Machinima describes the use of computer graphics software, and often game engines, to create hybrid works that converge film-making, animation and gaming. The genre is typically cinematic in nature - suggested by 'Machinima' as a misspelled portmanteau of 'machine' and cinema' (Marino 2004) - and may be realised technically as linear video, a recorded 'in-game' event, or a live performance (Nitsche 2005). Machinima elements include "play as performance, modification of content, and community-based tools and content development" (Lowood 2006, p.26), with early examples relying on what new media scholar Lev Manovich (1998) calls a new 'cultural economy' of game design where developers embed editors into software to allow for later expansion of its capabilities. More recent examples exploit the emergence of 'creative modes' in game engines like Minecraft, and to take this example, community-developed mods such as Blockbuster that provide tools for recording and character direction. The potential for dramaturgical presentation within these 'sandbox' environments, as well as real-time animation tools such as Moviestorm, has caught the attention of opera creators, leading to a small number of works that identify as 'Machinima Opera'. Such operas exist alongside similar developments in other disciplines of

performance, with indicative works including Chris Brandt's award-winning Machinima dance *Voldo* (2011) that is constructed using gameplay from the fighting game *Soul Calibur* (Bandai Namco Entertainment 1999). Other examples include the various 'game theatre productions' by EK Theatre, which attempt to evoke feelings of nostalgia by reimagining classic works of literature in popular videogames where in-game characters are treated as digital puppets.

Ivica Ico Bukvic's *The Beacon of Mazen Mines* (2015) draws on the live performance sub-genre of Machinima, fusing real-time Minecraft gameplay with staged opera singing. Scenographic elements are presented as cinematic in-game realisations of the world in which the opera is set, rendering the work more representative of Machinima than, for instance, Second Life performance which typically seeks to simulate the visual and social experience of attending a physical opera house (Chávez-Aguayo 2016). Gameplay and vocal performance are bridged in *The Beacon of Mazen Mines* using a custom built Minecraft mod called OPERAcraft. The mod supports character gesture control, voice analysis and mouth movement mapping, and beyond the context of the performance, is offered publicly as a free, open-source tool to enable future users to create virtual opera on the fly (Bukvic et al. 2014). Given that OPERAcraft itself utilises community-driven efforts to access the Minecraft API, there is a sense of open exchange in Bukvic's approach that is familiar of Machinima as a grassroots art form. Nevertheless, perpetuating the creation of opera in distinctive platforms like Minecraft through custom mods may lead to a proliferation of operatic work

that is very similar in visual style. As writer and visual artist Jaron Lanier warns, "computers can take your ideas and throw them back at you in a more rigid form, forcing you to live within that rigidity unless you resist with significant force" (2011, p.134). Although perhaps a minor consideration, future creators of Machinima opera should be aware how their choice of platform may impact the perceived originality of their work.

Sabrina Peña Young's *Libertaria* (2013) takes a more cinematic approach to Machinima opera, existing as a linear pre-rendered work that in visual style borrows from both film-making and comic books. Described as an 'epic' sci-fi opera, *Libertaria* tells the dystopian tale of a young girl leading an uprising against an evil genetics corporation through original music composed by Peña Young and voiced by a body of crowdsourced talent. Visuals are delivered using the real-time animation package Moviestorm which allows users to speedily construct scenes by directing virtual 'puppets' rather than draw frames independently. In a talk for TEDxBuffalo, Peña Young describes how Machinima technologies were critical to the viability of *Libertaria*, allowing her to realise an opera of scale and grandeur while bypassing the economic challenges of theatrical staging (TEDx Talks 2014). Indeed the opera cost just under \$1,000 to produce, and given its digital form, could be shared widely and easily through social media platforms and collaborator blogs.

Peña Young's 'DIY' approach demonstrates the democratising effects of digital tools in the process of creating opera. Ready access to high quality audio-visual

production software is enabling composers to pursue informal routes to publication, which for Pip Greasley may lead to future opera creators emerging "from the back bedrooms of suburbia rather than the conservatoire" (2012, p.128). DIY approaches - of which Machinima is just one - may have the effect of diversifying the range of operatic experiences available to the public. As David Gauntlett suggests in *Making in Connecting*, "a kind of do-it-yourself individualism [...] is highly defensible, since otherwise we only have a choice of large scale *monolithic* solutions or more distinctive but *elite* ones" (2011, p.227, emphasis in original). Given their relatively low cost of failure, Machinima operas such as *Libertaria* offer their creators an opportunity to challenge the conventions of opera. This level of risk-taking is, due to economic and profile factors, often beyond the reach of less nimble operatic institutions.

### 2.3.4. Towards Videogame Opera

The 'videogame opera' is the perhaps the most illusive and as such conceptual form of digital opera presented in this survey, with David Kanaga's 'dog opera' *Oikospiel* (2017) being the only concrete example identified. Similar music-driven games such as the 'rock opera' *Karmaflow* (BaseCamp Games 2015) provide trajectories of possibility that are certainly worth exploring, yet in sum the collision of videogames and opera seems to exist mostly as ludic adaptations of familiar operatic stories (e.g. *The Flute*, Opus Lupus 2019). This section has nevertheless been included to illustrate the potential of games as platforms for operatic expression.

Indeed many existing game titles exhibit operatic qualities. The MMORPG<sup>14</sup> series *World of Warcraft* (Blizzard Entertainment 2004-present) for instance maintains a sense of scale and dramatic intensity that speaks of 'the operatic', while the more intimate titles *Gone Home* (Fullbright 2013) and *Life is Strange* (Dontnod Entertainment 2015) invite a type of quiet introspection that Bryan Magee (2001) sees as underpinning later Wagnerian works. Katherine Cross (2015) writing for Gamasutra furthermore highlights a natural synergy between games and opera, noting particularly how games draw together visual art, voice acting and composition in a way similar to that intended by Richard Wagner's *Gesamtkunstwerk*. Given the potential of games as an affective medium and a means of telling stories in a manner that resonates with contemporary audiences (Isbister 2017), it comes as some surprise then that the concept of a videogame opera has been largely overlooked.

As a tentative definition, this survey proposes a videogame opera as 'a digitally-mediated form of musical expression that invites 'players' to complete ludic tasks to progress a dramatic work'. Such works should not be confused with games that include opera music in their soundtracks, nor games that depict staged opera momentarily; a scenario that Marcia Citron (2011) describes in film as the 'opera visit'. Although opera visits in such titles as *Final Fantasy VII* (Square Enix 1997) can elicit an emotional response in players and help to represent operatic expression in popular culture as honest, direct and affective (Summers 2017), they nevertheless serve a specific narrative or experiential function within a game

that overall is not an opera. A videogame opera is in contrast operatic by design, and positions music as both a carrier of expression and the context of gameplay.

Such qualities can be observed in *Oikospiel*, a five act opera that traces the creation of a videogame opera by a workforce of dogs. As one would expect from an opera, *Oikospiel* is based on a libretto<sup>15</sup> and deploys original music to convey story. What is interesting however is how its gameplay, visual design and composition serves to represent the multidisciplinary yet unifying nature of opera. In a interview for Medium, composer David Kanaga explains that he wished to "explore the form of a game which can shift mechanics all the time - thus 'works' [as a translation of the Italian word 'Opera'], e.g. a pluralistic work that isn't all gravitating around some mechanical essence" (Kanaga 2017, no pagination). Gameplay as a result is ever evolving, comprising frequent passing between protagonist perspectives and switches in mode of player interaction (e.g. 3D third-person exploration to 2D point-and-click actions). Such plurality is also core to *Oikospiel*'s visual and sound design, evidenced through abundant appropriation of prefabricated Unity store assets and sonic fusions of MIDI, instrumental recording and audio samples. For Kanaga, the operatic nature of the game is found in its ability to achieve cohesion of such disparate elements, which he describes themselves as 'works'. He notes, "the opera idea felt like it was governed by a nice tension — to have the 'works' pulling toward formal pluralism, and the 'unity' toward formal monism" (ibid).

*Oikospiel* however challenges established gaming convention in that it eschews

formal rules or goals and positions games simply as a 'played form'. Although this is a deliberate move by Kanaga to expand the creative possibilities of videogames through a theory he terms as 'ludic ecogonomy' (Kanaga 2015), the absence of challenge and jeopardy may lead some players to criticise the work as a 'walking simulator' <sup>16</sup>. The rock opera *Karmaflow* in contrast adopts a more traditional task-oriented style of gameplay. Players assume the role of a balancing force called the 'Karmakeeper', and solve puzzles to restore order across various mysterious worlds in heavy conflict. The story of *Karmaflow* is told through song, composed by Ivo van Dijk and performed by members of notable metal bands such as Cradle of Filth and Dragonforce. Adaptive music techniques such as horizontal re-sequencing are used to accent player actions as they occur (e.g. collecting power-ups) or issue instructional prompts. When a planetary guardian is first encountered for instance, the music transitions to an expositional set piece with lyrics that cue players to begin redistributing 'karma':

"I'll show you the way. See how the world is filled with karma. It balances everything. Extract [instruction repeats until player initiates an 'extract' action]" (GameTron 2015, 3:45-4:20).

In this way, music of *Karmaflow* drives both storytelling and gameplay, therefore extending beyond the typical function of game audio as described by Richard van Tol and Sander Huiberts' (2008) IEZA framework: Interface (non-diegetic sounds that acknowledge player actions), Effect (diegetic sound effects such as gunshots), Zone (diegetic environmental sounds) and Affect (non-diegetic sound

that establishes mood). Music underpins and brings together all elements of the game, and further according to van Dijk is the key force that influences it's gameplay and visual design (KarmaFlow 2016, 17:36-18:29). Although *Karmaflow* is not an opera but rather a rock opera (an important distinction), its treatment of music is certainly familiar of operatic production. As such, the title may be of interest to future developers of videogame operas when exploring the possible creative trajectories and features of this promising new form.

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### Key Insights

1. The majority of works that could be classified as digital opera engage computing in the context of staged performance.
2. Computing is often deployed to extend the expressive capabilities of performers or enable audiences to contribute to the construction or performance of a work.
3. Network technologies are typically used in opera as a tool for dissemination (e.g. live cinema), yet there exist a number of works where the Internet facilitates performance *between* locations (e.g. telematic opera).
4. There exists a small yet significant body of operas that I term 'Opera for Computing Platforms (OCPs)'. This categories includes examples of CD-ROM opera, Machinima opera, videogame opera, and opera for mobile media.



5. OCPs exhibit characteristics such as episodic or 'content block' construction, virtual scenography, non-linearity, interactivity or steerability, and user personalisation. Works in this category exhibit the characteristics of digital storytelling.
6. Within the OCPs category there are very few examples of online opera. Those that do exist rarely express the traits listed in point 5.

### 3. Research Methodology

The survey of digital opera outlined in Chapter 2 exposes a lack of developmental practice in 'online opera'. In line with the core principles of digital opera expressed in *Digital Opera: A Manifesto* (Hugill et al. 2014), I define this form moving forward as a 'distinctive and creative collision of opera, Internet culture and web architecture that is intrinsically digital, delivered entirely via a web browser and constructed using web technologies'. There exists a marked gap in knowledge within this conceptual space that can not be addressed by a purely theoretical study. Such an enquiry would be narrow in scope due to limited case study material, while also being poorly positioned to propose and evaluate original approaches to creative practice. The methodological design of this study in response is centred on the development of two new online operas, *The Imaginary Voyage* and *The Village*. The former is positioned as a practical case study in which I assume the roles of visual designer, sole developer and general producer, and the latter an independently conceived opera that represents my original contribution to knowledge.

#### 3.1. A Practice-Based Approach

Creative practice as a formally recognised form of research enquiry is a relatively new phenomenon that can be traced to changes in eligibility criteria made in preparation for the 1992 UK Research Assessment Exercise (RAE). The

definition of a valid contribution to knowledge in this RAE was expanded to include the "invention of ideas, images, performances, and artefacts including design where these lead to new or substantially improved insights" (HEFCE 1992, Annex A). This shift in research culture has led to a proliferation of terms that, while all describing the intersection of practice and research, have often overlooked distinctions (Niedderer and Roworth-Stokes 2007). Practice-led research for example is concerned with the exploration of working practices, and "through studies and reflections, aims to produce new knowledge that has operational significance for that practice" (Candy and Edmonds 2018, p.65). The original contribution made using this approach is *about* practice, and expressed typically in a written thesis. New knowledge derived through practice-based research is in contrast located *within* a creative output, and as such the practice is submitted as "substantial evidence of a research enquiry" (Nelson 2013, p.9). This leads some researchers to claim that their original contribution is self-evident from the practice, and thus does not require elucidation through a critical exegesis (Skains 2018)<sup>17</sup>. Biggs (2003) however disagrees, and asserts that the new knowledge expressed by 'the work' may be misinterpreted if its historical, social or cultural contexts are not made explicit to the viewer.

This research follows a practice-based approach to position its core creative output as an original contribution to knowledge that, through the lens of web creativity, offers a novel apprehension of online opera. *The Village* communicates creative approaches, cultural themes and user experience considerations that can

inform how future researcher-practitioners approach the form. Following Biggs (2003), I position this commentary as a critical exegesis that supports accurate interpretation of the practice and an understanding of its significance. Rather than disseminate new procedural knowledge, the written component exposes the academic and cultural context of the practice, while reflecting on the apparent strengths and limitations of its creative and technical methods.

### 3.1.1. Ensuring Rigour

Unlike scientific research that follows a 'question and answer' mode of investigation in which hypotheses are formulated and tested in an attempt to explain phenomena (Niedderer 2007), research in an artistic context typically does not set out to address an explicit query. Researchers instead tend to discuss issues that arise during the course of practice (Biggs 2003), and use methods that establish a dialogue between creative output and emerging theory where one informs and influences the other (Barrett and Bolt 2010; Benford and Giannachi 2011). It is often futile then to attempt to distort the aims, objectives and flow of research that involves arts practice to satisfy a more traditional or 'academic' style of inquiry. As Barrett and Bolt assert, "innovation is derived from methods that cannot always be pre-determined, and 'outcomes' of artistic research are *necessarily* unpredictable" (2010, p.3, emphasis in original).

Although my study adopts a flexible approach that allows me to respond to emerging insights (Figure 3.1), it is nevertheless critical that I take steps to ensure

the rigour of the research process. Although many interpretations of rigour in the context of research exist, objectivity (avoiding bias), reliability (quality of process) and validity (credibility of results) are often cited as essential criteria of a diligent study (Miles and Huberman 1994). These criteria are however typically associated with the scientific method (i.e. empiricism and the generation of propositional knowledge), which leads to questions on how they may apply in research that attempts to communicate experiential or tacit knowledge. Neiderrer and Roworth-Stokes (2007) offer guidance on how to negotiate objectivity, reliability and validity in practice-based research by directing attention towards three methodological features: 1) locating original practice in a wider context, 2) ensuring stability of the research process and 3) reflecting on practice for the purposes of sense making. The means in which my research responds to such features is outlined below.

### Locating Original Practice in a Wider Context

This research is located in a wider context in two ways: via the survey of digital opera (Chapter 2) and within chapters that describe original practice (Chapters 4 and 5). In absence of an existing body of discourse on digital opera and online opera particularly, the survey aims to outline the environment in which *The Village* exists. The discussion also exposes several microgenres of digital opera that I collectively term 'Opera for Computing Platforms' (OCPs) that, in this research, is proposed as a new disciplinary home for online opera. Chapters on *The Village* and *The Imaginary Voyage* direct attention towards various academic,

cultural, and computing contexts that inform the trajectory of creative outputs. Discussions here evidence the interdisciplinary nature and contemporary relevance of the practice.

### Stability of Process

Although this research responds to a provocation rather than attempt to answer a question or verify a hypothesis, it nevertheless proceeds in a structured and stable manner. The academic focus and artistic parameters of *The Village* are informed by critical reflection on the successes and limitations of *The Imaginary Voyage*, as perceived by its creators and target audience. As such, the workflow described in Figure 3.1 is sequential to maintain forward momentum, yet includes space for the revision of creative and technical aims as artworks emerge. The alternative to this approach is to develop a single artwork that is informed by insights gained from a survey of existing works (see Chapter 2). This option has however been rejected on this occasion, largely because I require an opportunity to more generally explore the conceptual space of online opera before settling on specific artistic and academic themes that could support an original contribution to knowledge (such as liveness). *The Imaginary Voyage* serves this purpose by offering room for artistic exploration as well as an opportunity to gather public expectations regarding the form and experience of online opera.

To further support academic rigour, this research deploys a mixed methods approach in which quantitative data is derived to corroborate, deepen and extend insights generated through qualitative data (and vice versa). This method

supports the validity of observations, while ensuring that methods are "reasonably stable over time and across researchers" (Miles and Huberman, 1994, p. 278). Further discussion of how mixed methods research is deployed in this study can be found in Section 3.2.1.



Figure 3.1. Diagram that describes the sequential flow of milestones within this research.

### Sense Making through Reflection

Acts of reflection are required in practice-based research to make sense of emerging practice and evaluate its significance. One goal is to distinguish between the "personal development of the practitioner and his or her creativity, and activities that are significant for others in the field" (Biggs 2003, no

pagination). This can be achieved in practice-based research via a reflexive approach where the researcher attempts frequently to observe what does and does not 'work' while comparing their methods with those found in existing practice to ensure that they are distinctive (Nelson 2013). My research follows a similar approach in that creative and technical decisions respond to personal experimentation and often contrast the work of others deliberately, yet these instances are highly incremental and therefore typically obscured as part of the production process. I instead opt to reflect on complete outputs, and focus more on evaluating broader conceptual and developmental approaches than rationalising the specifics of artistic procedure. Insight generation however draws heavily on the perspectives of external parties (audiences, collaborators, test groups), and as such, conforms to an understanding that objective judgement and criticism requires a certain level of critical distance (Corby 2017). In this way, the significance and wider value of the conceptual directions demonstrated by the practice are not self-declared, but rather confirmed (or disputed) through analysis of how they are received.

## 3.2. Data Collection

Data collection activities in this research are undertaken to support a critical and objective evaluation of *The Imaginary Voyage* and *The Village*. Evaluation targets the following specific features of each opera's conceptual design as well as general audience reception:



- *The Imaginary Voyage*: The Syzygy Surfer
- *The Village*: Liveness (primary) and co-creative composition (supplementary)

Insights are generated through analysis of qualitative and quantitative data supplied through focus group sessions, an online survey, written structured interviews and embedded data capture techniques (see Section 3.2.2). Instances of personal observation and reflection support evaluation activities.

### 3.2.1. Mixed Methods Research

This study adopts a mixed method research (MMR) design. MMR is a data collection and analysis methodology that places qualitative and quantitative data in dialogue to describe, explain and evaluate research findings (Leavy 2017). Researchers that deploy MMR follow one of three design types that each differ in their approach to dataset integration: convergent design, explanatory sequential design and exploratory sequential design (Creswell 2015). Evaluation of *The Imaginary Voyage* and *The Village* utilises convergent design, which is similar to 'triangulation' in the social sciences in that it draws on multiple datasets to support the veracity of findings (Given 2008). In convergent design, qualitative and quantitative data are collected in parallel (or in a similar timeframe), analysed independently, and then 'merged' or compared to generate insights (Fetters, Curry and Creswell 2013). This differs from both explanatory and exploratory sequential design where the analysis of one dataset informs the design and focus of further data collection activities<sup>18</sup>. The purpose of comparing datasets in

convergent design can vary, but typically one dataset is used to either verify or explain the results of another. To evaluate *The Imaginary Voyage*, screen recordings are used to corroborate or refute insights derived from focus group interview. Data collected against *The Village* is similarly compared to validate findings, however at points qualitative data (responses to online surveys) is used also to explain patterns or anomalies in visitor engagement revealed by quantitative methods (i.e. embedded data capture). All datasets used to evaluate *The Village* therefore have equal significance, while for *The Imaginary Voyage* screen recordings have a distinctly supportive function.

### 3.2.2. Data Collection Instruments

A range of data collection instruments contribute to evaluation activities in this research. Each instrument has a specific utility, and all vary in terms of the form of the data returned and way in which I as researcher am involved in gathering activities. These differences can be described using a categorisation method proposed by Matthews and Ross (2010) that positions data collection tools on continuum of:

- Structured Data to Non-Structured Data: the degree to which data is ready packaged. This ranges from data categorised at source to data in 'raw' form
- Researcher Present to Researcher Absent: the degree of physical or virtual interaction that the researcher has with the respondent. This ranges from high presence (e.g. focus group interview) to low (e.g. an online survey)

- Active Researcher to Passive Researcher: the degree to which the researcher is facilitating the production of data at the point of collection. This ranges from high participation (e.g. participant observation) to low (e.g. narrative interview)

Figure 3.2 overviews the data collection activities used in this research according to the above categorisation.

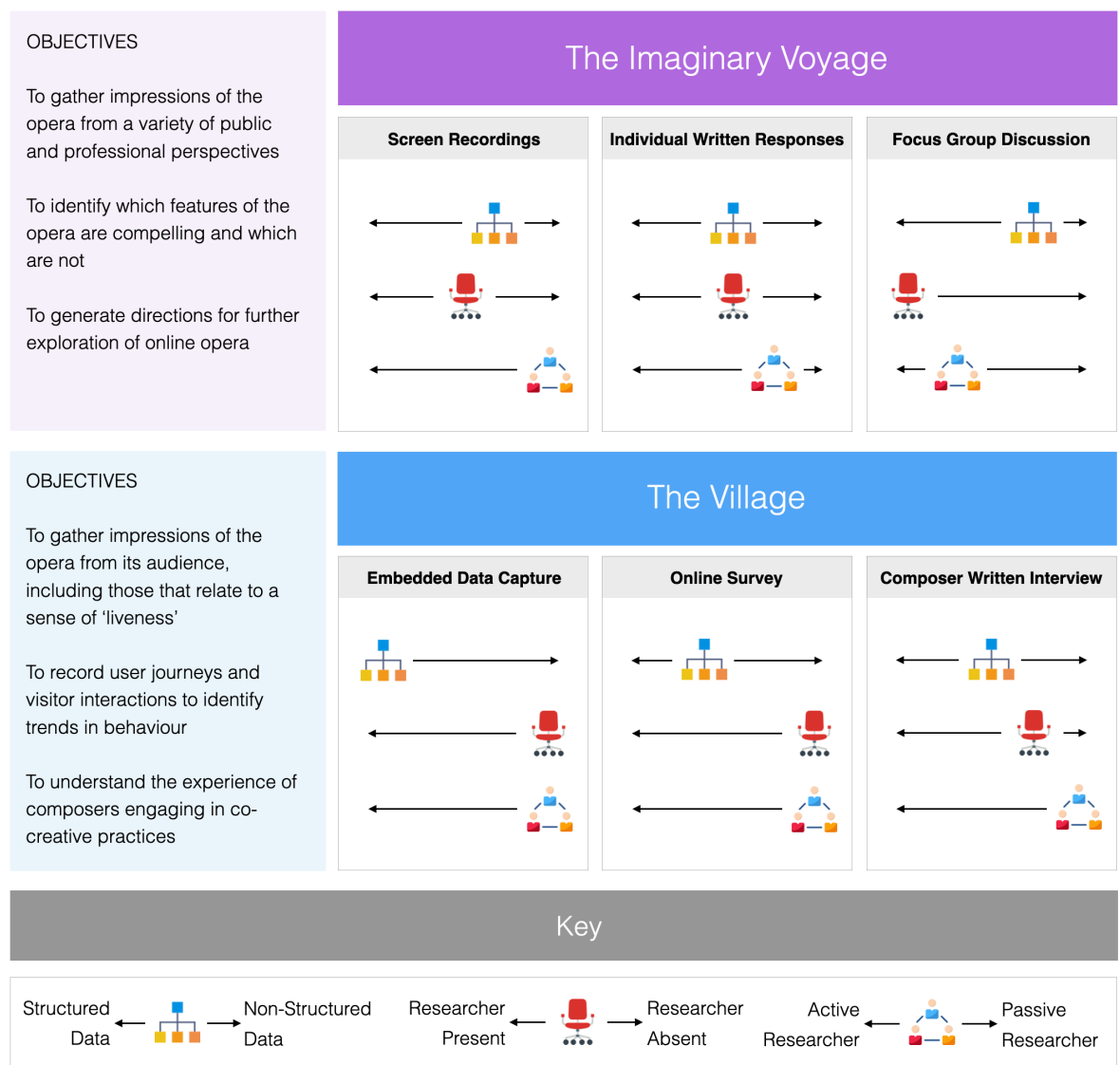


Figure 3.2. An overview of the data collection instruments used in this research. The visual includes the instrument's key characteristics in terms of Matthews and Ross's (2010) categorisation method.

## The Imaginary Voyage

In the context of this research, *The Imaginary Voyage* is used as a tool to explore the possible form and features of online opera. Data collection instruments serve to collect impressions on how the core sign systems used in opera (word, image, sound) may be retained or transformed via web creativity, while also assisting to establish public appetite for an entirely mediated form of opera. The primary data collection instrument selected to evaluate *The Imaginary Voyage* is the focus group interview. Participants were divided into four groups of 3-6 people that experience the opera for 25 minutes before supplying feedback collectively via a researcher-facilitated verbal discussion. Individuals that engaged the process comprised operagoers, opera directors, opera composers, academics of music, and arts funders (see Table 3.1 for further details).

The focus group interview is a highly appropriate means of conducting exploratory research (Hammond and Wellington 2013), which in this study is necessary to inform the direction of further developmental practice. It is favoured over alternative tools such as the individual interview given its capacity to gather multiple perspectives quickly and generate insights that may be overlooked without the benefit of group interaction (Fern 2001). The focus group interview is in addition a more reliable instrument than the survey for evaluating *The Imaginary Voyage* in its first iteration. Given the novelty of online opera and the experimental nature of *The Imaginary Voyage*, using a survey introduces the risk of a participant misinterpreting questions or otherwise providing

underdeveloped responses should they have a limited understanding of the context of the work. Although the 'personally delivered survey' offers an opportunity to provide participants with the clarification that they may require, this mode of data collection can be a poor use of time (Walliman 2010). In contrast, and for the purposes of evaluating *The Imaginary Voyage*, the focus group interview offers an efficient means of gathering useful responses from participants even if there is a need to elucidate or expand on aspects of the opera.

There are however challenges associated with collecting qualitative data using focus groups. A common risk is that particularly vocal participants dominate the discussion, thus making it difficult to gauge the extent to which members have reached a consensus (Smithson 2000). A skilled interviewer can mitigate this risk by eliciting individual responses via a process of 'interactional choreography' (Putcha and Potter 2004) yet this is only a partial solution. To further mitigate this risk, this research adopts three additional measures to ensure that insights derived from focus group interview are reliable:

- Iteration. Several focus group sessions are conducted to increase the likelihood of identifying false consensus
- Individual Response. Focus group participants note on paper their personal impressions of the opera as they experience it. Sentiments expressed in these responses are compared with those reached in agreement by the group to identify anomalies
- Screen Recordings. Interactions with the opera are recorded using screen

capture software and later used to corroborate or refute verbal responses

Key data collection parameters for *The Imaginary Voyage* are defined in Table 3.1.

Data Collection Activity	Parameters
Participant Interactions with <i>The Imaginary Voyage</i>	<p>Location: Kings College London</p> <p>Duration: ~25 minutes</p> <p>Opera delivery platform: 15" 2013 MacBook Pro and Google Chrome version 24.0</p> <p>Data capture method: Screen recordings made using QuickTime Player 7</p>
Individual Written Responses	<p>Format: Free comments on the Isle of Cack, Amorphous Isle, Land of Lace, and 'General', written by participants during their experience of the opera</p> <p>Data capture method: Pen and paper</p>
Focus Group Discussion	<p>Format: Researcher facilitated discussion</p> <p>Location: Kings College London</p> <p>Duration: ~60 minutes</p> <p>Data capture method: Audio recordings</p> <p>Number of groups: 4</p> <ul style="list-style-type: none"> <li>■ Group 1: Six participants, 13 June 2013 - Sound and Music resident composers (x2), other opera composers (x2), The Opera Group mailing list subscribers (x2)</li> <li>■ Group 2: Three participants, 19 June 2013 - The Young Vic Directors Network members (x2), Jerwood Foundation senior manager (x1)</li> <li>■ Group 3: Three participants, 26 June 2013 - Kings College London academics (x2), opera composer and researcher (x1)</li> <li>■ Group 4: Six participants, 27 June 2013 - Kings College London K+ Summer School students (16-17 years)</li> </ul>

Table 3.1. Key data collection parameters for an evaluation of *The Imaginary Voyage*.

## The Village

Evaluation of *The Village* targets three themes: 1) the effectiveness of several devices that intend collectively to evoke in visitors a sense a liveness, 2) the experience of composers participating in a co-creative process to generate the opera's music, and 3) general impressions of the work from the perspective of its audience. These concerns are ranked in significant, with 'liveness' being the primary focus of data collection and analysis.

Three data collection instruments are used to facilitate evaluation of the themes listed above. The first is an online survey taken by visitors of *The Village* at any point during their encounter with the work. Potential respondents are asked to comment on an aspect of the opera that most caught their attention (music, visuals, story or other) and summarise how they felt they contributed to the work if at all. Such questions supply data on general audience reception, while also outlining the extent to which liveness devices were acknowledged by visitors and/or enhanced their experience. Although this line of questioning offers a seemingly indirect means of evaluating liveness in *The Village*, it nevertheless reduces the likelihood of response bias that may arise if respondents are asked explicitly to comment on the opera as 'live'. For this research activity, the survey is preferred over qualitative interview methods because of its capacity to engage a relatively large and distributed sample population in an efficient manner (Matthews and Ross 2010). Given the status of *The Village* as a 'live' work published on the web (in contrast to *The Imaginary Voyage* which was evaluated

locally as a prototype), it was important to select a data collection instrument that could facilitate a comparison of the opinions and experiences of as many people as possible that fall under the category of 'general audience'. A survey is fit for this purpose, while also being a less resource intensive means of asking relatively simple questions than qualitative interview methods.

The second instrument addresses the experience of composers recruited to produce the music of the opera. This takes the form of a written structured interview that offers contributors an opportunity to describe their approach to composition as well as provide feedback on aspects of the co-creative process such as the level of creative control that they felt was afforded to them. For this evaluative activity, a written form of interview is preferred over a face-to-face encounter to avoid response bias or general awkwardness that may occur during peer interviews (Platt 1981). Given that the composers - many of which I have known for some years - are asked to critically engage a co-creation framework that I have devised, a face-to-face interview introduces a risk that interviewees may temper their responses to avoid confrontation, feelings of embarrassment or the perception of sounding unkind. A written style of interview mitigates this risk, and in combination with a pre-interview briefing provides a means of asking questions that are more in-depth than an entirely researcher-absent mode of qualitative data collection such as a questionnaire.

The third instrument is an embedded data capture (EDC) system that I designed and implemented specifically for the purposes of evaluating *The Village*. The EDC



system is inspired by Sarah Atkinson's approach to the interactive film *Crossed Lines*, in which scripts were embedded into the work's software architecture to log precisely how long viewers engaged each scene (Atkinson 2009; Dixon 2007). Atkinson then drew on the data during in-depth interviews to discuss points in the film that were identified as particularly compelling to users, thus following an explanatory sequential MMR design. My EDC system similarly tracks individual visitor journeys to record video view times (i.e. character arias), yet also the total duration of a visit, the episode in which the visit occurs, and details on how members of the 'Digital Chorus' interact with one another. Analysis of this data provides an understanding of general engagement, and identifies trends in social interaction that relate to the conceptual theme of liveness. Unlike the case of *Crossed Lines* however, collected data is analysed in parallel with qualitative data for the purposes of verifying and explaining results.

I favour the custom EDC system over existing web analytics tools such as Google Analytics (GA) because it is capable of capturing any aspect of visitor interaction for the purpose of evaluation. In addition to being able to log video viewing times - a feature that GA doesn't support - it is better equipped to record the duration of a visit accurately. GA reports a visit duration or 'session time' by calculating the difference between timestamps attached to consecutive page loads. Although sufficient for measuring engagement with multipage websites, the procedure misreports session times for single-page sites, like *The Village*, where there are no additional pages to load (Barnes 2017). My EDC system mitigates this

problem by pushing updated metrics to a database every ten seconds following first interaction with an episode of the opera. This improves the accuracy of reporting, however given limited testing in the field the system overall is more susceptible to data loss than GA.

Evaluation of *The Village* contrasts with that of *The Imaginary Voyage* in that data collection is handled remotely. There is for example no direct interaction between participants and researcher, with data instead being collected via an online survey and an embedded data capture (EDC) system. The reason for this is to optimise sample size and resolution. An online survey allows a greater number and range of individual responses to be collected over a given time than instruments that require the researcher to be present. In addition, The EDC system is capable of measuring and reporting on a high number of visitor journeys to almost any level of required detail.

Key data collection parameters for *The Village* are defined in Table 3.2.

Data Collection Activity	Parameters
Embedded Data Capture (EDC)	Data capture method: SQL database with data exported as .csv Data capture period: 1 May 2015 - 10 June 2015 Number of data entries: 473
Online Survey	Data capture method: HTML form for response input. Data recorded in SQL database and exported as .csv Data capture period: 1 May 2015 - 10 June 2015 Number of responses: 53
Composer Written Structured Interviews	Format: A structured set of questions that is the same for each composer Data capture method: Completion of a Microsoft Word document Data capture period: Across July 2015 Number of responses: 4

Table 3.2. Key data collection parameters for an evaluation of *The Village*.

### 3.2.3. Ethical Considerations

This study complies with research integrity standards published by Bath Spa University (as the degree awarding institution), which are based on guidelines produced by Universities UK and UK Research & Innovation (UKRI). In addition, the conduct of participant interviews adheres to requirements for transparency and anonymity set out by Paul Hamlyn Foundation (PHF) as funding body for the data collection activities used to evaluate *The Imaginary Voyage*. This includes the reporting and following publication of insights derived from focus groups through PHF.

### The Imaginary Voyage

Ethical considerations for the evaluation of *The Imaginary Voyage* target the design and conduct of focus group sessions. Participants were recruited on an opt-in basis via an email call for volunteers issued by The Opera Group to its mailing list subscribers and key partners. This included clear information on the context and purpose of the data collection activity. Individuals that agreed to take part in the study were then sent an information sheet that detailed the format of the focus group sessions and how collected data would be used. Before commencing each focus group session, participants were 1) reminded of the context and purpose of the research activity; 2) informed that they had the option to withdraw from the study at any time; 3) informed that their remarks would be anonymised; and 4) asked to sign a statement that confirms that they understand the parameters of the evaluation activity and are comfortable with proceeding. Following the conduct of focus groups, audio recordings were transcribed then archived securely on a local computer drive. Participant responses were anonymised during the transcription process through the abstraction of names (e.g. 'participant 1') and the redaction of comments that disclose personally identifiable information.

### The Village

Ethical considerations for the evaluation of *The Village* target the design and conduct of online data collection activities. Although this mode of research can facilitate participant anonymity (as there is often little reason why participants

they would need to disclose their identify to the researcher), it can be challenging to ensure that individuals have read and understood the terms of participation. As described below, and in response, this research uses opt-in mechanisms in an attempt to encourage participant engagement with the context and purpose of data collection activities.

For the online survey, respondents were invited to review a concise and unambiguous description of what the survey is for and how responses are used for research purposes. A 'Click to agree' field was also included as part of the submission form, which fulfilled the role of an explicit opt-in mechanism. No questions that appear in the survey encourage respondents to submit personally identifiable information, and although no instances occurred in practice, responses that did include such information would have been removed from the data set. Similar methods were used to establish informed consent for EDC data collection activities. In this case, visitors to *The Village* were presented with a web dialogue box with options to either opt-in or opt-out of having their interactions with the opera recorded by the EDC system. This was accompanied by a concise and unambiguous description of the data collection activity that details what data the EDC system collects and why such data is being collected. This description also provides reassurance that the EDC system does not act on any form of personally identifiable information, while also advising the use of a pseudonym should the visitor wish to engage the character creation features of *The Village* - guidance that was replicated in the opera's 'Create a Villager'

section. To ensure accessibility, all text descriptions of the context and methods of data collection were made downloadable and able to be read by a screen reader.

For the composer written structured interviews, participant confidentiality could not be achieved without limiting the scope of research insights made available via this commentary. Given that this data collection activity is in part concerned with how the artists approach the musical realisation of their assigned opera character, the only means of segregating personally identifiable information from interview responses is to avoid crediting them for their creative contributions. This itself is ethically unsound. To address the situation, composers were briefed on the purpose and procedure of forthcoming data collection activities in the early stages of the project. During the briefing, each artist was offered a rationale for connecting their names to research findings as well as an option to decline participation in an exit interview without consequence to their creative role in *The Village*. All contributing composers were comfortable with opting in, and as such, each signed a statement to permit the use of their name (or artist pseudonym) in published research materials.

### 3.3. Documentation

The documentation of works in art, design and performance has been well problematised by researchers that aim to validate research outcomes or communicate practice to interested parties. At the core of most arguments is the

non-persistent nature of live performance, and the challenges (or for some futility) of embedding or reproducing an arts experience in a recorded format satisfactorily (Phelan 1993; Piccini 2003; Rye 2003). Researchers in response tend to generate documentation by combining pre-production materials with video captures of performance instances and reflective writings, yet such are capable of delivering only an understanding of process and content. They cannot recreate the live encounter. Interactive artefacts served via computing (e.g. mobile apps, web apps, games) on the other hand offer benefits of replicability and dissemination in their original, intended form. Such opportunities are however subject to various preservation challenges that often can only be addressed through complex undertakings of software migration or emulation (Newman 2012; Houghton 2016). The artefacts presented in this research are particularly vulnerable to these challenges, given the rapid pace of feature deprecation as web engineers reach for standardisation across browsers and devices. The phasing out of Adobe Flash in favour of open web standards such as HTML5 and WebGL (Adobe 2017) has rendered the aspects of *The Village* inaccessible on most modern browsers. Equally the introduction of autoplay policy changes by Google (Beaufort 2018) and other vendors presents continuing challenges for the longer term operation of *The Imaginary Voyage* given the opera's reliance on programmatically initiated content playback.

Given the above challenges, it is inappropriate to present the operas themselves as the sole means of documenting the practice. The works must be accompanied

by more persistence forms of documentation such as video or web artefacts that are built using open web standards. To establish an appropriate approach, I drew on four key tenets of documentation proposed by Peter Hulton via the mnemonic AIPP (described in Kershaw and Nicholson 2011). Hulton suggests that purposeful documentation must be:

- Aligned. The documenter grasps the context and intentions of the practice
- Individuated. The form of documentation is appropriate to what it documents
- Performative. The documentation "functions on its own terms and relies on the perception and engagement of the end-user" (ibid, p.167). I interpret this to mean that the documentation should strive to be a stand-alone experience, although one that is in sympathy with the original practice
- Projective. The documentation should be in a form that is appropriate for its audience

Figure 3.3 describes the methods used to document practice in this research and how they subscribe to Hulton's AIPP approach.



The Imaginary Voyage		
<p>DOCUMENTATION FORMS</p> <p>Hyperlink to original artefact</p> <p>Video captures of each island that demonstrate a typical user encounter with <i>The Imaginary Voyage</i></p> <p>Web-based demonstrations that expose the operation of the Syzygy Surfer. These use open web standards (HTML, JavaScript) that are unlikely to depreciate in the near future</p>	<p><b>Aligned</b></p> <p>The documenter worked closely with the principle investigator of the practice, and therefore understands its context and intentions.</p>	<p><b>Individuated</b></p> <p>Video captures are capable of demonstrating both the audio and visual composition of islands. Web-based demonstrations are interactive and allow for close examination of how the Syzygy Surfer operates.</p>
	<p><b>Performative</b></p> <p>Video captures of islands are linear in form, yet still rely on the perception of the user to unpack meaning (i.e. how images and sounds are connected semantically). Reviewers may also experience the opera in its original form until depreciation leaves video as the primary mode of documentation.</p>	<p><b>Projective</b></p> <p>Video captures are able to convey the tone of the opera to future researchers. Web-based demonstrations offer an appreciation of how Web 3.0 principles are treated in <i>The Imaginary Voyage</i> to practitioners that may wish to exploit a similar approach.</p>
The Village		
<p>DOCUMENTATION FORMS</p> <p>Hyperlink to the opera in its current form as an 'echo of the past'. This includes all character arias and permits some map interaction</p> <p>Video tours of the opera's user interface, including character creation and comment submission areas</p> <p>A video compilation of the music of <i>The Village</i></p>	<p><b>Aligned</b></p> <p>The documenter is the originator of the practice, and therefore understands its context and intentions.</p>	<p><b>Individuated</b></p> <p>A video tour is an often used method of overviewing a user interface. Video is an appropriate way to document the music of <i>The Village</i> given that characters arias are themselves linear videos.</p>
	<p><b>Performative</b></p> <p>The 'echo of the past' is a natural continuation of the opera's narrative and as such presents a first-hand understanding of the work in its current form. The video compilation of music is a stand-alone showcase of content (albeit at an advanced pace) that provides viewers a sense of the personality of each main character.</p>	<p><b>Projective</b></p> <p>Video tours present the opera's user interface in full, providing researchers the required information to develop critiques and revised approaches. The video compilation of the opera's music is able to communicate the results of the opera's co-creative compositional process to interested parties.</p>

Figure 3.3. Overview of the documentation methods used in this research, with reference to Hulton's AIPP approach.

## 4. The Imaginary Voyage

### 4.1. An Overview

*The Imaginary Voyage* (hereafter *TIV*) is an experimental online opera conceived by composer Andrew Hugill and realised as a collaboration between Hugill, myself and the London-based opera company The Opera Group (now Mahogany Opera) directed by Frederic Wake-Walker. The opera is a web-based interpretation of the navigation 'From Paris to Paris by Sea' as described in Alfred Jarry's posthumously published *Exploits and Opinions of Dr Faustroll, pataphysician* (1911) (hereafter *Faustroll*); a text held by contemporary pataphysicians as the most complete summary of 'pataphysics'<sup>19</sup> or the 'science of imaginary solutions' (Hugill 2012).

In the book, Faustroll joins a dog-faced baboon named Bosse-de-Nage on an imaginary voyage across the 'squitty sea' where they encounter a number of mysterious islands. Their transport is a skiff, full of holes. Each island is both dedicated and home to an artist, poet or musician of the time who Jarry evokes through poetic and carefully constructed prose (ibid, p.220). Jarry's description of the Land of Lace for example alludes to the drawings of English illustrator and author Aubrey Beardsley, yet arguably at points also his criticism of the artist (Fell 2010, pp.109-112).

*TIV* treats 'From Paris to Paris by Sea' as its libretto, yet as an ongoing work

draws only on Jarry's depictions of the Isle of Cack, Amorphous Isle and Land of Lace initially. The opera is however not a direct setting of the libretto to music, but rather an attempt to communicate the underlining tone and qualities of each island through combinations of image (still and moving), sound (original composition and appropriated material) and text (voiced or written). As such the Isle of Cack is rendered as effluvial and unsettling, the Amorphous Isle as drifting and ambiguous "like soft coral" (Jarry 1911, p.41), and the Land of Lace as delicate yet decadent.

*T/V* positions the user as Faustroll and invites them to interact with each island to explore its terrain. Interactions are largely navigational, yet in style they reflect the character of each island. Engagement within the Isle of Cack for instance increases the pace of content delivery significantly, therefore echoing its chaotic nature, whereas the Amorphous Isle permits only a languid form of interaction. Users furthermore may choose the order in which to visit islands via a primary interface. To maintain *T/V*'s pataphysical flavour, this interface has embedded within its representation of the 'squitty sea' links to various examples of online content that Hugill and I interpret as whimsical or absurd (Figure 4.1).



Figure 4.1. Representation of the primary user interface in *The Imaginary Voyage*.

## 4.2. Towards an Online Opera

The survey of digital opera presented in Chapter 2 positions remediation (Bolter and Grusin 1999) as an underlying feature of 'Opera for Computing Platforms' (OCPs). Nousiainen's *Omnivore* (2012) for example reframes opera against the 'always on' nature of mobile communications, while Bonardi and Rousseaux's *Virtualis* (2002) examines how the affordances of interactive media can offer new, user-driven means of constructing an operatic experience. For both works, it is within the conceptual space established by the collision of opera and computing where interest lays. To borrow Margaret Boden's terminology (1995), OCPs may be viewed then as examples of 'combinational creativity' in that they

collide two familiar ideas (e.g. opera and mobile communication in the case of *Omnivore*) to give rise to something unique and surprising. Yet creators of OCPs appear also to exploit 'transformational creativity' in their often radical alteration of the conventions of staged opera. Neither *Omnivore* or *Virtualis* are for instance intended as shared experiences, which for many people is a quality expected of opera.

When exploring creative trajectories for *T/V*, Hugill and I agreed to apply a similar transformational approach to online opera. This decision was largely a reaction to existing uses of the Internet in opera as a tool for dissemination or a means of introducing a participatory component to a staged work. Network technologies assume a somewhat functional role in such cases, serving to tweak conventional opera presentation in a manner that Boden might prefer to describe as 'exploratory creativity' (ibid). Rather than adopt this approach, we reasoned that *T/V* as an online opera should "emerge organically from the Internet" and treat the web as a creative space (Hugill and Scott 2013). That is, it should depend on, reflect on and bring into focus the very technologies and structures that underpin the web as a non-hierarchical information system that enables the connection and navigation of content through hyperlinks (Berners-Lee 1989).

For Hugill as originator of *T/V*, the notion that users journey across the web - from figurative 'island to island' - resonates with the literary tradition of the imaginary voyage found notably in Swift's *Gulliver's Travels* (1726) and *The Odyssey* (attributed to Homer). Jarry's 'From Paris to Paris by Sea' extends this

tradition, yet in addition is selected as the opera's libretto to recognise and apply an emerging relationship between pataphysics and web creativity (Hugill et al. 2013). Although described in a moment, in short, pataphysical transformations such as the 'syzygy' and 'clinamen' are deployed in *T/V* to present navigable, often surprising, and near limitless combinations of audiovisual material. The Internet becomes the 'squitty sea', and pataphysics the 'skiff' in which we explore it's jewels and junk.

### 4.3. Surfing the Semantic Web

Since the emergence of the web, artists have exploited or 'creatively abused' the medium for expressive purposes (Greene 2004). Early interventions by art collective Jodi (aka Jodi.org) for instance have exposed the inner workings and fragility of web technologies, with examples such as [wwwwwwwww.jodi.org](http://wwwwwwwww.jodi.org) concealing images of hydrogen bombs within source code, or [oss.jodi.org](http://oss.jodi.org) - before the days of pop-up blockers - making efforts to frustrate visitors by triggering a persistent stream of browser windows and automatic downloads. The web is in no short supply of this sort of creativity, however such works are today somewhat obscured by the more dominant functional approach of contemporary web engineering. Search engines and recommender systems in particular have refocused web interactions as objective and disambiguated, and in turn limited the possibility of unexpected discovery. The phase 'surfing the Internet' has somewhat lost its original sense of "randomness, chaos, and even danger" (Polly

1994)<sup>20</sup>, and now - if useful at all - describes a more logical hopping between content. User's are now less likely than they once were to meander into destinations that are surprising and unpredictable, or stumble across materials that inspire creative thinking.

In their article for the inaugural issue of *International Journal for Creative Computing*, Hugill and computer scientist James Hendler offer the Semantic Web as means of revitalising the notion of 'surfing the Internet' in a contemporary context. In particular, they discuss the derivation of a creative approach to search that is powered by the web as a structured network of knowledge, yet transformed by the ambiguity and 'purposeful purposelessness' of pataphysics (Hendler and Hugill 2013).

The Semantic Web is an emerging extension of the World Wide Web in which "information is given well-defined meaning, better enabling computers and people to work in cooperation" (Berners-Lee, Hendler and Lassila 2001).

Underpinning the concept is the idea that machines can better interpret what we want if they 'understand' the logical relationship between 'things'. Core to this approach is the method of assigning metadata to items on the web (e.g. people, locations, genres) and deploying ontologies<sup>21</sup> to specify connections between them. This is achieved using Semantic Web standards such as RDF (Resource Descriptor Framework), which in this case defines relations using the triple: object > relation > value (e.g. Berlin > capitalOf > Germany). A familiar application of the mechanics behind the Semantic Web is Google's Knowledge Graph<sup>22</sup>,

which when queried for example with the search term 'Jazz' returns and organises related items attached to classes of 'parent genres', 'derivative forms' and 'artists' in the form of a Knowledge Panel.

Hendler and Hugill (2013) recognise that if web items are associated by meaning, tools for search and navigation may be tuned to deliver surprising or even poetic content juxtapositions and deviations. If a 'surfing engine' were queried with the word 'bulb' for example, it could deploy an ontology to understand the term as an 'object that omits light' and with instruction return to the user a reference to an 'object that *does not* reflect light', such as (in a sense) a black hole (Figure 4.2).

The pivot between 'bulb' and 'black hole' is somewhat unexpected yet not random, which marks the difference between creative search that engages semantics intentionally and an entirely unplanned instance of serendipity. A conventional search engine would furthermore rarely expose such an uncommon, albeit rather slight shift in perspective. As they typically deploy semantic technologies to disambiguate and rank returned information based on relevance, search results would likely prioritise a definition of 'bulb' or make connections with highly-cited entities that contain the word 'bulb' (e.g. the energy supplier Bulb Energy). The challenge outlined by Hendler and Hugill then is to formulate methods of object annotation and search that avoid such disambiguation to encourage unusual and surprising semantic alignments to rise to the surface. Pataphysics is proposed as a means of achieving this.



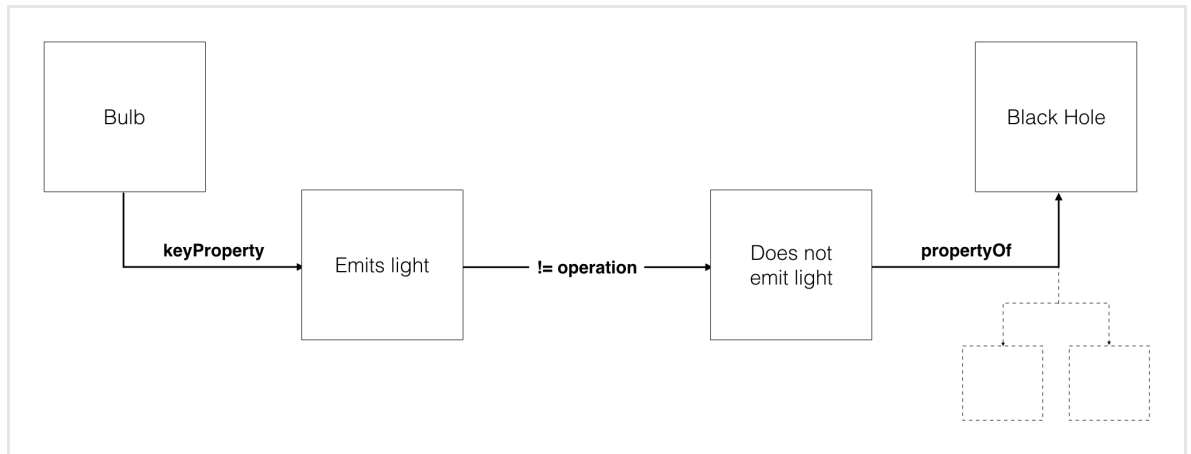


Figure 4.2. An example of a semantic relationship between 'bulb' and 'black hole'. Arrows represent logical reasoning.

## 4.4. 'Pataphysics (Un)Defined

'Pataphysics originates in the ludicrous yet intelligent ridicule of physics teacher Félix-Frédéric Hébert by Alfred Jarry and his classmates at Lycée de Rennes in the 1880s. The schoolboys would ask ever more difficult and bizarre questions of Hébert, leaving the rather unfortunate tutor perplexed. The figure of Hébert would mature later into the subject of Jarry's notorious play *Ubu Roi* (1896) and eventually *Faustroll*, with both works expressing the writer's penchant for anarchism, symbology and prodding the limits of language and logic. Jarry would go on to live a brief life, yet one that was prolific and committed to the playfully serious business of 'pataphysics. His thinking remains the topic of artistic and academic interest to this day, and has influenced several reactionary art movements such as Dadaism, Surrealism and the Theatre of the Absurd.

To define 'pataphysics is unpataphysical. Described by Jarry as "the science of the particular" and an examination of the "laws governing exceptions" (1911, p.21),

'pataphysics cannot conform to a definition because a definition itself cannot be exceptional (Hugill 2012, p.3). There have been many attempts to characterise 'pataphysics, nevertheless. *'Pataphysics Definitions and Citations* (Brotchie et al. 2003) contains over 100 such interpretations, with each ruled by the Collège de 'Pataphysique as 'equally valid'. Georges Perec's contribution speaks particularly of Jarry's ascension of 'pataphysics as "extending as far beyond metaphysics as the latter extends beyond physics" (Jarry 1911, p.21):

"If physics proposes: 'you have a brother and he likes cheese,' then metaphysics replies: 'if you have a brother, he likes cheese'. But 'Pataphysics says: 'You don't have a brother and he likes cheese'" (Perec in Brotchie et al. 2003, p.46).

Attempting to elucidate (')pataphysics is however missing the point. As Hugill suggests, "to understand pataphysics is to fail to understand pataphysics" (2012, p.1). Depending on one's inclination, Jarry's cultural legacy could be dismissed as "a school boy prank, a raucous piece of nonsense" or embraced as "an attitude of mind, a way of life, a discipline, a doctrine" (ibid). All positions are 'equally valid'. For pataphysicians, every phenomenon is non-generalisable, unique and purposefully purposeless.

## 4.5. The Syzygy Surfer

The deliberate ambiguity and contradictory (yet not random) logic of pataphysics is articulated by several tropes that appear across pataphysical literature. They

include the 'antinomy', 'clinamen' and 'syzygy' (Table 4.1). These themes are treated in *TIV* as 'pataphysical transformations' that steer the trajectory of content flow, and are encoded within the opera's core technology, the Syzygy Surfer.

Trope	Description
Antinomy	The mutually incompatible. The symmetry of opposites. The antinomy is found in Bosse-de-Nage's often uttered 'Ha Ha' - the idea of unity if pronounced quickly yet the idea of duality, of echo, if uttered slowly (Jarry 1911, p.75) - and in the name 'Faustroll' - the severity of the devil and the mischievous humour of the troll (Hugill 2012, p.10).
Clinamen	A clinamen in 'pataphysics may be described as "the smallest possible aberration that can make the greatest possible difference" (Bök 2002, p.45). An example is found at the opening of <i>Ubu Roi</i> in Jarry's substitution of 'merde' (shit) for 'merdre' (pschit), thus changing its meaning entirely (Hugill 2012, p.16).
Syzygy	In astronomy, the term syzygy describes the alignment of three celestial bodies (e.g. an eclipse). In 'pataphysics, a syzygy can be interpreted as two phenomena (words, ideas) in both binary relation and plenary opposition (Bök 2002, p.41). We may find it in Faustroll's theory of gravity where "the fall of a body towards a centre" is the same as "the ascension of a vacuum towards a periphery" (Jarry cited in Bök 2002, p.42). Hugill notes that surprise is a feature of syzygy - that is, the alignment is unexpected - yet he is careful to distinguish it from serendipity which "lacks the scientific exactitude of syzygy" (ibid, p.14).

Table 4.1. An overview of three pataphysical tropes: antinomy, clinamen and syzygy.

Beyond its role in *TIV*, the Syzygy Surfer is proposed as a creative search tool for the web that deploys pataphysical transformations to 'pataphysicalise' a user query. The results returned are intended as "surprising and novel provocations"

that a user may draw on in their own creative pursuits (Hugill et al. 2013, p.241). In this way, The Syzygy Surfer seeks to "engage in a creative dialogue with the user" (ibid) rather than mimic skill, appreciation or imagination in order to generate creative artefacts (see Colton 2008). By this description, the tool is an example of creative computing and not computational creativity (Hugill and Yang 2013).

An initial attempt at developing a localised version of the Syzygy Surfer emerges from a PhD study by Fania Raczinski (2016). The prototype, found at [pata.physics.wtf](http://pata.physics.wtf), applies pataphysical algorithms or 'patalgorithms' to user query terms to yield 'patadata' (an extension of metadata). The patadata is then used to query an index<sup>23</sup> derived from a text corpus that comprises Faustroll's library of 'equivalent books' (Jarry 1911, p.10-11) and a collection of 38 texts by William Shakespeare. Table 4.2. indicates how the antinomy, clinamen and syzygy are encoded within Raczinski's model and presents the results of a test retrieval.

Query	Patalgorithm	Method	Test Retrieval
Calm	Antinomy	Uses the WordNet lexical database to retrieve antonyms. Returned words are positioned as semantically opposite to the query term.	"...as a means of crossing a <b>stormy</b> arm of the sea..."
Marble	Clinamen	Introduces spelling errors through character insertion, deletion and substitution. Deploys the Damerau-Levenshtein algorithm to measure the distance between two strings (i.e. the query term and keywords in the corpus) where 0 is an equality, then retrieves results with a distance of one or two.	"...of this group of fearful <b>marine</b> monsters.."
Candle	Syzygy	Queries WordNet to retrieve words within the same semantic territory as the query term. Results may for example be synonyms (equivalent meanings) derived from synsets, hypernyms (a superordinate relationship) or meronyms (a constituent relationship).	"Pataphysics will <b>examine</b> the laws governing exceptions..."

Table 4.2. Overview of the operation of the Syzygy Surfer as proposed by Fania Raczinski. Patalgorithm descriptions are derived from Raczinski (2016) and test retrievals utilise the Syzygy Surfer available at [pata.physics.wtf](http://pata.physics.wtf)

## 4.6. The Isle of Cack

The Isle of Cack (hereafter Cack) was the first island created for *T/V*. Cack is conceived as an endless barrage of audiovisual material, with component images and sounds echoing the ruptured and effluvial qualities of Jarry's description in *Faustroll*. The island is comprised of Creative Commons licensed content gathered from online repositories such as Flickr, Freesound and Wikimedia, amongst others, with minor additions from sample libraries including those

within the software sampler Kontakt. The intention behind this decision was to curate (within limits) a view of the web as unsettling and peculiar while acknowledging appropriation or 'remixing' as a prevalent form of artistic expression in the computer age (Lessig 2008). In *T/V*, Jarry's squitty sea *is* the web, and Cack the shoreline on which its absurdity, banality, noise and discontent is washed up. A demonstration of Cack is offered in Figure 4.3.

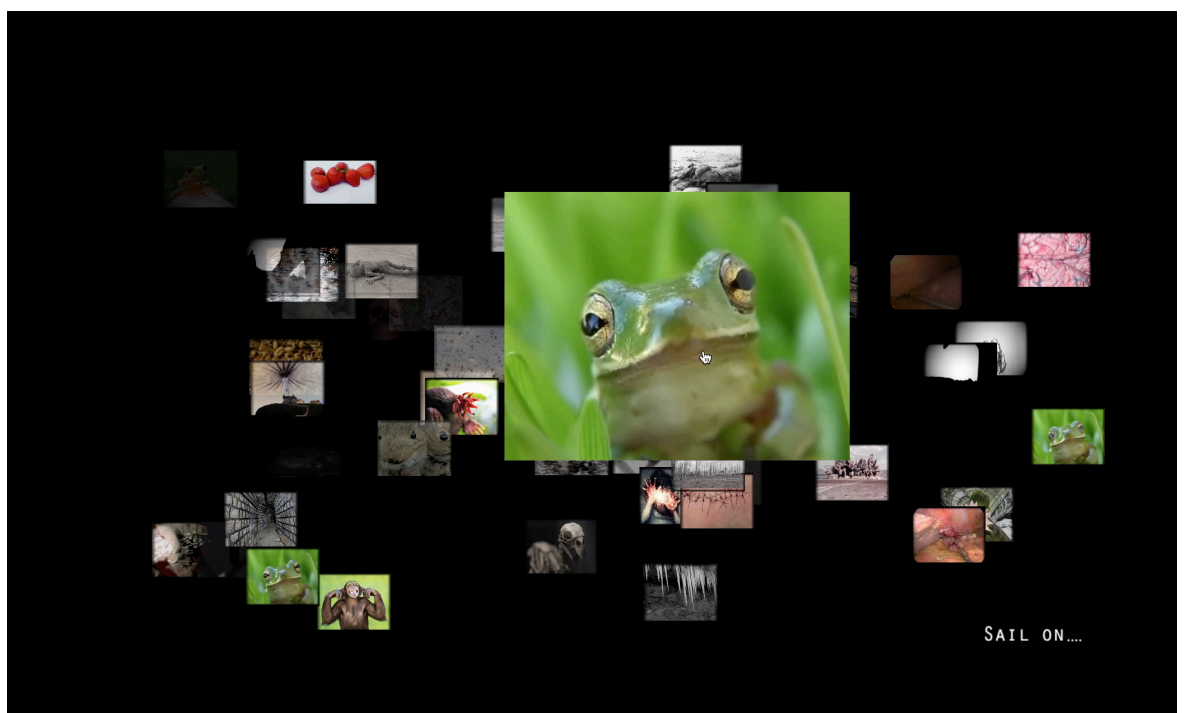


Figure 4.3. Capture of the opening of *The Imaginary Voyage* moving into the Isle of Cack [Video]. Click to play in web browser.

Cack is the most explicit demonstration of the Syzygy Surfer in *T/V*. The tool is used to establish relationships between sounds heard consecutively, and between images and sounds experienced concurrently. The intended result is a stream of audiovisual material that maintains a sense of poetic unity and direction by an unseen creative agent. Early in the design of Cack however, it was

clear that Raczinski's approach to pataphysicalisation would need to be adjusted to meet the requirements of the online opera. There were three distinct problems to address:

- Problem 1. Cack operates on image and sound, however Raczinski's Syzygy Surfer accepts only text inputs. Solution: Use metadata (tags) to annotate image and sound materials with text descriptors.
- Problem 2: It would be tedious to curate a repository of audio and visual content as expansive as the text corpus used in Raczinski's system. The likelihood of a user's input failing to return a valid result on a smaller collection of material is relatively high. Solution: Remove user input and permit the Syzygy Surfer to accept only predefined tags.
- Problem 3: Raczinski's system relies on linguistic ambiguity, however text is invisible to the user in Cack. Solution: Instead of using WordNet synsets (see Table 4.2) to promote equivocity of language, introduce ambiguity in part by drawing on variability in how humans assign meaning to images and sounds.

Hugill and I proceeded to develop a method of pataphysicalisation that relies on artistic subjectivity. That is, the unique way that we as curators of Cack interpret and annotate its creative content. The Syzygy Surfer would then deploy refactored patalgorithms to find connections amongst the materials we collect and annotate.

We began by developing two tabular matrices that specify ten broad 'constraints'

for each asset type (image and sound) and ten variants (tags or metadata) within each constraint (Figure 4.4). Each variant was then used as a creative prompt during content gathering, yielding one sound object per matrix cell that, for us, resonated in some way with the prompt under consideration. A variant of 'static' within the image constraint 'movement' returned, for example, a photograph of an obelisk. We termed the matrices 'constraint tables' to acknowledge the role of constraints in focusing creativity within art and design disciplines (Boden 1995; Stokes 2006; Candy 2007), and for Cack particularly, the use of 'task constraints' to encourage divergent thinking by precluding variability in process (Harrison and Stokes 2002). By adhering strictly to our procedure, we were encouraged to find imaginative yet recognisable connections between text variants and their audio/visual manifestations while ensuring our collection covered a range of subject matter and tones. Following content gathering, the sound content repository was then assigned additional tags from its constraint table in order to create a mesh network of audio assets. At this point the image variants were abandoned, having served their purpose in collection, and all available visual assets were assigned tags from the sound constraint table to consolidate the network ready for pataphysicalisation.



SOUND						
Constraint	Variant					
Silence	Echoing	Ambient	Digital	Analog	Anticipatory	[...]
Timbre	Clear	Unfocussed	Strident	Rounded	Resonant	[...]
Allusion	Medieval	Baroque	Classical	Romantic	Modern	[...]
Harmony	Atonal	Jazz	Microtonal	Modal	Major	[...]
Voicing	Monophonic	Duet	Polyphonic	Multiphonic	Textural	[...]
Feeling	Sweeping	Aggression	Tension	Sadness	Fear	[...]
[...]						
IMAGE						
Constraint	Variant					
Colour	Monochrome	Changing	Translucent	Illuminated	Natural	[...]
Shape	Circular	Twisted	Square	Arching	Soft	[...]
Character	Entrancing	Reflective	Cleansing	Intense	Rumbustious	[...]
Allusion (Image)	Performing Arts	Humour	Film and TV	The Past	Data	[...]
Style	Classical	Abstract	Surreal	HDR	Doodles	[...]
Movement	Static	Gentle	Confident	Unfolding	Falling	[...]
[...]						

Figure 4.4. Capture of a portion of the constraint tables used to source audio and visual materials for use in the Isle of Cack.

### 4.6.1. Pataphysicalisation in Cack

Cack deploys two patalgorithms: clinamen and syzygy. The antinomy was omitted due to challenges in establishing a semantic 'opposite' of an image or sound programmatically. Although human interpretation could be used to manually connect assets in contradiction, this sort of prescribed procedure undermines the generative quality of the Syzygy Surfer. Both the clinamen and syzygy may be called upon to determine the horizontal sequencing and vertical layering of assets, the latter hereafter referred to as a 'content block'. The longitudinal experience of the stream however differs in response to the patalgorithm in play.

The clinamen presents a chaining of audio/visual assets based on an individual tag, shown in Figure 4.5 using the variant 'clocked' to illustrate the approach. In

relation to pataphysical transformations, a 'swerve' is apparent in how (for this example) each sound has similar rhythmic properties yet also contrasting origins. In this way the listener engages in reduced listening to find connections across chains of audio objects, yet also causal and semantic listening to appreciate derivations in subject matter and mood (Chion 1994). Similar modes of perception are deployed to find relationships in the visual domain, with the case of 'clocked' issuing suggestions of repetition within very different contexts. Semantic relationships between stacked sound and image objects (within content blocks) are forged by their shared use of a tag, however we also rely on 'audiovisual synchresis' - a term coined by Michel Chion to describe the "irresistible weld between a particular auditory phenomenon and visual phenomenon" (ibid, p.63) - to reinforce such relationships.

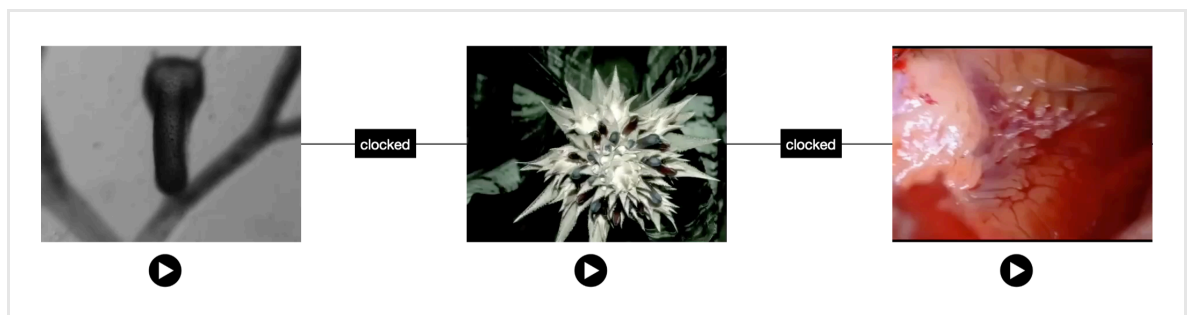


Figure 4.5. Interactive demonstration of the operation of the clinamen patalgorithm in the Isle of Cack [Web Artefact].  
Click to view in a web browser.

The syzygy operates identically to the clinamen for two consecutive sound objects, yet differs in approach across multiple content blocks. Here the Syzygy Surfer presents an asset, stores its tags, shuffles them, selects a tag at random, then identifies a different asset that is annotated with that selection (Figure 4.6).

This process operates on sound tags exclusively given that *T/V* is a musical work, therefore positioning image as a complimentary force. The result in terms of pataphysical transformation is an 'alignment' (syzygy) between a content block, a tag, and a proceeding content block. In this way the experience is procedurally similar to 'surfing' through material on such sites as Freesound using metadata as a hypertext reference. The key difference in Cack is that the Syzygy Surfer prohibits user choice and control by navigating metadata programmatically, thus ensuring a persistent stream of material. A user may however revisit intriguing combinations of image and sound via a digital 'breadcrumb trail' of scattered smaller images that replay content blocks when clicked. Such interactions somewhat 'provoke' the island, causing the stream to increase in pace abruptly. Left alone Cack permits users to perceive a logic to the flow of sound and image, yet meddling with the island serves to barrage the user with material, thus limiting their capacity to process what they see and hear.

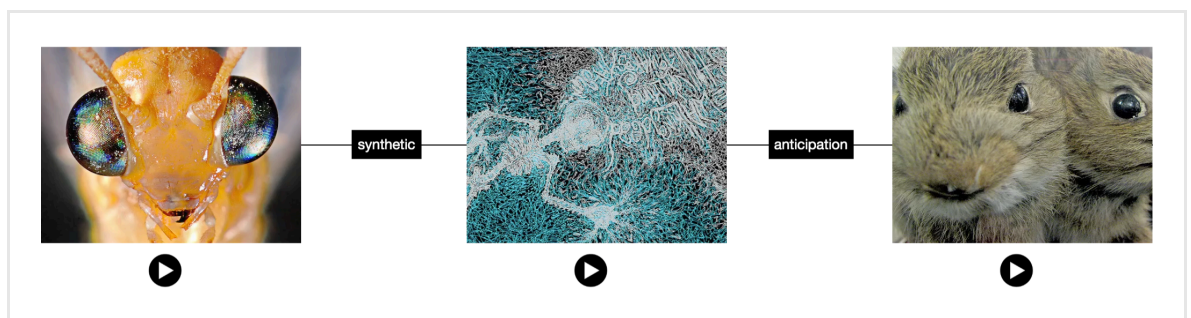


Figure 4.6. Interactive demonstration of the operation of the syzygy patalgorithm in the Isle of Cack [Web Artefact].  
Click to view in a web browser.

The technical implementation of Cack comprises two components: the Syzygy Surfer (back-end) and a media management system (front-end). The Syzygy

Surfer relies on a MySQL database to store information on assets (i.e. metadata chains, file locations, content attributions) and PHP to handle asset selection and tag parsing. The media management system handles content presentation, with HTML5 and CSS used to render and position assets and JavaScript serving to cue content and initiate media playback programmatically. Web technologies were chosen to enable Cack, and indeed *TIV* at large, to be operational on most laptop and desktop machines via a modern browser. The opera is however unreliable on mobile devices due to the implementation of autoplay policies that permit playback of sound and video only in response to a user tap action. Cack cannot function without programmatic media playback, and thus when viewed on a mobile device appears as a static image. Future iterations on *TIV* may attempt to overcome this challenge by refactoring the opera as a native iOS and Android application.

## 4.7. The Amorphous Isle

The Amorphous Isle (hereafter Amorphous) is the second island created for *TIV*. It is a quieter and more gentle place than Cack, yet retains the sense of curiosity and surreality found across the opera as a whole. Visitors to Amorphous are met with a map-like interface inspired by the Pierce quincuncial projection of Earth but reimagined to draw attention to the representation's distortion of reality rather than to depict world land masses. The nebulous nature of the cartography is stressed by periodically pulsing projection gridlines in and out of focus. Within

the island exists a number of symbols of pataphysical significance: the frog, echoing pataphysican Jean-Pierre Brisset's idea that man descended from such creatures; the spiral, referencing the pataphysical antinomy and 'The Grand Gidouille' inscribed on the belly of Ubu Roi; and the king, a visualisation of the three rulers of the Amorphous Isle as described in *Faustroll* (Hugill 2012). Symbols mark the location of 'settlements' that each lead to a content block triplet comprised of one image asset (still or moving), one sound asset (a short piece of music or sound design) and one text asset (a sung fragment of text). All settlements are assigned a unique visual theme such as cyclic movement, abstract pattern or light in motion, while component audio assets support the intended evocation of a particular mood or 'feeling' (Hugill and Scott 2013). Users are able to enter settlements at will via a mouse click, yet to excite more general impressions of drifting, placidity and absorbed contemplation, they are denied any form of navigational interaction during their visit until a full content cycle has concluded. A demonstration of Amorphous is offered in Figure 4.7.

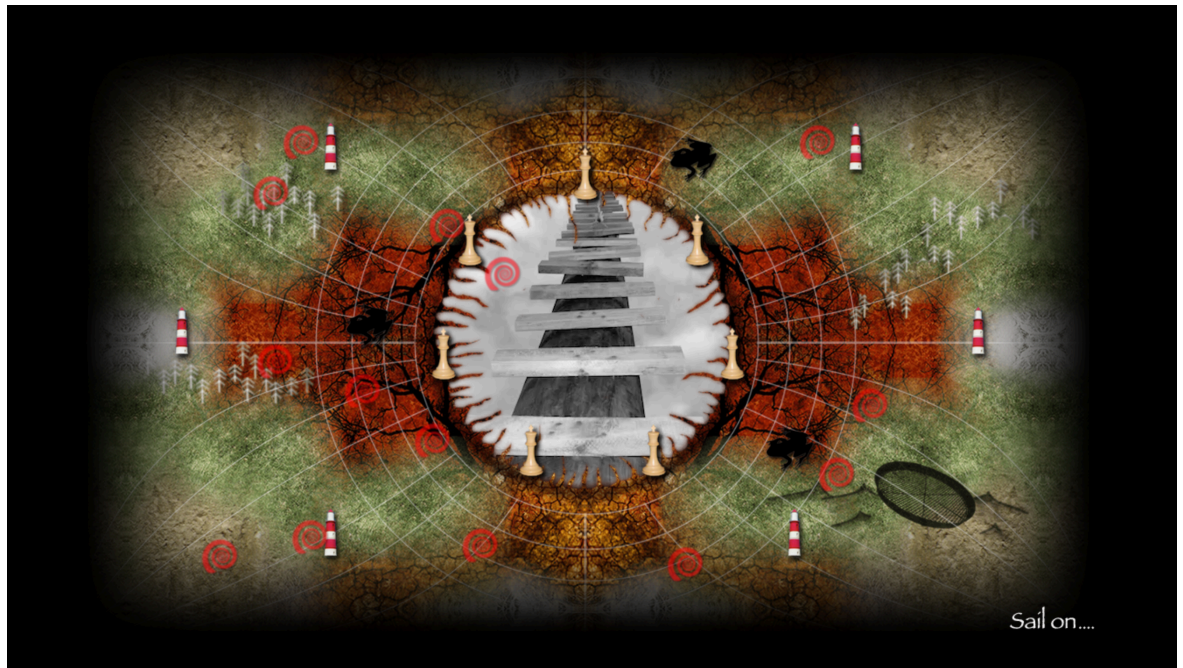


Figure 4.7. Capture of the Amorphous Isle [Video]. Click to play in a web browser.

Amorphous deploys the Syzygy Surfer in a comparable way to Cack, yet only the clinamen patalgorithm is used to construct the island. Each settlement operates on a single tag (e.g. 'calm'), and features only audiovisual content that has also been assigned that tag (Figure 4.8). The scope of materials available to the Syzygy Surfer is however wide enough that multiple visits to a single settlement are rarely the same. Content annotation utilises only variants in the 'feeling' category of the constraints table (refer to Figure 4.4). Hugill and I took this approach to encourage connections between image and sound within Amorphous to be perceived at the level of affect, and in-keeping with the languid tone of the island, to require less of the user in terms of active listening. Image assets for Amorphous, like Cack, were gathered from online repositories, yet here the selection process was careful to ensure that each content block triple adhered to

a defined visual theme. Sound assets are original rather than appropriated. Unlike Cack, which is intended to be disruptive in tone, we wanted Amorphous to offer a coherent flow of musical material.

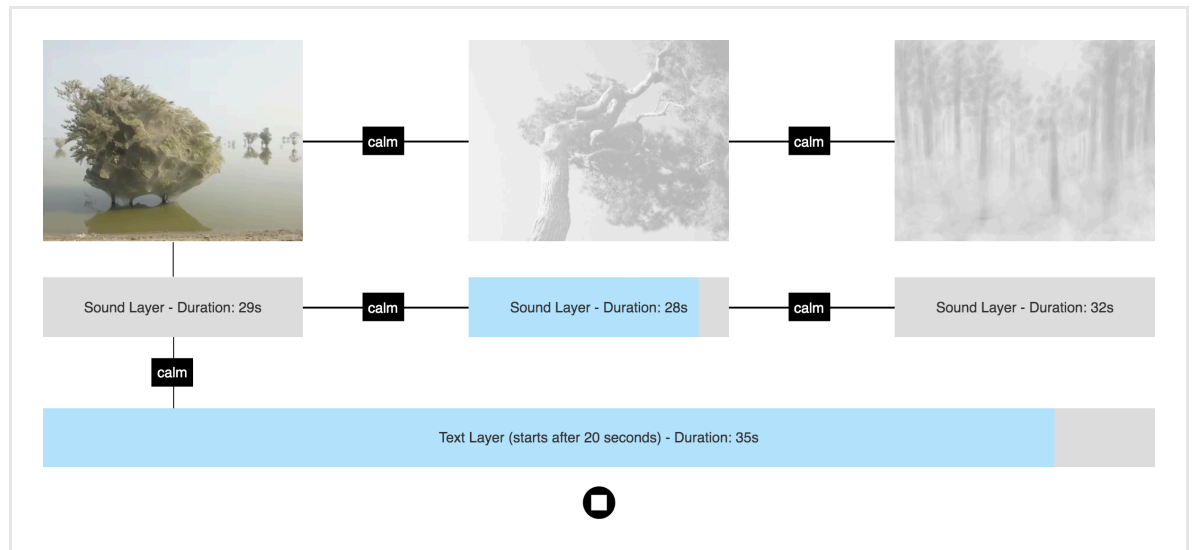


Figure 4.8. Demonstration of the how settlements are constructed in the Amorphous Isle [Web Artefact]. Click to view in a web browser.

Content blocks within Amorphous include an additional 'text' layer, which comprise vocal settings of Faustroll's library of 'equivalent books' derived using Racinski's Syzygy Surfer (Figure 4.9). Texts were generated by applying the syzygy patalgorithm to variants of a 'feeling' constraint as search terms, then using human judgement to select short literary excerpts that most successfully evoked that feeling. The text layer was added in response to reflections on Cack by Hugill and I, where we concluded that the island lacked the expressivity of the human voice; an arguably critical component of opera. By incorporating sung materials, we looked to better situate Amorphous as an example of opera by engaging the art form's three fundamental forces: image, as in visual production;

sound, as in musical expression; and text, as in libretto. The treatment of such forces however remains fairly abstract.

AMORPHOUS TEXT	
Variant	Excerpt(s)
<b>Sweeping</b>	...loved her like the infinite series of numbers... ...the veritable portrait of three persons of god in three escutcheons...
<b>Aggression</b>	...bodies striking the hours of union and division of the black...
<b>Tension</b>	...the vigilant gaze of the spirit of the dead... ...do not make as much noise as a single drum... ...the oars made a clangorous sound as they scraped along the bow,,,
<b>Sadness</b>	...others: may your dire sorrow flyaway... ...no longer deep enough to satisfy our honour... ...other side of the green sleep of hulls; ships passed away...
<b>Calm</b>	...a strange upon a clam sea quilted with sand; Faustroll... ...each person present threw a pebble into the sea... ...depth and with edges that tend to ebb and flow...
<b>Fear</b>	...it will set. fear creates silence nothing is terrifying... ...forth revealing the distinction and evil engraved in the wood... ...underground arose from Ali Baba screaming in the pitiless oil...
<b>Joy</b>	...sibyls record the formula of happiness, which is double: be amorous... ...the lord of the island gloried that his creation was good...
<b>Awe</b>	...like earth; the enemy of fire and renascent from it... ...awesome figure, warlike and sacerdotal, glared at the assembly... ...is not an island but a man...
<b>Playful</b>	...peacocks' tails, gave us a display of dancing on the glassy...
<b>Confusing</b>	...my tuning fork. imagine the perplexity of a man outside time... ...mandrills or clowns, spread their caudal fins out wide like acrobats... ...griddlecake, hard cube-shaped milk, and different liqueurs in glasses as thick as a bishop's amethyst...
<b>Disjointed</b>	...tangential point of the universe, distorting it according to the sphere's...

Figure 4.9. Capture of the text excerpt table used to create the Amorphous Isle. Passages are derived by querying variants of the 'feeling' category of the constraints table (refer to Figure 4.4) into Raczkinski's prototype of the Syzygy Surfer.

## 4.8. The Land of Lace

The Land of Lace (hereafter Lace) is the third island created for *TIV*. Differing from Cack and Amorphous, which deliberately push the limits of what opera looks and sounds like, Lace exhibits qualities that are more typical of a conventional operatic aria. It offers a clear sense of narrative, which is conveyed using a familiar bel canto style of singing as a key expressive force. The work is in addition



of a somewhat predictable duration, and is observed without viewer intervention. Interaction is instead reserved until the conclusion of the aria where viewers can choose to 'reimagine' the work (i.e. reconstruct it) or replay particular scenes. A demonstration of Lace is offered in Figure 4.10.



Figure 4.10. Capture of a full iteration of the Land of Lace [Video]. Click to play in a web browser.

Lace is a interpretation of Jarry's description of the Land of Lace in *Faustroll* that comprises ten scenes that set libretto excerpts to original music by Hugill and evoke the imagery within the text through stop-motion animation by Jo Lawrence. Computing however shapes how each viewing of the aria proceeds by layering and sequencing audio/visual content according to an algorithm (Figure 4.11). To construct a scene, the algorithm selects one of 3-4 available vocal variants<sup>24</sup> (text) with associated animated miniatures (image) and one of ten musical accompaniments (sound). This results in  $8.6 \times 10^{12}$  possible permutations

of the aria<sup>25</sup>, which makes it highly unlikely that any two encounters of Lace will be the same.

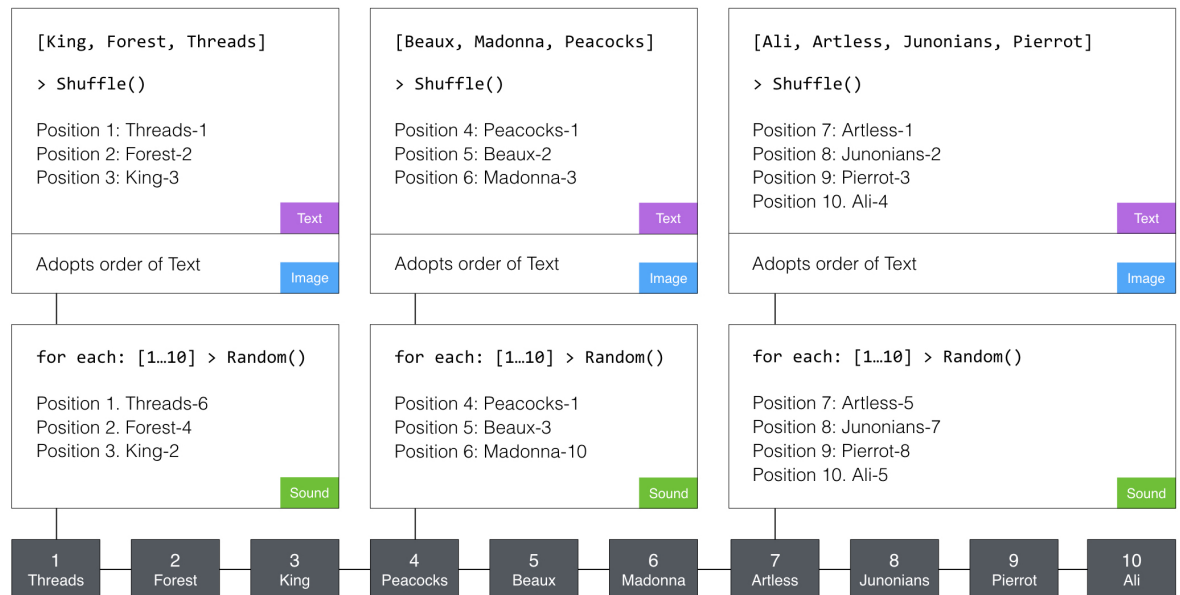


Figure 4.11. Visualisation that describes how content is sequenced in the Land of Lace.

In contrast to other islands in *T/V*, the construction of Lace is not directed by the Syzygy Surfer - which is concerned with semantic relationships between content - but rather by mathematical probability or 'combinatorics'. As summarised by Barrière (2017), combinatorics has featured significantly in music, visual art and literature from the early twentieth century, thus evidencing a long-held fascination in art with discrete mathematical processes. The musical composition of Lace for instance draws on the combinatoric techniques of pataphysician and Oulipian Georges Perec, particularly the use of Greco-Latin squares or 'bi-squares' found in his 1978 novel, *La Vie mode d'emploi* (Life: A User's Manual). The construction of the novel - about the stories within a fictitious Parisian apartment block - is determined by the movement of a knight chess piece across a

10x10 grid, with each cell visited yielding two list elements that provide organisational information: chapter and room (Bellos 1993). Multiple bi-square and element lists were assembled and navigated by Perec to provide additional literary constraints related to the contents of each room, including objects, characters, colours, allusions, fabrics and so on. Lace similarly uses a bi-square and the 'knights tour' sequence to determine instrumental combinations for each of the aria's 100 musical accompaniments. The procedure results in two dominant and two passive instruments per line, which for Hugill represents the operation of bobbins within a lace-making machine (Hugill and Scott 2013).

## 4.9. Evaluation

Focus group evaluation of *T/V* was conducted in order to better understand what features and qualities potential audiences might expect from an online opera. In this way, the opera was presented as experimental and an entry point to further exploration of the form.

Four focus group sessions were hosted over two days at Kings College London in June 2013, with each inviting participants to experience *Cack*, *Amorphous* and *Lace*<sup>26</sup> for 25 minutes before returning impressions of the opera. Individual responses were recorded during the experiential phase via a written feedback sheet. Participants then compared their perspectives of the opera during a moderated group discussion of around 45 minutes in duration. Given the scheduling of the evaluation activity, readers should note that *T/V* was presented

without the later implemented primary interface shown in Figure 4.1.

Focus groups participants comprised:

- Members of the Young Vic directors network
- Kings College London (KCL) academics in the field of digital humanities
- Senior members of UK arts funder the Jerwood Foundation
- Operagoers subscribed to The Opera Groups's mailing list
- Students enrolled on the KCL K+ Summer School programme (aged 16-17)
- Several composers of opera music including individuals undertaking Sound and Music residencies

The following sections outline key insights generated from focus group evaluation activities.

### **4.9.1. Keyword Analysis**

A keyword analysis of written and verbal responses was undertaken to determine the extent to which islands within *T/V* were perceived by focus group participants to express the mood or atmosphere that Hugill and I set out to evoke. Figure 4.12 provides an overview of the frequency of terms used by participants to describe Cack, Amorphous and Lace. The analysis indicates that the perceived tone of all islands aligns strongly with our intentions.

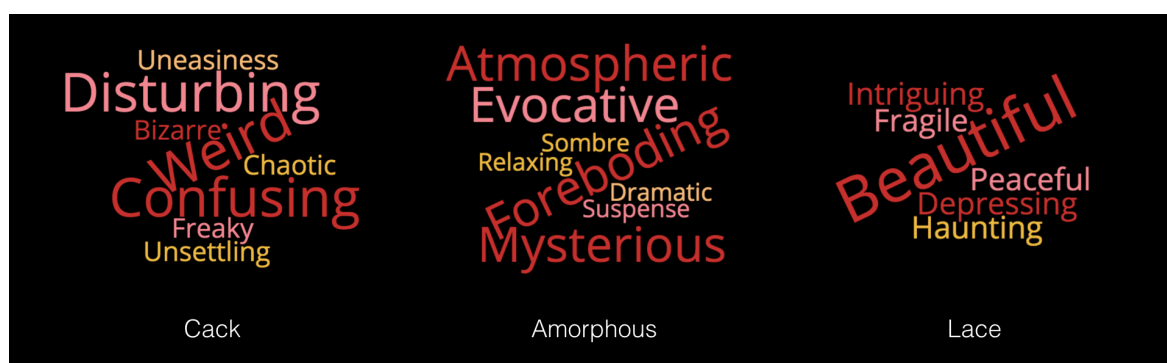


Figure 4.12. Keyword analysis of focus group participant descriptions of islands within *The Imaginary Voyage*.

## 4.9.2. Exposing Context

"I thought [TIV] evoked Jarry's wit quite well actually, but its a good job you explained what it was all about. I think that's the thing - it needs to be put in context" (Appendix I/2/C, comment 3).

Several participants suggested that they would benefit from an overview of Alfred Jarry and *Faustroll* before experiencing *TIV* (Appendix I/1/D, comments 2-6). A desire to better understand pataphysics as a philosophy that underpins the opera was also expressed on several occasions (Appendix I/2/A, comments 89-97), with focus group 1 participants particularly noting some dissatisfaction with not being made aware of the pataphysical operations used to construct the work in advance of visiting islands (Appendix I/2/A, comments 103-109). This was remedied from the second focus session onwards through a short verbal introduction to *Faustroll* and pataphysicalisation. Nevertheless, given the intellectual complexity and fuzziness of pataphysics, it is understandable that audiences would likely find the context of *TIV* difficult to grasp without

appropriate priming. In conventional operatic performance settings, such a function is fulfilled by programme notes. An equivalent form may be required for some online operas.

#### Key Insight

Creators of online opera must identify appropriate means of communicating the historical, cultural and/or artistic context of the work. Ideally such contexts would be integrated into the opera itself, otherwise they should be presented in a manner that draws on the affordances of the web. The latter could include links to key information available online, embedded video-based outlines of critical concepts, and interactive demonstrations of technologies (i.e. such as those provided in Sections 4.6 and 4.7 of this chapter).

### 4.9.3. The Syzygy Surfer

"Sound clips provoked a reaction to the image which was contrary to normal patterned behaviour – i.e. when the word "drinking" occurred next to a horrible image of mud shapes. I felt that I spent too long trying to work out the 'logic' of what was trying to be achieved" (Appendix, I/1/A comment 8).

The goal of pataphysicalisation in *Cack* and *Amorphous* is to evoke a sense of poetic unity in the juxtaposition of image and sound. Focus group responses show this objective to have been met to some extent, with several visitors to *Cack* deriving humour in content collisions (Appendix I/2/B, comment 19) or perceiving connections within context blocks at the level of affect (Appendix

I/2/D, comment 9). One participant within focus group 1 (who did not receive a briefing on pataphysicalisation before engaging *T/V*) in particular assigns a "semblance of order or weird sense of familiarity" to their experience (Appendix I/1/A, comment 8), which suggests that this person identified an underlying logic to the island.

It would however be inaccurate to claim that pataphysicalisation is solely responsible for such observations. Any perceived order behind content juxtapositions could equally be the result of serendipity, or some form of apophenia in which humans tend to derive connections between unrelated phenomenon (Shermer 2008). This conclusion is supported by an overall consensus from participants that Cack was randomly generated (Appendix I/1/A, comments 3-10) rather than constructed by a creative agent - whether that be human or computer. In short, the effects of pataphysicalisation as intended by Hugill and I were to some degree overlooked.

Some participants attributed the random flavour to the rapid pacing of Cack, noting that they perceived greater parity between image and sound in the more languid the Amorphous Isle (Appendix I/2/A, comment 54). Visitors to *T/V* may therefore be better equipped to engage with the concept of pataphysicalisation if they were given appropriate time to process the materials presented (Appendix I/2/B, comments 27-36). Literature in psychology on cognitive constraints supports this conclusion, with George Miller (1956) suggesting that humans are on average able only to process up to seven plus or minus two 'chunks' of

information in one dimension (i.e. words or tones) at a time. Although in ways the chaotic nature of *Cack* is intended to barrage and confuse, it is nevertheless unreasonable to expect visitors to process image, sound and sometimes verbal information (three dimensions) in an instant, while potentially also negotiating the pataphysical context of *T/V* and its connections with Alfred Jarry.

#### Key Insight

Creators of online opera must conduct user testing early to identify challenges related to audience comprehension. This is critical for works that rely on technological processes to achieve a particular artistic effect. Methods in game design such as 'greybox prototyping' may prove useful in testing concepts, as would exploratory techniques used in theatre such as 'workshopping'. Activities should engage a sample of the opera's target audience.

### 4.9.4. Interactivity

"I wasn't that clear how much influence my interaction/clicking was having on the audio/visuals [in *Cack*]" (Appendix I/1/A, comment 17).

During initial conceptualising stages, Hugill and I determined that a key feature of *T/V* would be its capacity to allow the user to steer how the opera unfolds. The prototype presented to focus group participants however did not implement this feature (largely due to the complexity of the task and the time constraints of the sKTP) and instead positions the Syzygy Surfer as the primary agent that governs how audiovisual materials are layered and sequenced. For *Cack*, user interaction



ended up taking the form of a 'breadcrumb trail' in which previously presented content blocks could be revisited via a mouse click. This approach was however unsatisfying to participants, and at times caused frustration when they could not detect the results of their actions (Appendix I/2/A, comment 3). This is verified by screen recordings of participant engagements with Cack, which show many users abandoning early on in their visit efforts to interact with the island. In sum, the interactive component of Cack offers a user sufficient *choice* (i.e. they are able to select from all rendered content blocks) yet little perceived *control*. This is a misbalance that deviates from a key principle of digital storytelling offered by Carolyn Miller: "interactivity must be meaningful to be satisfying" (2008, p.56).

Future iterations of *T/V* may revisit the role of the user in the construction of Cack. A promising option is to expose the mechanics of the island and allow users to either 1) select 'tags' at will and thus redirect the focus of the Syzygy Surfer and 2) to choose which patalogorithm is currently in operation (i.e. clinamen or syzygy). Such methods would support a collaborative mode of interactivity between human and machine (Dixon 2007), while encouraging closer examination of the opera's conceptual theme of pataphysics.

Focus group responses suggest that interactivity in *Amorphous* is more clearly defined than Cack, with user actions resulting in an exploration of the island. This being the case, some participants noted feelings of unease when unable to navigate away from settlements until permitted by *T/V* (Appendix I/1/B, comments 9-16). This leads to an acknowledgement that audiences may behave

differently when engaging an online opera in comparison to attending a staged work. Participant expectations of being 'forced' to continue listening at the opera house (Appendix I/2/A, comment 16) - a result of an unwritten 'theatre contract' where the role of the audience is to "support the performance: sit in silence and let the actors do their work" (Sedgman 2018, p.12) - do not necessarily apply to the web. Visitors to Amorphous when denied an opportunity to govern the pace of their encounter may, as one participant phrased it, deploy the "big escape button"; that is, close the browser (Appendix I/2/A, comment 16). Respondents expressed that they might have lost patience with the island and cut short their experience if enjoying the opera at home (Appendix I/2/A, comments 17-20).

#### Key Insight

Creators of online opera must be very clear on the role of interactivity in the context of their work, and ensure that user actions are 'meaningful'. Interactivity may for example allow for closer examination of the conceptual focus of the opera, or support dramaturgy in other ways. Also important is the recognition that audiences will likely approach online opera in a very different way to staged opera. They may have competing calls for attention, and as such limited tolerance for aspects of the work that they deem unsatisfying. The audience encounter must be carefully curated. Creators of online opera could benefit from drawing on established principles in the discipline of User Experience (UX) design, and if possible, collaborate with UX practitioners across planning and development stages to identify potential pain points.

#### 4.9.5. The Imaginary Voyage as Opera

It is difficult to pinpoint what opera is with respect to contemporary culture. One for example might think of opera as extravagantly theatrical and supported by an expansive orchestra or range of 'operatic' voices. Yet this is an understanding of the so-called 'golden age' of opera in the nineteenth century, and moreover one that has since been contradicted by the anti-theatricality of the modernist canon (Lindenberger 2010). Moreover, the continuing practice in institutional opera of reviving only a limited body of historical works has led to descriptions of the art form as "an enormous anachronism, a persistent revival of a lost past, a reflection of the lost aura" (Žižek and Dolar 2002, p.3). Comparable conclusions are drawn by Christopher Fox in *Rethinking Opera* (2010), in which he questions the preservation of antiquated theatrical traditions in opera. Fox projects a revised vision of the art form that eschews outmoded practices in place of those that are responsive to the tools and processes of contemporary music-making.

Such thinking is directly applicable to creators of online opera, who given the form's contemporary context should, in my opinion, strive to contribute to a new way of seeing opera. For me, online opera should embrace the peculiarities and practices of the web rather than translate the conventions and aesthetics of staged opera to the web.

"A filmed opera delivered over the Internet - I mean that's not an online opera, that's a web-delivered opera. That's not actually something that uses the medium, or explores it" (Appendix I/2/C, comment 124).

This way of approaching online opera was well received by focus group participations. They understood the motivations of the form and it's drive to be distinctive to staged opera, while voicing no discernible resistance to the notion of an entirely mediated opera. Nevertheless, several focus group attendees shared the opinion that aspects of *T/V* strayed so far from what opera is understood to look and sound like that it became almost unrecognisable as opera. Participants offered such comments as they "forgot that it was an opera" (Appendix I/2/A, comment 27) and there were several points across sessions where *T/V* was described as a 'game' with no reference to opera. Although this was not the judgement of all participants, one may draw the conclusion that *T/V* was at times overly transformational in its treatment of the operatic form. As Margaret Boden asserts, transformational creativity may result in changes "so marked that the new idea may be difficult to accept, or even to understand" (2009, p.243). I see this situation in *T/V*, and particularly in *Cack* which is highly abstract in its approach to the core elements of opera.

"A good opera for me tells an engaging story. I am personally drawn into it, and my mood is played with by virtue of the music particularly" (Appendix I/2/C, comment 115).

For focus group participants a key omission is a clear sense of story. Respondents when asked what they expected of *T/V* as an online opera noted that they anticipated more of a narrative (Appendix I/2/A, comment 24), and further, referred to *Lace* as the most coherent example of storytelling in the work

(Appendix I/2/D, comments 40-51; Appendix I/1/C, comments 3-9). Speaking as a member of the creative team, such comments come as no surprise. Indeed *Lace* was to some degree devised in response to an internal review of *Cack* and *Amorphous*, which were deemed to lack narrative focus. *Lace* thus appears closer to how opera is typically understood: it offers a recognisably story, musical continuity, and a familiar style of operatic singing. The opinion of focus group participants confirmed the creative team's impressions of *T/V* at the time and encouraged us to reinforce the narrative component of the opera overall. This resulted in the iteration of the work presented in this commentary, which includes a revised primary interface that depicts the imaginary environment in which islands are located as well as a voiced introduction that communicates the premise of Faustroll's journey (refer to Figure 4.3).

#### Key Insight

Creators of online opera should be mindful of the need to strike a balance between innovation and convention. Although online opera must establish its own qualities and features that secure its place as a distinct and contemporary operatic form, it nevertheless needs to maintain some proximity to how opera is currently understood. This does not mean that the form must strive to reference the operatic stage, echo the narrative themes of the familiar operatic canon, include orchestral music, or deploy familiar forms of operatic singing and so on. Rather, examples should perhaps not attempt to transform all dimensions of conventional opera simultaneously.

# 5. The Village

## 5.1. An Overview

*The Village* is an online opera that reveals the comings and goings of a virtual world that exists in parallel to our own. Narratives are delivered in the form of character arias delivered by seven fantastical figures that reside either in the contemporary West or mythological East. The arias take the form of animated scenes that feature the music of five composers situated in the UK, the US, China and Malta. Visitors enter *The Village* as observers, yet are quickly given the opportunity to contribute to village life. They may take residence at key map locations or 'dwellings', participate as citizens in critical community affairs such as the mayoral election, and comment on events as they occur as part of the 'Digital Chorus'. As the story unfolds, it becomes evident that the presence of human visitors is having a negative effect on the stability of the village. Mistrust increases, and the growing influence of the non-virtual is detected. Visitors are eventually deemed responsible for the village's precarious situation, and in turn, must choose to end their intervention and restore native autonomy ('rebind the sky') or persist and ultimately eradicate the world ('allow it to fall').

Visitors access resident dwellings, which include for example Harill's Bunker and Soter's Courtyard, via an interactive village map. Dwellings hold character arias that may be played in any order during an episode (with the exception of episode

5), while also serving as collection points for text-based reactions to operatic events by the Digital Chorus. The technical backbone of *The Village* deploys Adobe Flash for map rendering and navigation, as well as a range of standard web technologies (HTML5, CSS, PHP, SQLite, JavaScript) to present multimedia content and handle visitor interaction.

*The Village* was released across five episodes between 1 May and 10 June 2015. This timeframe is referenced in this commentary as the 'live period' in which the opera assumes it's 'live form'. Following the conclusion of the story, the live form gives way to a new configuration of the opera that recalls all character arias yet permits no further contribution from the Digital Chorus. *The Village* at this point is positioned as an 'echo of the past'.

*The Village* was promoted through professional networks (both my own and those of contributing composers) and a [Facebook page](#) that served also as a gateway of entry for most visitors. Across its live period, the opera engaged over 50 Digital Chorus members and was viewed by an estimated 600 unique visitors<sup>27</sup>. At least 50% of these visits originated from outside of the UK<sup>28</sup>, which positions the work as having substantial international reach. *The Village* was overall well received by respondents of an online survey hosted on the opera's web domain. It was described as "bright and forward thinking" (Appendix II/1, R1) and "unique and imaginative" (R29), while also receiving numerous positive comments regarding the quality of its music and visual design.

## 5.2. The Village as Creative Research

*The Village* offers a culturally novel apprehension of online opera that is most evident in its approach to audience engagement. Where existing examples such as *The Imaginary Voyage* are conceived as an individual encounter, as is the case for most works described in Chapter 2 as 'Opera for Computing Platforms' (OCPs), *The Village* intends to evoke in visitors a sense that they are sharing in an experience with other people. This is a quality that is typical of a staged opera, yet to the best of my knowledge, absent in operatic works that are entirely mediated. Positioning *The Village* as a collective encounter is however only one part of a wider aim of this research: to examine the concept of 'liveness' - that is, a sense of 'now-ness' - in the context of online opera. I deploy several devices in *The Village* in an attempt to construct the 'live', which include establishing the opera as a planned event, echoing aspects of a visitor's local environment in the village map, aligning happenings in the virtual world with those taking place in the real world, and encouraging visitors to interact socially via the Digital Chorus. Such devices are used to lend a present quality to *The Village*, and as such, offer visitors an experience that is somewhat familiar of live opera performance.

My examination of liveness in *The Village* is however not a claim that staged works merit privileged status. Indeed as Roger Copeland asserts, "the idea that theatre's 'liveness' is - in and of itself - a virtue, a source of automatic, unearned moral superiority [...] is sheer bourgeois sentimentality" (1990, p.42). The attempt rather acknowledges two things. The first is that by positioning the work



as a 'live' event, individuals are encouraged to engage it within a specific timeframe. This opens opportunities for participatory activity and thinking of opera beyond the constraints of an individual encounter. Secondly, online opera is a collision of opera and web creativity that seeks to reimagine the signatures of the art form in a digital context. Liveness is a recognised quality of opera, and so there is value in understanding if such a quality can be reconfigured to generate further creative possibilities for online forms.

Liveness is discussed in Section 5.7. Following an introduction to existing perspectives of the phenomenon and their relationship to online opera, I proceed to rationalise, describe and evaluate the various liveness devices explored in *The Village*. Included is an understanding of the successes and shortcomings of my approach to liveness. Such insights are offered to inform the work of future creators of online opera that wish to engage this unexplored consideration of OCPs.

### 5.3. The Core Elements of Opera

My experiences developing and evaluating *The Imaginary Voyage* (*TIV*) led me to reconsider how I approach online opera. The final form of *TIV* for me appeared as a piece of digital art that had operatic qualities, rather than an opera that responded to the practices of digital art and culture. Aspects of *TIV*, notably Cack, abstracted the core sign systems used in opera (word, image and sound) to the point where the work as a whole appeared as something other than opera. In this

way I question its capacity to attract new audiences to the form, which at least for The Opera Group, was a key goal of the project. For *The Village* then, I was keen to ensure that I maintained a balance between innovation of convention. To achieve this I set about creating an online opera that had an apparent story, clear characterisation, and an approach to music that prioritises the human voice as a primary carrier of expression. These are qualities that *TIV's* the Land of Lace holds, and because of that, it continues to be well received.

The core elements of opera are however approached in *The Village* through the lens of web creativity and computing more widely. Just as staged opera exploits resources that are equipped to fulfil the demands of theatre presentation (i.e. lighting, scenery, typically orchestral forces), *The Village* as an online opera utilises production methods and content forms that speak of the 'digital'. Visual presentation for instance relies heavily on navigational devices such as modal windows<sup>29</sup>, thus pursuing an aesthetic of hypermediacy that draws attention to the mechanics of computer systems rather than attempt to conceal them (Bolter and Grusin 1999). *The Village* furthermore reinterprets roles traditionally associated with opera, including the composer and audience. The notion of the sole opera composer is cast aside in place of a co-creative approach to music setting (Section 5.6.1), and the historical-conditioned position of opera audiences as passive spectators (Till 2012) is replaced with a participatory mode of engagement that strives for social interaction (Section 5.7.3).

The following sections provide an understanding of how word (the libretto),

image (visual production) and sound (music) are approached in *The Village*.

## 5.4. The Libretto

*The Village* is presented to visitors as a virtual snow globe that invites observation from the human world via a metaphorical 'rift in the sky'. Native residents (main characters) over time become aware of the growing presence and influence of the human 'other', and begin to speculate on the cause and consequences of the widening rift (Aletheia episode 1). Many residents view Hecaceres - the operator of The Subterranean Mill at the core of the world - as instigator of events unfolding, noting that the noise and productivity of the mill has increased of late. Aletheia and later Roso attempt to investigate the legitimacy of this claim (episode 2 and 3 respectively), while Harill and Soter overcome personal challenges to support efforts to overthrow Hecaceres (episodes 3 and 4 respectively). Following success at the village mayoral election, Hecaceres absconds to The Clocktower where she is later discovered dead by Roso and Snout (episode 4). At the same time Aletheia comes to understand that human intervention has stifled the free will of village residents, leading them to act without volition as part of a 'puppet choir' (episode 4). An apparition of Hecaceres then appears to Roso, revealing how children enslaved long ago by her deceased mother are responsible for opening the rift in the sky (episode 5). At the same time he learns that Harill's plan to siege the mill is at risk of being countered by the human 'other' (episode 4). The attack proceeds, yet this in fact

turns attention away from the more threatening rift. As a result the village is laid to waste and left in a state of perpetual stillness.

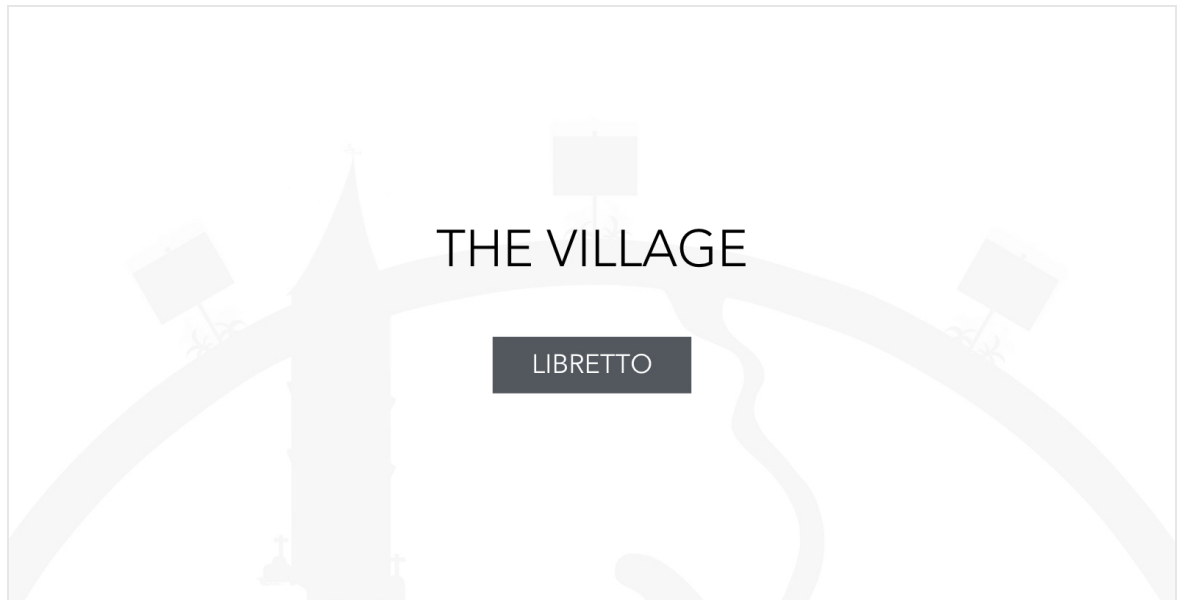


Figure 5.1. Libretto for *The Village* with character descriptions and aria lyrics [PDF]. [Click to view in a web browser.](#)

The narrative structure of *The Village* has astrological underpinnings, with the first four of its five episodes allied to the disposition of a particular sign domicile and its corresponding ruling planet/body (Table 5.1). In this way all instalments of the opera have a distinct character that is based on the zodiac. The tone of the story across episodes evolves according to this format; spotlighting qualities associated with The Sun (creativity, confidence, insecurity, self-absorption) at the start of the opera, and those connected to Pluto (transformation, action, creative destruction) in episode 4 as the virtual world tends towards its fate. The exception to the framework is episode five, which represents a destabilisation of the natural order of the village due to human intervention.

Episode	Astrology	Disposition of <i>The Village</i>
1. Meet the Residents	Sign Domicile: Leo Ruling Body: The Sun	Creativity, confidence and self-expression, echoed most strongly in introductions to Roso and Snout. Negative astrological connotations of The Sun such as insecurity, arrogance and self-absorption are found in the arias of Harill, Aletheia and Soter.
2. The Election	Sign Domicile: Capricorn Ruling Body: Saturn	Organisation, responsibility and ambition are characterised by the village election. Harill's appeal is heartfelt, while Heceres practices strategies of oppression to fortify her power. Mythological characters are not involved in the hustings, yet their words overall express a mistrust (a negative quality of Saturn).
3. Reflection	Sign Domicile: Cancer Ruling Body: The Moon	A reflective quality pervades the village, and characters process their actions and expose emotional makeup. Soter sings of regret, Harill succumbs to darkness and Aletheia mourns lost friends. Harmony recognises the renewed emotive quality of the world, while Roso pursues his intuition.
4. Revelations	Sign Domicile: Scorpio Ruling Body: Pluto	Following a period of reflection, villagers prepare to take action. Pluto as the great revealer, with associations with creative destruction, transformation and rebirth are characterised by attempts from all figures (with the exception of Heceres) to disrupt the status quo.
5. The Inevitable	No allusions	Aletheia offers human observers a choice to save the village, however this option is largely rejected. The tone of the episode is unfocused as the structure of the village dissolves; moving from calm exposition (Heceres) to puerility (Roso and Snout) to a plea (Aletheia) to resignation (Harill).

Table 5.1. An overview of the astrological context for each of the five episodes of *The Village*.

## 5.5. Archetypes in Characterisation and Visual Production

A objective of *The Village* in terms of narrative is to establish points of resonance between the our world and virtual setting of the opera to encourage a sense that the two are in some way intertwined. This is attempted not only through suggestion of temporal alignment between domains (see Section 5.7.4.3), but also by establishing characters that, although fantastical, exhibit qualities that are recognisably human. To achieve the latter I turned to Jungian archetypes as an often deployed device for generating relatability in character-based storytelling (Bassil-Morozow 2018). Archetypes are proposed by Carl Jung as the product of what he terms the 'collective unconscious'. This for him is a set of psychic structures common to all humans that influence behaviour and thought while facilitating similarity of experience (Jung 1981, Edinger 1992). In storytelling, archetypes narrow the gap between fiction and authenticity by exposing psychological issues that echo those experienced by readers/viewers. As Basill-Morozow and Hockley explain, "because [archetypes] represent different human experiences, they more or less define what is means to be human" (2018, p.18). Jung proposes four primary archetypes:

- The Self. Individuation, the union of the conscious and unconscious (i.e. human experience)
- The Persona. A 'mask' that supports social interaction yet may also obscure true identity

- The Shadow. Latent dispositions or aspects of the unconscious that may be chaotic or immoral, but also positive (e.g. self-esteem, instinct)
- The Anima/Animus - the unconscious feminine in males and masculine in females

These recognisable facets of human personality inform the disposition of characters found in *The Village*. Various descriptions of archetypal figures in both Jung's writings<sup>30</sup> and literature on the 'monomyth' by Joseph Campbell (2012) are drawn on to enrich characterisation (Table 5.2). The character Harmony for instance is representative of wholeness and the union of opposites, and as such has strong connections with Jung's archetype of The Self (Edinger 1992) and the Anima/Animus. The irrational and disruptive yet creative and playful nature of Snout is in contrast aligned with Campbell's account of the mythological Trickster-Hero (Campbell in Toms 1990).

Archetypes for Jung however cannot be directly observed. Rather they manifest as symbolic images that "gather round the thing to be explained, understood, interpreted" where each "lays bear another essential side of the object to be grasped" (Neumann 2014, p.7). The specific form of such images is subject to diverging factors such as human imagination and cultural specificity, yet they "do not vary limitlessly and chaotically" (Jung 1970, p.361). There are structural similarities defined by the archetypes. The Self for example is often described by symbols that are linked thematically to the 'union of opposites', yet the imagery used to refer to this theme is diverse (e.g. the lotus flower, or the sun and moon in

close proximity). In *The Village*, symbolic images drawn primarily from Western mythology and personal interpretation populate character environments to expose the archetypal dispositions of its inhabitants. Such imagery is embedded in character arias, yet presents most clearly in the design of the village map. Here each of the opera's key figures are situated within independent biomes that are surrounded and connected by water (Figure 5.2). Roso's dwelling (The Academy, contemporary West) for example connotes empirical knowledge and enlightenment yet also ego and pomp; thus straddling Jungian archetypes of The Self and The Shadow. The imagery found in The Magic Woods (Aletheia, mythological East) suggests an alternative form of wisdom to Roso's that is prophetic, in tune with nature, and resonant of archetypal figures such as The Guardian and The Caregiver<sup>31</sup>.



Figure 5.2. The village map [Image]. Click to view a high resolution version in a web browser.



Table 5.2: An overview of the main characters of *The Village*. This includes each character's intended archetype and a list of symbolic imagery found in their respective dwellings.

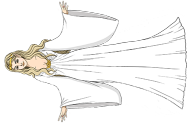

Character	Name Derivation	Archetypes	Symbolic Imagery
 Aletheia	Greek for 'Truth'	<ul style="list-style-type: none"> <li>■ Jungian: The Self</li> <li>■ Archetypal Figures: The Guardian, The Caregiver, The Seer</li> </ul>	<ul style="list-style-type: none"> <li>■ White gown: truth, clarity</li> <li>■ Open arms: acceptance, care</li> <li>■ Woods: growth, peace</li> <li>■ Stone circle/arched branches: a threshold, enchantment</li> <li>■ Open book: revelation</li> </ul>
 Harill	Dedicated to the 'Fort Fisher Hermit' Robert Harill	<ul style="list-style-type: none"> <li>■ Jungian: The Shadow (primarily), The Persona (later)</li> <li>■ Archetypal Figures: The Hermit, The Hero, The Dreamer</li> </ul>	<ul style="list-style-type: none"> <li>■ Deserted beach: isolation</li> <li>■ Starry sky: wonder, humility</li> <li>■ Candles: light, hope, peace</li> <li>■ Stone dwelling: inhospitable, cold</li> <li>■ Tear drop: sadness, self-pity</li> <li>■ Computer: remote connection, social distance</li> </ul>

Table 5.2 (continued)

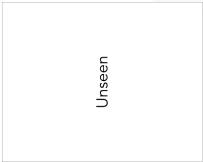




Character	Name Derivation	Archetypes	Symbolic Imagery
 <p>Unseen</p> <p>Harmony</p>	No external associations	<ul style="list-style-type: none"> <li>■ Jungian: The Self, The Anima/Animus</li> <li>■ Archetypal Figures: The Alchemist, The Hermaphrodite, The Saboteur</li> </ul>	<ul style="list-style-type: none"> <li>■ The Font: a source of knowledge</li> <li>■ Flasks: an elixir</li> <li>■ Fire/water, man/women, sun/moon: the union of opposites</li> <li>■ Latin: classical knowledge, text refers to loss of vitality, sacrifice, a delicate balance</li> </ul>
 <p>Hecaceres</p>	Juxtaposition of Hecate (Greek Goddess of magic and crossroads) and Ceres (Goddess of agriculture)	<ul style="list-style-type: none"> <li>■ Jungian: The Shadow (primarily)</li> <li>■ Archetypal Figures: The Provider, The Ruler, The Witch</li> </ul>	<ul style="list-style-type: none"> <li>■ Gothic architecture: the occult</li> <li>■ Factories/pipes: industry</li> <li>■ Black trees: opposing growth and protection</li> <li>■ The crow: death, meaning, destiny</li> <li>■ Paper boat: innocent, fragility</li> </ul>
 <p>Rosario</p>	Abbreviation of Royal Society (scientific academy of the UK)	<ul style="list-style-type: none"> <li>■ Jungian: The Shadow (primarily), The Self (at points)</li> <li>■ Archetypal Figures: The Visionary, The Mentor (to Snout)</li> </ul>	<ul style="list-style-type: none"> <li>■ Marble building: strength, prestige</li> <li>■ Mechanics: invention, kineticism</li> <li>■ Horn: declaration, confidence</li> <li>■ Mathematical symbols: precision, objectivity</li> </ul>

Table 5.2 (continued)

Character	Name Derivation	Archetypes	Symbolic Imagery
 Snout	A celebration of the pig proboscis	<ul style="list-style-type: none"> <li>■ Archetypal Figures: The Trickster-Hero, The Artist, The Anarchist</li> </ul>	<ul style="list-style-type: none"> <li>■ 'Stall sixteen presents': theatrics</li> <li>■ Meaty veg: contradiction, artistry</li> <li>■ Scrambled lettering: harnessed disarray</li> <li>■ Presence of Snout: stardom, prominence</li> </ul>
 Soter	The masculine version of a title often appended to the name of Greek gods to signify a saviour/deliverer	<ul style="list-style-type: none"> <li>■ Jungian: The Persona (initially), The Self (later)</li> <li>■ Archetypal Figures: The Saviour, The Adventurer</li> </ul>	<ul style="list-style-type: none"> <li>■ Castle: fortitude, strength</li> <li>■ Sky Dwelling: self-importance, privilege</li> <li>■ Golden Wings: vanity, elegance, entitlement</li> <li>■ Bubble: shielding, naivety</li> </ul>

The village map in structure and use of symbolic imagery echoes the geographical, theological and mythological dimensions of mappa mundi, and in particular, the 13th century Ebstorf Map (Pischke 2014). Like its medieval counterpart, the village map conveys the nature of the world and its inhabitants rather than attempting to be topologically accurate. Its two hemispheres detach the contemporary from the mythological and the earthly from the mystic, while the central position of The Subterranean Mill lends a sense of primacy to the figure of Hecaceres. Features not bound to any particular character draw on symbolic images associated with earlier religious thought to reinforce the transcendental and archetypal qualities of the village. Notable references include those to the Eye of Providence - an allusion to the all-seeing eye of God in Christian iconographic and in *The Village* the notion of human surveillance - and the Cosmic Egg, which akin to the cosmology of many cultures is included to represent the birth of the fictional universe.

## 5.6. The Music of The Village

One of the more significant departures from conventional opera in respect to both form and style is the music of *The Village*. In terms of form, core narratives are delivered as self-contained, short 'music video-esque' content blocks that contrast the typically through-composed nature of the operatic form. This approach intends to echo the typically piecemeal way in which media is consumed on online video-sharing platforms such as YouTube, yet to some extent also

acknowledges continuing debate on the relationship between Internet use and declining attention spans (Firth et al. 2019)<sup>32</sup>. Although varied, the vocal styles found in *The Village* are atypical of conventional staged opera. The athletic techniques needed to fill auditoriums - such as power and sustain, high levels of vibrato and an extended upper range (Elliot 2008 p.17) - have limited utility in entirely mediated forms of opera in which the voice is recorded, this offering flexibility to think of operatic singing solely in terms of taste and affect. The vocal styles found in *The Village* are overall more intimate than those found in staged opera, and as such, prioritise headphone listening as the preferred content consumption method. The tender character of Harill for instance draws on the understated nature of the folk-acoustic tradition, while the ethereal quality of Harmony is expressed via small, delicate sounds that are inspired by ASMR<sup>33</sup>. A deliberate avoidance of the historically-conditioned and somewhat functional operatic 'big voice' (Wilson-Bokowiec 2012) furthermore aims to grant singers scope to shape the disposition of the characters that they are tasked to portray. The result in *The Village* is a wide range of vocal styles (and indeed musical styles) that support characterisation.

### 5.6.1. A Framework for Co-Creation

The approach to music composition taken in *The Village* responds to conversations between Andrew Hugill and I on the expansion of *The Imaginary Voyage*. Following completion of the prototype presented in this commentary (Chapter 4), we turned to the idea of engaging external talent to contribute to the

development of several 'islands' that we had not yet conceptualised. The purpose of this approach was to diversify the tone of the opera to better reflect the broad colour and character of Jarry's depictions in *Exploits and Opinions of Dr Faustroll, Pataphysician*. Such discussions however did not lead to a defined method of co-creation. This was due partly to shifting creative interests and commitments, but also to challenges in establishing a means for other artists and composers to exploit the opera's core technology, The Syzygy Surfer. Left unresolved also were questions on how to expand the musical and visual variety of the opera while maintaining a coherent concept and user experience.

While scoping *The Village* I found myself encountering similar considerations. It was clear early on that my vision for the project required a degree of co-creation to manage the scale and complexities of development (Figure 5.3), yet it was critical to select an approach that would not place the opera at risk of lacking cohesion. The first step was to determine which element(s) of opera would be targeted for co-creation. I concluded that outsourcing the musical composition of *The Village* was appropriate to the operatic context, and furthermore offered a promising way of yielding the variety of content needed to represent the range of personalities in the libretto. In terms of devising a co-creative process, I first considered crowdsourcing as a means of generating material in line with existing examples of digital opera such as *Brain Opera* (Tod Machover 1996) and *Free Will* (Opera By You 2012). Although this strategy had value in that it would extend the participatory dimension of *The Village* (i.e. the Digital Chorus), factors

such as organisational complexity and the required scale of contributor uptake introduced a level of volatility into the project that I was keen to avoid.

Libretto	Music and Sound Design
Core Concept Characterisation Narrator Prologues Character Aria Lyrics x 29	Vocal Line Writing Vocal Production Composition and Production of Character Arias x 29 Audio Idents x 8
Visual Production	Technical Development
Character Illustration x 7 Village Map Illustration Residency Animation Character Aria Animation x 29 User Interface Design	Village Map Interaction User Navigation Character Aria Playback System Villager Feed EDC System 'Echo of the Past'

Figure 5.3. An outline of the four key work packages that underpin the development of *The Village*.

Instead of crowdsourcing the music of *The Village* I opted to narrow the scope of co-creation to a small collective of composers and task each to write for a single character in the opera. My expectation here was that all character aria sets (e.g. all arias for Roso) would adopt a distinct musical direction, yet the content within any one set would be stylistically uniform. Composers were recruited from professional networks, which more by circumstance than design resulted in creative engagement from individuals residing in the UK, Malta, the US and China. Although this consideration was in practice rather minor, it seems appropriate that the creation of *The Village* as an online opera relied heavily on web technologies (i.e. for communication with contributors) long before a single line of HTML5 was written.

An extended showreel of the music of *The Village* is available via Figure 5.4.

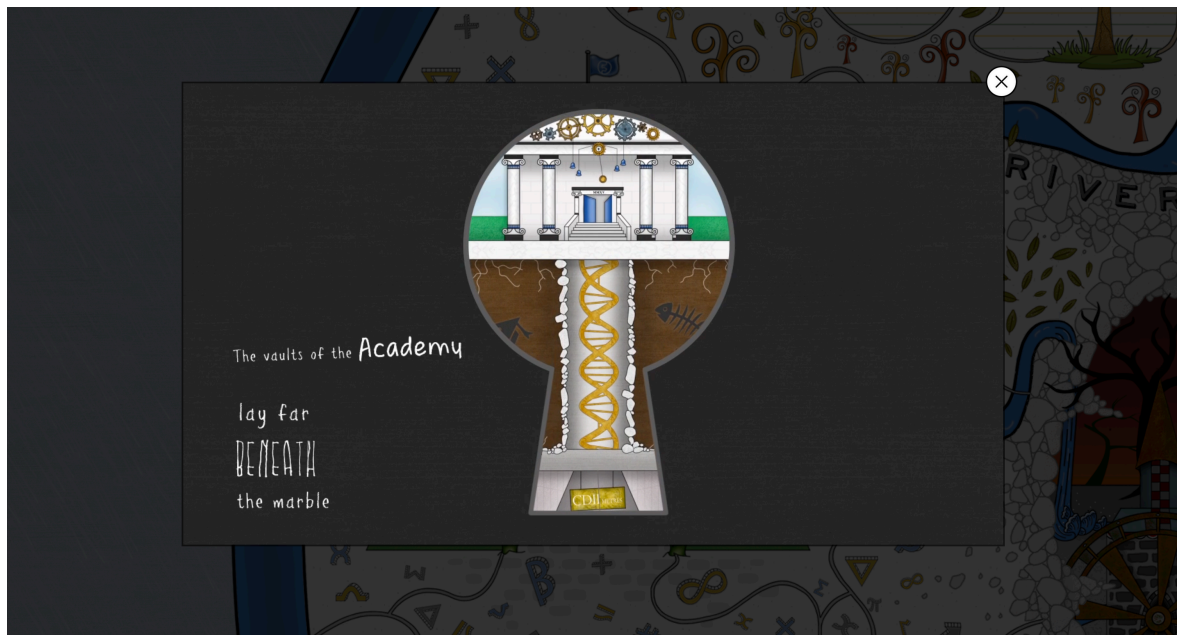


Figure 5.4. An extended showreel of the music of *The Village* [Video]. Click to play in a web browser.

Establishing an effective co-creative process required careful handling of creative control. On one hand it was important to afford each composer the freedom to shape the personality of their assigned character through music. Overly defining the parameters for composition would likely limit the heterogeneity of the musical results, and as such negate the core purpose of engaging external talent. On the other hand, offering composers unbounded creative control may lead the opera to be perceived as ill-curated and lacking a clear aesthetic focus. The co-creation method therefore had to include some degree of hierarchical oversight. My chosen solution echoes the 'co-operative' working relationship described in Taylor (2016) in that the tasks required to construct a character aria are divided between participants (myself and the



composer) yet some aspects of decision-making are shared. The workflow for this relationship in practice comprised three key points of artist interaction: pre-production, development and review. At the pre-production stage, the composer and I reviewed the libretto and agreed on the disposition of their assigned character. This process resulted in adjustments to the text and notes on the style of vocalist required to portray the role. The development stage involved several instances of content creation via creative response:

- Stage 1. I wrote the vocal lines and handled their technical production. All lines were recorded in-person with the exception of those for Harill and Harmony which feature vocalists/voice artists from overseas
- Stage 2. Each composer was issued with the vocal lines for their character and given scope to adapt them. Lines were incorporated into musical arrangements that adopted a genre of the composer's choosing
- Stage 3. I illustrated and animated visual scenes around the compositions. These attempt to reflect the tone of contributed music while also ensuring the visual production of *The Village* is consistent in style

The final stage of the workflow was a review of compiled character arias. This offered an opportunity to exchange feedback on both the visual and musical components, and to make adjustments to address inconsistencies in style or tone between the two. Following amendments, finalised arias were signed off for inclusion in the opera.

## 5.6.2. Reflections on the Music of The Village

"Great range of styles that guarantees the opera is always engaging. The visuals were great too!" (Appendix II/1, R20).

Responses to an online survey hosted on the opera's web domain suggest that the music of *The Village* was overall well received. Notably, when asked to comment on the element of the opera most captured their attention, 12 of 53 survey participants expressed positive sentiments towards the range of compositional styles presented in the opera. Respondents said that the variety "keeps you entertained" (Appendix II/1, R11) and "gives each [character] their own musical personality" (R50). Given the intentionally broad scope of the question, such appreciation of the diversity of the opera's music indicates that the co-operative approach to composition used in *The Village* delivered the intended result.

Perspectives on the opera's compositional strategy were gathered from contributing composers via a written form of structured interview (Appendix II/2). Responses are summarised in Table 5.3 alongside my own notes on the engagement of each individual. The co-operative experience for each of the four composers was overall positive. Three contributors perceived a 'high' to 'very high' level of creative control over the musical representation of their assigned characters, which was in part due to being permitted to adjust supplied vocal lines to meet compositional aims. The scope of manipulation was however limited for

one composer who felt required to maintain the original harmonic structure of vocal lines to ensure that lyrics were intelligible. This individual was unable to abstract melodies to taste, and was as such 'somewhat dissatisfied' with the level of creative control afforded. All four composers followed the co-operative working process as intended, and as a result of early briefing stages particularly, reported their understanding of their assigned character to be 'very good' or 'excellent'. Some individuals were however less able to comprehend the narrative role of other figures in the opera, or relationships between them. This shortcoming could have been mitigating by providing an abridged version of the libretto and, critically, manufacturing opportunities across the process to bring contributors together online to compare work in progress.

From a personal perspective, I found the co-creative process to be very rewarding. Although being a contributor myself was itself a welcome creative challenge, a greater level of satisfaction emerged from my role as lead artist. I was consistently surprised by the aesthetic direction that composers followed in their arias, and with this, how the personalities of characters evolved in ways that I did not anticipate. Snout was at first far more twisted than I had envisaged, Soter exhibited a much 'cooler' and upbeat form of arrogance than hinted in the libretto, and the music for Hecaceres added an unexpected contemporary flavour to the otherwise mythologically rooted character that mirrored her central position on the map. Each of these transformations renewed my interest in *The Village* repeatedly, which during periods of intensive animation was beneficial.

Table 5.3. Summary of composer impressions of the co-creative process used to generate character arias in *The Village*. Unedited responses can be found in Appendix II/2. Composer names are published with permission.

Compositional Process	Understanding of Character	Comments on Creative Control	Lead Artist Notes
<p>"The main structure of the melodies was put in place and the composition was produced around it then adapted where it was needed"</p> <p>Phil Zammit - Soter</p>	<ul style="list-style-type: none"> <li>■ 'Very good' understanding of Soter from keeping in close communication with lead artist during the development of the script</li> <li>■ Enjoyed discussions around Soter that led to 'very good' understanding of his personality and story</li> <li>■ A 'good' understanding of other characters. Composer began to see relationship between characters when viewing episodes during the live period</li> </ul>	<ul style="list-style-type: none"> <li>■ 'Very satisfied' with level of creative control, which was deemed to be 'very high'</li> <li>■ Notes ability to be able to manipulate vocal lines as the reason for the above</li> </ul>	<ul style="list-style-type: none"> <li>■ Very engaged from the outset</li> <li>■ Wished to be involved in the vocal line recording process (permitted)</li> <li>■ Arranged the recruitment of Soter's vocalist</li> </ul>
<p>"I kept true to the libretto, but added in my own personal quirkiness that I thought was befitting of the character"</p> <p>"I lay down the vocal line as a skeleton and composed around it, eventually removing the line or distorting it entirely"</p> <p>Sabrina Peña Young - Roso</p>	<ul style="list-style-type: none"> <li>■ 'Excellent' understanding of Roso from discussions with lead artist on the character and his role in the opera</li> <li>■ 'Limited' understanding of other characters in the opera which became evident during the live period</li> </ul>	<ul style="list-style-type: none"> <li>■ 'Very satisfied' with level of creative control, which was deemed to be 'very high'</li> <li>■ Enjoyed ease and freedom of the creative process yet would have preferred greater guidance in terms of harmony structure</li> <li>■ Suggests that further creative limitations would have been beneficial</li> </ul>	<ul style="list-style-type: none"> <li>■ Highly engaged and collaborative in approach</li> <li>■ Was keen to understand expectations and the concept of the opera</li> <li>■ Requested a scored version of the recorded vocal lines</li> </ul>

Table 5.3 (continued)

Compositional Process	Understanding of Character	Comments on Creative Control	Lead Artist Notes
<p>"I worked around sung passages. The materials provided were just vocals and it was easy to re-craft them"</p> <p>Weimei Jin - Snout</p>	<ul style="list-style-type: none"> <li>■ 'Very good' understanding of Snout from drawings and briefings</li> <li>■ 'Limited' understanding of other characters - chose to focus on her own character</li> </ul>	<ul style="list-style-type: none"> <li>■ 'Very satisfied' with level of creative control, which was deemed to be 'high'</li> <li>■ Had the freedom and space to express her understanding of Snout</li> <li>■ Appreciated how workflow allowed for a focus on music without influenced from visuals</li> </ul>	<ul style="list-style-type: none"> <li>■ Event free working relationship overall, yet elected to work individually following initial briefings</li> </ul>
<p>"I would start by splicing the vocals and then I would extract a groove from them. This would then inform the pace of the track. As the character was a controlling force in the opera, I relied heavily on quantisation as a sonic device, like a clock ticking"</p> <p>Samuel Sturtivant - Hecaceres</p>	<ul style="list-style-type: none"> <li>■ 'Very good' understanding of assigned character from the libretto</li> <li>■ 'Very good' understanding of other characters in the opera from the libretto</li> </ul>	<ul style="list-style-type: none"> <li>■ 'Somewhat dissatisfied' with level of creative control, which was deemed to be 'fair'</li> <li>■ Felt constrained by the predetermined harmonic structure of supplied vocal lines</li> </ul>	<ul style="list-style-type: none"> <li>■ Composer generally engaged across the co-creative process</li> </ul>

The co-creative process was however not without its challenges. Most significant was the often delayed delivery of composer contributions, which on occasion placed pressure on animated scenes to be generated just days before a character aria was due for release. This left little time to review and refine the results, albeit the urgency of the process was accompanied with a sense of excitement that was reminiscent of my experiences working on live staged productions.

Such instances of 'just in time creativity' echo the principles of lean software development in that I was encouraged to work efficiently by reusing assets and making critical decisions quickly. Lean methodologies however rely on optimisation of the *whole* system, which typically is developed incrementally over a longer period of time (Hibbs, Jewett and Sullivan 2009). Optimisation of the entire co-creative process could not be achieved during *The Village's* live period, which resulted in episodes 2 and 4 being released later than anticipated. The musical development of the opera nevertheless proceeded smoothly despite these minor setbacks, which overall left me eager to engage co-operative working methods in future projects (operatic or otherwise). With this I would want to build lean thinking into the co-creative process to expedite production and direct efforts towards aspects of the work that are most likely to be of value to audiences.

## 5.7. Liveness and The Village

Liveness is a concept that has undergone much debate in performance studies. One major point of disaccord concerns ontology, with arguments for and against liveness as an immanent quality of performance. Early traces of support can be found in Richard Schechner's description of theatre as "an event characterized by ephemerality and immediacy" (1974, p.118) and later in Herbert Blau's notion of performance existing "on the edge of disappearance" (1982, p.28). Such interpretations assign a uniqueness and impermanence to performance that define its status as 'live'. Peggy Phelan extends this line of thinking in *Unmarked: The Politics of Performance* by positioning live performance in direct opposition to mediatisation:

Performance's only life is in the present. Performance cannot be saved, recorded, documented, or otherwise participate in the circulation of representations of representations: once it does so, it becomes something other than performance. To the degree that performance attempts to enter the economy of reproduction it betrays and lessens the promise of its own ontology. (1993, p.146).

Phelan here draws attention to the irreproducibility of performance, while regarding its independence from mass production as its "greatest strength" (ibid, p.149). In this way she echoes concerns expressed by Walter Benjamin (1969) during the emergence of popular culture that mechanical reproduction of an art

object may result in a decay of the 'aura' that surrounds it. The underlying implication is that 'the live' is 'real' and privileged, while the mediated is artificial and in some way lacking authenticity<sup>34</sup>.

An opposing and more recent perspective is rehearsed most notably by Philip Auslander in *Liveness: Performance in a Mediatized Culture*. In part a response to Phelan, Auslander argues that a 'pure' liveness is essentialist, and given the increasing incursion of media in live performance that there are "no clear-cut ontological distinctions between live and mediatized forms" (2008, p.37). He instead speculates that liveness emerges from an audience's affective experience, and further, that the phenomenon is not contingent on ontological properties such as spectator-performer co-presence. Auslander draws on the terms 'live broadcast' and 'recorded live' to illustrate his point, suggesting that listeners do not necessarily need to share a temporal frame or spatial location with performers to gain a sense that they are participating in a performance or sharing in an experience with other people (ibid, p.60).

Steve Dixon in *Digital Performance* subscribes to Auslander's understanding of liveness as a *feeling* of 'now-ness' and 'being there' - something phenomenological rather than ontological - yet also warns that failing to appreciate differences in the way that audiences receive live and mediated performance forms<sup>35</sup> "radically oversimplifies" the problem (2007 p.129). Using live multimedia theatre as an example, Dixon observes how the type of attention given by spectators shifts as the production switches between corporeal



representation (on-stage performers) to mediated representation (typically video): live components result in focused attention on performers, and the mediated a reduction in mental energy directed towards the stage. Dixon's analysis does not suggest that mediatised performance forms cannot advance a sense of liveness; the transition to video in his examples doesn't invalidate the experience as live. Rather he points out that liveness is far more nuanced than it may first appear, and that notions of corporeality and presence (and by inference likely other factors) play a role (ibid, p.129-131).

Karin van Es in *The Future of Live* (2017) draws on a wide range of perspectives on liveness in an attempt to present the bigger picture. Acknowledging Phelan, Auslander and related arguments that position 'the live' as a media industry construction to enhance the perceived value of a cultural experience (Levine 2008), van Es posits the idea of 'constellations of liveness'. This recognises that liveness has multiple meanings and manifestations, and 'the live' varying situational functions. News broadcasts for example use live footage and the term 'live' to frame the offer as authentic, whereas 'the live' in sports event streams serves typically to highlight social participation and the unpredictability of competition (van Es 2017b). In sum, va Es argues that liveness should be studied as the "product of particular interactions among institutions, technologies and users/viewers" (ibid, p.1248) rather than in terms of ontology, phenomenology or rhetoric in isolation.

In the context of opera, live cinema events such as *Live in HD* demonstrate van

Es' constellations of liveness in practice. Here broadcasters position the cinecasts as live by description, yet also draw attention to the simultaneity of the live and mediated encounter through various visual and auditory cues such as presenting images of crowds assembling in the opera house as cinemagoers enter the theatre (Heyer 2008; Morris 2010). The communal cinema setting and presence of a rolling Twitter feed on-screen in addition asserts the event as live by spotlighting audience participation and shared experience. *Live in HD* programmers establish a strong interaction between institution, technology and viewer: the institution exploits the near real-time capabilities of network technologies to construct 'the live', while the spectator orients themselves to accept the cinecast as live (Sheil 2013).

Investigating how online opera might advance a sense of liveness requires recognition that examples are not adjuncts to existing operatic events (as is the case with *Live in HD*). An online opera does not forge a telematic connection with a physical theatre, and so its creators (the 'institution' to associate with van Es' nomenclature) cannot rely on simultaneity with a staged performance to construct 'the live'. They must draw on other dimensions of liveness and live performance, and assess if and how these translate convincingly to computing experiences. A potential candidate is the 'autopoietic feedback loop'; a term used in performance studies to describe the continual interplay between and amongst performers and spectators that gives rise to a performative situation (Fischer-Lichte 2008). In other words, the interactions, actions and reactions that position

live performance as continual unfolding and to some degree indeterminate. While the autopoietic feedback loop is theorised to "emerge out of the bodily co-presence of different groups" (ibid, p.3), one might speculate whether a similar effect could manifest in online opera as a result of human-computer interaction. Early examinations of interactive media by Margaret Morse suggest that this is a possibility:

"Feedback in the broadest sense [...] is a capacity of a machine to signal or seem to respond to input instantaneously. A machine that thus 'interacts' with the user even at this minimal level can produce a feeling of 'liveness' and a sense of the machine's agency and — because it exchanges symbols — even of a subjective encounter with a persona" (1998, p.15).

This is on the surface a convincing proposition, and one that is demonstrated by OCPs such as *Virtualis* (Alain Bonardi and Francis Rousseaux 2002) and *Zeit Perlen* (Johannes Deutsch 2012) in that they exhibit a performative quality by means of sustaining an exchange between user and machine. A similar feedback loop is found also in videogames, leading to assertions that they too are a form of performance (Eskelinen and Tronstad 2003; Clara 2009; Parker 2013). Although so-called 'real-time' computing operations may give rise to something that resembles the autopoietic feedback loop, it would be inaccurate to suggest that they monocausally establish liveness. To do so returns us to purely ontological arguments, and further fails to take into account the social dimension of liveness (Auslander 2012; van Es 2017). That is, actual or potential connectivity with

other people and the outside world. Accepting this, online opera may advance a stronger sense of liveness if it in some way facilitates social interaction to establish 'communitas', or a coming together of people (Morgan 2008). Doing so may transform the encounter from one that is perceived as immediate yet reproducible, to one that bears the recognisable hallmarks of a unique live *event*.

For methods of accomplishing communitas in online opera, we may look to Nick Couldry's concepts of 'group liveness' and 'online liveness'. Group liveness refers to a continually open and nomadic connection between a peer group (i.e. friends), whereas online liveness describes "social co-presence on a variety of scales from very small groups in chat rooms to huge international audiences for breaking news on major Web sites, all made possible by the Internet as an underlying infrastructure" (Couldry 2004, p.356). Online liveness typically surrounds an event, with practices ranging from 'live tweeting' during televised fixtures (Kjeldsen 2016) to participating as a community member during a Twitch stream. Both online and group liveness demonstrate the capacity for technologically mediated communication to establish a sense of shared experience and 'nowness' in a virtual setting. One can conceive therefore of an online opera that draws on such phenomena to establish a 'digital communitas' of sorts.

Yet regardless of the strategies used to construct liveness - whether simultaneity, real-time exchange or social interaction - there is no catch-all solution to guarantee that an online opera will be perceived as live. As Auslander (2012) submits, a technological artefact can only make a 'claim' on us in this regard.

Liveness resides in our willingness to "accept the claim as binding upon us, take it seriously, and hold onto the object in our consciousness in such a way that it becomes live for us" (ibid, p.9). An online opera therefore may be perceived as live by the user/viewer only if they find the strategies deployed to advance a claim for liveness sufficiently alluring.

### 5.7.1. Liveness Devices in The Village

*The Village* draws on the theoretical perspectives and applied examples outlined above to advance a claim for liveness. Devices deployed to construct 'the live' include positioning the the opera as a planned event, establishing a sense of contemporaneity or 'now-ness', and facilitating social interaction (Table 5.4). Such devices draw on the capabilities of the Internet for data exchange and mediated communication. The following sections detail the ambitions of each device applied in *The Village*, and reflect critically on their effectiveness by drawing on insights derived from personal observation and data collected from visitors during the opera's live period. Visitor data comprises responses to an online survey (53 submissions) and information harvested by a custom embedded data capture (EDC) system (473 entries)<sup>36</sup>. The EDC returns three collections of information that can be viewed in raw form in Appendix II:

- Engagement Data. Visit counts for each episode, and the country in which visits originate (Appendix II/3)
- Visitor Journey Data. Time of access and duration of an encounter with an

episode, and time spent viewing each character aria within a specific episode (Appendix II/4)

- Villager Feed Data. Name of villager, their chosen residence and character archetype, time of posts and content of posts (Appendix II/5)

Device	Intended Effect
<i>The Planned Event</i>	
Scheduled weekly release of episodes, cued on Facebook Use of present tense language when introducing new episodes on social media	To position the opera as current and unfolding over a specific period of time. To encourage anticipation for an upcoming event
'Echo of the past' ('echo')	To mark the conclusion of a time-sensitive piece of storytelling. The 'echo' is an archaeological artefact that draws attention to a past event
<i>Social Liveness</i>	
The Digital Chorus	To assert the social dimension of liveness by facilitating interaction between visitors. To encourage visitors to think of <i>The Village</i> as a shared experience
<i>Contemporaneity</i>	
Reflecting a visitors's local environment in the opera's visual production	To evoke in visitors a sense that they are occupying the same temporal frame as the opera
The village election	To give an impression that the work is evolving in a contemporary landscape. Comprises temporal alignment between happenings in <i>The Village</i> and events in the real world, and voting as a means of suggesting that visitors may influence the trajectory of the opera

Table 5.4. An overview of the liveness devices explored in *The Village*.

### 5.7.2. The Planned Event

The first strategy deployed to construct 'the live' in *The Village* is to position it as a planned event. As described by Donald Getz in *Event Studies* (2012), these are live, social constructed engagements that are temporarily defined by being one-time or relatively short-lived. They can range in scope, function and meaning - covering events from carnivals and scheduled concerts to sports days and parties - yet all are unique and curated around a specific occasion.

Recognising the sense of liveness that surrounds a planned event, I proceeded to position *The Village* as such by embedding time sensitivity into its design. This was achieved firstly by establishing a timeline for dissemination, with a fixed launch date of 1 May 2015 and scheduled weekly instalments communicated on Facebook as the primary platform for promotion. Initial posts on social media preface the opera in an attempt to build anticipation for an upcoming event, while updates deploy present tense language to imply that storyline incidents are current and ongoing (Figure 5.5). These devices in combination with narrative 'cliffhangers' and story recaps that precede each episode echo the conventions of serial narratives for TV, and in particular the mini-series as it is described in Schlütz (2015). Indeed the programming schedule for *The Village* acknowledges the capacity for the television series to take on qualities of a live event as 'water-cooler talk' builds suspense for and encourages shared viewing of forthcoming instalments (Feeney 2013; Matrix 2014).

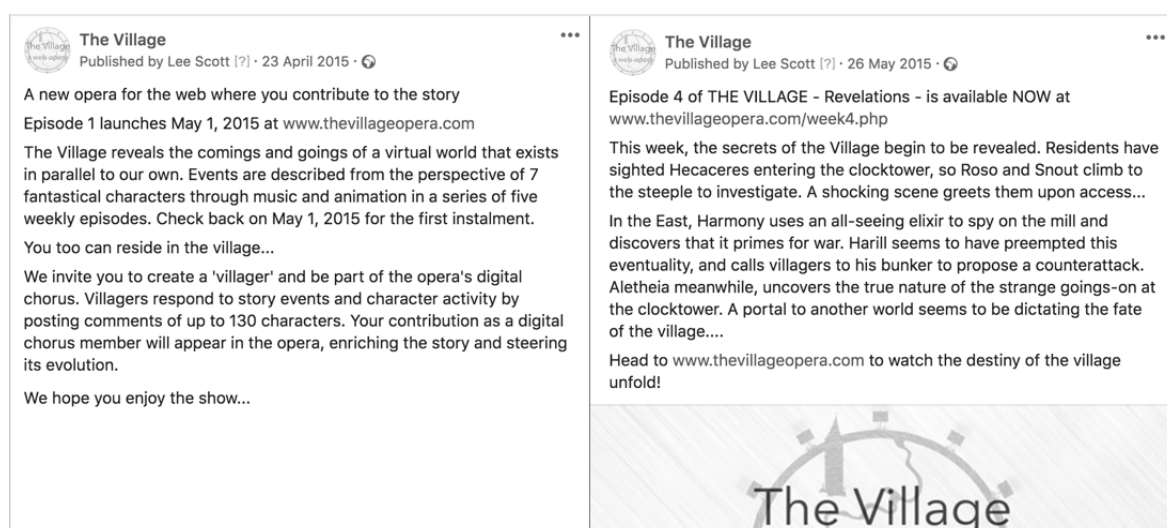


Figure 5.5. A selection of posts made to *The Village* Facebook page [facebook.com/thevillageopera](https://www.facebook.com/thevillageopera). Left: an introduction to the opera. Right: summarising a new episode using present tense language.

The second device used to position *The Village* as a planned event concerns the impermanence of such engagements. Deviating from the replayable nature of serial TV narratives, the opera is rendered irretrievable in its live form following closure of the story on 10 June 2015. From that point it exists only as an 'echo' of a past event (hereafter 'echo') that is retrospective, still, and lacking the presence of the Digital Chorus (Figure 5.6). The artefact now available at [thevillageopera.com](http://thevillageopera.com) acts also as a documentation of the original work, functioning in a similar way to a live performance capture as characterised by Peggy Phelan as "a spur to memory, an encouragement of memory to become present" (1993, p.146). The following features of *The Village* as an 'echo' attempt to reference an event now passed, while offering anyone interested in the opera an opportunity to review its music and libretto:

- Prologue. An expositional narrative alludes to the conclusion of an event, and



states explicitly how many days have passed since it took place. Voiced narrations are replaced with text to lessen personability.

- The Village Map. Colour is desaturated and character dwellings are unanimated, suggesting a loss of vibrancy and activity. Aria videos receive similar visual treatments.
- Contemporaneity. The village map no longer reflects a visitor's local time and weather.
- Episodic Linearity. *The Village* no longer follows an episodic format. Character arias can be accessed in any order and in a piecemeal fashion.
- The Digital Chorus. All evidence of visitor activity and community have been removed.

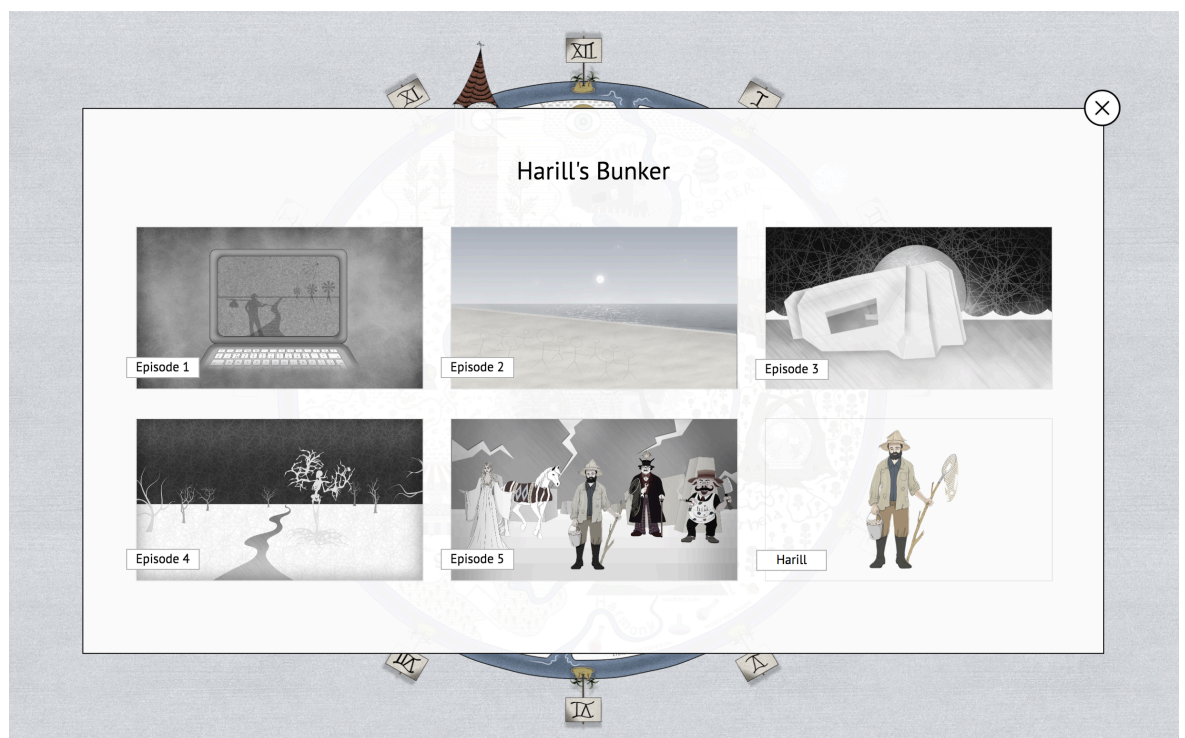


Figure 5.6. *The Village* as an 'echo of the past' [Web Artefact]. Click to view online (desktop or laptop devices only). A video version of the 'echo' is available [here](#).

### 5.7.2.1. Reflections on the Planned Event

Data reported by the EDC system shows sustained engagement with *The Village* across its live period (Figure 5.7). Following a reduction in visits soon after the launch of the opera<sup>37</sup>, episodes on the whole maintain comparable viewership figures despite significant fluctuations in daily counts. Data collected by the EDC system furthermore indicates that a notable proportion of visitors met a minimum threshold of engagement; set at a session duration of five or more minutes and a character aria hit rate of at least 40%. Visitor journeys captured from episode 2 onwards show that 70% of sessions were over five minutes in duration, with 40% over ten minutes (Figure 5.8). Such metrics discount 'idle time' where the visitor is not interacting with core opera elements such as character arias or areas relating to the Digital Chorus.

For the opera as a whole, 65% of visitors viewed at least 40% of character arias in a non-trivial manner (i.e. at least one minute of playback per video), with 42% viewing at least 60% of available content (Figure 5.9). Although only an average of 18% of visitors viewed character arias within individual episodes to completion or near completion, general engagement for creative content is promising given that the time investment for viewing instalments in full exceeds twenty minutes typically.

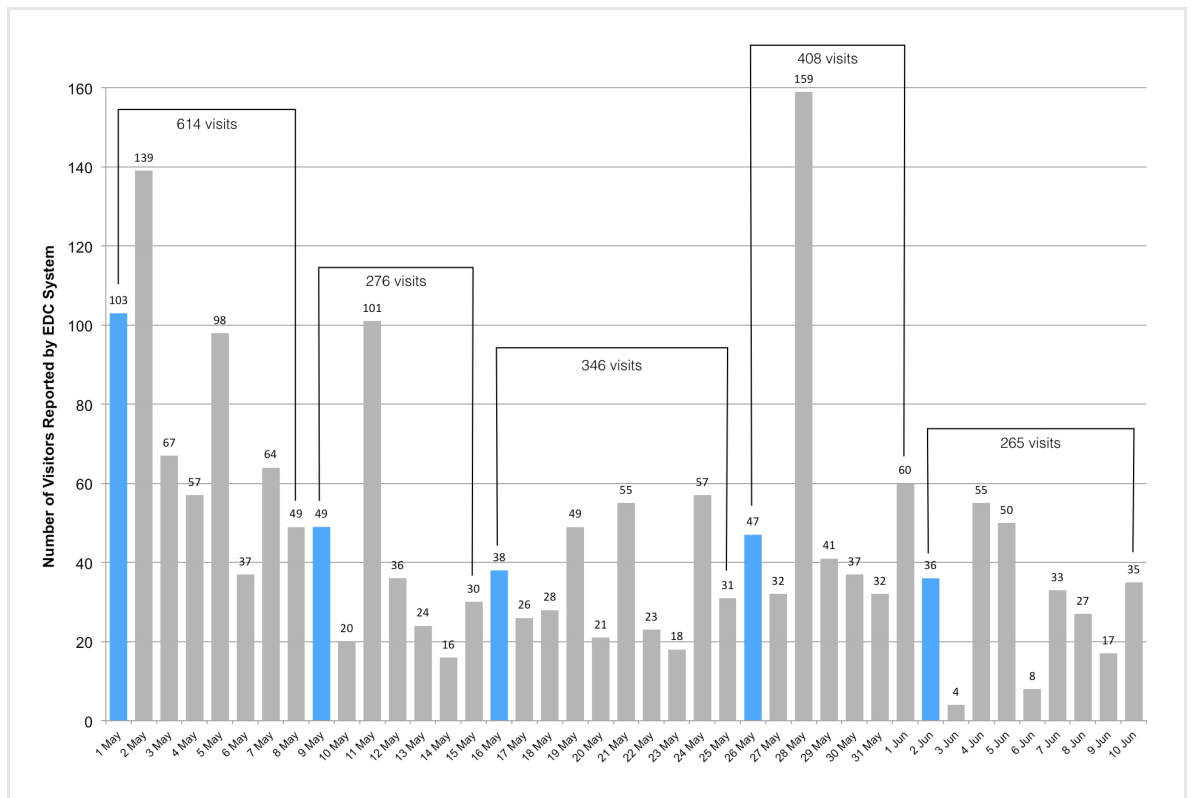


Figure 5.7. Graph showing number of visits to *The Village* for each day during its live period (1 May - 10 June 2015). Episode release dates are shown in blue. Data reported by the EDC system.

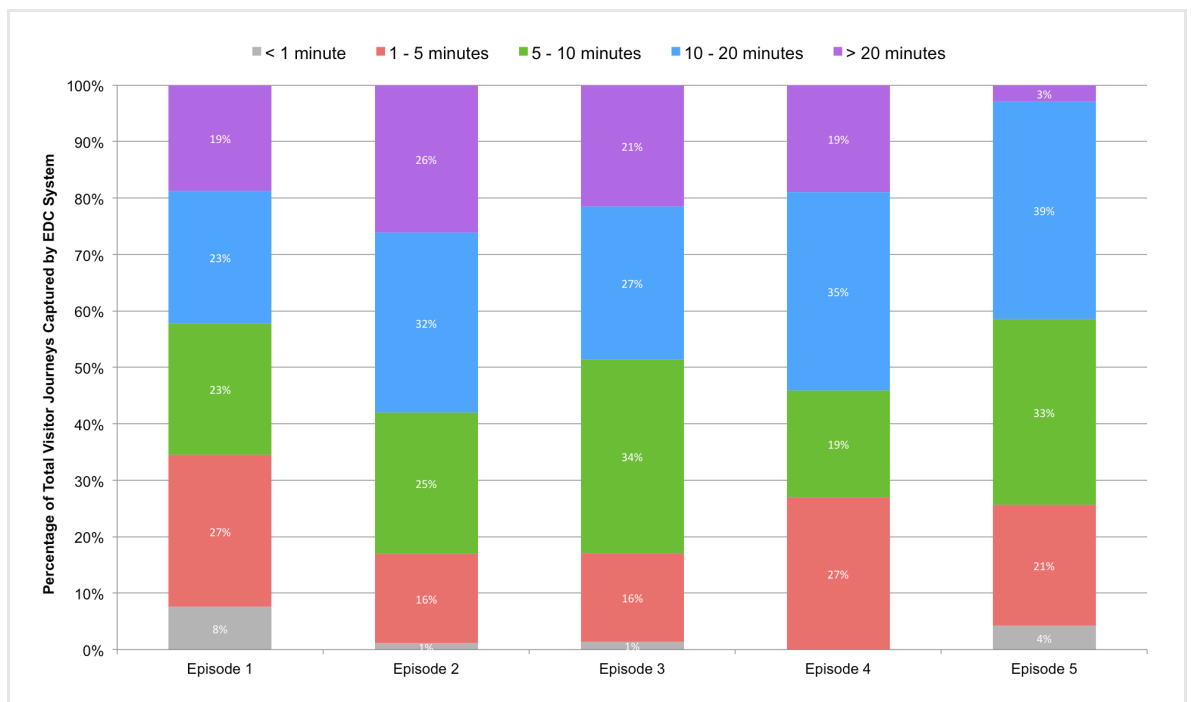


Figure 5.8. Graph showing duration of visits to *The Village* organised into five time ranges. Analysis draws on session times for visitor journeys captured by the EDC system.

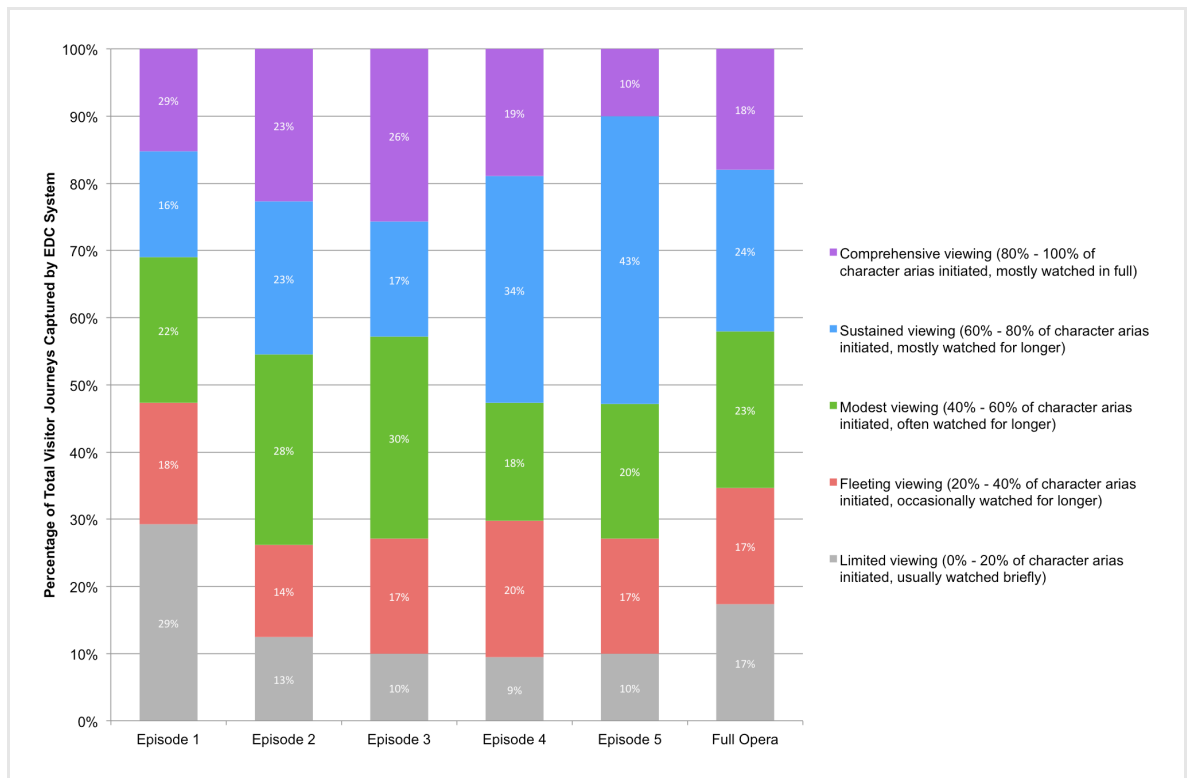


Figure 5.9. Graph showing engagement with character arias in *The Village* organised into five levels. Analysis draws on video viewing times for visitor journeys captured by the EDC system.

Closer inspection of engagement data (Figure 5.7) however provides little indication that visitors treated the release of an episode as a call to engage a planned event. Visit counts on or immediately following release dates represent only a modest proportion of the weekly total, which suggests that many visitors did not elect to follow episodes as they became available. There is furthermore no discernible pattern to engagement that implies that visitors settled into a routine of engaging the work at a particular point in the week. This is not surprising for two reasons. The first is that the delivery schedule did not define release *times*, only dates. Potential visitors would therefore have no reason to interpret an announcement for a new episode as anything more than a marker of publication. The second is that the web is fundamentally a non-linear medium, and as such its

users expect online content to be persistent to a degree. Such habits were not challenged by *The Village* during its live period given that prior episodes were not removed entirely following the release of new ones; only their capacity to accept Digital Chorus contributions was disabled. In this way the opera presented itself to audiences as an example of on-demand content.

For me the current state of *The Village* as an 'echo' has utility as a retrospective. It provides a readily accessible flavour of the opera's music, visual style, narrative, and overall tone, while avoiding fallback to non-interactive forms of documentation. The 'echo' is in addition somewhat effective in drawing attention to a concluded event. The expository narrative successfully signals the existence of a world now lost, and overall the artefact offers a less vibrant and dynamic experience than the opera in its live form. It is nevertheless difficult for new visitors to appreciate what an encounter with *The Village* in its live form was like, or indeed that it existed at all, without drawing on supplementary materials. Where video documentation of a live opera depicts the original performance setting, the 'echo' can only reference the earlier operatic event indirectly. Individuals visiting *The Village* for the first time may therefore interpret the 'echo' as the original and only manifestation of the opera.

In sum, *The Village* was asserted as a planned event only in that its existence was maintained and promoted across a fixed period of time. Although the opera's on-demand modality offered flexibility of access, it was nevertheless counterproductive in positioning the work as ephemeral or continually unfolding.

In addition, presenting the 'echo' only after the conclusion of the story offers little comment on the opera's impermanence to individuals engaged it during the live period. Table 5.5 in response offers two ways that *The Village* may be reconfigured to address these shortcomings.

Direction	Adjustments
<i>Granulated Delivery</i>	
<p>Publish character arias once per day and make them available in live form for only that day</p> <p>+ Reinforces the opera's impermanence to all visitors</p> <p>+ Ensures a smooth transition between the live form and 'echo'</p> <p>- Limits flexibility of access</p>	<ul style="list-style-type: none"> <li>■ Replace the weekly episodic format with a daily release pattern (25-30 days in total)</li> <li>■ Reassign character arias directly to the 'echo' at the end of each day</li> <li>■ Replace animation in 'echo' character arias with treated still images to suggest that they exist only as a memory</li> <li>■ Integrate the 'echo' and live form to draw a visitor's attention to concepts of past and present</li> </ul>
<i>Dynamic Irretrievability</i>	
<p>Reassign character arias to the 'echo' once watched by the visitor</p> <p>+ Reinforces the opera's impermanence to all visitors</p> <p>+ Supports flexibility of access</p> <p>- Requires visitor sign-up/in</p>	<ul style="list-style-type: none"> <li>■ Retain weekly episodic format</li> <li>■ Reassign character arias to the 'echo' at the end of each week, regardless of individual engagement, to maintain the overall progression of the story</li> <li>■ Encourage the visitor to engage unwatched character arias through thematic mobile push notifications</li> <li>■ Integrate the 'echo' and live form, and replace animation in 'echo' character arias with treated still images</li> </ul>

Table 5.5. Proposed methods for reconfiguring *The Village* to better draw attention to impermanence.

### 5.7.3. Social Liveness

*The Village* attempts to draw remote audiences together to establish a feeling of shared experience, similar to that offered by conventional forms of theatre.

Visitors are afforded the ability to connect with one another as virtual residents in a manner that echoes social media: they can generate an avatar, post material to a feed, and initiate conversations with like-minded people. This socially-oriented approach to online opera contrasts that of *The Imaginary Voyage*, which instead prioritises the individual encounter and intimacy of an explorative user-computer relationship. Where *The Village* adopts the participatory qualities of the Social Web (Web 2.0), *The Imaginary Voyage* engages the experience of 'surfing' a read-only web (Web 1.0) while exploiting principles of the Semantic Web (Web 3.0) to offer surprising associations between image, sound and text. In short *The Imaginary Voyage* is concerned with connecting *content*, and *The Village*, connecting *people*.

*The Village* assumes a social dimension to liveness that manifests in the 'togetherness' or closeness of a group of individuals sharing in an event. In staged theatre this is facilitated typically by the physical co-presence of attendees - termed by Auslander (2008) as 'classic' liveness - with closeness being an objective measure of spatiotemporal distance. Couldry (2004) however observes that technologically mediated social interaction has the capacity to give rise to feelings of co-presence, even if communications are conducted remotely and

proceed to deviate from the temporal flow of a typical in-person conversation. Such interactions support a subjective sense of closeness that does not rely on co-locality (Frei 2013). Accepting Couldry's perspective, I attempt in *The Village* to elicit perceptions of social co-presence among visitors, and build connections between them (i.e. 'group liveness'), through a participatory device called the Digital Chorus. Here a visitor is invited to create a 'villager', determine key features of its personality, and post text-based reactions to the story, as well as storyline expansions and deviations, directly to the opera. Beyond enriching the critical story path and sustaining activity between episode release dates, the Digital Chorus functions as a means for visitors to interact with one another. The intention then is that chorus members - and to some extent non-participating onlookers - would interpret *The Village* as a gathering of people and in turn perceive their experience as co-present.

The Digital Chorus is an online collective of people that share in a common interest (i.e. *The Village* as a participatory experience and example of digital storytelling) and are able to interact socially via the assistance of network technologies. In this way it exhibits several of the core characteristics of a virtual community. Early on in the conception of the opera, I was however mindful of two considerations that might limit how well the Digital Chorus could function as such. The first is that virtual communities often require sustained communication and commitment from participants in order to flourish (Tietz and Cornelius 2007). Given the relatively short duration of *The Village* and its somewhat novel



nature, it seemed unrealistic to expect the Digital Chorus device to facilitate social bonding and co-operation to any significant degree. This does not preclude the possibility of visitors experiencing feelings of co-presence, but rather suggests that social interaction may turn out to be more casual and fleeting than desired.

The second consideration is informed by Howard Rheingold's understanding that "virtual communities won't emerge or grow in a healthy manner simply by adding a forum or chatroom to a web page" (2000, p.341). They instead require careful facilitation, social mechanisms and a clear means to initiate newcomers.

Reflecting on this insight, it became evident that I needed to design a social architecture for *The Village* that could both assist rapid on-boarding and stimulate participant contribution. My chosen approach was to position willing visitors as ancillary characters that react and respond to operative events as they unfold. I supposed that integrating individuals into the story world would expedite the construction of a community (i.e. they have a clear focus for social interaction) and offer even newcomers an unimpeded route to participation. The concept of the Digital Chorus was furthermore reminiscent of resources found in more familiar forms of opera. Thematically it echoes the Grand Opera chorus particularly, both in its scale and function as a voice of public opinion (Parakilas 2003).

To contribute as a member of the Digital Chorus, a visitor must first create a 'villager'. As part of this process they select from a list of character archetypes

and choose one of eight map locations at which to reside (Figure 5.10). These options (or constraints) are intended as creative prompts to help Digital Chorus members shape the disposition of their villager and determine the direction of their written contributions. In broader sociocultural terms however, the act of personality selection acknowledges the constructed nature of online identity and how virtual communities afford individuals the anonymity needed to explore alternative personas (Turkle 1994; Lee 2006). I anticipated that a visitor would select an archetype that resonates with or transforms aspects of their own character, and proceed to role-play their villager as a fictionalised projection of themselves.

After creating a villager, Digital Chorus members are able to post text passages of up to 150 characters in length to the 'Villager Feed'. To assist with on-boarding and general engagement, basic instructions on how to interact were provided on content submission pages. Narrator prologues were also written to include some form of provocation or call to action, such as in episode 4 where the Digital Chorus is prompted to speculate on the recent disappearance of Hecaceres (Scott 2015, p.11). The full Villager Feed can be viewed at any of the eight dwellings on the village map. However, to prioritise the activity of villagers bound to a particular main character - and in turn encourage the formation of community clusters - the default organisation of contributions is by residence (e.g. Stall Sixteen in the case of Figure 5.10). Participants may also inspect posts from a single villager by selecting their character name.

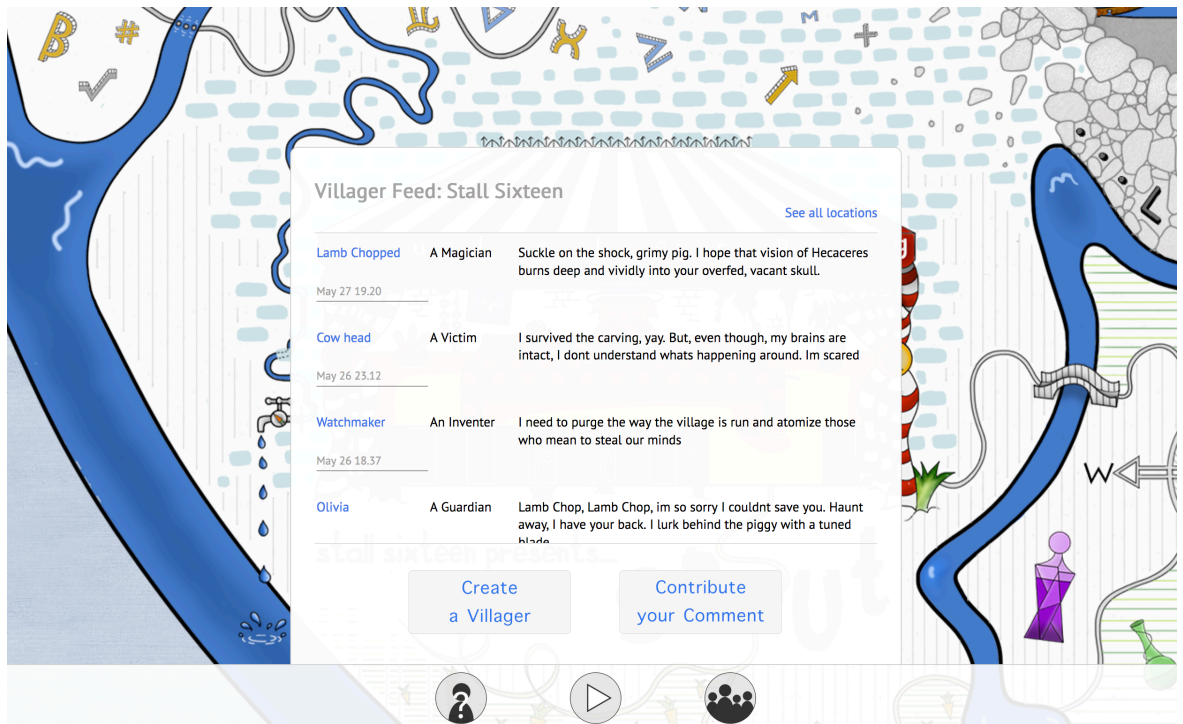


Figure 5.10. Overview of the Digital Chorus that includes the villager creation process [Video]. Click to play video walkthrough in a web browser.

### 5.7.3.1. General Engagement

Evaluation activities in the category of social liveness draw on two datasets: responses to an online survey (Appendix II/1) and a body of information specific to the Villager Feed (Appendix II/5). The latter is compiled by the EDC system to report details on villager creation (names, character archetypes and residencies) and contributions (submitted text, date and time of post). Villager Feed data includes a total of 160 posts from 52 Digital Chorus members. Contributors can be organised into four levels of engagement that reflect the number of posts submitted by an individual across the opera's live period (Table 5.6).

Engagement Level	Level Threshold	Number of Villagers	Total Posts
Limited Engager	1 post	24	24
Modest Engager	2-3 posts	11	29
Sustained Engager	4-5 posts	12	53
Heavy Engager	>5 posts	6	54

Table 5.6. Categorisation of Digital Chorus member engagement. The number of instances of each level of engagement is included.

Data analysis of Digital Chorus member engagement leads to several insights:

- The total number of posts per episode decreases following episode 2 (Figure 5.11). This reflects visit count data and therefore is expected.
- The activity of 'Limited Engagers' is concentrated in episode 1 (Figure 5.11). This suggests that individuals in this category were testing the Digital Chorus device, yet were not sufficiently compelled to continue engaging either it or the opera.
- The average number of posts for a 'Heavy Engager' in episode 1 is almost three times that of other episodes (Figure 5.12). This suggests that at least some individuals in this category commenced with intentions of posting more frequently than they did in practice.

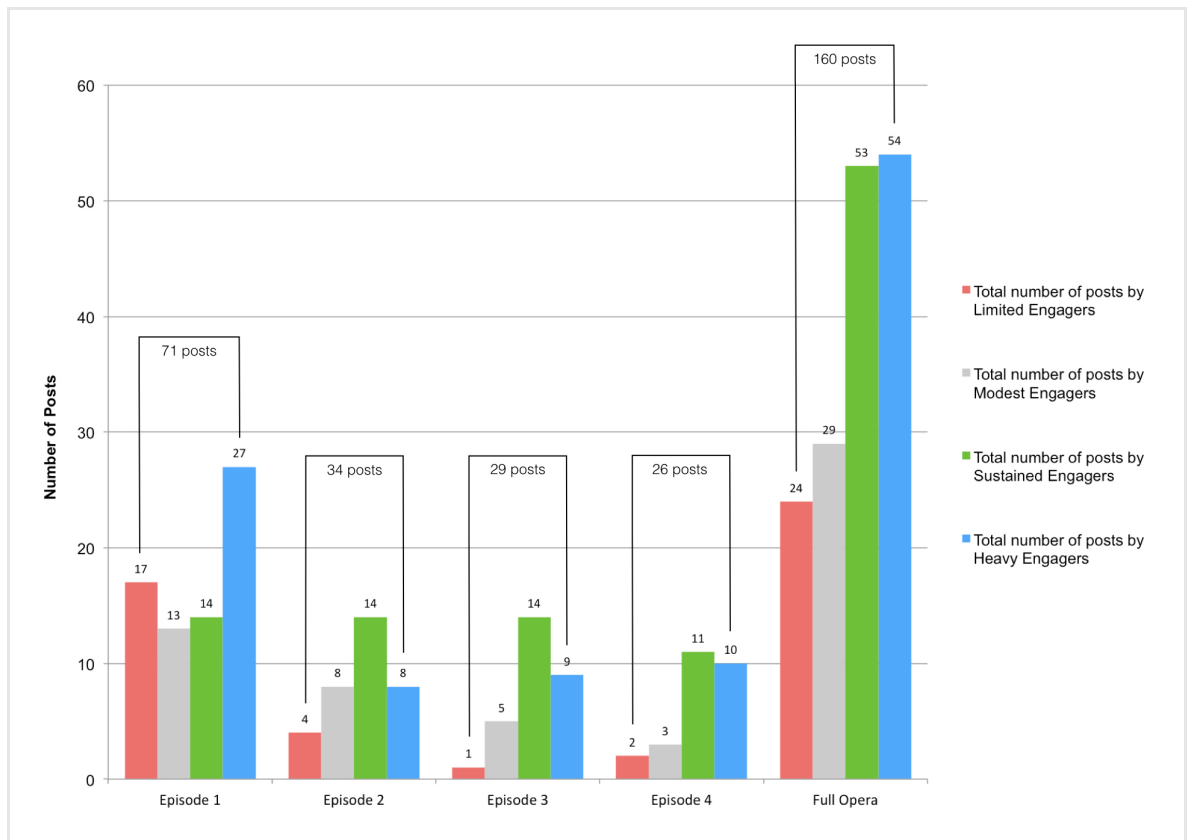


Figure 5.11. Graph showing total number of posts per episode by Digital Chorus members. Coloured columns represent the four levels of engagement described in Table 5.6.

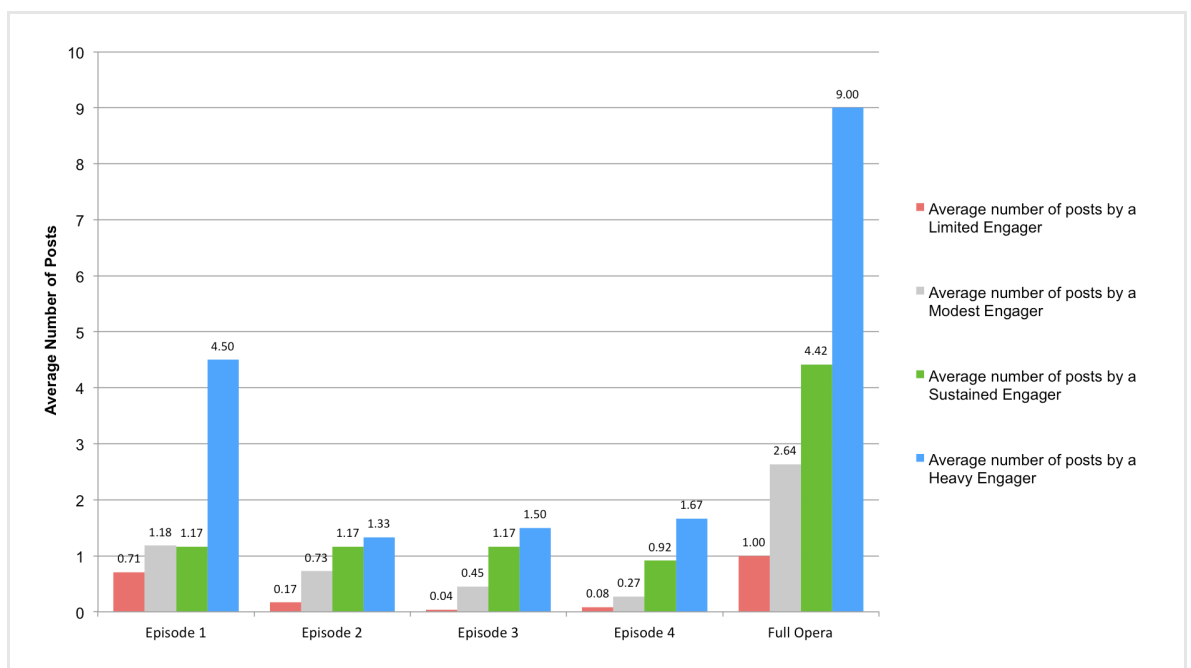


Figure 5.12. Graph showing average number of posts per episode by Digital Chorus members. Coloured columns represent the four levels of engagement described in Table 5.6.

Participation in the Digital Chorus somewhat follows the '90-9-1 rule', which posits that within an online community 90% of users consume content and/or observe interactions as 'lurkers', 9% contribute casually and 1% account for the majority of contributions (Nielsen 2006). Digital Chorus subscription accounts for 8.8% of and the estimated total viewership for the *The Village* of 600, therefore deviating only 1.2% from the 90-9-1 rule. It is however not the case that 1% of the opera's visitors (six individuals) contributed the majority of posts. The top six contributors provided only 54 of a total of 160 posts (34%) (Figure 5.13).

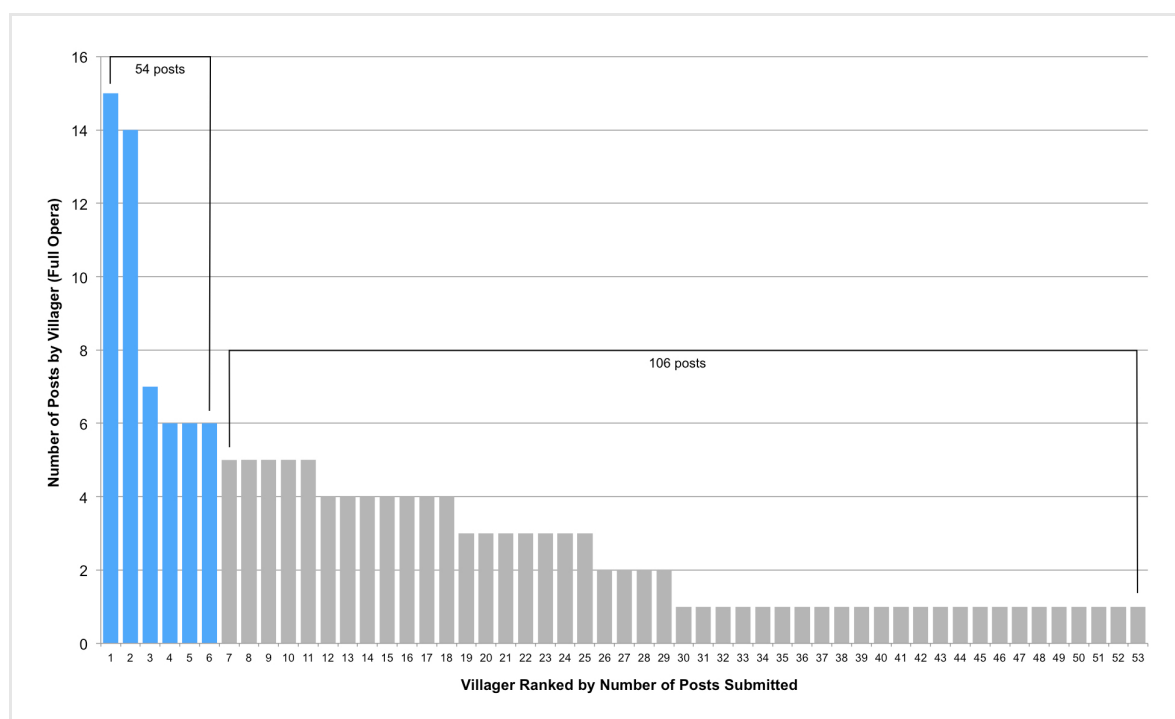


Figure 5.13. Graph showing number of posts per Digital Chorus member (ranked). Columns in blue show total number of posts from the most active 1% of visitors (i.e. six contributors based on an estimate of ~600 total unique visitors).

The 90-9-1 rule however considers interactions over an extended period of time. It may then be the case that participation in the Digital Chorus would more

closely follow typical trends for online communities if *The Village* unfolded over several months. It is expected here that 'Heavy Engagers' would become the dominant contributing group as initial interest from less active Digital Chorus members waned.

### **5.7.3.2. Digital Chorus Activity**

Content analysis of Digital Chorus contributions (Appendix II/5) generates a number of insights related to scenario engagement and social interaction. First is that members overall embraced creative prompts and the act of role-play, with 38 of 53 villagers observed to respond to their chosen archetypes and residencies, or to operatic events in general, via their projected persona. Where this was not the case, posts were either too vague to interpret accurately or appeared as basic greetings toward other villagers.

A review of posts sorted by residency however suggests that participants found it easier to react to the actions or personalities of some main characters in the opera more than others. Contributions attached to Hecaceres and Snout in particular reflect the tone of their respective dwellings clearly: residents of The Subterranean Mill speak collectively of sabotage while the anthropomorphic occupants of Stall Sixteen (i.e. Lamb Chop, Lamb Chopped, Cow Head and Razor) construct a macabre image of a luring pig and the condemned contents of her cold store. Posts attached to The Clocktower, The Magic Woods (Aletheia) and The Academy (Roso) in contrast lack thematic focus and tend to operate across

residency borders. One reason for this is that The Clocktower did not hold character arias until episode 3 and as such offered no discernible atmosphere or scenario for Digital Chorus members to respond to. It is however also likely that Hecaceres and Snout presented villagers with richer narrative provocations than other main characters.

Although posts by the Digital Chorus were on the whole thematic, there exists within the Villager Feed little evidence of either individually devised or co-created derivative stories. Contributions instead were largely reactive, and in sum, settled into the form of a rolling commentary. Observed however are various instances of more casual social interaction between participants. These communications can be categorised into four types that rank in significance from basic name 'Mentions', to 'Thematic' multi-person exchanges. Posts accounted for in the 'Mention' and 'Initiation' category did not elicit a response from another villager, while those positioned in the 'Exchange' and 'Group Thematic' category resulted in one or more replies (Table 5.7).

The Villager Feed comprises sixteen instances of communication types 'Mention' or 'Initiation' and six instances of 'Exchange' or 'Group Thematic'. This indicates that attempts to connect with others villagers were often timid and/or unreciprocated. Exchanges nevertheless did occur, with a notable example taking place between four participants (Number 2, Mrs Maven, singer and The Colonel) in which parallels between *The Village* and the cult TV show, *The Prisoner* (1967-68) were implied. Other interactions represented within the 'Exchange' category



are however shown to be short-lived (a maximum of three responses) and, with the exception of only one case, restricted to a single episode. Beyond brief pockets of activity then, social interaction between members of the Digital Chorus can be described as light.

Interaction Type	Description	Total Instances
Mention	Mention of another villager by name. May include some attempt to connect with that village, however capacity of the post to elicit a response is weak	9
Initiation	An explicit yet unreciprocated attempt to connect with another villager (i.e. asking a question or making an offer)	7
Exchange	Communication between two villagers	5
Group Thematic	Multi-person engagement with a specific narrative theme or scenario. This must include instances of two-way communication ('Exchange')	1

Table 5.7. Four types of social interaction exhibited by Digital Chorus members. Table includes the number of instances of each type.

### 5.7.3.3. Reflections on Social Liveness

"It's really interesting to see people interacting in the chorus. I like that you can be part of the opera. It has a sociable feel to it." (Appendix II/1, R23).

"I think there needs to be more people posting for it to feel like a living breathing village" (R38).

"I created a character but others weren't interacting very much so I stopped adding stories" (R32).

Visitor reception of the Digital Chorus was mixed. Survey responses include 14 comments that target this element of the opera, with 7 coded as 'positive' and 4 as 'critical' (Appendix II/1). Some respondents expressed positive experiences of role-playing as a villager (R6 R27) and reading the posts of others (R14 R25 R38), while others reported a sense of being part of a social group (R21 R23 R25). Such comments support the decision to position participants as characters in the story world, and evidence that efforts to facilitate perceptions of co-presence were to some extent successful. Responses coded as 'critical' note limited activity (R38) and difficulties in engaging others villagers (R32 R39 R43). The veracity of this criticism is confirmed by content analysis of the Villager Feed that suggests most notably that Digital Chorus members found maintaining exchanges problematic.

On reflection there are five shortcomings in the design of the Digital Chorus that impede social interaction in *The Village*:

1. On-boarding. Participants when creating a villager were asked to react to events, yet not encouraged to initiate exchanges or co-create stories. This deficiency can be remedied by minor revisions to the on-boarding process.
2. Visibility. The Villager Feed is hidden behind a UI icon. This both limits visitor discovery and obscures the presence of the Digital Chorus across the opera.
3. Content Flow. The user interface did not include a reply feature. It was therefore difficult for Digital Chorus members to preserve the flow of an exchange or build on the contributions of other villagers.
4. Alert Features. The user interface offered no means of 'tagging' a villager or

otherwise notifying others of an attempt to initiate an exchange.

5. Concurrence. It is unlikely that participant access times would align given modest sign up rates to the Digital Chorus. This places undue demands on parties to conduct exchanges over several weeks or engage an episode multiple times.

Points 3 to 5 particularly restrict the capacity for *The Village* to facilitate perceptions of social co-presence. The centralised nature of the Digital Chorus device and its lack of features to support asynchronous communication contradict the basic criteria of 'group liveness': continuous mediation through entry points that are mobile and permanently open (Couldry 2004). A substantial improvement to the opera then would be to reimagine the way in which participants engage the Digital Chorus by offering a mobile companion app that exploits push notifications to expedite and decentralise social interactions.

Villagers could be organised initially into peer groups that are based on their chosen character archetype or residency, although also important to include is an option for participants to assemble autonomously. This approach would support movement from what Bettina Frei (2013) describes as 'liveness as imagined potential' - that is, the *possibility* of connecting with others - to a dimension of liveness that affords immediacy of communication and emotional closeness.

Although similar in character to Couldry's 'group liveness', Frei's description of her 'sensory and emotional liveness' in addition evokes a sense of affective involvement that is appropriate to the dramatic underpinnings of opera. This

facet could be explored further through mechanisms of engagement that are managed by the companion app. *The Village* could for example serve groups various appeals for cooperative action that extend character aria content, or include functions that collect, visualise and share the overall sentiment of the village to further promote feelings of community.

Improving the overall visibility of the Village Feed (point 2) requires a reconfiguration of user interface and a revised approach to content flow.

Inspiration on how to do this emerges from the game streaming platform Twitch, which positions a chat feed adjacent to primary video content to emphasise viewer participation and foster a strong sense of presence and community (Spilker, Ask and Hansen 2018). Notable also is how Twitch handles community interaction during stream replays: past contributions are time-locked to associated video content to present non-live viewers an understanding of how the social dimension of the broadcast unfolded. To achieve a similar effect, the Villager Feed could be presented during character aria playback and include a means for Digital Chorus members to pin comments directly to video content (Figure 5.14). This approach would likely benefit recruitment to the Digital Chorus as the Villager Feed is made more discoverable, and encourage visitors to interpret the *The Village* as a socially-driven, co-present experience. It nevertheless may require the concept of villager residencies to be revisited as focus shifts towards collective engagement with character aria content at large.

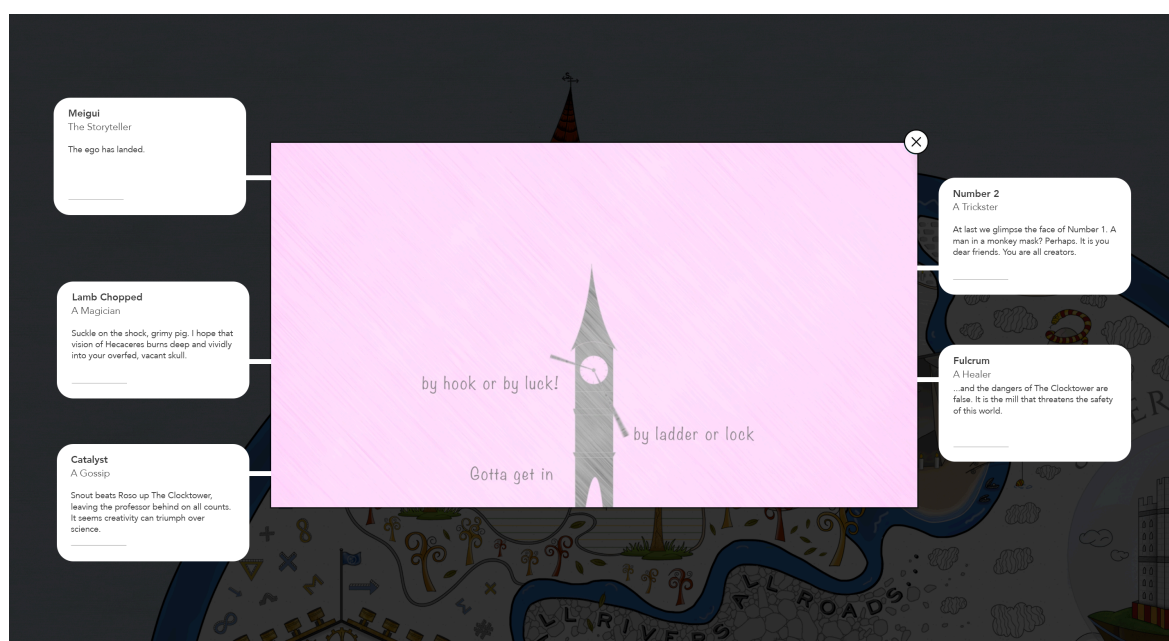


Figure 5.14. Mock up of a proposed revision of the Villager Feed [Video]. Click to play in a web browser.

## 5.7.4. Contemporaneity

A third set of devices used to advance a sense of liveness in *The Village* concerns contemporaneity, or the quality of being in the present. Contemporaneity accounts for a feeling of 'now-ness' that a live work may evoke in users/viewers, and like liveness, can be described in terms of how we experience a work (phenomenology) rather than as an intrinsic characteristic of a work (ontology). In this way a work becomes contemporary for an individual if it is "experienced and taken seriously as present (and not as something in a distant past)" (Gadamer in Auslander 2012, p.8). Following this line of thinking, *The Village* makes a claim for liveness by exploiting devices that imply that it is operating in a contemporary landscape. This does not suggest that the opera is constructed in 'real-time', but rather that it exists only in the present. The following sections describe and

reflect on devices that include mirroring the visitor's local environment (time and weather) in the opera's visual production, aligning happenings in the virtual world with those in the real world, and building an impression that visitors may influence the trajectory of narrative events.

#### **5.7.4.1. The Role of the Visitor**

Across all episodes of *The Village* the user is treated as a present visitor - first embraced, and eventually scorned. They are welcomed in by the narrator in episode 1, invited to participate in the village election in episode 2, called upon to give advice in episode 3, deemed untrustworthy in episode 4 and subjected to sanctions in episode 5 (Scott 2015, pp.9-12). As the opera proceeds, it becomes evident that the 'rift in the sky' is a symbol of human intervention; widened through continuing viewership and the en-masse settlement of user-generated villagers. The influence of the human world is made explicit in Aletheia's episode 4 character aria in which she likens native residents to marionettes that 'dance by the string'. Human intervention is then countered in episode 5 where the Digital Chorus is abolished and visitors are forced to follow a linear route through character arias. At large then, *The Village* positions visitor presence as the driving force behind narrative events. Visitors are given the impression that persistent human engagement is integral to the story, thus reinforcing the 'now-ness' of the opera.

#### 5.7.4.2. Contextual Awareness

"Maybe a coincidence but its raining in the world and raining outside my flat!  
Either way I feel like I'm part of the opera somehow" (Appendix II/1, R14).

*The Village* suggests a spatiotemporal relationship between the fictional world of the opera and the local context of its visitors. The motivations behind this are similar to that of live cinema initiatives such as *Live In HD* in that both seek to advance a claim that the work<sup>38</sup> is taking shape in the 'here and now' (Heyer 2008, Sheil 2013). *The Village* deploys simple visual and dialogue cues to reflect aspects of a visitor's present environment within the opera's prologue and visual production. This begins with the narrator, who leads her prologue with a greeting of 'good morning', 'good afternoon' or 'good evening' depending on the period of day that the opera is accessed. A precise time is maintained also on the dial of The Clocktower to carry the device across the duration of the opera. In addition, the visitor's local weather - be that sunny, windy, rainy, or snowy - is visualised and animated into the village map on visitor entry (Figure 5.15). This device exploits the Yahoo Weather API to query regional meteorological conditions, which is done frequently to ensure that noticeable changes in weather translate promptly to the opera's visual design.

Results of the online survey include four mentions of devices that reflect the visitors's local environment (Appendix II/1, R6 R14 R26 R32). Two respondents noted that they like the "connection" between the physical and virtual world (R6

and R26), one felt "part of the opera" as a result (R14), and one acknowledged the devices without assigning them experiential value (R32). All four comments reference similarities between local weather conditions and those visualised in *The Village*, with two querying if this is merely a coincidence. Only one respondent observed that their time of access was taken into account within narrator greetings (R26). Survey responses in sum indicate some recognition and appreciation of devices used to reflect local context, yet overall there is not enough available data to conclude if they strengthen the opera's claim to liveness. This is a limitation of the survey, which although useful for collecting general opinion of the opera, did not target contemporaneity explicitly in its line of questioning.



Figure 5.15. Screen capture of *The Village* that shows how its visual production reflects a visitors's local environment (weather and time). Here is the opera is accessed at 3pm on a rainy/cloudy day.



Data collected using the EDC system reveals that 96% (453 of 473 entries) of visitors's gave *The Village* permission to access the location of their device despite no explanation of why such information was required. Such an acceptance rate suggests that using programmatic methods of embedding context-awareness within online opera is logistically viable<sup>39</sup>, and as such could be a worthwhile target for further creative exploration. Although *The Village* only scratches the surface of how local context might enrich a storytelling experience, more recent projects like Kate Pullinger's *Breathe* (2019) demonstrate ways in which mechanisms such as conditional text may draw user and artwork into a closer spatiotemporal relationship. Here geolocation APIs and location databases held by Google are leveraged to inject information on local surroundings into the narrative, thus advancing a sense that the work is "anchored to the present" (Marcinkowski 2019, p.260). There exists fruitful opportunities to investigate how similar strategies may be applied in an operatic context, particularly as digital opera expands into mobile media (see Nousiainen 2015, Scott 2017).

#### **5.7.4.3. The Election: Temporal Alignment with Real-World Events**

A sense of contemporaneity is furthered in *The Village* through two additional devices that are demonstrated particularly in the village election: temporal alignment with real-world current affairs, and enabling visitors to influence how the story proceeds (see Section 5.7.4.4). The election takes place at an unspecified point between episode 2 and 3, with episode 2 'The Election' focusing

primarily on campaign speeches from personalities located in the contemporary hemisphere. Visitors listen to appeals from Harill, Roso and Hecaceres before being given an opportunity to vote for their choice of village mayor. The ballot results in a win for Hecaceres, which raises suspicion amongst native residents. This prompts Roso to venture into the vaults of The Academy in an attempt to uncover the origins of The Subterranean Mill.

The election was embedded into *The Village* to establish a clear link with a notable current event in the human world: the 2015 UK general election. As the UK election polled just two days before episode 2 of the opera was released, it was assumed that visitors would interpret the timing of the village ballot as more than a coincidence. If effective then, visitors would perceive happenings in *The Village* - both the election and the events that follow it - to be contemporaneous with the present day.

"The election is obviously all over the news and there is one in the village too. A nice touch!" (Appendix II/1, R33).

The online survey returned four responses that target the timing of the election explicitly. All expressed positive sentiments, with several comments recognising the scheduling of the event in the opera as intelligent (Appendix II/1, R30 R32 R33). One respondent in addition linked the device to ideas of contemporaneity, stating that the village election's proximity to the UK general election "made the opera feel current and alive" (R36). These comments resonate with my own

impressions. Of all episodes in the opera, I found episode 2 'The Election' to be the one that made the most convincing claim for *The Village* to be perceived as operating in a contemporary landscape. The election established a dialogue between the real and fictional that both benefitted world-building - that is, the position of the village as a virtual adjunct to the human world - and characterised the opera as able to exist only in the present day.

There are however limitations to implying contemporaneity via temporal alignment with real-world events. The first is that such events may not be visible to some audiences, particularly those residing outside the influence of the current affair in focus. As up to 67% of visits to *The Village* during its live period originated from overseas (Figure 5.16), it is likely that a notable proportion of visitors will have been unaware of the timing of the UK general election and therefore its temporal relationship to the village ballot. The second limitation concerns the feasibility of building on the device beyond a single instance. Scheduling an online opera to interact meaningfully with multiple fixed and significant world events requires forensic planning and good fortune, or a production strategy that is flexible enough to allow for rapid integration of non-scheduled current affairs (Figure 5.17). The format of *The Village* - its reliance on co-created music and animated content - position spontaneous narrative redirection as a high risk proposition. As such, my exploration of temporal alignment with real-world events in the opera was limited to 'The Election'.

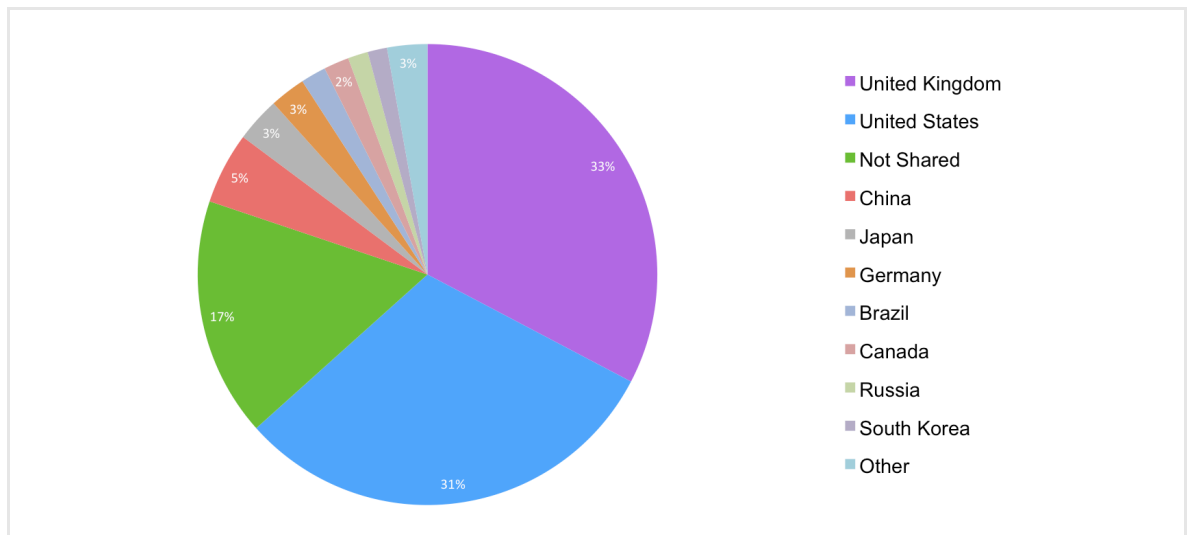


Figure 5.16. Graph showing the originating countries of visits to the *The Village* during its live period (1 May and 10 June). Data reported by the EDC system.

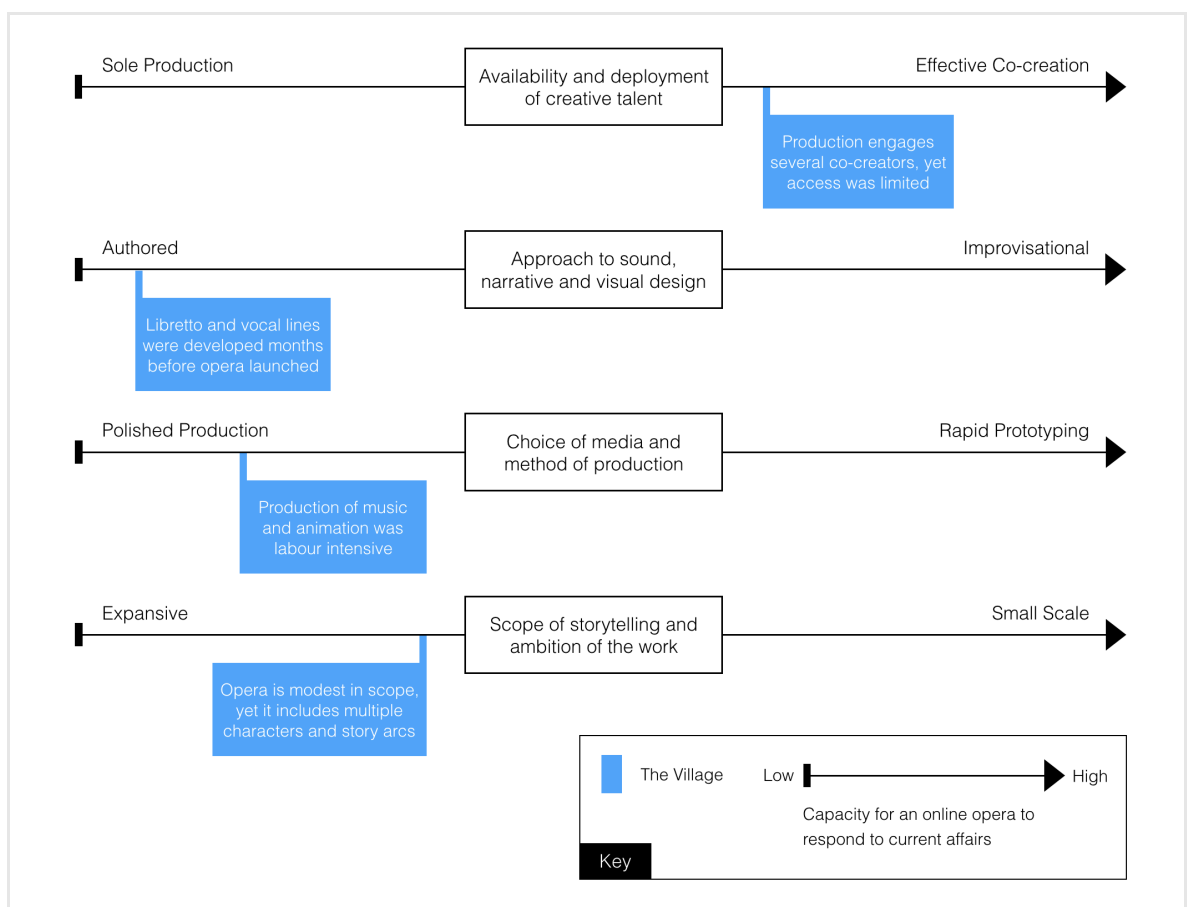


Figure 5.17. Visualisation of factors that contribute to an online opera's capacity to respond to current affairs. The way in which *The Village* engages such factors is indicated in blue.

#### 5.7.4.4. The Election: Influencing Narrative Trajectories

The act of voting in the election intends to give visitors an impression that the trajectory of the opera is not fixed, but rather unfolding in response to the collective actions of its audience. Adopting a democratic approach to decision-making was however critical to maintain perceptions of contemporaneity.

Offering an individual visitor the ability to specify the outcome of the election would force the opera to branch towards contrasting narrative trajectories that intuitively could not all be current. The democratic model in addition reflects the mechanics of the familiar election process: a body of people cast votes individually, the votes are tallied, and the result is later released. Such procedures were echoed in *The Village* as visitors submitted their vote in episode 2 and were informed of Hecaceres' victory at the beginning of episode 3. The opera in addition mimicked the procedures of an exit poll by providing visitors a live update on each candidates current level of support immediately after they cast their vote (Figure 5.18).

The results of data collection suggest modest engagement with the village election as a decision-making activity. 8 of the 24 survey responses submitted after the release of episode 2 acknowledge voting as a means of contributing to the opera (Appendix II/1, Q3), and the EDC system reports 52 of the 88 visitor journeys tracked against episode 2 include a vote (60%). Scrutiny of the EDC data however reveals that participant investment in the electoral method was somewhat limited, with only 16 of 88 visitors reported to view the character arias

of all three candidates before casting a vote (31 of 88 considered two or more candidates). There are several possible reasons why this is the case (ranked by significance):

1. A democratic voting system offers a choice but little control. Criticism expressed in survey responses suggest that an individual approach to decision-making would have been preferred by some visitors (Appendix II/1, R51 R52).
2. The possible consequences of installing Hecaceres, Roso or Harill as village mayor were unclear from character arias or surrounding narratives. The choice was as such may have been deemed somewhat arbitrary.
3. Visitors were engaging the opera casually and were either not invested in the result of the election or simply curious to witness the consequence of their vote action.
4. Visitors were convinced by the personality of a particular character immediately and so did not feel it necessary to hear out other candidates.

Voting as a means of embedding choice in *The Village* was in sum largely unconvincing. The ballot mechanic did not supply an immediate response to visitor actions, with the results of the election left unknown to voters until the next episode. This capped the opera's capacity to facilitate a meaningful exchange with its visitors, therefore providing no clear route to manufacturing a scenario that resembles Fischer-Lichte's auto-poetic feedback loop. The process of voting furthermore lacked the sense of risk and unpredictability that often contributes

to the appeal of live performance. The election's planned and procedural nature provided little room for surprise at the point of interaction, and as such overlooks engagement with a critical dimension of liveness that Paul Sanden describes as 'liveness of spontaneity' (2013, p.37).

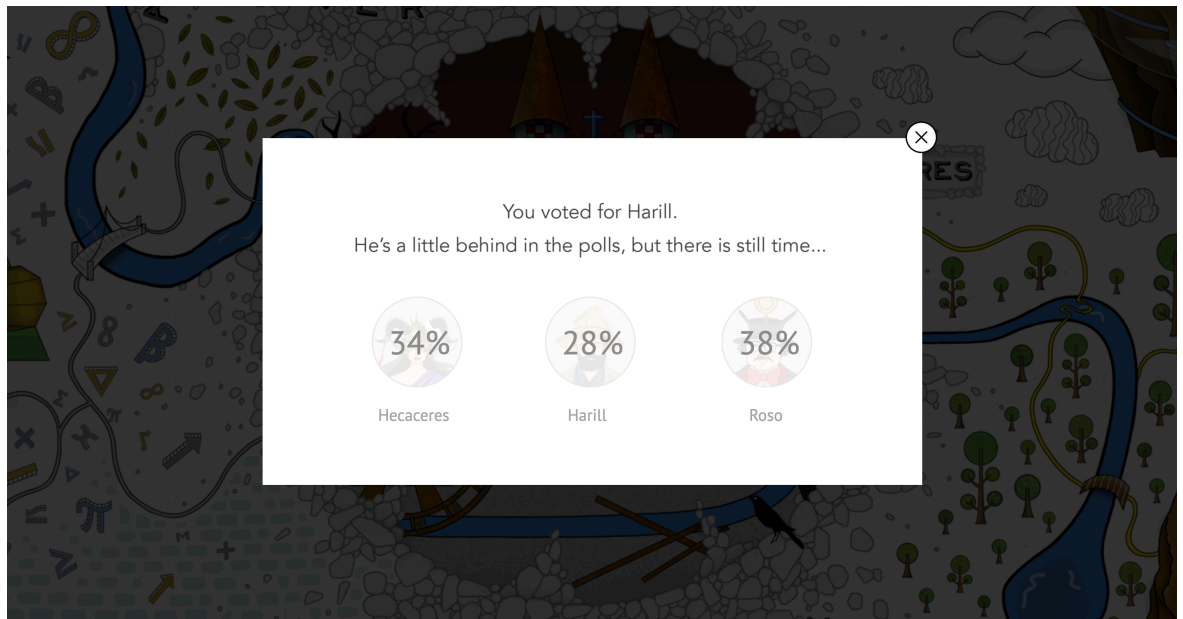


Figure 5.18. Capture of the *The Village* that shows how live poll results were presented to election voters.

Such shortcomings emerge from an attempt to ensure that *The Village* unfolds in a way that supports community-building through shared experience. Many of the devices deployed to construct 'the live' rely on the opera proceeding in a linear manner, with the Digital Chorus device particularly requiring a common interpretation of operatic events if its members are to generate ancillary dialogues that respond to core story arcs. A democratic approach to decision-making offered the only means of maintaining a single narrative track through *The Village*, yet this came at the cost of positioning the choice as rather inconsequential and formulaic. Although Hecaceres was installed as mayor, all

possible incumbencies lead to the same story. Only minor changes in narrator prologues and text introductions to character arias are needed to handle the various outcomes of the village election (Figure 5.19). Onlookers interested in how the opera could so quickly respond to the ballot result might deduce this procedure, or worse still, conclude that the voting process was rigged. Both interpretations would expose *The Village* as predetermined and, with it, attenuate visitor perceptions of contemporaneity.

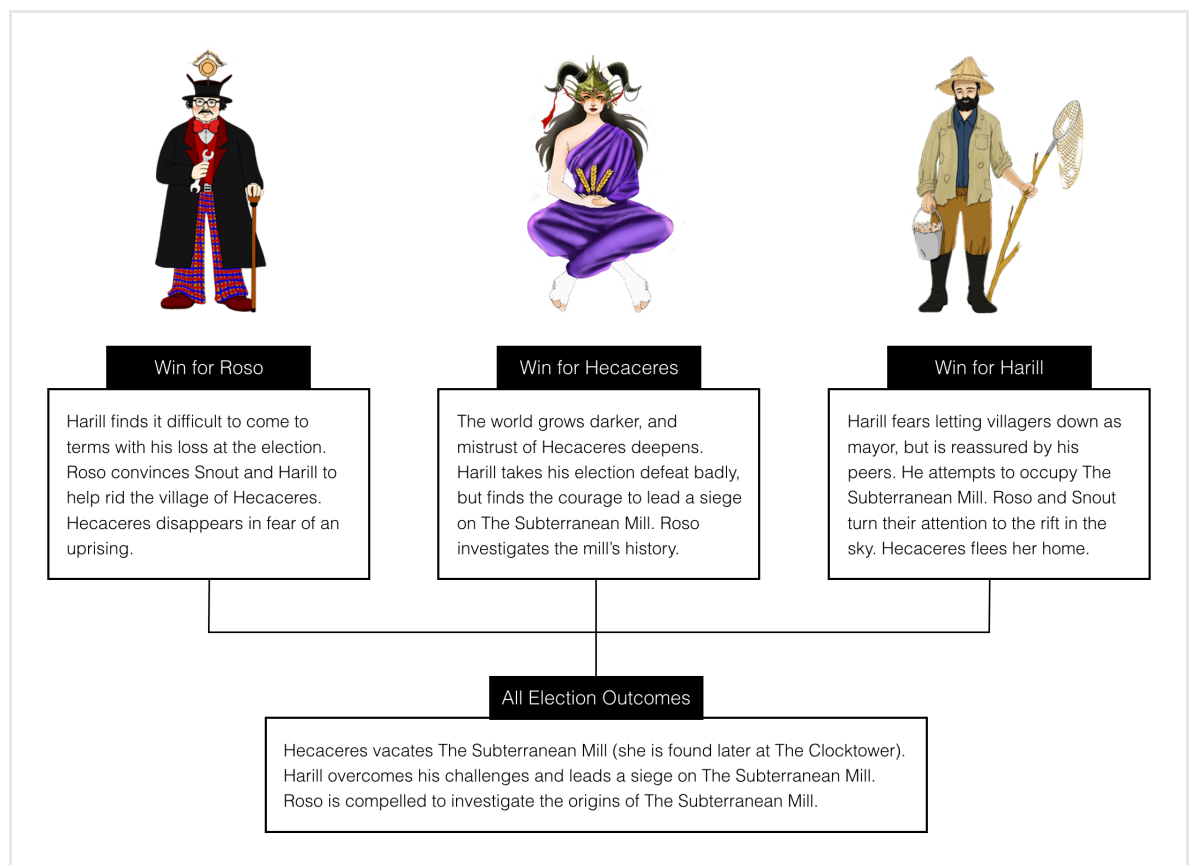


Figure 5.19. Visualisation that describes how the story of *The Village* could be adjusted to account for all possible election outcomes.



When reflecting on *The Village*, I see a critical missed opportunity to extend the voting mechanic to a full online democratic system. Triggered by the election, visitors (or perhaps only members of the Digital Chorus) could be asked to adhere to a social charter that governs how they are expected to interact. The charter could in addition outline various ways in which individuals can participate in village affairs, which would be supported by mechanisms that enable the community to make decisions collectively and at their discretion. Possible scenarios include garnering support to contest village leadership or petitioning to liquidate Store Sixteen.

A democratic system would align *The Village* more closely with the governance of other virtual communities (see Rheingold 2000, p.338-339), while underscoring the collective agency of its members. The consequences of community decisions - like the election - can be accounted for mostly in advance of the opera's release, however the actualisation and timing of scenarios would be determined not by the opera's creators, but by its visitor community (i.e. once a critical mass of support was reached). This distinction for me has the ability to fortify the participatory tone of *The Village*, while offering a means to construct Sanden's 'liveness of spontaneity'. Indeed the effects of the social charter may lend my experience of the work, as lead artist, a reactive quality that points to other means in which online opera can construct 'the live'.

## 6. Conclusions and Future Work

This practice-based research offers a culturally novel apprehension of online opera that manifests through a new work called *The Village*. This is supported by *The Imaginary Voyage* as a practical case study. *The Village* makes an original contribution to knowledge in the field of digital opera, while the description and evaluation of both works provide insights that are significant to future creators of online opera and Opera for Computing Platforms (OCPs) more widely. The following sections offer thoughts in conclusion of this study, while also outlining my ongoing research of OCPs in the form of a location-based opera called *Fragments*.

### 6.1. The Survey of Digital Opera

The survey of digital opera appears in this commentary as a tool to identify gaps in knowledge that can be addressed via a practice-based study. It successfully highlights OCPs as an underrepresented area of practice, and further, opera conceived specifically for the web as a particularly fruitful focus for creative and academic exploration. The survey alongside contextual sections in Chapter 1 furthermore demonstrates that online opera (and indeed digital opera) does not exist in isolation, but is part of a rich and varied body of performative works that approach computing in comparable ways. These include the use of interactive systems or 'responsive environments' to extend a performer's influence over the

media of performance (i.e. word, image, sound), the deployment of network technologies to locate performance across and *between* locations, the exploration of computing tools as a means to facilitate audience participation in the construction and performance of a work, and the remediation of performance to virtual environments. Such alignments between opera and other disciplines including theatre, dance and music span the history of digital performance and continue into today, with recent developments exploiting the expanding capabilities of virtual reality.

Although the survey offers a more extensive cataloguing of digital opera than any existing publication on the topic, including *Digital Opera: New Means and New Meanings* (Sheil and Vear 2012), there are nevertheless gaps in its coverage. This is apparent from the survey's limited engagement with works that engage music as the primary subject of digital transformation. Early experimenters in this conceptual space include Tod Machover who emphasises the significance of the human voice in opera by generating the entire sound-world of *Valis* (1987) from voices processed using a 4X digital workstation, and Barry Truax who echoes the binary symbolism central to *Powers of Two* (1995) by rotating certain sound sources in opposing directions around the audience using a multi-speaker setup (Truax 1996). A particularly prominent collision between opera and digital music concerns techniques for vocalising madness and neurosis. For example, all characters in Joshua Fineburg's *Lolita* (2009) exist as sonic projections of protagonist Humbert Humbert's precarious mental state, realised using a 'speech

to chant' system developed by IRCAM that derives melodic materials from an actor's spoken voice (Roebel and Fineburg 2007). Similar approaches can be found in Nicolas Till's *Hearing Voices* project and Michel Van de Aa's *One* (2003), which both use voice synthesis techniques to represent fragmented internal dialogues and inner conflict. Such works do not fit satisfactorily within the clusters outlined in my survey, and perhaps could be more appropriately categorised as 'electroacoustic opera'. This proposed category could furthermore better represent several operas that are currently located within the 'responsive environments' cluster, including works by Carl Unander-Scharin that deploy novel human-computer interfaces for vocal transformation (i.e. *The Elephant Man* 2012).

Another arguable limitation of my survey is that it does not function as a typology of digital opera. Forming a robust typology of digital opera would however require a more in-depth comparative analysis of digital performance across multiple disciplines than this study justifies, and as such, would be better positioned as a piece of desk-based research in which the core output of the study is not developmental practice. Despite the more modest scope of the survey, it nevertheless has value as a starting point for a typological analysis of digital opera that I aim to pursue in the near future. For this output, I would however focus attention on OCPs exclusively for the following four reasons:

1. Limited activity in this area allows for a near exhaustive examination and classification of existing practice. This helps to avoid gaps in representation.

2. There is currently no single accepted definition of 'digital opera'. A typological analysis of the form at large would be somewhat tentative given that it's boundaries are indistinct.
3. OCPs exhibit a clear departure from staged opera in terms of mode of presentation. As such, initial activities of filtering between OCPs and non-OCPs can be undertaken with confidence.
4. OCPs are more closely aligned with my personal academic interests and objectives. A typology of OCPs offers me an opportunity to further examine themes including how qualities associated with performance such as 'liveness' are treated in a digital context, and how features of digital media such as non-linearity and individual agency translate to opera.

To develop a typology of OCPs, I plan to follow a grounded theory approach that alternatives between induction and deduction. According to Hammond and Wellington (2013), such an approach comprises activities of observation and sense-making from the ground up that results in a hypothesis that can be tested with respect to the available data. Observation and sense-making in this context take the form of an broad survey of OCPs and an attempt at defining a typology, with the hypothesis being that the resulting classification of works can convincingly incorporate both newly discovered and newly released practice. The works featured in chapter 2 lay the groundwork for an expanded survey of OCPs. Furthermore, my proposed microgenres of 'Machinima opera', 'opera for mobile media' and 'videogame opera' offer the makings of a testable classification model

that can be used to identify exceptions, and from that, a process of incremental refinement towards a complete and convincing typology of OCPs.

## 6.2. Research Methods

This research adopts a practice-based approach to offer a culturally novel apprehensive of online opera that manifests as *The Village*. The approach has been successful in its core objective, and remains an appropriate strategy for conducting an examination of online opera given the limited availability of outputs in this conceptual space. Furthermore I conclude that the sequential flow of activities that underpin this study (see Figure 3.1) was effective at generating the insights needed to meet my research aims. The survey of digital opera confirmed a lack of opera conceived for the web, and *The Imaginary Voyage* (*TIV*) as a practical case study helped shape the conceptual direction of *The Village*. As such, I opted in *The Village* to engage online opera as a social experience, highlight 'liveness' in a digital context as a relevant focus for creative research, and adopt a more clearcut treatment of narrative to limit the factors that may lead visitors to perceive the work as something other than opera. The methodological design of this research is therefore expositional in that fruitful areas of academic and creative interest were revealed as it progressed, which given the novel status of OCPs is more appropriate than defining the conceptual target(s) of the study at the beginning of the process.

The approach taken to evaluate *TIV* was largely successful. Focus groups as the

chosen data collection instrument were effective at confirming that there is public appetite for an entirely mediated form of opera, while also helping to alleviate concerns that opera directors, composers and performers may see online opera as something that is intended to supplant staged forms (which is not the position taken in this study). Opinions and perspectives offered by focus group attendees also led to refinements of *TIV*, which include a greater emphasis on the literary context of the opera. On reflection however, it would have been beneficial to conduct a second round of evaluation activities after updates were made to the opera in response to focus group feedback. Inviting a small number of individuals to assess the second iteration of *TIV* would have helped to determine the extent to which new developments such as the expositional dialogue and revised map interface (see Figure 4.1) contextualised the more abstract nature of, for example, the Isle of Cack and Amorphous Isle. The interviews in addition would have been a useful point at which to ideate with external voices on potential themes for unpopulated islands. Such activities however didn't take place, which is in part due to the shifting priorities of the opera's creators as the sKTP relationship with The Opera Group came to an end. Although I see this as a limitation of my research methodology, *TIV* nevertheless served its function well as a practical case study that helped shape the form and visitor experience of *The Village*.

The approach taken to evaluate *The Village* was partially successful, yet in retrospect there are adjustments I would make to my research methodology to

support a fuller examination of two of the opera's conceptual targets: co-creation practices, and 'liveness'. Co-creation practices here refers to the process in which I and invited composers undertook to develop the animated arias that express the story of *The Village*. The procedure itself was overall successful. Composers felt that they were afforded a high to very high level of creative control, and in turn were able to shape the personalities of their assigned character through music to a significant extent. Furthermore, the decision to engage multiple composers was effective in that the opera featured a range of musical styles and that the disposition of each character was distinct - a quality that survey respondents found appealing. This aside, the written interview tool used to evaluate the experience of invited composers was limited in its ability to generate insights that could be transferred to future projects. Despite the challenges of conducting peer interviews, it would have been beneficial to hold discussions with the composers about ways to modify the co-creation framework to amplify iteration and the exchange of ideas. Such discussions could have also helped to identify activities that support a deeper understanding amongst collaborators of the full range of characters that appear in the opera. A 'researcher present' style of interview would likely have encouraged a more thorough, solutions-focused analysis of the co-creation framework than the composer written responses allowed.

The mixed-methods approach used to evaluate *The Village* from an audience perspective helped balance out the limitations of the qualitative and quantitative



data collection instruments deployed. The embedded data capture (EDC) system provided detailed information on the type and frequency of visitor interaction, which is something that the survey could not provide. Yet the survey was able to generate insights on musical preferences and the general appeal of the opera that could not be inferred from the EDC data alone. A critical limitation of the research methodology however is that the data collection instruments used to evaluate *The Village* did not adequately target the various strategies used in the opera to advance a sense of liveness. Although survey data revealed that a number of respondents acknowledged and appreciated such strategies, the quality and depth of available data was overall insufficient to draw firm conclusions on their effectiveness. In retrospect it would have been beneficial to supplement the survey with a round of follow-up individual interviews to examine the extent to which features of *The Village* such as the Digital Chorus and the village election supported visitor perceptions of contemporaneity and/or shared experience. A call to participate in these interviews could have been included in the survey form.

## 6.3. Reflections on The Village

### 6.3.1. Mode of Encounter

*The Village* is in part an attempt to explore a more social mode of encounter than found in many OCPs, and notably in works such as *Virtualis* (Alain Bonardi and Francis Rousseaux 2002) and *Omnivore* (Jaakko Nousiainen 2012) that offer

users a distinctly individualised operatic experience. The opera foregrounds the web as a tool for connecting people, and further, engages 'virtual communities' as a unique product of networked interaction (Rheingold 2000). In the case of *The Village*, 'community' is treated rather literally as participants gather in the setting of a fantastical virtual village, therefore evoking ideas of the 'global village' as proposed by media theorist Marshall McLuhan some decades before the emergence of the Internet.

The primary device used in the *The Village* to facilitate a social encounter is the Digital Chorus, which intends to position the opera as a shared experience by encouraging visitors to assume the role of a tertiary character and contribute to a rolling commentary on village events. The Digital Chorus was effective in that the majority of its 52 members adopted fictional personas through role-play, however the device's technological backbone lacked the sophistication needed to encourage frequent and sustained communication between contributors. It as such failed to achieve a comparable sense of presence to that found in digitally-mediated works that connect audiences in a synchronous matter. In contrast to, for example, the 'hyper-reality opera' *Current, Rising* (Royal Opera House 2021) which relies on an attendant model to establish co-presence in a virtual setting, *The Village* lacked the capacity to facilitate immediate exchanges between visitors. Communication between Digital Chorus members was largely unreliable, therefore rendering social activity represented in the Villager Feed as predominately one-directional messages that present little more than a trace of a

past presence. The device of the Digital Chorus as such requires some degree of reconfiguration, with one of the more promising developments being a companion app for mobile devices that allows role-playing members to maintain a dialogue asynchronously without the need to visit *The Village* itself (see Section 5.7.3.3).

There are two additional aspects of the *The Village* as a social encounter that would benefit from revision. The first concerns an appreciation that socially-oriented digital operas such as *iOrpheus* (William Duckworth 2007), as well as theatrical events in virtual worlds and indeed works of participatory theatre in general, typically engage two types of audience member: those that wish to make their mark on the work (i.e. 'contributors') and those that observe from the sidelines (i.e. 'bystanders'). Although this is also true for *The Village*, it nevertheless deviates from other participatory works in that its bystanders - that is, visitors that did not join the Digital Chorus - are at no point embodied. Given that around 90% of visitors engaged as bystanders and were therefore invisible to others, this oversight severely limits the opera's capacity to advance a sense of shared experience. A possible method of indicating the presence of visitors is to visualise them on the village map using, for instance, depictions of electronic lights and candles. These symbols could be pinned to the contemporary and mythological hemispheres of the map respectively to indicate the current location of active visitors, with the light emitted by the objects fading out over several hours to offer traces of recent activity. The second aspect of *The Village*

as a social encounter that would benefit from revision is the text-based mode in which Digital Chorus members contribute to the opera. This contrasts with several digital operas discussed in Chapter 2 including *Brain Opera* (Tod Machover 1996) and *Auksalaq* (Scott Deal and Matthew Burtner 2012), which encourage social engagement through acts of collaborative music-making. There is value in exploring extended features of the Digital Chorus that acknowledge music as the primary mode of expression in opera. One option is to offer participants an ability to collectively create chains of melodic material that can be incorporated into the sound design of the village map. This could be achieved using modern web technologies such as the Web Audio API to create virtual instruments that restrict contributions to a particular harmonic structure. Such contributions would be short, built upon by participants in a round-robin fashion, and focused harmonically to reflect the disposition of *The Village* in each of its five episodes (see Table 5.1).

Although *The Village* attempts to advance a sense of shared experience, it is not a statement that online opera must have a social function. Indeed, OCPs at large do not demonstrate a precedent for this. Rather than treating *The Village* as a blueprint for online opera, it should be considered in parallel with *The Imaginary Voyage* to outline a wider way of thinking about the form as something that artistically and technologically engages the Internet's capacity to connect things - whether that be data, people, objects or otherwise. Despite their limitations as formative works in a new conceptual space, *The Village* is fundamentally

concerned with connecting people and *The Imaginary Voyage* with connecting data. This way of thinking achieves two things. It firstly offers the makings of a framework for online opera that embeds the function of the web and it's underlying technical processes within the conceptual design and realisation of works. Operas that are *about* the web such as Nico Muhly's stage work *Two Boys* (2011) would therefore not qualify as online opera, nor would works that utilise Internet technologies purely as a tool for content dissemination (e.g. live cinema or *Soul Seek* by Studio Minailo 2012). Secondly, thinking about online opera in this way can invite interpretations that are not entirely screen-based. One can for example conceive of an Internet of Things opera that is performed across physical objects with the web as a connecting technology, or a location-based opera that uses available data on city features to adapt itself to a listener's local environment.

### 6.3.2. Liveness

As a piece of creative research, *The Village* examines 'liveness' in the context of online opera via a number of strategies that attempt to lend the opera a sense of contemporaneity or 'now-ness'. Strategies include positioning the opera as a 'planned event', aligning the opera with contemporary events and reflecting a user's environment within visual production, and facilitating interaction between visitors (i.e. 'social liveness'). *The Village* deploys various devices that are attached to such strategies in combination to advance a claim to liveness. This section offers a brief summary of the efficacy of these devices, and some

concluding comments about the pursuit of liveness in online opera at large.

Liveness devices used to position *The Village* as a 'planned event' include establishing a weekly release schedule, using present tense language when queuing upcoming episodes on social media platforms, and reconfiguring the opera as an 'echo of the past' once it reached its conclusion. Although such devices promote an impression that the opera is unfolding over time, data collected by the EDC system show no discernible pattern in engagement that may indicate that visitors perceived the opera as an *event* taking place in a virtual setting. Visitors in contrast appeared to treat the opera as a collection of on-demand content. Despite the 'planned event' contributing little in terms of advancing a sense of liveness, one of its devices - the 'echo of the past' - demonstrates a promising way of handling challenges related to impermanence that arise when creating OCPs that rely on a complex interaction of technologies. Rather than resorting to methods of video documentation that can only represent the experience of an interactive work, *The Village* deploys the 'echo of the past' as a narrative mechanism that rationalises a transition to a more stable manifestation of the opera. As such, the opera in its current form has dual purpose as an epilogue and an easily maintainable record of its creative content.

Devices that establish a sense of contemporaneity or 'now-ness' include mirroring the visitor's local environment (e.g. time and weather) in the village map, and aligning happenings in the virtual world with those in the real world. The latter is demonstrated primarily by the village election, which took place in

parallel to the 2015 UK general election. All devices were to some extent acknowledged by survey respondents, with several expressing satisfaction with the opera's capacity to operate in a contemporary landscape. Yet regardless of how effective the devices are at evoking a sense in visitors that they occupy the same temporal frame as events taking place in the opera, they are limited in their ability to advance a claim that the opera is 'live'. When experienced alongside character arias, which are clearly not moments of live performance, devices such as the village election are exposed rather clearly as set pieces that must either be predetermined or that resolve in a manner that has no meaningful influence on the trajectory of the opera's narrative. As such, the act of voting in the election is at best enjoyed by visitors as a micro-interaction with the story of the *The Village*, and at worst, perceived as an attempt at misdirection.

One of the more convincing devices for advancing a sense of liveness in *The Village* is the Digital Chorus. Despite its shortcomings in terms of implementation, the Digital Chorus offers the most direct means of engaging with extant theories on liveness - most notably 'group liveness' as a form of social co-presence that emerges from maintaining an open connection between peers (Couldry 2004). In terms of visitor reception, it was evident from survey respondents that the Digital Chorus was at least partially effective at evoking in members a sense that they were part of a social group. There is however little indication in the data to suggest that this was sufficient to encourage individuals to interpret *The Village* as a live experience. To support such aims in future

iterations of the opera, it would be necessary to amplify the capacity for the Digital Chorus to establish group liveness. This could be achieved via a companion app for mobile devices that firstly supports a more reliable means of sustaining an exchange between chorus members, and secondly facilitates group activities that encourage further interaction with the opera's narrative as it unfolds. Given an appropriate level of user buy-in, such refinements have the potential to *surround* the opera with a sense of liveness - thus negating the need for *The Village* to present itself as aligned with the real world through scenographic trickery and set pieces that masquerade as opportunities for narrative divergence.

When reflecting more widely on the approach taken in this research to imbue *The Village* with a sense of liveness, two key questions emerge. The first is whether the devices and strategies deployed may translate to future examples of online opera. Although many devices including the village election are distinct to *The Village*, broader strategies of positioning an online opera as a planned event and exploiting 'group liveness' to build a sense of liveness that surrounds the work are adaptable and thus transferable. Although such strategies require iteration and at points substantial reconfiguration to amplify their effect (see Section 5.7), this research offers sufficient groundwork for future practitioners of online opera to make informed conceptual and technical design decisions about how to approach liveness in the context of online opera.

The second question is more fundamental: must an online opera advance a claim



to liveness? Although a response to this question is largely dependent on how future practitioners and audiences apprehend online opera and its relationship to more conventional forms of live performance, my current position is that it does not. For me, online opera and indeed OCPs in general represent a reinterpretation of the features and signatures of opera (as it is traditionally understood) in a virtual context. In other words, they engage processes of remediation in which the tangible elements of opera (i.e. word, image and sound) and its experiential qualities (e.g. liveness and shared experience) are retained, reimagined, removed or extended. The focus and scope of remediation is shaped by creators of online opera, who may choose to engage liveness as a critical element of the form or otherwise treat it as non-essential. Of course however, the extent to which the results of remediation are perceived as 'opera' or 'operatic' is a matter for those that experience it. As I close out this research, I conclude that focusing intently on liveness as a primary target for digital transformation in *The Village* represents a somewhat reserved approach to online opera. Although devices such as the Digital Chorus, concepts of group liveness, and at large the aim of 'connecting people' assist in differentiating online opera from other types of OCP, the wholesale approach of encouraging *The Village* to be perceived as 'live' does little more than attempt to simulate the experience of more conventional forms of performance. Critically, it fails to capitalise on the opportunities afforded by computing platforms such as offering interactors an ability to steer narrative trajectories, to customise or construct elements of the opera's visual production, and to adapt or contribute musical

content. These are indeed opportunities that many of the OCPs discussed in my survey of digital opera attempt to engage, and in particular *Virtualis*, *Zeit Perlen* (Johannes Deutsch 2012) and *Oikospiel* (David Kanaga 2017) that are distinctly user-directed and open in form. *The Village* and in turn the apprehension of opera supplied by this research would benefit from being more strongly informed by such works.

## 6.4. Towards Fragments: an Opera for Mobile Media

During the later stages of this research, I begun to conceive of and prototype an opera for mobile media called *Fragments* that explores the capacity for smartphone apps to deliver operatic experiences that are individualised, intimate, and location-aware. In this way the work engages the same conceptual space as Jaakko Nousiainen's *Omnivore* (2012) and *You are Here* (2014), yet is distinct in it's use of location-based services to establish a city space as an immersive, navigable, and somewhat indeterminate scenographic device.

*Fragments* is in some way a response to the limitations of *The Village* in its ambition to more directly engage the unique characteristics of digital media. This includes replicability and in turn adaptability, which are leveraged in the opera to afford the user an ability to influence the trajectory of narrative in a non-trivial manner. *Fragments* differs from *The Village* then in that the mode of encounter is individual rather than social. As such it is less likely to attract audiences that are

interested in participatory forms of theatre and performance, and - given the opera's focus on the navigation and augmentation of a city space - potentially more appealing to individuals that enjoy the experience of mixed-reality theatre, location-based storytelling, geocaching and sound walks. Although *Fragments* is very different in form to *The Village*, this is not to position it as a sweeping rejection of its methodologies. In fact, *Fragments* is very much informed by and comparable to *The Village* in it's approach to music and sound. Although not a product of co-creation, the music of *Fragments* is similarly a collection of songs or 'arias' that are treated as discrete blocks of content that can by large be heard in any order. Like *The Village*, these are organised using a map with environmental sound treatments serving to address gaps of varying duration between arias to support continuity of the aural experience. My personal approach to the opera music furthermore transfers from *The Village* to *Fragments*, particularly in the prioritisation of headphone listening. This is shaped by my explorations of the music of Harill and Harmony in *The Village*, and notably, the use of small sounds, close miking techniques and limited ambience to promote a feeling of intimacy.

### **6.4.1. An Overview**

In *Fragments*, the user is positioned (at first) as a companion and guide for a dazed and unnamed male protagonist that wakes up on a bench in Bath's Queens Square with little memory of the previous evening. Reaching for his mobile device, the protagonist notes several missed calls and text messages from his partner Lucy who he - given his confused state - assumes to be in a similar

situation. He feels compelled to look for her. As such, the user proceeds to move through the city in an effort to help the protagonist retrace his steps, build a picture of what occurred the night before, and ultimately locate Lucy. This is facilitated through a map interface on the user's mobile device that marks various waypoints that can be visited in the hope of triggering missing memories. As the opera proceeds however, it becomes ever more clear that the user and protagonist are intrinsically linked. The user interprets this relationship as they wish - and perhaps they may see themselves as some latent facet of the protagonist's mind - however the result is that their experience becomes increasingly disjointed. Navigational decisions become less clear cut, visions of found memories become more erratic, and their ability to distinguish between the present and the past (in a narrative context) begins to dissolve.

Narrative in *Fragments* is conveyed through a combination of video 'flashbacks' that are triggered as the user enters points of interest in the city, and sung introspections that are heard as they travel between map waypoints (Figure 6.1). Video flashbacks offer a fragmented account of the previous evening (many of which include Lucy), yet these are often illogically sequenced or include contradictory information to represent the fragile state of the protagonist's memory. Flashbacks in addition become more erratic and misleading should the user make non-constructive navigational decisions, which is achieved technically using a purpose built media-remix system that is capable of sequencing audiovisual content on the fly. Sung introspections are in contrast entirely linear,

and as arias serve to communicate the protagonist's inner dialogue as he attempts to make sense of his situation. They aim to be highly expressive in character - ranging from serene when reflecting on positive memories and troubled as more unsettling flashbacks stimulate moments of emotional decline.

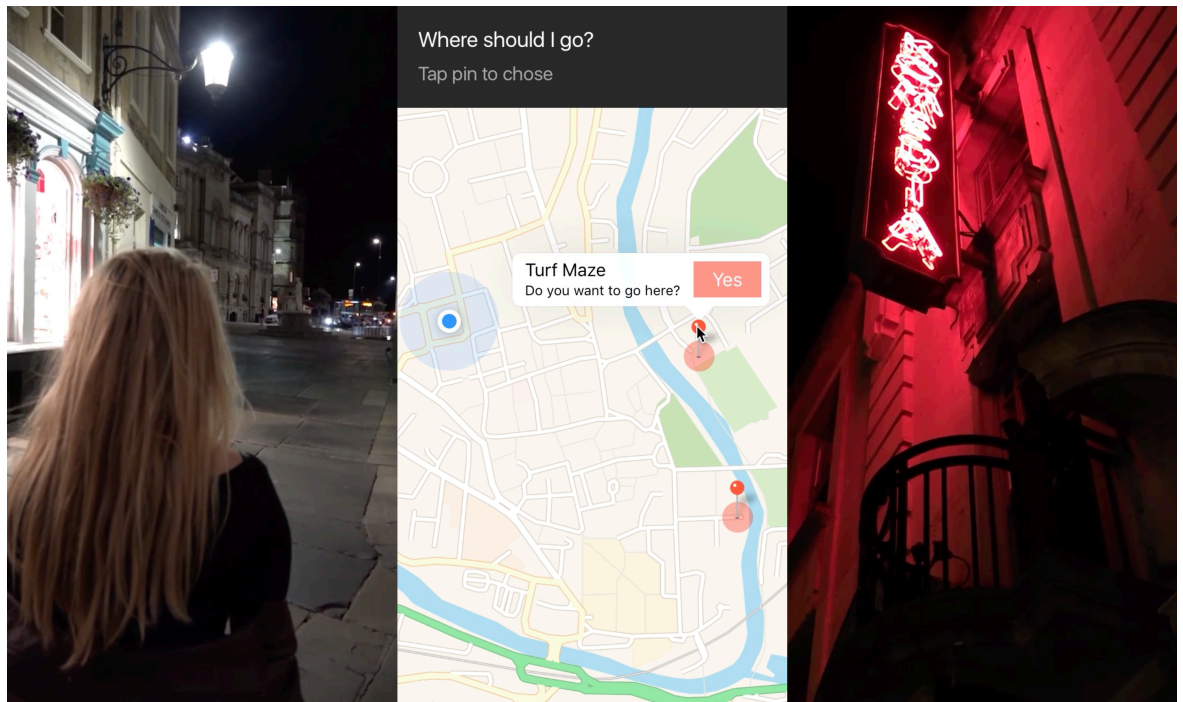


Figure 6.1. Edited walkthrough of a initial prototype of *Fragments* that includes examples of video flashbacks and sung introspections [Video]. [Click to play in a web browser.](#)

## 6.4.2. Fragments as Creative Research

*Fragments* as a piece of creative research represents a step back from liveness as a critical area of examination in the context of OCPs, albeit its active city backdrop lends the work a certain degree of physicality and indeterminacy that recalls Paul Sanden's understanding of 'corporeal liveness' as physical interactions with a performance environment and his 'liveness of spontaneity' as the unpredictable quality of live performance. Rather though, I am interested in

the capacity for *Fragments* to invite *theatricality* by establishing the user as an active performer that interacts with narrative and space in an immediate manner. In this pursuit I am drawn to Lauren Beck's theories on mobile audio works and particularly her concept of 'ototheatre' (where *oto* means 'ear') as a "self-sufficient theatrical work that can be both enacted and viewed by one person who makes use of a scripting audio recording" (2019, p.80). Beck uses the 'fitness app' *Zombies, Run!* (Six to Start 2012) as an example, observing theatricality in the use of sound to overlay the narrative world of missions and survival onto the physical world in which the runner acts out the fiction. For Beck then, otheatre allows for "spontaneity and individualized experiences" (ibid) as those who engage it "synthesize information from the physical sites, the recordings and themselves to ultimately enact a performance" (ibid).

Although the pre-production and first prototyping of *Fragments* was undertaken without the benefit of Beck's insight, it nevertheless clearly aligns with otheatre in that it positions the user as performer, uses sound to frame theatrical events, and superimposes narrative onto the city space. The latter is a particularly critical feature of the opera. As a story about memory, one of my key goals is to represent precursory events in a manner that feels immediate and convincing to the user. The user must be able to suspend disbelief to such an extent that they experience memory events as if they were the protagonist. The city space in *Fragments* supports this objective through its ability to act as a relatively stable bridge between the real and imagined, and the 'now' and 'before'.

In short, users are physically present in the same spaces in which fictional memory events are depicted/sonified, and as such, the boundary between the narrative world of the opera and the embodied reality of the city begins to dissolve. There are two devices used in *Fragments* to achieve this effect with the first being the video flashbacks. These are experienced by the user in the same place in which they were acted out and captured, and as such, synergise with Janet Cardiff and George Miller's *Night Walk for Edinburgh* (2019) as a continually unfolding, site-specific drama that individuals follow on their mobile devices by navigating the same route depicted in the film. A key difference between Cardiff and Miller's work and *Fragments* though, is that the former uses location-based video to augment the viewer's perception of the present (so it is best experienced at night), whereas in the latter it is used to augment perceptions of both space and time.

The second device used in *Fragments* to superimpose narrative onto the city space is binaural audio (Scott 2017). The objective here is to further entangle the past and present between flashback locations by serving the user 3D aural representations of city ambience that flux between 'live' and pre-captured. When walking toward the nightclub Komedia for example, sounds such as the thumping of bass and the shouts of crowds begin to enter the sonic landscape. Users may also hear people or vehicles pass them by in close proximity despite there being no visual indication of their presence. This effect - from personal experience - is highly convincing, and could even be described as 'ghostly' as acoustic cues in the

recordings confirm the architectural properties of the city space yet entities within it manifest only as sound. Such moments are intended to feel disorientating to the user, which in the context of the opera's narrative directly reflects the experience of the protagonist. The use of binaural sound in this way, in addition, offers a potentially more immediate means of representing memory than video flashbacks, largely because the process of mediation is less apparent to the user. They are not engaging memory events through the screen of a mobile device, nor do they know when to expect the live sound of the city (which they naturally perceive as real) to be augmented by pre-captured 3D audio.

The realisation of such effects in *Fragments* is however a complicated process that involves careful planning, appropriate 3D sound recording techniques, and the development of software for audio sequencing and playback. My first step in developing a prototype was to identify a means of relaying live binaural audio to the user. This was resolved using the relatively inexpensive Sennheiser AMBEO Smart Headset, which has a passthrough function that can be manipulated programmatically using a relevant Application Programming Interface (API) - therefore enabling on the fly mixing of live and pre-captured binaural sound content. The major trade-off with this approach is that users would either be required to purchase an AMBEO headset to experience the work as intended, or *Fragments* would need to be positioned as an event-based experience. The next stage involved generating pre-captured binaural content that would represent 'the past' in the opera. In principle this is achieved by planning out and conducting



several recordings of the various walked routes between map waypoints (these are predetermined) then editing materials in such a way that they include sound events that are distinctive and relevant to the opera's narrative. This approach in practice however presented a number of challenges, with the most notably being that the pacing of the recording - in other words, how quickly the recording engineer traversed the route - could never match that of a user. The solution I used to develop the prototype was to split each composite route recording into segments that each represent roughly 100m of movement, then use software to initiate the playback of appropriate binaural content as users reached the corresponding point in the city. The decision to select an interval of 100m is informed by tests on the accuracy of GPS positioning in the city of Bath, and in turn, how reliably geofence technologies could detect a user entering a particular geographical region. Although this method is still not especially accurate, it is in most cases sufficient to ensure that the general environment of the user at any given point is aligned with the recordings.

Despite the complexities of deploying binaural to blend the real and fictional in *Fragments*, it remains a promising means of placing the experience of the user in close proximity to that of the protagonist. This supports the goal of situating the user as a performer, and further, the opera as an example of ototheatre. Moving forward with this opera, I am interested in exploring additional treatments for binaural audio that may expand its potential to give rise to feelings of disorientation. This includes, for example, narrowing the stereo field to compress

the user's perception of space, manipulating spatialisation to present sound objects in unexpected locations, and applying filtering effects to subdue the ambience of the city (i.e. by using low-pass filters) or render it as hyperreal (i.e. by expanding high frequency content).

# Appendix I - The Imaginary Voyage

## 1. Focus Group Individual Responses (Consolidated)

### A. The Isle of Cack

1. Rather disturbing images and sound. Quite addictive to watch.
2. This was the most effective 'place' at conveying its atmosphere as I understood it. More enjoyable interaction than other islands.
3. Chaotic. Felt the most 'randomly' generated.
4. Quite a compelling selection of images and sounds. Good to have the quote about leaving behind [reference to quote at the beginning of the Amorphous Isle in Faustroll].
5. There's bizarre, and then there's this. Curiously compelling seeing the different audio or visual textures combine and recombine and oddly the effect is – for me – funny.
6. Moody, meditative, impressive, like the imagery – would prefer more! Appeared repetitive? But enjoyed change of direction.
7. Like confusion of natural sounds with technological sounds and also of sound and music. Is it clear what this is meant to be telling us, relating the pataphysics? Interesting disjointing of images sound and music.
8. Basically a less synthesised version of being on acid. Most interestingly (potentially) in areas where the sound clips provoked a reaction to the image which was contrary to normal patterned behaviour – i.e. when the word "drinking" occurred next to a horrible image of mud shapes. I felt that I spent

too long trying to work out the 'logic' of what was trying to be achieved. I enjoyed the way in which specific images recurred and the way this gave the illusion of some sort of semblance of order or weird sense of familiarity.

9. I like the sense of creating the experience and sound through interactions. Strong identity of images. Uncertain how to navigate from the end of this experience. Very dark [unreadable] atmosphere.
10. Very random yet somewhat amusing. For some reason I wanted to go back to it.
11. Buggled me. Kind of like expressionism.
12. Sense of uneasiness – life and death seem to be an important theme.
13. It sort of makes you think and feel everything at once, from curiosity to fear to disgust.
14. Really weird. First one I clicked on, and really threw me off. Confusing!
15. Didn't seem so interactive. Couldn't work out if I was changing it. Brilliant mash up of sounds and images though. Nuts!
16. Freaky images. Unsettling and disturbing. Nightmarish.
17. I wasn't that clear how much influence my interaction/clicking was having on the audio/visuals.
18. Didn't like starting with this island. Didn't like that there was no actual interaction.

## **B. The Amorphous Isle**

1. Voice urgent. Dream-like. Emotional.
2. Only managed to watch one piece within this isle, but was the place I most

enjoyed the music.

3. More constant sound – soundscape.
4. Took me a second to work out how to operate. Music is quite evocative.
5. Not clear if my interaction is really influencing anything but it doesn't matter.  
The music and visuals are extremely effective together, but disturbing.
6. Was unsure whether it was interactive and not at first – became clearer with compass at the end of the pieces.
7. I like the interactivity of navigating the isle. I feel that something more linear might help to draw out some kind of understanding of purpose.
8. Had no idea what was going on here, sorry.
9. Mysterious opening – very atmospheric. I kept trying to find buttons to take me to the next place but films seem to be specific length. I feel I wanted to move faster between films. Very evocative music.
10. Mysterious – a sense of foreboding.
11. What you would listen to when entering a forsaken world parallel to this one.
12. Music works well with the image. Bit frustrating that it wasn't easy to sail on.
13. Dramatic opening. Suspense. Want to just listen to the music. Feel like it is telling a story but not sure what the story is. Want to know what it means.
14. Very important to allow the user to move freely and 'escape' if they want to.
15. Got frustrated with it, couldn't find a way to get out of each of the sections quickly.
16. I began to get a bit frustrated with the experience. 'Control' was definitely not easy, but then part of my mind said, 'just relax and enjoy the

sound/images'. I find this quite relaxing – but I was keen to explore.

### **C. The Land of Lace**

1. Love the visual. Beautiful animation.
2. I think this place was the one that worked best as a full concept, we are given a lot with no independent choices. I felt like this would work as an online trailer/promotional device.
3. Structured music, animation and narrative. Most like traditional narrative media.
4. Imagery and music well matched.
5. Animation is beautiful.
6. Clear narrative between music words and images. Seems to be about the fragile fabric of the world – between what we see and don't see?
7. Potentially more scope for a less literal interpretation of 'lace' – as a structural rather than general lyricism/cute aesthetic.
8. Love the music – haunting and intriguing.
9. Fantastic music. Visualisation connects with the music.
10. Quite relaxing. Interesting use of imagery.
11. The island seems peaceful initially. The voyage through this island becomes more depressing.
12. It was like a lullaby. Worked well almost sounded like the lull of a boat.
13. Quite long and didn't really understand what was actually happening or what was being said but the video and music together was quite interesting.

14. Brilliant graphic. The music is arresting. Again, go well together.

## D. General Comments

1. Works well as an exploration of Jarry's world – the interactive components compliment and evoke the source material well. Perhaps some more work on the home screen can be done to make the concept of a voyage clearer.
2. Certainly more an opera than a game. Some isles work better than others though. I'd also include something on Jarry's work to explain the rationale of the piece as well. But I'm impressed!
3. The co-production elements of this were the most interesting artistic aspects for me.
4. The amorphous isle was probably the most steerable in this respect since I think it made me feel I was influencing what I saw and heard, although I'm not actually sure that was the case. This and the Isle of Cack were for me the most interesting 'pieces'.
5. Time passed quickly. Good sign – Fun enjoyable. Loads of potential. Interesting concepts. Islands and sail on work well. Wonder whether novelty would wear off?
6. Perhaps more surprise/shock value? Is this in keeping with offbeat Alfred Jarry ethos? – I don't know enough to judge. We must also remember this is an original/novel idea which lacks precedent and is therefore difficult to compare or judge. Graphic and musical ideas very strong in parts. You have already set definite moods and atmospheres for each island!
7. The focus becomes more on the navigation than how the images, sounds, music are acting to demonstrate something. However the viewer having a strong feeling of control over their own experience is interesting.

8. The structure of the idea of all these islands I find an absorbing one.
  9. Having a story line would make it feel more operatic or cohesive, perhaps. I definitely was drawn to trying the different islands and going back to my favourites [note: voiced prelude added following focus group sessions].
  10. The lack of a narrative, control and plot made me focus on the exploration of the islands.
  11. My exploration was sort of stunted because I didn't feel like I knew what I was looking for? I guess I felt like I needed purpose or a goal or something.
- 

## 2. Focus Group Interview Transcripts (Clean Verbatim)

### A. Session 1

In attendance: Sound and Music resident composers (x2), opera composers (x2), The Opera Group mailing list subscriber (x2).

[START]

1. Moderator: [Provides intentionally no context to Jarry or Pataphysics]
2. Moderator: Would anyone like to offer some initial impressions?
3. Participant 1: I was trying to grasp how the my interactions were influencing what was going on [in Cack]. And so I was moving the mouse around to see if it would change things, it wasn't quite clear to me whether was I was doing was actually affecting what was going on. That was what kind of first struck me.
4. Moderator: Did it become clearer as you progressed?
5. Participant 1: I think it could have been clearer still.



6. Moderator: Was there a difference in how you thought you were interacting, between the beginning and the end?
7. Participant 1: I think there was, but I didn't feel that clear if I was making things happen or not.
8. Participant 2: I actually felt the opposite, I thought it was kind of responding at the start, everything you click gave you a response, and at the end I got completely lost.
9. Moderator: What order you experienced the islands?
10. Participant 1. The Island of Cack.
11. Participant 2. Amorphous first - was quite pleased to go sail on, then the mechanical cogs [Soundhouse] - everything there was very responsive, it was all controlled everything there was clearly labelled and I then sailed back to the first island and I got completely stuck. So nothing I clicked would take me out.
12. Moderator: Was the experience pleasing?
13. Participant 2: It was but I was frustrated at the same time - different thoughts came in, "is this a game now am I meant to now hover over different things" because the compass kept popping up at different time [reference to Amorphous], I thought "is this a mechanism of getting out?"
14. Moderator: It should be! Perhaps it didn't work in some cases.
15. Participant 3: Yer, I mean this was the first one I went to and I came back to it later on, it did get stuck to me on the second time, it kind of finished and it was like something didn't load in or something.
16. Participant 3: I think it is probably dangerous on the Internet to not allow people to not have an escape button because there is a big escape button

(laugh). I could see that you were trying to do, it did in a way, because we are in this environment I felt like when I go to a concert I am forced to listen, which is a good thing, you listen longer because you are stuck there, but in the wild web I don't know if thats a good thing.

17. Moderator: Did anyone close the browser?

18. Group. No.

19. Moderator: If you were engaging The Imaginary Voyage at home and you were having similar issues, would you have tried to reload it or would you have just left it?

20. Participant 1: I think I would have lost patience. I think the nature of being on something digital you kind of have a short attention span and if something doesn't work, you just control Q and its just gone.

21. Participant 4: I found the one that most engaged me was the Lace one because there was a sense of some kind of story in it. I did like the map world to begin with [Amorphous] - I was like 'this is a really intriguing place' and I enjoyed the first one [Cack] where I heard the strange noises and I wondered what was going on and then I kind of got a bit disappointed when it was all just different little clips. I wanted to feel there was some sort of meaning behind it, a journey or story of something.

22. Participant 5: I had a problem with that because its called The Imaginary Voyage, and I thought the voyage would have a beginning and an end and it felt quite strange to just be kind of hopping around. It felt less like a journey and more like walking around a hall of mirrors, and I didn't know whether that was intentional or not. I didn't know if you had adjusted the structure because the piece is an Internet piece and its more the sort of thing you do when someone links it to you on Facebook you'll do it between that and

making your dinner. I mean I don't know if you've done that so you can look at it for different amounts of time.

23. Moderator: Before you came here what did you think the web opera would be like? Is it anything like you were expecting.
24. Participant 3: I think I was expected more of a narrative. I felt like I don't know whether I was [indescribable] description of what I was about to experience, or how to interact with it, or even just to say the experience was about being silly, you know, even if it was an absurd surrealist experience. There was no kind of explanation. I was trying to grasp at something. I know that's the nature of dadaism and surrealism, but it's really about managing expectations about what they are going to experience.
25. Participant 5: Some of the games design, the snowdrops one [Ringing Isle] and the machine thing [Soundhouse] they felt like they didn't belong here. So I suppose when you were talking about expectations I think the Lace one and the map one [Amorphous] were the nearest to the ones I was imagining an operatic work of art in digital form to be.
26. Moderator: Does it in anyway feel like opera?
27. Participant 1: I sort of forgot that it was opera when I watching it, actually.
28. Moderator: We don't actually know whether we are going to call it was opera or not, but it's interesting to know to what extent it might relate to opera, or if it might relate to another art form more strongly.
29. Participant 3: Well the Lace one did most closely because you could get a sense of the words in it, and it felt like a video.
30. Participant 5: I really wish it had a face, something I could really engage with. I couldn't understand some of the singing.

31. Moderator: You mean you wish the vocal line was attached to something you could see so that the voice was coming from somewhere more explicit?
32. Participant 5: I think the main problem was that if I had something to focus on then I might be able to understand what she was singing.
33. Participant 5: [In reference to a previous question talking about whether the experience needed a beginning or an end] I don't really know, because I was agreeing with all this thing about needing a goal to know what journey you were taking, but then when I got to the black screen [Cack] I was really happy to just let that keep going.
34. Moderator: What did you get out of it?
35. Participant 5: I don't really know, I was just always surprised about what came next.
36. Participant 6: You mean the Isle of Cack? Yer, that was the one I was just happy to let it keep going but then I had to skip away from it [inaudible].
37. Moderator: Which island were you least interested in? Which ones did you skip quite quickly, in which ones did you linger?
38. Participant 2: That snowball one [Ringing], I didn't like that game. It was slightly like the Brian Eno app.
39. Participant 4: I quite like the machine and the cogs one [Soundhouse]. I wanted to stay there for a bit longer. Everything there was quite explicitly labelled the music was very familiar. The green and red island [Ringing], it was confusing.
40. Moderator: Lets talk about The Soundhouse. How much control did you feel you had, or did you want?
41. Participant 5: I did actually enjoy that one, although the buttons were a bit

clunky - did anyone else have a problems with some of the buttons not doing anything? - but listening to Einstein on the beach backwards was actually really ace.

42. Participant 4: I actually didn't like that one at all. I didn't see the point of it. I thought ok this is this, and this is this, I'm playing this forwards and I'm playing this backwards at the same time, but is there supposed to be something else there that happens when you do that?
43. Participant 3: That what I liked about the black screen one [Cack] - it didn't pretend to be doing something like the machine, like it was trying to produce something for a reason.
44. Participant 2: I would have liked to have more choice in the instruments [Soundhouse] besides just majestic keyboard and sad keyboard, something brassy or something with more wind. When it was just that cycling over and over again I lost interest in the sound rather quickly.
45. Moderator: Which one for you felt most mediated by a machine? Which felt more crafted by a human?
46. Participant 1: I could image the Cack was the computer.
47. Moderator: Why?
48. Participant 1: I actually didn't find it engaging. It felt it a bit random.
49. Participant 2: I enjoyed because I just decided it was random, I just completely assumed it was just going to be two sound clips and a gif each time randomly and I was just seeing if I could find some patterns but then [inaudible] was a black face and a really horrible spooky noise at one point, and I thought "if that was random and it came together at that point that that was quite cool".

50. Moderator: How important was the quality of the images and the sounds in that one?
51. Participant 2: In that particular game? [Cack].
52. Participant 2: I was less bothered about HD quality then I was in the machine one where it all looked a bit windows 95.
53. Moderator: And what about the artistic merit of the images and the sounds that you were hearing, does anyone want to evaluate that?
54. Participant 3: [Referring to Amorphous] Well visually, I thought the images were very beautiful and that they had been chosen very carefully, some animated graphics as well, forming up, everything seemed to be in line with the sounds you were hearing. There seemed to be no big jarring between what you were hearing and what you were seeing.
55. Participant 4: I think that each island had a really different kind of aesthetic and I found that a bit jarring personally. I think it would be nice if it was more consistent throughout.
56. Moderator: If there was only the Isle of Cack - i.e. that was the only thing I showed you today - and I said to you, "would you like to submit some imagery to that or a soundbite", would you feel particularly compelling to do so? Or if I gave you the means the produce an island sort of like that, which would take longer, would you be interested in producing an island?
57. Participant 5: It seems technologically quite challenging.
58. Moderator: If that wasn't an issue?
59. Participant 5: Well even in terms of having live music which a lot of them did, you must have gone and recorded that.
60. Moderator: I'm trying to remove the technicalities. From an artistic point of

view, is it something that you would be interested in?

61. Participant 5: The idea of a place that has all these small, completely separate things that might be a whole bunch of different people doing all sort of different, that does intrigue me. I don't know how I would do it, especially as I'm an acoustic composer and I can't quite imagine it, but yes.
62. Moderator: We are thinking of a model possibly of having a visual artist a some composer and pairing them together and mediating the relationship. That as a model, how does that sound?
63. Participant 4: How would you do it? As a composer how would one go about it? So we would say write and record 15 little excerpts and your collaborator makes 15 gifs and you put them all together, is that the sort of thing you mean?
64. Moderator: Well that might be one way to do it. But together you are going to have - I would have thought - some idea about how you want you island presented or how you want people to interact with it. But the basic idea of being one of these parties?
65. Participant 4: I think the idea is really nice, but to me, the island [may mean The Imaginary Voyage] has too much - too many connotations and too strong an identity. I mean if you wanted to do that then it would be nice to have something really simple, really basic that people can pile in their ideas. Personally I'm not really into that steampunk kind of look [Soundhouse] and if I was a composer, I don't like the look of the interface so I wouldn't want my content in there.
66. Participant 4: But then what does it become at that point? If it just ends up being pages where composers just start putting stuff on it that isn't, say, permanent to be part of a piece, and isn't big enough to be part of a piece,

then kind of what's the point? What's the point of the page, what's the point of the composer? If I was asked to make this temporary, kind of distraction page thing with my music on I just wouldn't know what to do because part of the reason why I write music is to make it something that actually exists, can be performed, or can be listened to in a setting and someone sits there and actually hears it. I don't understand why, unless you are making some kind of comment why anyone would want to? To me it's almost not composing, it's kind of cool and fun but I wouldn't put it in line with writing music. It would just feel completely different.

67. Participant 3: [to person 4] I can see what you say. You use your music to communicate, you need to have pretty strict control of the context to communicate - to say what you want to say.
68. Participant 5: I just don't like this idea of just throwing some stuff into a... [interrupted].
69. Participant 3: If you say we are going to have this one page in response to this, it's going to be built around this quite straight structure of 1 gif and 2 sounds we don't even need the web designer anymore because that's all done - these images and these sounds are going to keep recombining themselves to make various interesting combinations. You have got a strict structure and audience involvement.
70. Participant 5: Yeh, that would be cool.
71. Participant 3: You're talking specifically about The Isle of Cack?
72. Participant 5: Yeh, there's that sort of model of it, or there's 1 idea and you get different web designers. Have you seen totally useless internet [theuselessweb.com] that sort of thing? I mean there's so many of these really interesting ideas that are put only one web design page with music in and art,



interaction pointers. There's so many interesting things you can do with HTML.

73. Participant 1: I like the idea that the user has some control but I think as a test user I didn't have any idea of what control I did have - on some of the islands especially [Cack]. The control of the kind of organ grinder thing [Soundhouse] was much clearer and I think something like that would work nicely with me being able to select what piece of music I like or didn't like. So again it's the opposite of a traditional setting where I'm listening to the composers statement - I'm deciding what to hear and not hear. I quite like that from a listeners point of view, which I think mirrors the way we consume a lot of our media these days.
74. Participant 4: I think I'm similar to you [person 5] in that I want control in how it's presented. I felt that I could imagine writing something like the idea of having sort of 10 scenes and you would do say 30 seconds or a minute scene, and you would create a piece. But that's a huge job to a piece like that, especially the video aspect of that [referring to Lace].
75. Moderator: Would you do it for no money?
76. Participant 4: It depends what stage of my career I was in.
77. Participant 3: I might, but that's because I'm also a web designer, so I'm quite interested in being involved in the visual side. It is time consuming but it could be very interesting - ten curated one-page pages with a separate web designer, visual artist, and composer for each one. I mean that's still an interesting thing.
78. Participant 2: I think a lot of the appeal for the composer would be knowing how it's going to be viewed, who would view it, whether it would be good exposure for them. So you would need to have that clearly in place to entice people to do it - especially if they weren't getting paid.

79. Participant 4: Especially for the older composer. The more you are set to lose if you were coming out of the concert hall.
80. Participant 5: I wouldn't at this stage, at the moment, but I would have in the past. If you would have the funds to get a few players together and there was going to be an interesting artistic response from a video artist then I would definitely would be interesting.
81. Moderator: What about target audience for this work, if there is one?
82. Participant 5: I'm not sure if there is any one particularly strong demographic apart from 20 something composers really.
83. Participant 4: You have to have the intersection of: young enough to be properly into the Internet, and properly into contemporary music, and into visual art.
84. Participant 5: You have to be the sort of person who sits around clicking on those sort of things.
85. Moderator: So you think it's more about people who visit YouTube a lot, that sort of thing?
86. Participant 2: In my mind I was imagining myself back at school as a maybe 8-11 year old kid, and this is something music class had brought to us.
87. Participant 3: I definitely saw it as something for young kids actually, well you know teenagers. I think visually it screams video games, reminds me of video games I used to play, and I just can't imagine a sort of 40 something man at home in the evening spending 20 minutes on it. I think it would be something that young boys will be playing around with.
88. Participant 4: and girls!
89. Moderator: Has anyone got anything to say about the involvement of the

text, and how that seems to relate or not to relate to the work?

90. Participant 4: Well I understood that it was in there, especially when she was singing [Lace], and the quote after Cack made sense. But a lot of the time I felt I was still trying to understand the text when it faded out - just as a pure functionality thing.
91. Participant 5: I thought it was easy to understand. I could see that Jarry was there and all the allusions to pataphysics, but I couldn't [paused]. You know the text was there for a while, but my brain wasn't working.
92. Participant 3: It would be nice maybe if you clicked through when you were ready and you kind of digested it. It's a bit nonsensical so you kind of don't want it to flash by.
93. Participant 4: Actually, to be honest, if I were looking at this website in the kitchen I probably would have ended up quite quickly looking up the Wikipedia article to see who Jarry was and trying to get some context to understand this text - not that that is something you necessarily have to provide.
94. Participant 2: If it is a unified concept of a website based on Jarry then it needs more of leading you into it, and perhaps the islands should have more of a consistent flavour.
95. Participant 3: As soon as you did the introduction I looked up Jarry on Wikipedia, - and the article was long - but I would have liked that within the exploration of visual and music.
96. Moderator: Some kind of stronger influence from Jarry?
97. Participant 3: Like it was a philosophical journey, not just an imaginary journey but that this was going to be educational - a new philosophy that has not been popular for x amount of years, that could of been interesting - and

at the end of it just reinforce what I have learnt.

98. Participant 4: It depends whether your making your own work of art of your making a platform..
99. Participant 3: Or you could do both.
100. Participant 2: I think it can be a platform if there was not so much of the Jarry thing going on.
101. Participant 5: I can imagine there being an animated film about Jarry that could be that non-sensical or even where there were a series of scenes like on a DVD and you shuffled the order before it played, but then it just played. I can imagine that, but its something about the complexity of the medium [Internet] and the niche nature of the material thats a little bit incompatible.
102. Participant 1: What was your initial idea, what did you set out to do, how did you see it working, that would be interesting to see where you ended up?
103. Moderator: The initial idea was to explicitly create a web opera. This was the starting point. Thats probably transformed into something else now which isn't necessarily a bad thing, its just a different thing. We wanted to expose Pataphysics and how computers could produce pataphysical results [explains Syzygy, Clinamen, Anomaly]. That what a lot of the computing is doing here. The initial idea was to have a computer facilitated way of producing those pataphysical connections between image, sound, and text.
104. Participant 2: See if I had more of that I would have been more satisfied.
105. Participant 4: It would have been quite cool if you just led us into that and we knew what we were looking for.
106. Participant 3: If you said at the start of Cack that this was the case then we will have a place to understand this from.

107. Participant 5: You look for these links and if you find them great, but at least tell us what we are looking for more explicitly.
108. Participant 2: I think also without being told I actually feel quite misled in doing this. I basically thought the main meaning of the artwork was the fact it was interactive which really didn't satisfy me and now you've given us all this information, this stuff to what its about, I now want to do it more and research the guy and I feel like my experience would be much richer and I wont care quite so much about not having that much control or the format or all that stuff.
109. Participant 5: Would be pretty cool: an 11 year old learning about pataphysics!

[END]

## **B. Session 2**

In attendance: Young Vic Directors Network member (x2), Jerwood Foundation senior manager (x1).

[START]

1. Moderator: [Following feedback from focus group session 1, moderator opens with a brief description of Jarry and Pataphysics].
2. Moderator: Would anyone like to offer some initial impressions?
3. Participant 1. The only one kind of general thing - I would have liked more time. I was conscious of the time. If there was more time I would have behaved differently.
4. Moderator: In what way?
5. Participant 1. There are a few things I would have watched more than once.

On Amorphous Isle, there were several similar things that you could have clicked - I would have clicked more than one of each.

6. Participant 1: I think the first one [Cack] felt like it was being generated while I watched it. It wasn't a loop but it wasn't something with an end. The Ringing Isle and The Soundhouse, obviously you are in control of it.
7. Moderator: Let's discuss the Land of Lace first. What were your impressions?
8. Participant 3: I did the re-imagine thing and it was actually interesting.
9. Moderator: If you had been on it for 15 minutes though and you had watched 10 scenes [participants were given only 4] and you clicked the reimagine button and you realised it was playing again but slightly different, would you be inclined to watch the whole 15 minutes again?
10. Participant 3: Yes. You are examining your sense of memory: "oh was it like that, oh it works better like this, oh its definitely different" but it still works and there are more things to discover the second time and its interesting.
11. Moderator: Did you see a benefit to the end screen in Lace, where u can replay the 10 scenes individually?
12. Participant 1: It's a very familiar presentation to someone who has ever used a DVD or the end of a Youtube video, so its nice to be able to do that. But that was the one with the strongest narrative, so actually that is the one I'd be least inclined to watch again.
13. Participant 2: How long do you intent people to spend on it?
14. Moderator: As long or as little time as one might want to spend with it.
15. Participant 2: If it's a new context for opera, is the idea that you would go and do this as an evening out, or would you go to the website and sit on it for a little bit?

16. Moderator: We are not sure, how do you feel? Would you want to just dip in and out or do you feel you would want to dedicate an hour to it?
17. Participant 3: I would suggest you can leave it up to the audience how they use it. It's like a museum, some people spend a whole day in a museum from the beginning to the end, and other people pop in and see one picture and go.
18. Participant 1: The Isle of Cack felt like the most chaotic of the whole thing. Which personally was not a bad thing at all. When you talked before about the computer deciding what sounds went with what image, that felt like that was the one that that was happening, mostly because the images weren't linked, they were separate to each other, and the sounds seemed to come and go with different images and you got the same sound with different pictures.
19. Moderator: When I described the pataphysics operations in the introduction, did you look for them?
20. Participant 1: I wrote random down. I was conscious of the fact that something was putting the sound and images together but I wasn't conscious of the thought process behind that. I wasn't thinking of [Syzygy, Clinamen].
21. Moderator: Did you feel there were connections between the images and sounds?
22. Participant 3: I thought it was completely random. Like a lottery almost.
23. Moderator: [To participant 3] How was that experience for you?
24. Participant 3: To be honest I thought it was quite addictive actually. I just couldn't stop watching that "what comes next?". The only thing is that it had the feeling of being chaotic - each image is so brief. If everything was longer and it had different type of proper music - rather than just soundscape - then it would have a completely different character. The image is very disturbing I

thought - not beautiful at all. Some combinations of image and sound were actually quite funny. I was thinking when is it going to start looping, when is it going to stop - but it doesn't stop.

25. Moderator: You said it was addictive, what were you drawn to the images or the sounds mostly?
26. Participant 3: The combination of the image and the sound. It was like watching a very arty montage film, one after the other. It was like, "ok, yer ok, where did they get this one, wow what is this?".
27. Moderator: So on a micro level it was engaging, does it have a macro effect? What's the point? Does it lead to anything that leads you to reflect on something fundamental or profound?
28. Participant 3: No, it was too quick. It was too quick to think. The only reaction was "ah good, whats this, whats that?"
29. Moderator: If it was slower do you think you would tried to make links between what you were seeing and what you were hearing?
30. Participant 3: Yes, definitely.
31. Moderator: Would that be more or less appealing?
32. Participant 3: If it was slower, more. As an audience I would have tried to associate it with something intellectual.
33. Moderator: As a consumer of art, do you feel the need to make sense of it?
34. Participant 3: I think I will always want to make sense of everything I see and hear - I think that is a natural thing - but because it was very brief I kind of just appreciated the concept of it not the content of it.
35. Moderator: Did your experience of the Isle of Cack colour your experience of



the other islands?

36. Participant 1: It changed my expectations of what I was about to watch. I kind of thought, "I'm going to have to work quite hard to find any narrative, if there all going to be like this its going to be tough".

37. Moderator: In a home setting, at that point would you have closed the browser or would you have carried on?

38. Participant 1: No, I would have carried on.

[Sections specifically on Ringing Isle and Soundhouse removed for clarity]

39. Moderator: Let's discuss the Amorphous Isle.

40. Participant 3: That really reminded of an old game called Myst. That the first thing I thought - which is not a bad thing for me.

41. Moderator: Did you get any feeling of nostalgia then?

42. Participant 3: Yes, a little bit. Like the compass that comes up at the bottom. Anything that I think of that compares to that is going to feel nostalgic because I haven't played it for 15 years. But yes I guess it did.

43. Participant 3: And I like the fact that - that was the second one I got to after the first one [Cack] that the sound was a bit more constant.

44. Moderator: Constant?

45. Participant 3: [Cack] was so here here here here but that [Amorphous] was a bit more gentle and bit more soundscapy.

46. Moderator: [Explains what amorphous means]. Did the sound and the visual's captured that kind of quality?

47. Participant 2: One obvious thing was that there was a blur effect coming and

going on the map which is a part of that. But the sound was more in tune with that [amorphousness] than the other ones I suppose.

48. Participant 3: I enjoyed the music most on that one. The combination of clicking and then just watching it.

[Remainder of session failed to record]

[END]

### C. Session 3

In attendance: KCL academic (x2), Opera composer and researcher (x1).

[START]

1. Moderator: [Opens with a brief description of Jarry and Pataphysics].
2. Moderator: Would anyone like to offer some initial impressions?
3. Participant 3: Well I was quite impressed - I enjoyed this. I though it evoked Jarry's wit quite well actually but its a good job you explained what it was all about. I think that's the thing - It needs to be put in context. Some islands worked a bit better than others I thought. I wasn't too bothered about the Ringing Isle, because I thought the visuals were a bit naff I thought and you ran out of snowballs quite quickly so the whole thing gets quite disjointed.
4. Participant 2: I like the random way you combine these vocals I suggest just keep creating them continuously.
5. Moderator: Rather than creating them yourself?
6. Participant 2: Yes, so they spawn.
7. Participant 3: But I think you should do something more with the visuals - its fairly basic. But yes I enjoyed the Soundhouse. It's a nice little concept, again

that fits in well with the little description you give of it [on screen]. It could be quite a good educational tool. You will have to think about IPR [intellectual property rights] when you come to use some of the sounds.

8. Participant 3: The Land of Lace I thought was one of the best parts. I actually found that very attractive. It reminded me of a well known animator and I'm trying to remember who it was - who works with those sort of cutouts and silhouettes.
9. Participant 2: Oh I know who you mean, sort of Eastern European?
10. Participant 3: Yes exactly, I can look it up. I thought it [Lace] was quite charming and the music was quite evocative as well. I love that.
11. Participant 3: The Amorphous island I found a bit of trying to figure out I was supposed to do with it, so it was quite amorphous in a way. Again I quite liked the music.
12. Participant 3: The Isle of Cack actual worked quite well, as an indication of what Jarry was saying. The quote about leaving it behind was quite [inaudible] at the end as well. There is quite an interesting selection of disagreeable images coming up in there, and sounds so that worked pretty well. So yes, I was quite impressed by the whole thing. My thoughts are [looking at paper] I just suggested to put a bit of context to it. The home screen - its not pretty clear from the home screen that you on a voyage really.
13. Participant 2: Yer I think the home screen you return to actually, its not very idiomatic.
14. Participant 3: Yer I think it needs a bit of work.
15. Moderator: If it didn't feel like a voyage did it feel like something else?
16. Participant 2: No, its just not a terribly designed menu.

17. Moderator: Yes, but did you feel you were going from A to B, or did you feel as if you were just drifting around?
18. Participant 2: I felt like I was just selecting from a series of option. I didn't get very much sense of a voyage.
19. Moderator: So if I hadn't explained anything about the Jarry, would you have been confused?
20. Participant 3: I think I could have been a bit confused. You did a few quotes which helped put each section into context quite nicely, but yes I think [inaudible] wouldn't have been able to make sense of it.
21. Moderator: That's what we are trying to deal with now - to get some sort of context into the artwork itself. It's something we are most struggling with. Any ideas?
22. Participant 3: Well it could be done with an animation of some sort, and again it could be a section of the opera.
23. Participant 1: That's actually a point I raised. But considering that Jarry is actually meant to be so off beat and so wacky, have you managed to capture that pataphysical wackiness into it?
24. Moderator: What do you think?
25. Participant 1: I think you have, but just in terms of a critique if there is one, the question I have is could it be more surprising?
26. Moderator: Is there any particular island that you think is more banal, or could be more surprising?
27. Participant 1: I'm thinking Alfred Jarry is thoroughly whacky, is this thoroughly wacky? And I suppose the answer is perhaps not, it could be a little bit whackier. But then I guess you have got to cater for taste and if you

really start 'whacking' people around you might go over the top so its a question of taste.

28. Moderator: [To others] What do you think about that comment?
29. Participant 2: I think there is some validity in it. It's actually quite tasteful isn't it, and Jarry isn't always. You have your island of Cack you haven't got much shit around it!
30. Participant 3: It's the co-production thing which I think was the most interesting element. The islands where you weren't sure where the co-production was happening were the more interesting ones. The Ringing Isle and The Soundhouse - and the Soundhouse particularly - were quite diverting, its much more overt, whereas the Amorphous Isle I wasn't actually sure if I was influencing anything or not. In fact I think I probably wasn't but it was leading me to feel that I was.
31. Moderator: Did you feel as if you wanted more control?
32. Participant 2: No, I thought it was good that it wasn't totally clear what was going on, and I also its quite good to not know if your in control or not, and you don't know what you are supposed be clicking, or doing necessarily. Cause and effect don't seem to have a strong relationship.
33. Moderator: So its more of an exploratory thing?
34. Participant 2: Mm, I thought that was good.
35. Participant 1: [Question to Moderator]. There were bits of music for example in the Isle of Cack that took me into a certain type of mood which I actually wanted to pursue - you know how you get certain pieces of opera that you love and you play over and over again because they are actually quite transporting - does that concern come into something of this kind, or is Alfred Jarry so disruptive that you are never going to develop a mood and

you don't want to? This is only my own personal taste and like to be transported by music, but is it unfair to expect anything associated with Jarry to do that?

36. Participant 2: [Interrupts] But I dunno, I thought it was doing that in a sense because with the constant repetition of the images with a different sonic backdrop you would hear the same snippet in the context of very different imagery and that would really effect what you perceived.
37. Participant 1: Ok, but did you find it quite chopped up though?
38. Participant 2: Yes, totally.
39. Participant 1: And by virtue you didn't transport?
40. Participant 2: It wasn't narrative was it, it wasn't very smooth.
41. Participant 1: But then perhaps it isn't meant to be.
42. Moderator: We were looking to create something that felt rather fragmented, yet in ways perceivably connected.
43. Moderator: Also, did you click on the smaller images? There are larger images and then smaller echoes? If you click on them the pacing of the island changed. It's actually dependant on the speed of your internet connection so if you have a lightening fast connection the images will fly at you.
44. Participant 2: Oh thats interesting!
45. Participant 1: Should that be made more clear?
46. Participant 2: [Referring to Lace] It's only a tiny thing but I really hated seeing the one of ten enumeration [removed in final version]. I thought it was actually a really ugly reminder that you were sitting in something.
47. Moderator: Is that because you didn't want to feel as if it was episodic or that

you didn't really want to know where the end was?

48. Participant 2: Yer.

49. Moderator: The whole thing is 15 minutes long, would you have watched all 15 minutes?

50. Participant 3: Yes I think I would have, it's very nicely done.

51. Moderator: Did any one select reimagine?

52. Participant 2: No, I had fair idea of what it would have done. I imagine it would have played the 10 scenes again but in a different order. Was I wrong?

53. Moderator: [Explains the combinatoric construction of Lace].

54. Participant 2: I don't know, maybe if I hadn't seen the ten scenes so clearly enumerated I would have clicked the reimagine button. I dunno, I suppose all of [Lace] just made me want to rebel against structure.

55. Moderator: [Describes the role of The Syzygy Surfer]. Did you perceive a sense of computer agency, or did the Isle of Cack just feel random? Was there any island that felt more cohesive in how the images and sound were put together?

56. Participant 3: I got the impression it was fairly random. I saw some images come up again, and sometimes the sound was different. I wasn't really thinking about metadata etc.

57. Moderator: But did you try and look for patterns or did you accept it as random?

58. Participant 3: I just let it flow over me actually.

59. Participant 1: In answer to your question I don't think that was obvious. It wasn't an outstanding feature.

60. Moderator: If that was what the island was all about and that was made clear, would it be interesting to you? Would you be interested if you knew there were patterns and links to be made?
61. Participant 1: I think it might appeal to some people, but you would have to bring that to their attention.
62. Participant 2: It changes it though doesn't it, because you are not perceiving it you are interrogating it. You're looking actively at it and your trying to interpret meaning, whether or not it is there to be found in all cases. I think it is better not to be so explicit with these things.
63. Participant 3: Yer, I think you might not enjoy the aesthetic experience less because you go into sort of gaming mode almost in a way at that point.
64. Participant 1: Could there be another level?
65. Participant 3: Thats true.
66. Participant 1: Which people are invited onto, which gives people a greater depth and invites them to almost play a game with it - you know for the enthusiast as you were?
67. Participant 3: But I like the idea of the voyage as the overarching concept and narrative, moving from one island to another. I'm not sure I like the idea of teleporting.
68. Moderator: What if the voyage wasn't on one website, what if it was say scattered on social media?
69. Participant 3: I prefer it this way because say I go to an opera and I think of a discrete, self-contained experience. Social media would take a long time to plough though.
70. Participant 1: Yes, you have to ask if people would be bothered? How did



Jarry present his islands?

71. Moderator: [Briefly describes Faustroll].
72. Moderator: Is there anything else specific about the islands that you'd like to draw attention to before we move on?
73. Participant 1: I like the Isle of Cack. I like the sound and look of it - but then I was afraid it was going to get repetitive, but then it changed and that was good.
74. Moderator: Changed in what way?
75. Participant 1: I'm not sure. There was a disruptive sound that came in that was really quite refreshing.
76. Participant 1: I did like the Land of Lace and the graphics there were very strong. I particularly liked the sort of unravelling of the thread.
77. Moderator: Could you hear the text?
78. Participant 2: Mostly, yes.
79. Participant 1: Hear the text?
80. Moderator: Understand what was being said/sung?
81. Participant 1: I think so yes, it was more or less clear.
82. Participant 2: Yes you could hear it, there was normally a very clear correspondence between what was sung and what was animated.
83. Participant 1: I particularly like the ladies voice.
84. Moderator: I suppose this is a bit of loaded question but did you think that was the most operatic of the islands?

85. Participant 2: It's the most composed isn't it.

86. Participant 1: And more continuous as well.

87. Moderator: So many more conventional?

88. Participant 1: Probably, yes.

[Sections specifically on Ringing Isle and Soundhouse removed for clarity]

89. Moderator: [Describes possible options for user contribution and composer/visual artist co-creation]. If it was your project, how would you take it to the next level? How could you get users contributing? How might you want to contribute yourself?

90. Participant 2: See I don't know. If you were going to solicit engagement in that kind of way - over and above just using and experiencing it - i'm finding it hard to find a way that wouldn't be superficial. I'm finding it hard to find what the point would be. I think my brain explodes at the idea of what it would be like to give people the ability to create their own island.

91. Participant 2: It would have to be finite, because you could never build it otherwise. You would just end up with variations of the basic things that you would have already established.

92. Participant 1: I'm not sure about that because you know if you have got the whole Internet of people contributing, they might come up with interesting stuff.

93. Participant 2: There is a lot of focus on coproduction and co-creation, but there is also a lot of focus on preserving the things, preserving the products of those processes. I don't think there is necessarily any point. In interacting with the thing we have had a moment of creation, more or less, which has now passed. I'm fine with that. You interact with the thing - it could be that

your interactions influence what you hear and see more obviously or more extensively, but then I think it's ok that it just then goes.

94. Participant 1: That is your preference however.
95. Moderator: Take the Isle of Cack or Amorphous Isle - the system is kind of there for someone to come along with a sound or image, attach an emotion to it and include it the opera. The Isle of Cack could be a much broader experience. Is this something you think people would bother to do?
96. Participant 1: And would the islands change permanently? Would it change for other people?
97. Moderator: Yes absolutely, the database of content would just expand.
98. Participant 1: Thats potentially dangerous because you would really end with an Isle of Cack that nobody want to engage with at all?
99. Moderator: But maybe thats the point.
100. Participant 1: But you might end up with 5 Isle of Cacks.
101. Moderator: What ff that process just applied to The Isle of Cack, but no other island?
102. Participant 1: I think they will, but whether thats a good thing in itself.
103. Participant 2: There are often people who will do these things. I don't know, at the moment by being closed it is a curated experience. If you change the nature of it by opening it for people to influence or add to in that way, it would be interesting if people do it thoughtfully. It could be quite interesting. If people do it unthoughtfully, well it still could interesting.
104. Moderator: Do you think the stylisation or aesthetic of the island would change if user's added content?

105. Participant 2: There is a particular aesthetic isn't there. I think you would be hard pressed to sustain it.
106. Participant 1: There could be a reset button.
107. Moderator: Or could users submit content to use and we choose what we want to include?
108. Participant 1: Thats a little top down isn't it?
109. Participant 2: You could have so that as an individual you could have your own experience coloured by your own stuff. You don't necessarily have to have it inflicted upon others.
110. Moderator: So in that sense, you sort of build your own Isle of Cack?
111. Participant 2: Yes, that might be quite interesting.
112. Moderator: So lets finish with the idea of this being an opera. What is opera to you?
113. Participant 1: I suppose my answer is conditioned by whether or not I consider it to be good opera.
114. Moderator: Whats good opera?
115. Participant 1: A good opera for me tells an engaging story. I am personally drawn into it, and my mood is played with by virtue of the music particularly. That's probably as close I get.
116. Participant 2: A narrative arch, and resolution.
117. Moderator: Like some kind of conflict and resolution?
118. Participant 1: These operas mind you - in my limited understanding - is that their stories tend to be really quite simple insofar as they are stories that we

are all familiar with: the hero's quest, the love story.

119. Moderator: So how does The Imaginary Voyage, if it does at all, relate to what you consider to be an opera?
120. Participant 1: I think that's why I just defined opera, because I realised that in fact conventional opera is slightly different, or very different from the experience we just had. I didn't really feel that was an opera, as far as I understand it.
121. Moderator: Is there any connection, or is it something that is more like - in your opinion - another art form?
122. Participant 1: Well is it not a bit like the comparison of experimental music, what's the guy's name 'Scho...' that suddenly brought in disruptive music at the turn of the 20th Century [Schoenberg]? Is it not that sort of disruptive effect on something that is normally very conventional, classical and we all know how it works?
123. Moderator: I like to think so. I suppose a different way of asking the question would be, what would you expect a web opera to be? Would you just see it as being a representation of the stage or something else?
124. Participant 2: A filmed opera delivered over the Internet - I mean that's not an online opera, that's a web-delivered opera. That's not actually something that uses the medium, or explores it, or does anything with it. So, in a sense the distribution would need to be part of it somehow. I notice that as islands were playing the browser was loading assets from a website somewhere - you could see it.
125. Moderator: Yes.
126. Participant 2: Yeh, it was bubbling away, pulling things. Everything is being assembled in front of you, and it's being pulled together from - well probably

one place at the moment. Otherwise you are looking at something that could equally be seeing in a different context that didn't involve the Internet at all, as you say it is just a delivery mechanism.

127. Participant 1: I think it kind of depends on your aims and goals on just how interactive a web-delivered, or a web-based opera is. [To person 2] As you have just made clear you are either just sending one over - like you are Madame Butterfly on iPlayer, that is a web-delivered opera presumably, but you [back to moderator] are talking about something very different aren't you.
128. Moderator: I am talking about opera that is constructed or exists because of the web.
129. Participant 1: Its digitally interactive.
130. Moderator: Interactivity may be part of it. I think it's the social and cultural practices of the web that are important. For example how people interact through social media or share content. These are things that are particularly facilitated by the web.
131. Participant 2: Yer but there is something in that, there is a new form, a mode of interaction happening in social media that is something [interrupted].
132. Participant 1: But there is interaction happening in the presentation as it currently stands, you know with Madame Butterfly you don't press buttons to decide when you are going to move to the next 'island'. You are giving us all of that choice, which are forms of interactivity whether you like it or not.
133. Participant 2: Yer when I think of a challenging opera I think of Priam [King Priam] or something like that. There is no interactivity with that.
134. Participant 1: You sit and suffer or you sit and enjoy.

135. Participant 2: Some combination of both in that particular case. And also where I've seen co-created artworks - I mean the world of dance has gone into this quite a lot. When you have Wayne McGregor, and all these random people phoning in and influencing the performance in real time and all the rest of it, and you sit there and you think, why?
136. Participant 1: You don't want people saying about your digital opera asking that kind of question quite the way [Participant 2] is asking it!
137. Participant 2: But the difference here, it that there is a singular vision behind what's happened here, and it isn't being driven by an interest in what happens when you get 100,000 people together with their phones to try and influence a performance in the single point of time in which it is happening. There is actually something more of substance happening in this. I'm not asking why. I don't feel like I've just wasted the hour and a half.
138. Participant 1: So to extrapolate the question then, I suppose it's how far you take interactivity before you prompt the question why? Just how much benefit people are getting from it?

[END]

## **D. Session 4**

In attendance: UCL K+ Summer School students (x6).

[START]

1. Moderator: In one word, can you sum up what you think the Internet is about.
2. Group: Unique, Random, Exciting, Different, Interesting, Fun, Useful.
3. Moderator: [Opens with a brief description of Jarry and Pataphysics].

4. Moderator: Shall we go through some of the Islands. Isle of Cack:
5. Participant 1: I wasn't ready. [...] You heard one thing, and then you heard some nice piano thing and then...its like expressionism, its just completely weird.
6. Participant 2: A bit too random.
7. Participant 3: I was trying to make the relationship between the sounds and the pictures, and I was like, it's was a bit weird and different.
8. Moderator: Did you find any relationships?
9. Participant 3: There was a sound on the piano, it was sad, it was a mannequin and a picture of a dead rabbit.
10. Moderator: So you made an association there?
11. Participant 3: Yes.
12. Participant 4: It was...it was sort of off-putting a bit, overwhelming.
13. Moderator: So you found it quite intense?
14. Participant 4: Yes
15. Moderator: Is that because it was all firing at you or because the imagery was intense for you?
16. Participant 4: It was the first one I clicked on and everything was flying at you. I didn't know what to expect, it was like whoa!
17. Participant 5: It made me think everything at once. You have flowers and then a frog, and then, everything at the same time.
18. Moderator: Did you think it had an overall feeling or aesthetic?



19. Participant 6: It was quite gloomy and dark.
20. Participant 5: It was abstract.
21. Participant 4: I think it was that one that stood out the most.
22. Participant 2: I went back to it. I tried to understand it the first time round, and I couldn't so I went back to it again to see how it was. It was firing at me consistently; it wasn't stopping. It's like when someone asks you a question and you don't know what to say.
23. Moderator: Shall we think about the Amorphous Isle?
24. Participant 4: That one was confusing again. Like at first there was too much going on. I don't know where to click, I didn't know what was happening, then after you clicked on something it all disappeared and you didn't know what to do, and then sound and music. It was weird.
25. Participant 2: There was some Jackson Pollock.
26. Moderator: Yes, well spotted.
27. Participant 2: And I don't know why it was there! and then the music. It wasn't as overwhelming as the first one, but it was intense.
28. Moderator: So was there a mood that it evoked for you?
29. Participant 2: It [Amorphous] was more sombre than the first one [Cack]. The first one was a bit mad.
30. Participant 3: I felt the map page was also a bit confusing. It was a bit confusing overall because some of the videos had narration and some of them had sounds.
31. Moderator: Any kind of atmospheric?

32. Participant 3: Yer. Foreboding.
33. Moderator: Do you know what amorphous means? [Moderator provides a definition].
34. Participant 1: Kind of like the shapes that were in the circle [in the centre of Amorphous]?
35. Participant 2: I was trying to focus.
36. Moderator: Did you feel like you were being pulled into the screen at that point?
37. Participant 2: Yer I was trying to focus, I dunno it was like it was moving forwards.
38. Moderator: Now you know what amorphous means, do you think the island captured that in any way?
39. Participant 5: Yes.
40. Moderator: Let's talk about the Land of Lace.
41. Participant 1: I like that one.
42. Participant 3: Yer, it was nice.
43. Participant 5: Yer it had some structure.
44. Participant 4: The music was good until it got a bit weird towards the middle.
45. Participant 2: I think the overall I liked it because it's original composition.
46. Person 1: The music matched up with the imagery.
47. Moderator: You just found that just easier to follow in general?
48. Participant 6: It was sort of whimsical almost, like I dunno, a Tim Burton

movie, dark but with elements of fairy tale.

49. Participant 3: Cute but dark at the same time.

50. Moderator: [Moderator notes that the full version of Lace has 10 scenes]  
Would you have wanted to see the whole thing?

51. Participant 3: I would have liked to see the whole thing.

[Sections specifically on Ringing Isle and Soundhouse removed for clarity].

52. Moderator: Is there anything you want to ask me?

53. Participant 4: What do you want to do with it?

54. Moderator: What would you want to do with it?

55. Participant 3: Because with the Lace one you could easily watch that at home randomly - you wouldn't search for it. I could randomly click on it [a link] and look at it for a bit of time. I reckon I could watch the 10, because thats what I wanted to do; watch the whole thing and see what happened next.

56. Moderator: Do you prefer the format as it is now; having everything on the screen as a website, or do you think its better if your friends linked it to you?

57. Participant 6: I dunno, if the Isle of Cack just appeared on my Facebook at some point, I'd be inclined to click it just to see what it was about.

58. Participant 3: Yer I think I'd click it because it looks very weird. I think i'd want to know what it was.

59. Participant 1: I don't click on random things.

60. Moderator: Well what if a friend recommended it to you and say hey look at this?

61. Participant 1: Like through Youtube or things like that?

62. Moderator: Through social media generally.
63. Participant 4: Yer if a friend does it then I probably will.
64. Moderator: What about if people just introducing you to a random island occasionally? Is this better than having a website with all of these islands on?
65. Participant 4: If you can do both?
66. Participant 3: Yer, like if you lead on from one isle to the rest of them.
67. Participant 2: You split people into categories. When you said about Facebook and your friends and all that - if I saw a friend that I know what type of person he is and he is like The Isle of Cack, and I see someone like Lace. I'll show them the right island.
68. Moderator: So you would share a certain one depending on their personality?
69. Participant 2: Yer.
70. Moderator: So do you think they are all targeting at different age groups and types of people?
71. Participant 6: Yer, because I think Cack would be for older people for some reason. I don't know why. Ringing Isle would be for children - you click on this and click on this - and Soundhouse. People like me, I'd probably use Soundhouse and Lace. I don't know about Amorphous. I dunno what kind of person would use that one.
72. Participant 5: I think I'd use the first one [Cack] because its kind of an experience. I did like Land of Lace but I don't think I would use it.

[END]

# Appendix II - The Village

## 1. Online Survey Responses

Survey responses can be viewed from the next page.

To view the results of data coding click [here](#) [PDF].

Respondent (R)	Which character in The Village was your favourite? (Q1)	Please comment on your choice (Q2)	What element of The Village most caught your attention? (Q3)	Please comment on your choice (Q4)	Did you contribute to the opera, and if so, how? (Q5)	Did you use headphones or speakers when visiting The Village? (Q6)
1	Harmony	Her voice is gentle and peaceful	Other	The opera is bright and forward thinking	I set up a character so i could be part of the village	Headphones
2	Harmony	She has a really soothing voice and it was really different to the rest of the opera.	Music	There is a lot of different music and I like that	I just watched for now	Headphones
3	Harill	Since limited avatars are available, he looks most like the poet	Words	Looking forward to the movement of things, people, music	I chose who, what and where and typed it	Headphones
4	Harmony	He is the most heartfelt. Some of the other character to be a bit fairytale-like for my tastes	Music	Lots of variety		Speakers
5	Harill	Character to be a bit fairytale-like for my tastes	Music	The music is really good. I'm not getting much of a story but then it is only week 1. I shall return!	I made the character, 'companion'	Headphones
6	Harmony	So soothing. I heard this quite late at night and she almost put me to sleep!	Visuals	I think it might have been coincidence but it was drizzling outside and it was raining in the world I liked the connection and seemed like I was affecting it	I contributed as requested! 2 posts so far. I'm enjoying acting as a character and making up weird stories!	Headphones
7	Hecaceres	She is mysterious and her mill home is the most intriguing	Words	The libretto is very colourful Lots of different musical styles too Really like the science references in Rosos song	Listened only for now although i may return to create a character when the story gets going!	Headphones
8	Roso	I enjoyed the videos for this character. Soter was my next favourite I preferred the more upbeat stuff.	Visuals	Pros The map is really intricate and nicely designed The music is very wide in style Cons I like interactive art and I was left wanting to be able control more of the opera	I didnt add any messages I was happy just to listen	Speakers
9	Soter	His music is the most fun and beat-driven	Visuals	Lovely animation and you can spend a long time examining the detail in the map	Made a character called Goz	Headphones
10	Roso	Great	Words	Clever and new	Watched	Headphones
11	Harmony	Interesting character living with a secret. Curious to see whether she'll be able to make it right. Who decides what's right anyway. He is a really animated character	Other	Liked the combination of music. Think they keep you entertained as a whole	Haven't contributed yet	Speakers
12	Roso		Music	I enjoyed how there was several styles of music to tell the story. Quite unexpected	I didnt contribute	Headphones
13	Harmony	No singing but i really liked her calming voice	Other	Its clever how visitors can make their own characters im not sure if this improves the story yet but will happily come back to see how the opera has moved on		Headphones
14	Hecaceres	I like the look of this character although she wasnt in the video. The music is tense	Other	Maybe a coincidence but its raining in the world and raining outside my flat! Either way I feel like im part of the opera somehow. The music is also very interesting	I made the character Unholy Sheep. It was really fun to read what other people were saying and be part of the group.	Headphones
15	Snout	The sadist of the opera. Very different to the other characters.	Other	The idea of having users add to the story is an interesting concept Id like to see how it all unfolds	I created Meigui	Headphones
16	Roso	I like the song its fun to listen and watch the video. Also the vegetarian butcher nice idea	Music	Very nice music great job	With my comment so far. I would say it is a little hard to follow the story line maybe with the upcoming episodes would be easier. But the sound and overall experience is fun! Thank you!	Speakers
17	Harill	I like the sadness of his character and id like to know more about him	Words	I really like the lyrics of all the songs	I didnt make a character but i might	Speakers
18	Harill	He needs some love on his life	Words	Cleverly done. Only been to a few operas but this is quite different to what I expected (in a good way).	created a villager and voted	Headphones

Respondent (R)	Which character in The Village was your favourite? (Q1)	Please comment on your choice (Q2)	What element of The Village most caught your attention? (Q3)	Please comment on your choice (Q4)	Did you contribute to the opera, and if so, how? (Q5)	Did you use headphones or speakers when visiting The Village? (Q6)
19	Roso	I like the animation on the circle for this character	Visuals	It looks very good but i could not get to the music sadly	Looked at the world	Headphones
20	Snout	Snout is the most interesting to me but all characters are surprisingly rich	Music	Great range of styles that guarantees the opera is always engaging. The visuals were great too!	Commenting on the characters	Headphones
21	Roso	A fun character. This is the character I wrote my comment for	Other	It's nice to feel part of it with others. Do the comments change the story?	I created a character a gossip who lives at the university	Headphones
22	Snout	Very interesting character my favourite one	Music	Everything. What an original and imaginative idea	I made my own character and wrote a little bit about them	Headphones
23	Snout	A great anarchic character - love her! I also like the contrast to Harmony who has such a velvety voice	Other	I've been checking back on this website and its really interesting to see people interacting in the chorus. I like that you can be part of the opera. It has a sociable feel to it.	I set up a character and added my story.	Headphones
24	Roso	I like his hat	Visuals	mind melding	I have created a character that has a story to tell till the end of the village	Speakers
25	Snout	She is quite an odd character	Words	I had a good time reading through all the comments from characters Some are very funny	I made a character to join in the fun. And it was fun to act the part!	Speakers
26	Hecaceres	Favourite music of all characters	Other	There are some nice parallels between the world and the village. It is raining currently in both and the narrator seems to know that it's evening I quite like that these connections are included	Watched and enjoyed!	Headphones
27	Harmony	Voice makes you drift into your own world	Words			Headphones
28	Harill	nice contrast to the singing Speaks to my inner hermit	Other	I liked how everything connects the visuals suit the words and music which really get your imagination going butcher was scary	Watched	Speakers
29	Harill	He has all the right virtues just needs a little TLC	Other	Unique and imaginative. The election was a smart thing to add and must have taken some planning to line up! I wonder what would have happened if Heca didn't win.	Created a character	Speakers
31	Roso	Because i feel that he has my sense of humour we would get along fine	Music	The song appeals to the child in me	I was involved in the election and made a character	Speakers
30	Snout	Interesting character fun to watch	Other	Another election! very clever timing. It is all very creative	I voted for Roso and watched the videos	Headphones
32	Harill	I felt sorry for this character and his music was emotional. Felt connected to him.	Music	really nice mix of styles. The election is obviously all over the news and there is one in the village too. A nice touch! Nice timing. It was also really sunny on screen and here, so I assume this is why the webpage asked my location	I created a character but others weren't interacting very much so I stopped adding stories	Headphones
33	Snout		Other	I liked the strange atmosphere and the soundscape and the sense of peering into different worlds within minute worlds plus the illustration style really works well! I am amazed at how much you have achieved		Headphones
34	Harmony	Harmony is the most curious of all characters maybe because we haven't yet seen her face or maybe because she speaks rather than sings	Words	I like the words of individual songs as they evoke some nice images On the other hand I am finding it difficult to detect a story in my opinion the story needs to be clearer somehow But really nice music and visuals too - very absorbing	I made a character last week and have been adding my comments. Not too sure where this will lead....Will carry on following the opera to see as the concept really interests me It is not like any opera I have seen!	Headphones

Respondent (R)	Which character in The Village was your favourite? (Q1)	Please comment on your choice (Q2)	What element of The Village most caught your attention? (Q3)	Please comment on your choice (Q4)	Did you contribute to the opera, and if so, how? Did you use headphones or speakers when visiting The Village? (Q5)	Did you use headphones or speakers when visiting The Village? (Q6)
35	Snout	Most imaginative character. Like how the world and animations painting a fun by dark picture of stall sixteen	Visuals	Nicely done. Professional visuals. I really liked the election scenes. I found this made the opera feel current and alive because we've just had a general election.	I did not contribute	Speakers
36	Snout	She's raving mad so appeals to my sense of humour	Words	Cleverly written	Created character	Headphones
37	Snout	Because she's amazing and goes well with plums	Visuals	Very aesthetically pleasing and humorous	Created villager	Headphones
38	Aletheia	The animations are otherworldly and at a gentle pace	Visuals	The animation style really appeals to me I also like the comments that the audience characters come out with some are funny or seem to make their own stories up I think there needs to be more people posting for it to feel like a living breathing village	I made a character and have posted for 2 weeks It is quite fun coming back to it and seeing what has been written. I voted for Harill last time.	Headphones
39	Harill	A gentle soul that's very appealing. Character has lots of room for story development.	Music	The collection of styles is great there has been some really good music so far. Nice that each character has their own identity through genre.	I created a character but Im not that keen on this aspect of the opera. There isn't much conversation and it's hard to talk to others.	Speakers
40	Hecaceres	Quite mysterious and it seems the story revolved around her, as does the world!	Music	Blend of different musics keeps me interested. If they were all similar music i wouldnt go to all the characters, each one definitely has their own sound	Made a village called Mike who voted in the election.	Speakers
41	Snout	What have i just seen! The animations for this character are crazy	Visuals	Really vivid stuff and a nice unique drawn style.		Headphones
42	Harmony	I have revisited the story 4 times just to hear her voice! Id love to hear her sing	Music	Really unusual blend that works very well. I like the emotional tone of this weeks episode. It is all very still. Shall continue to check in	I have posted before but quite happy just to listen	Headphones
43	Snout	The most interesting and unique character by far! And it seems the one your villagers have the most fun with	Other	The participatory aspects are quite unique if not a bit underdeveloped. Ive enjoyed posting, reading the comments and following some of the interactions between posters. I found it quite hard to start conversations because I couldn't tag another person.	I posted several times and voted.	Headphones
44	Harill	Heartfelt and beautiful. Seems a rather deep personality that I can relate to sometimes.	Music	Im blown away by the quality of the music across all 3 weeks. There is so much of it and it is all very different and it is produced very well indeed		Headphones
45	Snout	Wow that was a harrowing experience! A face of meat....great fun	Visuals	This whole opera looks great. Kudos to you all.		Speakers
46	Harill	He seems the most honest and he is also very passionate and romantic.	Visuals	I felt the visuals were a very good ancillary to the music. They helped envelope me in the narrative.	I was one of the contributors.	Headphones
47	Harill	The music i prefer the most	Music	The village went rock and roll this week! wide range of music and always something i did not expect every week		Speakers
48	Snout	This music felt the most intricate and interesting to listening to.	Music		I dont feel that I did	Headphones
49	Snout	She is hilarious	Words	Very clever	Watching and voting	Headphones
50	Aletheia	She sang so beautifully.	Other	The whole idea of an opera with a story rolled out over several weeks is really cool. Its great how different the music is for each character. This gives each their own musical personality	Posted comments, but Im not sure if that qualifies. Im a bit disappointed that the decisions in the opera were democratic.	Headphones



Respondent (R)	Which character in The Village was your favourite? (Q1)	Please comment on your choice ( Q2)	What element of The Village most caught your attention? (Q3)	Please comment on your choice (Q4)	Did you contribute to the opera, and if so, how? (Q5)	Did you use headphones or speakers when visiting The Village? (Q6)
51	Harill	Excellent voice.	Visuals	There are worlds within worlds here. The visuals for each character seem rather unique, and offer individual perspectives on the island.	Difficult to answer. I didnt add any text to the story but i did participate in the voting. I think a more individual approach to the various choices presented in the work would have made it more appealing. I'd have liked to have decided the fate of the village for myself.	Headphones
52	Snout	It is the funniest character	Other	The combination of all	Created characters and raised the concerns of the characters	Speakers
53	Roso	He tried, although in vain, to save the village	Visuals	Cleverly done and beautifully animated	Became a character and part of the village	Headphones

## 2. Composer Written Structured Interview Responses

Interview responses can be viewed from the next page.

Composer: Phil Zammit

Character: Soter

## Section A - Background

### Question 1

Please briefly describe your background as a composer or arranger of music.

I have, in the past, arranged music for orchestral performances of non-classical music, whilst also having composed for video (foley and soundtrack) and also composing for theatrical performances.

### Question 2

Excluding The Village, to what extent have you been commissioned as a composer or arranger of music?

I have been commissioned as an arranger or composer a few times over the course of the past years.

### Question 3

Have you participated in any form of co-creative music composition process before? If yes, please describe key instances (e.g. your role, the scale of work, indication of number of people involved, methods of communication).

I've collaborated on composing and arranging music mostly for theatrical performances in various settings, as a sole composer composing the music via workshops with the actors and director of the play as well as a collaborative composer with other musicians

### Question 4

Have you previously composed or arranged music for any projects that were described as opera? If yes, please provide details of key works.

No

## Section B - Your Music

### Question 1

Please provide a list of keywords that describe your music. These may for example include references to form, genre, technique, style, or key influences.

Electronica, experimental.

## Question 2

To what extent does your music composition or arrangement exploit digital technologies?

I use digital technologies and experiment with new ones I'm learning about in that moment or have learnt about constantly so I'd say that my composition relies heavily on such technologies.

## Section C - The Village: Your Character

### Question 1a

Your character was Soter. Using the scale below, please indicate how clearly you understood the nature of this character (i.e. its personality, appearance, environment).

1. No Understanding
2. Limited Understanding
3. Good Understanding
4. Very Good Understanding
5. Excellent Understanding

### Question 1b

Please comment on your answer.

Keeping in close communication during the development of the script helped me understand the role of the character within the opera in a very thorough way. I wouldn't say I had an excellent understanding due to the rather abstract nature of the script, which allowed for various personal interpretations of the story. This must have had an impact on the creative process and is surely reflected in the music.

### Question 2a

Using the scale below, please indicate the extent to which you understood the other characters in The Village.

1. No Understanding
2. Limited Understanding
3. Good Understanding
4. Very Good Understanding
5. Excellent Understanding

### Question 2b

Please comment on your answer.

I think I started getting a better understanding of the whole relationship as the pieces and the opera itself was taking place. Every composition creates a mood for the respective character so on a higher level this I feel creates interplay that may or might not be that which was intended or from my point of view interpreted when first reading the script.

### Question 3a

Using the scale below, please indicate the level of creative control you felt you had over your character (i.e. its personality, how it was represented through music).

1. Very Low Level
2. Low Level
3. Fair Level
4. High Level
5. Very High Level

### Question 3b

How satisfied were you with this level of creative control?

1. Very Dissatisfied
2. Somewhat Dissatisfied
3. Neither Satisfied nor Dissatisfied
4. Somewhat Satisfied
5. Very Satisfied

### Question 3c

Please provide comments for your answers to 3a and 3b.

The fact that I could change the vocal line that I was given (pitch and rhythm etc) to whichever extent suited my creative goal shows that I had a large degree of creative control.

## Section D - The Village: Production Process

### Question 1

Please describe your individual approach to the process.

Soter's character evolves drastically from one scene to the next so I planned the composition to move and evolve with him. The main structure of the melodies was put in place and the composition was produced around it then adapted where it was needed.

### Question 2

What did you enjoy most about the compositional process?

Discussions about Soter, his personality and story gave me a good understanding of the plot before the opera went live.

### Question 3

What aspects of the compositional process did you find less enjoyable?

None.

#### **Question 4**

The Village opera engaged five composers and featured several styles of music. Please provide your opinion on the suitability and creative consequences of this approach.

This might have had an impact on the continuity of the music in general although the styles and sounds associated with each character made the opera more diverse and interesting to follow so in my opinion the storyline facilitated this process in a successful manner.

Composer: Sabrina Peña Young

Character: Roso

## Section A - Background

### Question 1

Please briefly describe your background as a composer or arranger of music.

I started out as a percussionist then began studying composition seriously in college where I started to study electroacoustic music and new media. Since then I have worked on combining new media, music technology, and classical music.

### Question 2

Excluding The Village, to what extent have you been commissioned as a composer or arranger of music?

I have done commissions for university ensembles and professional musicians, film scores, and my works have been premiered at festivals throughout Europe, Asia, Australia, and the Americas.

### Question 3

Have you participated in any form of co-creative music composition process before? If yes, please describe key instances (e.g. your role, the scale of work, indication of number of people involved, methods of communication).

Yes. Prior to The Village I created the animated opera Libertaria exclusively through online collaboration and production. I composed the entire score then auditioned singers via the Internet using MusicXray, message boards, and egroups. They sent me their audio files via Facebook, Dropbox, and email (1000 files in all!) which I then mixed down in Logic, adding in symphonic elements and electroacoustic music. Singers were highly encouraged to improvise, make their own mixes, and be creative with the music. One singer, Matt Meadows, created “unofficial” mixes of songs and improvised jazz vocalizations for songs. Another singer, music tech expert Perry R. Cook, developed different sounding voices for songs, and eventually I rewrote a song to incorporate an entire “army” of voices using Perry’s tracks. In this way, vocalists had a chance to contribute to the creative process. I used crowdfunding in Kickstarter for part of the project to hire an additional composer through Elance.com to help me with the mixing and mastering and worked in collaboration with two other animators online to create the hourlong animated film. Additionally, I have juried and macrocomposed two Vox Novus 60x60 mixes, which involves jurying hundreds of tracks into one hour electroacoustic concert. I have also used sites like Fiverr.com and Wreckamovie, though for these, it is more for finding talent than a collaboration.

More info on the Libertaria collaborative process in this TEDx Talk:  
<https://www.youtube.com/watch?v=WfIDbnsua04>

#### Question 4

Have you previously composed or arranged music for any projects that were described as opera? If yes, please provide details of key works.

In 2013 I created *Libertaria: The Virtual Opera*, an animated sci-fi opera about a young teen Libertaria who escapes from the GenTech Factory to team up with her father to destroy evil reverse-aging geneticists. *Libertaria* was created using “machinima”, an animation process based on video games. It was the first original feature length machinima opera created in the world. Previous to *Libertaria*, I wrote another large scale choral work, a multimedia oratorio *Creation* for video/tape, women’s choir, and African drumming ensemble, commissioned by the Millikin University Women’s Choir and Millikin Percussion ensemble. *Creation* won the International Alliance for Women in Music New Genre Prize.

#### Section B - Your Music

##### Question 1

Please provide a list of keywords that describe your music. These may for example include references to form, genre, technique, style, or key influences.

Experimental Electroacoustic Sci-fi Percussive Rhythm Ambient Alien Machine

##### Question 2

To what extent does your music composition or arrangement exploit digital technologies?

While I have extensive classical composition training, I have primarily delved into music technology, creating music that either exclusively uses electronic music or hybrid works that incorporate live performers with electronic music, like my work *World Order #5*, a sci-fi piece for video/tape and percussion ensemble or my Halloween inspired work *Virelaan*, for video/tape/percussion ensemble/and handbells that was dedicated to a spectre living in the Albert Taylor Theater in Decatur, Illinois. I manipulate my voice and percussive sounds, use sound synthesis, vocal synthesis, sampled choirs, etc. to create my music while applying traditional compositional techniques during the creative process.

#### Section C - The Village: Your Character

##### Question 1a

Your character was Roso. Using the scale below, please indicate how clearly you understood the nature of this character (i.e. its personality, appearance, environment).

1. No Understanding
2. Limited Understanding
3. Good Understanding
4. Very Good Understanding
5. Excellent Understanding



### **Question 1b**

Please comment on your answer.

Roso loves technology and was the proverbial egomaniac nerd. In fact, I may have related to Roso a bit too much! Discussions with Lee about character and his role in the opera were very useful.

### **Question 2a**

Using the scale below, please indicate the extent to which you understood the other characters in The Village.

1. No Understanding
2. Limited Understanding
3. Good Understanding
4. Very Good Understanding
5. Excellent Understanding

### **Question 2b**

Please comment on your answer.

I had a basic understanding of the characters, especially the wonderful pig that interacted with my character. However, once the opera started, I realized that there were a few characters that I did not understand at all.

### **Question 3a**

Using the scale below, please indicate the level of creative control you felt you had over your character (i.e. its personality, how it was represented through music).

1. Very Low Level
2. Low Level
3. Fair Level
4. High Level
5. Very High Level

### **Question 3b**

How satisfied were you with this level of creative control?

1. Very Dissatisfied
2. Somewhat Dissatisfied
3. Neither Satisfied nor Dissatisfied
4. Somewhat Satisfied
5. Very Satisfied

### **Question 3c**

Please provide comments for your answers to 3a and 3b.

I was given creative freedom within certain parameters. I also made sure that I spoke with Lee about what he wanted, much as I do with clients. It is important to understand what the

expectations are, since creative freedom for someone like me could mean just about anything. In the end I kept true to the libretto, but added in my own personal quirkiness that I thought was befitting of the character.

## Section D - The Village: Production Process

### Question 1

Please describe your individual approach to the process.

I listened to the vocal lines and sketched down ideas and transcribed parts that might not have been in the scores given. For most of the tracks I lay down the vocal line as a skeleton and composed around it, eventually removing the line or distorting it entirely. This helped me keep to some of the original rhythmic ideas that Lee had, which I felt had a very distinctive and fun character that I did not want to abandon. Once the ideas were fleshed out, I started to tweak considerably, sometimes cleaning up the vocals or distorting them, doubling them, or even reversing vocal tracks and further digitizing some of the instrumental sounds to fit Roso's love of technology.

### Question 2

What did you enjoy most about the compositional process?

I enjoyed the ease and freedom to create music around a character that seemed to be absolutely handpicked for me, and watching the music and animation come to life was exciting.

### Question 3

What aspects of the compositional process did you find less enjoyable?

I think that having a chord sheet would have been helpful. I'm a percussionist, so harmony is not always my strong suit, plus I am a perfectionist, so I do want to have the music sound right, even if I choose to mess with the harmonies later. So a lead sheet with chords would have made the process a little easier.

### Question 4

The Village opera engaged five composers and featured several styles of music. Please provide your opinion on the suitability and creative consequences of this approach.

I think overall it was a very cohesive work. However, there were a few songs that seemed to be out of place or did not really contribute as much to the story in terms of meshing with the character. The songs that were almost entirely *acapella* seemed jarring, solitary. I think that maybe giving more guidelines regarding musical style would have helped, or even trying to tie together some musical ideas that everyone needed to use. While this works against more creativity on the part of the composers, having more limitations could have been helpful, as well as the composers hearing each others' work during the process. Overall a very enjoyable experience and would definitely want to do this type of collaboration again.

Composer: Weiwei Jin

Character: Snout

## Section A - Background

### Question 1

Please briefly describe your background as a composer or arranger of music.

I was trained in classical piano and western art music composition. I now work as a composer, sound/multimedia artist, producer, pianist and music teacher. I create works across the genres of concert music, audio-visual installation, film, animation, contemporary dance and theatre.

### Question 2

Excluding The Village, to what extent have you been commissioned as a composer or arranger of music?

I have collaborated and commissioned by a variety of international artists, groups and organisations including London Sinfonietta (UK); Sarah Nicolls (UK); Lore Lixenberg (UK); Sound and Music (UK); Dirty Electronics (John Richards, UK); ACM ensemble (UK); Margaret Schedel (USA); Harvestworks (New York); dancer Karin Elmore (France); Musica Vitae Chamber Orchestra (Sweden); Hägerstens Chamber Choir (Stockholm), Swedish Wind Ensemble, Sichuan percussion Group (China) and Microsoft Design. I also received commission and grants from Art Council England, British Council, The Swedish Arts Grants Committee and The Society of Swedish Composers. Other commissions include music for film and sound design.

### Question 3

Have you participated in any form of co-creative music composition process before? If yes, please describe key instances (e.g. your role, the scale of work, indication of number of people involved, methods of communication).

Yes, I have worked as a part of numbers of collaboration for music composition. Some of the project I worked as one of the composers, and some of the project I worked as a curator. The scales of the works vary from large orchestra piece to solo piece. The number of people involved ranges from 21 student composers to 2 composers. The methods of communication usually are internet based.

### Question 4

Have you previously composed or arranged music for any projects that were described as opera? If yes, please provide details of key works.

Yes, chamber opera: "Sterna Paradisaea, Returning...", for Mezzo-soprano, ensemble and electronics. Performed by Lore Lixenberg, Sarah Nicolls and London Sinfonietta, conducted by Garry Walker. This piece was recorded and released by NMC Recordings, world premiered at Huddersfield Contemporary Music Festival 2014 and it was nominated for Royal Philharmonic Society Music Award 2015 (long-list).

## Section B - Your Music

### Question 1

Please provide a list of keywords that describe your music. These may for example include references to form, genre, technique, style, or key influences.

I create works across the genres of concert music, audio-visual installation, music for film, animation, contemporary dance and theatre as well as interactive works. I try to work creatively and not repeat the form, genre, technique and styles for each individual piece. My key influences are from cultural elements and my travels, as well as the people whom I have met and interacted with.

### Question 2

To what extent does your music composition or arrangement exploit digital technologies?

Digital technologies play an important role in my composition. Almost all my music composition in the recent 5 years includes digital technologies.

## Section C - The Village: Your Character

### Question 1a

Your character was Snout. Using the scale below, please indicate how clearly you understood the nature of this character (i.e. its personality, appearance, environment).

1. No Understanding
2. Limited Understanding
3. Good Understanding
4. Very Good Understanding
5. Excellent Understanding

### Question 1b

Please comment on your answer.

This character is somehow a strange combination, which gives me the space to be creative. From drawings and the brief I understood Snout.

### Question 2a

Using the scale below, please indicate the extent to which you understood the other characters in The Village.

1. No Understanding
2. Limited Understanding
3. Good Understanding
4. Very Good Understanding
5. Excellent Understanding

### Question 2b

Please comment on your answer.

I mostly focused on my own character and composition for this project.

### Question 3a

Using the scale below, please indicate the level of creative control you felt you had over your character (i.e. its personality, how it was represented through music).

1. Very Low Level
2. Low Level
3. Fair Level
4. High Level
5. Very High Level

### Question 3b

How satisfied were you with this level of creative control?

1. Very Dissatisfied
2. Somewhat Dissatisfied
3. Neither Satisfied nor Dissatisfied
4. Somewhat Satisfied
5. Very Satisfied

### Question 3c

Please provide comments for your answers to 3a and 3b.

As said before, I felt the freedom and space to express my understanding of the character during the process. The visual elements did help the composition. As the animation was created after the music was made, this gave the composer more focus on the music itself instead of being over influenced by the visuals.

## Section D - The Village: Production Process

### Question 1

Please describe your individual approach to the process.

My approach was being as open and collaborative as possible as well as allowing and enjoying the “creative differences”. I worked around sung passages. The materials provided were just vocals and it was easy to re-craft them.

### Question 2

What did you enjoy most about the compositional process?

I made something different to what I usually compose.

**Question 3**

What aspects of the compositional process did you find less enjoyable?

Not really.

**Question 4**

The Village opera engaged five composers and featured several styles of music. Please provide your opinion on the suitability and creative consequences of this approach.

I think it is a very good project. I do believe these kinds of projects are happening in lots of places and will be much more often conducted in the future opera production. Regarding the creative consequences, I think it is just matter of time, practice and directing. Opera needs narrative and all the music in opera is not pure musical event, I have no problem with different styles of music being put into one opera production.

Composer: Samuel Sturtivant

Character: Hecaceres

## Section A - Background

### Question 1

Please briefly describe your background as a composer or arranger of music.

During my primary and early secondary education I achieved up to Grade 3 in music theory. Although this (for the most part) was quite Interesting, it didn't afford experimentation. As a self taught guitarist my interest was in improvising with effects processors leaning more on sound rather than traditional notation based music, this approach would then inform a structure, leading on to an arrangement which I could then recite. I subscribe to Yngwie Malmsteens view that "Improvisation is the genesis of composition". It wasn't until I started an undergraduate degree in creative music technology that I was exposed to electroacoustic composition. I developed a keen interest in 'acousmatic music', whereby sound that is non referential is presented. Composing in this field highlighted the infinite malleability of sound to me.

### Question 2

Excluding The Village, to what extent have you been commissioned as a composer or arranger of music?

I have been commissioned as a score composer on a feature length independent film. I have also scored short compositions for animation and contemporary dance. The latest commission was a score that underpinned an informatic video around conflict resolution in the EU.

### Question 3

Have you participated in any form of co-creative music composition process before? If yes, please describe key instances (e.g. your role, the scale of work, indication of number of people involved, methods of communication).

During my MMus I collaborated with another composer, a contemporary dance choreographer and 20 undergraduate dance students on a 10 minute piece that explored chaos theory through the vehicle of contemporary dance. My role as a composer was to contribute to the overall 'sound palette'. I implemented piezo contact mics on the stage floor which triggered sound events within Ableton Live.

### Question 4

Have you previously composed or arranged music for any projects that were described as opera? If yes, please provide details of key works.

No

## Section B - Your Music

### Question 1

Please provide a list of keywords that describe your music. These may for example include references to form, genre, technique, style, or key influences.

Experimental,  
Glitch,  
Drone,  
Post digital,  
Minimalism

### Question 2

To what extent does your music composition or arrangement exploit digital technologies?

Massively so, the exploitation of digital technologies is an important part of my approach to the organisation of sound. I usually work with Ableton Live or MaxMSP. I adhere to the approach laid out by Andy Keep, named 'Creative abuse' which refers to "an artistic approach that seeks to exploit a sounding object by any means necessary in order to access its potential sonic palette". (Keep, 2006)

## Section C - The Village: Your Character

### Question 1a

Your character was Hececeras Using the scale below, please indicate how clearly you understood the nature of this character (i.e. its personality, appearance, environment).

1. No Understanding
2. Limited Understanding
3. Good Understanding
4. Very Good Understanding
5. Excellent Understanding

### Question 1b

Please comment on your answer.

The libretto provided a lot of information that allowed me to gain insight into the characters persona.

### Question 2a

Using the scale below, please indicate the extent to which you understood the other characters in The Village.

1. No Understanding
2. Limited Understanding
3. Good Understanding
4. Very Good Understanding
5. Excellent Understanding



### Question 2b

Please comment on your answer.

The narration provided a lot of information that allowed me to gain insight into the characters relationships along with the information provided with each character.

### Question 3a

Using the scale below, please indicate the level of creative control you felt you had over your character (i.e. its personality, how it was represented through music).

1. Very Low Level
2. Low Level
3. Fair Level
4. High Level
5. Very High Level

### Question 3b

How satisfied were you with this level of creative control?

1. Very Dissatisfied
2. Somewhat Dissatisfied
3. Neither Satisfied nor Dissatisfied
4. Somewhat Satisfied
5. Very Satisfied

### Question 3c

Please provide comments for your answers to 3a and 3b.

Altering the pitch of the vocal melodies provided often made the lyrics unintelligible which wasn't allowed due to the narrative depending on them. This meant the harmonic progression available was set in stone from the start. I would of preferred being able to manipulate the melodies (even to the point of abstraction) in order to control the tonal direction/sonification of character. The lyrics could still be provided in the form of visible subtitles.

## Section D - The Village: Production Process

### Question 1

Please describe your individual approach to the process.

Melody and harmony aside I still had a lot of creative control on the temporal aspects of the composition which was important for my rationale. I would start by splicing the vocals and then I would extract a groove from them. This would then inform the pace of the track. As the character was a controlling force in the opera, I relied heavily on quantisation as a sonic device, like a clock ticking, I wanted the percussive elements to sound very precise and controlled.

## Question 2

What did you enjoy most about the compositional process?

Working with rhythm and groove over harmony and melody was a totally new approach to the organisation of sound. I enjoyed the 'extraction' process, which was a kind of reduced listening exercise; whereby I would repeat very short vocal sections over and over, abstracting them to a point where they became free of semantics and cause and I could distil the inherent groove.

This would later inform my approach when working on a feature length film, where I extracted musical gestures from birdsong in a similar vein.

## Question 3

What aspects of the compositional process did you find less enjoyable?

Being rigidly tied to harmonies made it hard for me to fully express my interpretation the character. The tonal centre was very much dictated from the start which I felt limited my approach.

## Question 4

The Village opera engaged five composers and featured several styles of music. Please provide your opinion on the suitability and creative consequences of this approach.

I feel that this approach has the potential to present a very diverse sound palette, I feel this has pros and cons.

### Pros

- Characters will have a highly unique 'voice'
- The experience will not feel 'samey'
- Provides diversity in sonic colour.

### Cons

- Hard to forge an overarching identifiable aesthetic when all approaches will be wildly different.
- Characters may be misinterpreted to a point where it disrupts the flow of the opera.

### 3. Visit Counts by Date and Originating Country

#### LIVE PERIOD VISITS BY DATE

Date	Visits	Date	Visits
1 May	103	22 May	23
2 May	139	23 May	18
3 May	67	24 May	57
4 May	57	25 May	31
5 May	98	26 May	47
6 May	37	27 May	32
7 May	64	28 May	159
8 May	49	29 May	41
9 May	49	30 May	37
10 May	20	31 May	32
11 May	101	1 Jun	60
12 May	36	2 Jun	36
13 May	24	3 Jun	4
14 May	16	4 Jun	55
15 May	30	5 Jun	50
16 May	38	6 Jun	8
17 May	26	7 Jun	33
18 May	28	8 Jun	27
19 May	49	9 Jun	17
20 May	21	10 Jun	35
21 May	55	<b>Total</b>	<b>1909</b>

#### LIVE PERIOD VISITS BY ORIGINATING COUNTRY (1 May - 10 June 2015)

Country	Unique Visits
United Kingdom	624
United States	586
Not Shared	320
China	96
Japan	60
Germany	48
Brazil	34
Canada	34
Russia	27
South Korea	26
Other	54
<b>Total</b>	<b>1,909</b>

## 4. Visitor Journey Data

Visitor journey data reported by the Embedded Data Capture (EDC) system can be viewed from the next page. This includes an analysis of visit durations and levels of engagement towards the end.

ID	Session Duration	Location Shared	Locations Visited (in order)	Character Created	Time Spent in Villager Section	Harill's Bunker	Soter's Courtyard	The Magic Woods	The Font	Stall Sixteen	The Academy	The Subterranean Mill	The Clocktower
1	0m 43s	yes	week1, aletheia, aletheia, harill, roso, harmony, snout,	no	0m 0s	no visit	no visit	no playback	no visit	no visit	no visit	no visit	no aria
2	24m 31s	yes	week1, aletheia, aletheia, snout, week1, aletheia, aletheia, snout, week1, aletheia, clocktower, harmony, hecaceres, snout, roso, soter, harill,	no	0m 0s	1m 43s	completed	completed	1m 48s	1m 31s	1m 49s	completed	no aria
3	3m 6s	yes	week1, aletheia, clocktower, harmony, hecaceres, snout, roso, soter, harill,	no	0m 0s	no visit	no visit	no playback	no visit	no playback	no visit	no visit	no aria
4	36m 25s	yes	week1, aletheia, createCharacter, harmony, harmony, snout, snout, roso, clocktower, harill, harill, soter, harill, soter, hecaceres,	no	9m 4s	completed	0m 49s	completed	completed	1m 18s	2m 15s	completed	no aria
5	33m 5s	yes	week1, aletheia, harill, soter, roso, clocktower, hecaceres, soter, createCharacter, harmony,	Valandil	4m 30s	completed	completed	completed	completed	completed	completed	completed	no aria
6	32m 42s	yes	soter, createCharacter, harmony, week1, aletheia, harmony, clocktower, harill, roso, snout, week1, aletheia, harmony, harill, soter, clocktower, hecaceres,	Unholy Sheep	3m 19s	completed	2m 25s	completed	completed	no visit	2m 31s	1m 29s	no aria
7	14m 49s	yes	week1, aletheia, harmony, harill, soter, clocktower, hecaceres, snout, clocktower,	no	0m 20s	2m 12s	no visit	no playback	completed	0m 33s	completed	no visit	no aria
8	15m 17s	yes	week1, aletheia, hecaceres, snout, roso, soter, aletheia, clocktower, harill, harmony, soter, roso,	no	2m 8s	3m 1s	completed	1m 4s	1m 17s	completed	no visit	completed	no aria
9	9m 52s	yes	week1, aletheia, hecaceres, soter, clocktower, snout, soter, week1, aletheia, hecaceres, soter, clocktower, snout, soter,	no	0m 43s	1m 6s	0m 47s	2m 5s	0m 59s	completed	2m 5s	1m 15s	no aria
10	3m 11s	yes	week1, aletheia, hecaceres, soter, clocktower, snout, soter, hecaceres,	no	0m 26s	completed	no playback	no playback	no playback	no playback	no playback	no playback	no aria
11	6m 15s	yes	week1, aletheia, snout, harill, clocktower, hecaceres, soter, clocktower, harill, harmony, soter, roso,	no	0m 35s	0m 58s	0m 48s	1m 8s	no visit	1m 4s	no visit	completed	no aria
12	41m 48s	yes	week1, aletheia, snout, roso, harill, hecaceres, clocktower, clocktower, harill, harmony, roso, soter, harill,	Cow head	11m 39s	completed	completed	completed	completed	completed	completed	completed	no aria
13	52m 18s	yes	week1, aletheia, soter, clocktower, clocktower, hecaceres, roso,	no	7m 36s	completed	2m 14s	completed	completed	completed	1m 17s	completed	no aria
14	6m 19s	yes	week1, clocktower,	no	0m 38s	no visit	completed	1m 16s	no visit	no visit	1m 56s	2m 4s	no aria
15	0m 44s	yes	week1, clocktower,	no	0m 0s	no visit	no visit	no visit	no visit	no visit	no visit	no visit	no aria
16	59m 15s	yes	week1, clocktower, clocktower, clocktower, harill, harill, aletheia, snout, roso, soter,	no	0m 0s	no visit	no visit	no visit	no visit	no visit	no visit	no visit	no aria
17	12m 32s	yes	week1, clocktower, clocktower, clocktower, roso, hecaceres, snout, harmony, aletheia, soter, harill, hecaceres, clocktower, hecaceres,	no	0m 53s	completed	1m 15s	3m 20s	no visit	completed	completed	no visit	no aria
18	17m 58s	yes	week1, clocktower, clocktower, harill, clocktower,	no	2m 0s	1m 18s	completed	1m 35s	completed	2m 14s	completed	0m 47s	no aria
19	1m 24s	yes	week1, clocktower, clocktower, roso, roso,	no	0m 0s	no playback	no visit	no visit	no visit	no visit	no visit	no visit	no aria
20	1m 4s	yes	week1, clocktower, clocktower, roso, soter,	no	0m 0s	no visit	no visit	no visit	no visit	no playback	no playback	no playback	no aria
21	2m 59s	yes	week1, clocktower, clocktower, snout, soter,	no	0m 0s	no playback	no playback	no visit	no visit	1m 58s	no visit	no visit	no aria
22	6m 59s	yes	week1, clocktower, clocktower, soter, aletheia,	no	0m 25s	no playback	completed	completed	no visit	no visit	0m 54s	no visit	no aria
23	1m 46s	yes	week1, clocktower, createCharacter, clocktower, soter, clocktower, snout, snout, hecaceres, hecaceres, harmony,	Meigui	1m 29s	no visit	no visit	no visit	no visit	no visit	no visit	no visit	no aria
24	42m 45s	yes	harmony, aletheia, aletheia, roso,	no	15m 33s	completed	completed	completed	0m 40s	completed	completed	2m 25s	no aria
25	9m 46s	yes	week1, clocktower, harill, aletheia, snout, roso,	no	0m 4s	2m 19s	no visit	completed	no visit	0m 49s	1m 8s	no visit	no aria
26	19m 51s	yes	week1, clocktower, harill, hecaceres, soter, snout, roso, harmony,	no	3m 8s	2m 16s	completed	no visit	completed	1m 14s	completed	2m 22s	no aria
27	38m 33s	yes	week1, clocktower, harill, soter, aletheia, harmony, snout, roso, hecaceres, roso, harill, createCharacter, createCharacter,	acbah	7m 13s	3m 15s	completed	completed	completed	completed	1m 48s	completed	no aria
28	15m 22s	yes	week1, clocktower, hecaceres, createCharacter, soter, clocktower, clocktower, roso, snout, harmony,	Evangeline	4m 32s	no visit	completed	no visit	completed	completed	completed	no visit	no aria
29	15m 4s	yes	week1, clocktower, hecaceres, harmony, clocktower,	no	9m 16s	no visit	no visit	no visit	completed	no visit	no visit	completed	no aria
30	4m 16s	yes	week1, clocktower, hecaceres, roso, snout,	no	0m 0s	no visit	no visit	no visit	no visit	1m 2s	1m 17	0m 18s	no aria

ID	Session Duration	Location Shared	Locations Visited (in order)	Character Created	Time Spent in Villager Section	Harill's Bunker	Soter's Courtyard	The Magic Woods	The Font	Stall Sixteen	The Academy	The Subterranean Mill	The Clocktower
31	6m 16s	yes	week1, clocktower, hecaceres, roso, snout, clocktower, soter, roso, aletheia,	no	0m 0s	no visit	0m 24s	no playback	no visit	1m 37s	1m 24s	0m 58s	no aria
32	46m 12s	yes	week1, clocktower, hecaceres, snout, harill, createCharacter, roso, soter, clocktower, roso, aletheia, harmony,	crixus	46m 9s	completed	completed	completed	completed	completed	completed	completed	no aria
33	1m 18s	yes	week1, clocktower, hecaceres, snout, harill, soter, snout,	no	0m 0s	no playback	no playback	no visit	no visit	no playback	no visit	no playback	no aria
34	13m 41s	yes	week1, clocktower, hecaceres, snout, soter, harmony, aletheia, clocktower, roso,	no	1m 45s	no visit	2m 22s	0m 57s	0m 54s	completed	completed	completed	no aria
35	4m 19s	yes	week1, clocktower, hecaceres, soter, harill, snout,	no	0m 17s	1m 4s	no playback	no visit	no visit	0m 34s	no visit	1m 18s	no aria
36	16m 18s	yes	week1, clocktower, hecaceres, soter, roso, snout, aletheia, harmony, clocktower, harill,	no	2m 4s	completed	completed	completed	completed	completed	1m 2s	1m 8s	no aria
37	1m 27s	yes	week1, clocktower, roso,	no	0m 0s	no visit	no visit	no visit	no visit	no visit	no playback	no visit	no aria
38	1m 46s	yes	week1, clocktower, snout, aletheia,	no	0m 0s	no visit	no visit	no playback	no visit	no playback	no visit	no visit	no aria
39	12m 12s	yes	week1, clocktower, snout, harill, roso, soter, aletheia, harill, createCharacter,	Terna	2m 19s	1m 8s	1m 15s	1m 4s	completed	1m 18s	completed	0m 34s	no aria
40	14m 43s	yes	week1, clocktower, snout, soter, harill, aletheia, hecaceres,	no	3m 1s	2m 34s	completed	1m 5s	0m 34s	completed	completed	0m 19s	no aria
41	14m 9s	yes	snout, clocktower, harmony,	no	2m 15s	completed	2m 26s	no visit	no visit	completed	1m 52s	2m 1s	no aria
42	2m 19s	yes	week1, clocktower, soter, harill, hecaceres, snout, roso,	no	0m 0s	1m 14s	0m 35s	no visit	no visit	no visit	no playback	no visit	no aria
43	1m 12s	yes	week1, clocktower, soter, roso, harill,	no	0m 0s	no playback	no visit	no visit	no visit	no visit	no visit	no visit	no aria
44	1m 23s	yes	week1, harill,	no	0m 0s	no playback	no visit	no visit	no visit	no visit	no visit	no visit	no aria
45	5m 34s	yes	week1, harill,	no	0m 0s	no playback	no visit	no visit	no visit	no visit	no visit	no visit	no aria
46	4m 6s	yes	week1, harill, aletheia, clocktower, hecaceres, clocktower,	no	1m 6s	1m 7s	no visit	0m 54s	no visit	no visit	no visit	0m 34s	no aria
47	7m 9s	no	week1, harill, aletheia, soter, hecaceres,	no	0m 15s	completed	1m 17s	1m 9s	no visit	no visit	no visit	no playback	no aria
48	6m 13s	yes	week1, harill, clocktower, aletheia, harmony, hecaceres, roso,	no	0m 14s	2m 5s	no playback	1m 5s	no playback	no visit	no visit	1m 23s	no aria
49	13m 4s	yes	soter, clocktower,	Companion	6m 48s	completed	no visit	completed	no visit	2m 4s	completed	no visit	no aria
50	9m 24s	yes	week1, harill, createCharacter,	Manuel	0m 5s	0m 2s	no visit	no visit	no visit	no visit	0m 2s	no visit	no aria
51	47m 15s	yes	week1, harill, harill, clocktower, harmony, soter, snout,	no	6m 59s	completed	completed	completed	completed	completed	completed	completed	no aria
52	12m 40s	yes	harmony, roso, snout, hecaceres, aletheia, roso,	no	0m 46s	completed	completed	no visit	no visit	no visit	completed	no visit	no aria
53	14m 32s	yes	week1, harill, harill, soter, harill, soter, aletheia, harmony,	no	0m 38s	1m 10s	1m 22s	0m 39s	0m 22s	completed	1m 18s	1m 10s	no aria
54	17m 38s	yes	snout, roso, hecaceres, harill,	no	0m 12s	no playback	completed	1m 18s	completed	1m 35s	no visit	no visit	no aria
55	7m 16s	yes	week1, harill, harmony, hecaceres, clocktower, snout, soter,	Fulcrum	0m 0s	no playback	2m 5s	no visit	no playback	1m 14s	no visit	completed	no aria
56	21m 4s	yes	week1, harill, harmony, snout, soter, clocktower, clocktower,	no	0m 0s	completed	completed	1m 31s	completed	1m 18s	completed	completed	no aria
57	14m 16s	yes	hecaceres, aletheia, harmony, roso, snout, clocktower,	no	2m 1s	no playback	completed	no visit	completed	1m 12s	2m 21s	0m 59s	no aria
58	10m 14s	yes	week1, harill, hecaceres, clocktower, soter, harmony, roso,	no	0m 0s	no playback	completed	no visit	completed	no visit	no visit	1m 43s	no aria
59	18m 14s	yes	week1, harill, hecaceres, snout, roso, clocktower, snout, soter,	no	2m 15s	completed	2m 12s	no visit	completed	1m 15s	completed	1m 27s	no aria
60	1m 30s	yes	aletheia, harmony, hecaceres, snout,	no	0m 0s	no playback	no visit	2m 18s	completed	no visit	no playback	no visit	no aria
61	3m 15s	no	week1, harill, roso,	no	2m 46s	0m 14s	no visit	no visit	no visit	no playback	no visit	no visit	no aria
62	18m 42s	yes	week1, harill, snout,	no	6m 4s	2m 10s	completed	completed	no visit	completed	completed	no visit	no aria
63	9m 14s	yes	week1, harill, soter, aletheia, roso, snout	no	1m 8s	completed	completed	no visit	no visit	0m 35s	completed	no playback	no aria
64	0m 25s	yes	week1, harill, soter, hecaceres, roso, snout, clocktower,	no	0m 0s	no visit	no visit	no visit	0m 1s	no visit	no visit	no visit	no aria
65	0m 51s	yes	week1, harmony,	no	0m 0s	no visit	no visit	no visit	no playback	no visit	no visit	no visit	no aria
66	0m 33s	yes	week1, harmony, aletheia, harmony,	no	0m 0s	no visit	no playback	no playback	no playback	no playback	no visit	no visit	no aria
67	22m 10s	yes	week1, harmony, createCharacter, roso, snout, harill, snout,	Obsequio	0m 4s	3m 14s	completed	0m 19s	1m 7s	1m 20s	1m 47s	2m 25s	no aria
68	3m 59s	yes	hecaceres, clocktower, harill, soter, harmony, aletheia, roso,	no	0m 16s	1m 35s	no visit	no visit	1m 35s	no visit	no visit	1m 35s	no aria
			week1, harmony, harmony, harill, harill, hecaceres,										

ID	Session Duration	Location Shared	Locations Visited (in order)	Character Created	Time Spent in Villager Section	Harill's Bunker	Soter's Courtyard	The Magic Woods	The Font	Stall Sixteen	The Academy	The Subterranean Mill	The Clocktower
69	3m 57s	yes	week1, harmony, harmony, harmony, snout, week1, harmony, harmony, snout, snout, roso, clocktower, harill, soter, soter, harill, week1, harmony, snout, clocktower, hecaceres, snout, clocktower, soter, roso, week1, harmony, snout, hecaceres, clocktower, roso, soter, clocktower,	no	0m 0s	no visit	no visit	no visit	completed	completed	no visit	no visit	no aria
70	7m 29s	yes	week1, harmony, snout, clocktower, hecaceres, snout, clocktower, soter, roso,	no	0m 0s	0m 58s	0m 4s	no visit	no playabck	no playabck	no playabck	no visit	no aria
71	9m 5s	yes	week1, harmony, snout, hecaceres, clocktower, roso, soter, clocktower,	no	0m 0s	no visit	2m 5s	no visit	completed	1m 46s	completed	no playabck	no aria
72	10m 4s	yes	week1, harmony, snout, roso, soter, clocktower, hecaceres,	no	1m 5s	no visit	completed	no visit	completed	1m 17s	completed	2m 5s	no aria
73	9m 54s	yes	week1, harmony, soter, soter,	no	1m 53s	no visit	2m 15s	no visit	completed	1m 18s	completed	1m 4s	no aria
74	1m 36s	yes	week1, harmony, soter, soter,	no	0m 0s	no visit	0m 8s	no visit	0m 8s	no visit	no visit	no visit	no aria
75	0m 19s	yes	week1, hecaceres,	no	0m 0s	no visit	no visit	no visit	no visit	no visit	no visit	no playabck	no aria
76	0m 21s	yes	week1, hecaceres,	no	0m 0s	no visit	no visit	no visit	no visit	no visit	no visit	no playabck	no aria
77	1m 8s	yes	week1, hecaceres,	no	0m 0s	no visit	no visit	no visit	no visit	no visit	no visit	no playabck	no aria
78	2m 21s	yes	week1, hecaceres,	no	0m 0s	no playabck	no visit	0m 17s	no visit	no visit	3m 27s	completed	no aria
79	3m 15s	yes	week1, hecaceres,	no	0m 0s	no playabck	no visit	no visit	no visit	no playabck	no playabck	no playabck	no aria
80	4m 45s	yes	week1, hecaceres,	no	0m 0s	no playabck	no visit	no playabck	no visit	no playabck	no playabck	0m 2s	no aria
81	12m 57s	yes	week1, hecaceres, aletheia, aletheia, snout, snout, roso, clocktower, harill, soter,	no	0m 13s	no visit	1m 45s	0m 16s	no visit	1m 5s	0m 10s	0m 33s	no aria
82	1m 7s	yes	week1, hecaceres, aletheia, hecaceres,	no	0m 0s	no visit	no visit	no playabck	no visit	no visit	no visit	0m 27s	no aria
83	5m 16s	yes	week1, hecaceres, aletheia, roso, createCharacter, clocktower, week1, hecaceres, clocktower, snout, roso, harmony, aletheia, harill, soter,	thewoodcutter	0m 56s	no visit	no visit	1m 9s	no visit	no visit	no playabck	completed	no aria
84	16m 9s	yes	week1, hecaceres, createCharacter,	no	0m 0s	completed	no playabck	1m 8s	completed	completed	2m 21s	1m 47s	no aria
85	5m 39s	yes	week1, hecaceres, createCharacter,	Number 2	0m 0s	no visit	no visit	no visit	no visit	no visit	no visit	no playabck	no aria
86	9m 48s	yes	week1, hecaceres, createCharacter, snout, soter, harill,	Talespinner	0m 0s	1m 15s	2m 45s	no visit	no visit	completed	no visit	1m 54s	no aria
87	1m 30s	yes	week1, hecaceres, harill,	no	0m 55s	no playabck	no visit	no visit	no visit	no visit	no visit	no playabck	no aria
88	8m 53s	yes	week1, hecaceres, harill, aletheia, snout, roso, clocktower,	no	1m 0s	2m 41s	no visit	completed	no visit	1m 32s	no visit	0m 57s	no aria
89	6m 54s	yes	week1, hecaceres, harill, harill,	no	0m 0s	3m 21s	no visit	no visit	no visit	no visit	no visit	2m 24s	no aria
90	18m 12s	yes	week1, hecaceres, harill, hecaceres, snout, snout, roso, clocktower, harill, soter, aletheia, harmony, soter	no	1m 8s	completed	1m 6s	no playabck	completed	1m 5s	completed	1m 38s	no aria
91	19m 58s	yes	hecaceres, harill, roso, snout, clocktower, soter,	jPlant	1m 30s	completed	completed	completed	completed	completed	completed	completed	no aria
92	5m 14s	yes	week1, hecaceres, harill, snout,	no	4m 18s	no playabck	no visit	no visit	no visit	no playabck	no visit	no playabck	no aria
93	9m 9s	yes	week1, hecaceres, harill, snout, aletheia, clocktower, harmony, roso,	no	1m 14s	completed	no visit	1m	completed	1m 8s	completed	no playabck	no aria
94	27m 16s	yes	week1, hecaceres, harill, soter, aletheia, harmony, snout, roso, clocktower,	no	6m 14s	completed	completed	2m 7s	completed	1m 17s	completed	1m 28s	no aria
95	4m 29s	yes	week1, hecaceres, harmony, roso, createCharacter, harill, hecaceres	Gray	3m 19s	2m 18s	0m 52s	no visit	completed	no visit	completed	0m 56s	no aria
96	0m 38s	yes	week1, hecaceres, hecaceres,	no	0m 0s	no visit	no visit	no visit	no visit	no visit	no visit	no playabck	no aria
97	0m 41s	yes	week1, hecaceres, hecaceres,	no	0m 0s	no visit	no visit	completed	0m 21s	1m 29s	completed	no playabck	no aria
98	9m 57s	yes	week1, hecaceres, hecaceres,	no	0m 0s	no visit	no visit	no visit	no visit	no visit	no visit	no playabck	no aria
99	7m 21s	yes	week1, hecaceres, hecaceres, harill, soter, clocktower, aletheia, snout, roso,	no	1m 8s	completed	no playabck	1m 19s	no visit	completed	1m 48s	no visit	no aria
100	13m 18s	yes	week1, hecaceres, hecaceres, roso, harill, soter, snout, harmony, aletheia, clocktower, roso,	no	8m 59s	no playabck	no playabck	no playabck	no playabck	no playabck	no playabck	no playabck	no aria
101	1m 34s	yes	week1, hecaceres, roso,	no	0m 0s	no visit	no visit	no visit	completed	no visit	no playabck	no playabck	no aria
102	0m 51s	yes	week1, hecaceres, snout,	no	0m 0s	no visit	no visit	no visit	no visit	no playabck	no visit	no playabck	no aria
103	2m 35s	yes	week1, hecaceres, snout,	no	0m 0s	no visit	no visit	no visit	no visit	no playabck	no visit	no playabck	no aria
104	3m 22s	yes	week1, hecaceres, snout,	no	0m 9s	no visit	no visit	no visit	no visit	no playabck	no visit	no playabck	no aria
105	5m 17s	no	week1, hecaceres, snout, aletheia, clocktower, roso,	no	0m 0s	no visit	no visit	no visit	no visit	completed	no playabck	completed	no aria
106	18m 50s	yes	week1, hecaceres, snout, aletheia, harmony, harill, soter, week1, hecaceres,	Karry	8m 0s	completed	2m 35s	completed	completed	no playabck	no visit	1m 29s	no aria
107	19m 6s	yes	week1, hecaceres, snout, clocktower, clocktower, roso, harill, snout, aletheia, harmony, roso, soter,	no	1m 47s	completed	completed	0m 34s	0m 58s	1m 31s	completed	no playabck	no aria

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108	18m 15s	yes	week1, hecaceres, snout, clocktower, roso, aletheia, harmony, soter, harill,	Molly	6m 34s	completed	completed	completed	1m 15s	1m 19s	completed	completed	no aria
109	7m 29s	yes	week1, hecaceres, snout, clocktower, soter, roso, harill, soter,	no	1m 2s	no visit	1m 29s	no visit	no visit	completed	no playbck	1m 39s	no aria
110	28m 4s	yes	week1, hecaceres, snout, roso, clocktower, soter, harill, soter,	Razor	6m 41s	completed	1m 18s	completed	2m 18s	completed	no visit	no playbck	no aria
111	5m 25s	yes	week1, hecaceres, snout, roso,	no	0m 18s	no visit	no visit	no visit	no visit	1m 17s	2m 14s	0m 24s	no aria
112	2m 19s	no	week1, hecaceres, snout, roso, harill, createCharacter, soter, harmony, aletheia, hecaceres,	no	0m 0s	no visit	no visit	no visit	no visit	0m 41s	0m 25s	0m 38s	no aria
113	24m 17s	yes	week1, hecaceres, snout, roso, harill, createCharacter, soter, harmony, aletheia, hecaceres,	Ms Maven	6m 1s	completed	completed	completed	1m 28s	completed	1m 27s	completed	no aria
114	6m 19s	yes	week1, hecaceres, soter, harill, roso, soter, roso, aletheia, clocktower,	no	0m 47s	1m 14s	2m 33s	no visit	no visit	no visit	1m 5s	1m 35s	no aria
115	12m 14s	yes	week1, hecaceres, soter, snout, clocktower	no	2m 1s	no visit	completed	1m 53s	1m 6s	completed	1m 29s	no playbck	no aria
116	2m 4s	yes	week1, hecaceres, soter, snout, clocktower	no	0m 0s	no visit	2m 14s	no visit	no visit	completed	no visit	1m 8s	no aria
117	33m 10s	yes	harmony, snout, soter, roso, createCharacter, createCharacter, harill, clocktower, harmony, aletheia,	Sozzee	0m 27s	completed	completed	completed	1m 15s	1m 6s	completed	completed	no aria
118	0m 28s	yes	week1, roso,	no	0m 0s	no visit	no visit	no visit	no visit	no visit	0m 1s	no visit	no aria
119	2m 30s	yes	week1, roso,	no	0m 0s	no visit	no visit	no visit	no visit	no visit	0m 43s	no visit	no aria
120	8m 45s	yes	week1, roso, aletheia, aletheia, roso, snout, snout, soter, hecaceres, roso, hecaceres,	no	0m 0s	no visit	1m 20s	no visit	no visit	1m 20s	1m 7s	3m 49s	no aria
121	7m 19s	yes	week1, roso, clocktower, clocktower, soter, aletheia,	no	0m 0s	no visit	no playbck	1m 1s	no visit	no visit	no playbck	no visit	no aria
122	5m 52s	yes	week1, roso, clocktower, soter, hecaceres,	no	0m 0s	no visit	completed	no visit	no visit	no visit	2m 14s	no playbck	no aria
123	26m 17s	yes	week1, roso, createCharacter,	Socrates	0m 0s	no visit	no visit	no visit	no visit	no visit	1m 19s	no visit	no aria
124	4m 9s	yes	week1, roso, hecaceres, aletheia,	no	0m 34s	no playbck	no playbck	0m 50s	no visit	no visit	0m 52s	0m 28s	no aria
125	21m 7s	yes	week1, roso, hecaceres, clocktower, snout, roso, harmony, soter, aletheia, hecaceres, clocktower,	no	5m 2s	completed	2m 5s	no playbck	completed	2m 12s	completed	1m 14s	no aria
126	17m 58s	yes	week1, roso, hecaceres, snout, aletheia, hecaceres, hecaceres, soter, soter, roso, roso, roso, hecaceres, hecaceres, aletheia,	no	0m 0s	no visit	completed	0m 16s	no visit	no playbck	completed	0m 16s	no aria
127	62m 21s	yes	week1, roso, hecaceres, soter, soter, harmony, clocktower, snout, aletheia, soter, clocktower, hecaceres,	no	0m 0s	no visit	1m 15s	1m 15s	1m 15s	1m 15s	no playbck	1m 15s	no aria
128	12m 5s	yes	week1, roso, roso, createCharacter, hecaceres, hecaceres, harill,	milesospark	0m 3s	2m 11s	no visit	no visit	no visit	no visit	1m 48s	2m 11s	no aria
129	28m 14s	yes	week1, roso, roso, hecaceres, clocktower, snout, soter, snout, hecaceres, aletheia, harmony,	no	2m 8s	completed	2m 26s	1m 3s	completed	2m 1s	completed	compeltd	no aria
130	29m 53s	yes	week1, roso, roso, hecaceres, snout, aletheia, harmony, soter, harill, snout, clocktower,	no	4m 17s	3m 3s	completed	1m 42s	completed	1m 18s	completed	1m 4s	no aria
131	3m 14s	yes	week1, roso, roso, roso, clocktower, harill,	no	0m 0s	no playbck	no visit	no visit	no visit	no visit	no playbck	no visit	no aria
132	45m 46s	yes	week1, roso, soter, aletheia, hecaceres, roso, harmony, soter, harill, clocktower	no	8m 52s	2m 27s	completed	completed	completed	2m 27s	completed	2m 27s	no aria
133	14m 35s	yes	week1, roso, soter, createCharacter, harmony, hecaceres, aletheia, clocktower, harill, snout,	Goz	13m 31s	2m 15s	completed	no playbck	completed	1m 6s	completed	1m 12s	no aria
134	48m 5s	yes	week1, snout, createCharacter, hecaceres, roso, harill, soter, harmony, aletheia	Olivia	47m 18s	completed	2m 29s	completed	completed	completed	completed	completed	no aria
135	3m 9s	yes	week1, snout, harill, harmony, soter, hecaceres,	no	0m 0s	0m 16s	0m 7s	no visit	0m 7s	no playbck	no visit	0m 7s	no aria
136	6m 18s	no	week1, snout, harill, roso, clocktower, aletheia,	no	0m 0s	2m 14s	no visit	no playbck	no visit	completed	1m 46s	no visit	no aria
137	21m 26s	yes	week1, snout, harill, roso, createCharacter, soter, aletheia,	Catalyst	7m 54s	2m 34s	completed	1m 14s	no visit	1m 39s	completed	no visit	no aria
138	8m 39s	yes	week1, snout, harill, soter, clocktower, hecaceres, snout,	no	0m 0s	completed	1m 15s	no visit	no visit	completed	no visit	1m 29s	no aria
139	6m 27s	yes	week1, snout, harmony, aletheia, snout, snout,	no	0m 0s	no visit	no visit	2m 45s	1m 19s	completed	no visit	no visit	no aria
140	3m 8	yes	week1, snout, harmony, hecaceres, clocktower, aletheia, week1, snout, hecaceres, harill, clocktower, snout, roso, soter,	no	0m 31s	no visit	no visit	no playbck	1m 6s	0m 38s	no visit	0m 26s	no aria
141	17m 5s	no	harmony, aletheia, harmony, soter, hecaceres,	no	3m 12s	3m 26s	completed	completed	1m 28s	1m 8s	completed	1m 22s	no aria
142	6m 4s	yes	week1, snout, hecaceres, roso, clocktower, harill, clocktower,	no	0m 23s	1m 15s	no visit	no visit	no visit	0m 45s	1m 29s	1m 6s	no aria
143	3m 53s	yes	week1, snout, roso,	no	0m 0s	no visit	0m 10s	1m 39s	no visit	1m 27s	completed	no visit	no aria



ID	Session Duration	Location Shared	Locations Visited (in order)	Character Created	Time Spent in Villager Section	Harill's Bunker	Soter's Courtyard	The Magic Woods	The Font	Stall Sixteen	The Academy	The Subterranean Mill	The Clocktower
144	6m 51s	yes	week1, snout, roso, aletheia, clocktower,	no	1m 20s	0m 51s	no visit	1m 24s	no visit	1m 25s	1m 47s	2m 26s	no aria
145	5m 29s	yes	week1, snout, roso, clocktower, hecaceres, soter,	no	0m 12s	no visit	0m 59s	no visit	no visit	1m 12s	0m 48s	1m 12s	no aria
146	10m 18s	yes	week1, snout, snout, clocktower, clocktower, hecaceres, snout, roso, aletheia, harmony, clocktower, harill, soter, soter, soter,	no	0m 0s	no playbck	completed	0m 57s	completed	1m 28s	completed	0m 15s	no aria
147	3m 12s	yes	week1, snout, snout, hecaceres, soter, harmony, clocktower,	no	0m 18s	no visit	no playbck	no visit	0m 19s	0m 47s	no visit	1m 21s	no aria
148	3m 40s	yes	week1, snout, snout, roso, snout, snout, hecaceres, snout,	no	0m 0s	no visit	no visit	no visit	no visit	1m 34s	no playbck	no playbck	no aria
149	5m 6s	yes	week1, snout, soter, clocktower, roso, aletheia, harill,	no	0m 28s	no playbck	no playbck	no playbck	2m 18s	no playbck	no playbck	completed	no aria
150	4m 8s	yes	week1, snout, soter, villagerSection	no	3m 12s	no visit	no playbck	no visit	no visit	no playbck	no visit	no visit	no aria
151	13m 34s	yes	week1, soter, aletheia, hecaceres, harill, clocktower, week1, soter, aletheia, soter, harill, harmony, snout, roso, clocktower, hecaceres, harill, soter, harmony, snout, roso, clocktower, soter, soter, hecaceres, hecaceres, roso, clocktower, createCharacter, clocktower, harill, roso, roso, clocktower, clocktower, clocktower, snout, snout, snout,	no	0m 0s	2m 40s	completed	0m 35s	no visit	no visit	no visit	completed	no aria
152	27m 35s	yes	hecaceres, hecaceres,	mioplis	9m 13s	completed	1m 47s	completed	completed	57s	completed	completed	no aria
153	10m 9s	yes	week1, soter, clocktower, hecaceres, harmony, snout,	no	0m 0s	no visit	no visit	no visit	completed	2m 8s	no visit	0m 38s	no aria
154	0m 45s	yes	week1, soter, harill,	no	0m 0s	0m 19s	0m 19s	no playbck	no visit	no visit	no visit	no visit	no aria
155	6m 26s	yes	week1, soter, harill, aletheia, harmony, roso, harill, harmony, week1, soter, harill, hecaceres, roso, snout, clocktower, harmony,	no	0m 22s	0m 26s	1m 15s	1m 17s	0m 32s	no visit	0m 54s	no visit	no aria
156	12m 36s	yes	week1, soter, harill, hecaceres, roso, snout, clocktower,	no	0m 0s	2m 30s	1m 54s	no visit	0m 40s	1m 18s	completed	1m 35s	no aria
157	0m 32s	yes	week1, soter, harmony,	no	0m 0s	no visit	no playbck	no visit	no playbck	no visit	no visit	no visit	no aria
158	39m 48s	yes	week1, soter, harmony, createCharacter, snout, aletheia, hecaceres, roso, soter, harill, villagerSection	adagio	8m 42s	completed	completed	completed	completed	completed	completed	completed	no aria
159	22m 57s	yes	week1, soter, harmony, harill, soter, snout, aletheia, hecaceres, snout, roso,	no	2m 17s	3m 1s	2m 31s	completed	completed	completed	2m 4s	completed	no aria
160	25m 18s	yes	clocktower, harill, roso, clocktower,	no	4m 2s	completed	no playbck	completed	0m 42s	completed	completed	1m 26s	no aria
161	2m 59s	yes	week1, soter, harmony, soter,	no	0m 0s	no visit	0m 19s	no visit	no visit	no visit	no visit	no visit	no aria
162	22m 2s	yes	week1, soter, hecaceres, clocktower, harill, aletheia, harmony, hecaceres, clocktower, snout, roso, harill, createCharacter, Alberto	Alberto	4m 2s	completed	2m 23s	0m 54s	completed	completed	2m 5s	no playbck	no aria
163	19m 54s	yes	week1, soter, hecaceres, soter, harill, clocktower, clocktower, clocktower, aletheia, harmony, snout,	no	3m 15s	completed	completed	1m 14s	0m 54s	completed	no visit	0m 43s	no aria
164	42m 9s	yes	createCharacter, villagerSection	Caretaker	10m 54s	no visit	completed	no visit	completed	completed	1min 17s	completed	no aria
165	3m 55s	yes	week1, soter, roso, snout,	no	0m 0s	no visit	completed	no visit	no visit	completed	completed	no visit	no aria
166	13m 19s	yes	week1, soter, snout, harmony, hecaceres, roso, snout, harmony, aletheia,	no	0m 0s	no visit	no playbck	completed	completed	completed	completed	no playbck	no aria
167	31m 1s	yes	week1, soter, snout, hecaceres, harill, clocktower, aletheia, harmony, clocktower, snout,	no	0m 0s	completed	1m 19s	completed	completed	completed	completed	completed	no aria
168	3m 47s	yes	week1, soter, soter, aletheia,	no	0m 0s	no visit	no playbck	no playbck	no visit	no visit	no visit	no visit	no aria
169	9m 34s	yes	week1, soter, soter, harill, aletheia, snout, roso, hecaceres,	no	0m 0s	0m 24s	0m 42s	0m 50s	no playbck	0m 18s	0m 53s	0m 10s	no aria
170	1m 49s	yes	week1, soter, soter, hecaceres, hecaceres, snout, roso, roso,	no	0m 0s	no visit	no playbck	no visit	no playbck	no playbck	no playbck	no playbck	no aria
171	4m 17s	yes	week1, soter, soter, snout,	no	0m 0s	no visit	1m 28s	no visit	no playbck	0m 31s	no visit	completed	no aria
172	24m 23s	yes	week2, aletheia, clocktower, hecaceres, harmony, snout, harill, roso,	no	4m 2s	completed	no visit	completed	2m 16s	completed	completed	0m 57s	no aria
173	25m 18s	yes	week2, aletheia, harill, harmony, clocktower, hecaceres, voteHecaceres, snout, snout, roso, soter,	Faldor	4m 28s	2m 15s	1m 38s	completed	1m 1s	completed	2m 18s	completed	no aria
174	38m 12s	no	week2, aletheia, harmony, snout, roso, soter, snout, harill, voteHarill, soter, hecaceres, clocktower	no	10m 8s	completed	completed	completed	2m 16s	1m 22s	completed	completed	no aria
175	6m 2s	yes	week2, aletheia, hecaceres, harill, snout, roso,	no	0m 0s	2m 2s	no visit	no playbck	no visit	1m 25s	1m 14s	0m 56s	no aria
176	7m 45s	yes	week2, aletheia, roso, harmony, clocktower, hecaceres,	no	0m 0s	no visit	no visit	completed	1m 57s	no visit	1m 18s	completed	no aria
177	8m 23s	yes	week2, aletheia, snout, harill, roso, voteRoso, soter	no	0m 15s	1m 6s	no playbck	0m 36s	no visit	completed	completed	no visit	no aria

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178	2m 13s	yes	week2, clocktower,	no	1m 47s	no visit	no visit	no visit	no visit	no visit	no visit	no visit	no aria
179	3m 2s	yes	week2, clocktower,	no	2m 45s	no visit	no visit	no visit	no visit	no visit	no visit	no visit	no aria
180	14m 1s	yes	week2, clocktower, aletheia, snout, harmony, harill, voteHarill, soter,	no	0m 0s	completed	no playback	completed	1m 57s	completed	no visit	no visit	no aria
181	25m 13s	yes	week2, clocktower, createCharacter, snout, ros, clocktower, harill, soter, hecaceres, roso, snout, harmony, roso, snout, clocktower, roso, voteHarill, snout,	The Colonel	16m 25s	0m 9s	0m 9s	no visit	2m 23s	0m 6s	0m 6s	0m 9s	no aria
182	25m 41s	yes	week2, clocktower, createCharacter, soter, hecaceres, soter, hecaceres, roso, harmony, aletheia, roso, harill, harill, voteHarill,	Well-wisher	4m 5s	completed	2m 59s	completed	completed	no visit	3m 4s	completed	no aria
183	22m 43s	yes	week2, clocktower, hecaceres, snout, harill, harmony aletheia, aletheia, harill,	no	2m 21s	2m 8s	completed	2m 39s	completed	1m 18s	completed	completed	no aria
184	31m 4s	no	week2, clocktower, hecaceres, snout, harill, harmony aletheia, snout, roso, snout, harill, clocktower,	no	9m 3s	completed	completed	completed	completed	completed	completed	completed	no aria
185	12m 8s	yes	week2, clocktower, hecaceres, soter, harmony, harill, snout, clocktower,	no	1m 29s	2m 4s	2m 9s	no visit	1m 18s	completed	no visit	1m 9s	no aria
186	7m 12s	yes	week2, clocktower, hecaceres, voteHecaceres, snout, harill, soter, harmony, aletheia, snout, soter, clocktower, roso,	no	0m 54s	1m 18s	1m 19s	0m 46s	1m 12s	completed	0m 25s	0m 34s	no aria
187	5m 48s	yes	week2, clocktower, roso, harill, voteHarill,	no	2m 3s	2m 13s	no visit	no visit	no visit	no visit	0m 34s	no visit	no aria
188	4m 46s	yes	week2, clocktower, snout, harill, roso, voteRos,	no	1m 49s	0m 12s	no visit	no visit	no visit	no playback	1m 1s	no visit	no aria
189	10m 14s	yes	week2, clocktower, soter, hecaceres, harill, aletheia, week2, clocktower, soter, hecaceres, harill, harmony, aletheia, harill, roso, snout, soter, roso, hecaceres, voteHecaceres, clocktower,	no	1m 49s	2m 23s	no playback	2m 15s	no visit	no visit	no visit	completed	no aria
190	26m 1s	yes	week2, harill, aletheia, harmony, snout, hecaceres,	no	1m 18s	completed	2m 25s	completed	completed	1m 18s	completed	completed	no aria
191	26m 37s	yes	roso, voteHarill, clocktower, harill, aletheia, week2, harill, aletheia, harmony, harmony, snout,	no	8m 8s	completed	no visit	completed	completed	1m 15s	completed	completed	no aria
192	42m 31s	yes	roso, roso, hecaceres, voteHecaceres, clocktower,	no	12m 2s	completed	no visit	completed	completed	completed	completed	completed	no aria
193	8m 15s	yes	week2, harill, clocktower, hecaceres, voteHecaceres, harmony, snout,	no	0m 15s	2m 58s	no visit	no visit	1m 38s	1m 9s	no visit	0m 29s	no aria
194	7m 43s	yes	week2, harill, harill, aletheia,	no	0m 0s	completed	no visit	2m 47s	no visit	no visit	no visit	no visit	no aria
195	19m 17s	yes	week2, harill, harill, clocktower, hecaceres, soter, harmony, snout, aletheia, soter,	no	1m 4s	completed	1m 38s	completed	2m 1s	completed	no visit	0m 41s	no aria
196	7m 5s	yes	week2, harill, harill, hecaceres, voteRos,	no	0m 0s	1m 36s	no visit	no visit	no visit	no visit	no visit	1m 55s	no aria
197	15m 8s	no	week2, harill, hecaceres, snout, roso, voteRos, soter,	no	0m 19s	completed	1m 19s	completed	1m 38s	1m 8s	completed	completed	no aria
198	3m 8s	yes	harmony, clocktower, harill, roso, aletheia, aletheia, week2, harill, roso,	no	0m 38s	1m 50s	no visit	no visit	no visit	no visit	no playback	no visit	no aria
199	9m 34s	yes	week2, harill, roso, snout,	no	2m 2s	completed	no visit	no playback	no visit	1m 26s	1m 16s	no playback	no aria
200	18m 15s	yes	week2, harill, roso, snout, roso, clocktower, hecaceres, aletheia, harmony,	no	0m 45s	no playback	completed	no visit	1m 29s	completed	2m 32s	completed	no aria
201	37m 10s	yes	week2, harill, snout, roso, voteHarill, aletheia, hecaceres, soter, soter, harmony, clocktower, harill, clocktower, harill, harill,	no	1m 26s	1m 23s	completed	2m 49s	completed	1m 16s	completed	completed	no aria
202	28m 16s	no	week2, harill, soter, aletheia, harmony, snout, roso, hecaceres,	no	5m 16s	completed	completed	completed	completed	completed	completed	completed	no aria
203	20m 22s	yes	week2, harill, soter, aletheia, harmony, snout, roso, voteRos,	no	0m 0s	completed	completed	completed	completed	1m 14s	completed	completed	no aria
204	11m 19s	yes	hecaceres,	no	5m 18s	0m 24s	0m 15s	1m 29s	1m 18s	no visit	no visit	0m 47s	no aria
205	16m 17s	yes	week2, harill, soter, harmony, aletheia, hecaceres, clocktower, week2, harill, soter, soter, snout, roso, clocktower, hecaceres, harmony, aletheia, snout,	no	2m 16s	3m 12s	1m 5s	2m 18s	2m 8s	completed	no playback	1m 9s	no aria
206	8m 12s	yes	week2, harill, voteHarill, hecaceres, soter, snout, roso, hecaceres, harmony,	no	2m 45s	completed	1m 14s	no visit	no playback	0m 59s	2m 15s	1m 15s	no aria
207	18m 44s	yes	week2, harill, voteHarill, roso, aletheia, soter harmony, snout, roso, hecaceres,	no	2m 5s	completed	completed	completed	completed	1m 15s	completed	completed	no aria

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208	9m 12s	yes	week2, harill, voteHarill, snout, roso, soter, harmony, clocktower, clocktower,	no	0m 17s	1m 14s	no playback	no visit	2m 12s	completed	1m 6s	no visit	no aria
209	23m 58s	yes	week2, harmony, aletheia, aletheia, clocktower, clocktower, harill, roso, hecaceres, voteHarill, snout, soter,	no	1m 6s	completed	completed	completed	completed	completed	completed	completed	no aria
210	16m 28s	yes	week2, harmony, createCharacter, roso, snout, soter, harill, voteHarill, clocktower, hecaceres, harmony,	Melody	5m 22s	completed	1m 14s	no visit	completed	completed	2m 13s	1m 36s	no aria
211	17m 8s	yes	week2, harmony, harill, hecaceres, roso, voteRoso, snout, aletheia,	no	0m 0s	completed	completed	completed	completed	completed	completed	completed	no aria
212	12m 36	yes	week2, harmony, harill, soter, snout, hecaceres,	no	1m 56s	1m 46s	1m 5s	2m 45s	1m 3s	completed	no visit	1m 39s	no aria
213	2m 15s	yes	voteHecaceres, aletheia, soter, clocktower,	no	0m 0s	no visit	no visit	no visit	0m 27s	1m 14s	no playback	no visit	no aria
214	3m 39s	yes	week2, harmony, snout, roso	no	0m 0s	no playback	no visit	no visit	0m 48s	1m 12s	1m 6s	no visit	no aria
215	33m 25s	yes	week2, harmony, snout, roso, hecaceres, aletheia, harill,	no	8m 33s	completed	no visit	2m 25s	2m 4s	completed	completed	completed	no aria
216	0m 40s	yes	week2, hecaceres,	no	0m 26s	no visit	no visit	no visit	no visit	no visit	no visit	no playback	no aria
217	17m 54s	yes	week2, hecaceres, aletheia, snout, roso, voteRoso clocktower, clocktower, harill,	no	6m 47s	2m 15s	no visit	2m 28s	no visit	completed	completed	0m 48s	no aria
218	9m 14s	yes	week2, hecaceres, clocktower, harill, harmony, soter, aletheia, snout,	no	1m 49s	2m 14s	1m 7s	no visit	1m 18s	1m 4s	no visit	no playback	no aria
219	14m 15s	yes	week2, hecaceres, clocktower, snout, soter, roso, harill, voteHarill, harmony, hecaceres,	no	1m 36s	completed	2m 4s	no visit	1m 29s	completed	1m 39s	completed	no aria
220	16m 12s	yes	week2, hecaceres, harill, aletheia, snout, roso, clocktower,	no	3m 1s	2m 42s	no visit	1m 56s	completed	completed	completed	no playback	no aria
221	22m 21s	yes	snout, roso, aletheia, roso, roso, voteRoso, hecaceres,	no	3m 18s	completed	1m 14s	2m 14s	completed	completed	completed	completed	no aria
222	5m 20s	yes	clocktower,	no	0m 2s	0m 11s	no visit	0m 23s	0m 24s	0m 29s	0m 7s	0m 18s	no aria
223	22m 14s	yes	week2, hecaceres, hecaceres, soter, harmony, aletheia, harill, snout, roso,	no	4m 9s	completed	2m 24s	completed	1m 36s	completed	completed	1m 27s	no aria
224	12m 17s	yes	week2, hecaceres, hecaceres, voteHarill, harill, roso, roso, soter, soter, soter,	no	0m 0s	3m 14s	completed	no visit	no visit	no visit	completed	1m 52s	no aria
225	18m 29s	yes	week2, hecaceres, roso, aletheia, snout, harill, voteHarill,	no	6m 14s	completed	no visit	2m 54s	no visit	1m 18s	completed	no playback	no aria
226	24m 20s	yes	week2, hecaceres, roso, harill, voteHarill, snout, aletheia,	no	5m 13s	completed	2m 34s	completed	2m 15s	1m 14s	completed	completed	no aria
227	13m 58s	yes	clocktower, hecaceres, harmony, soter, hecaceres,	no	2m 14s	no visit	no visit	no visit	1m 14s	1m 15s	2m 32s	completed	no aria
228	3m 48s	no	week2, hecaceres, roso, snout, harmony, hecaceres,	no	1m 16s	no visit	no visit	no visit	no visit	no visit	1m 45s	no playback	no aria
229	9m 5s	yes	week2, hecaceres, roso, voteRoso, snout, harill, aletheia, clocktower, roso,	no	0m 15s	1m 5s	no visit	0m 47s	no visit	0m 46s	completed	0m 42s	no aria
230	16m 3s	yes	week2, hecaceres, snout, clocktower, roso, aletheia, harmony, snout, harill, voteHarill,	no	3m 12s	2m 56s	no visit	completed	0m 53s	no playback	completed	1m 15s	no aria
231	15m 49s	yes	week2, hecaceres, snout, roso, clocktower, harmony, harill,	no	2m 17s	completed	no visit	2m 15s	completed	completed	no playback	1m 16s	no aria
232	15m 13s	yes	voteHarill, aletheia, harmony,	no	0m 29s	completed	completed	completed	2m 28s	no visit	no visit	1m 39s	no aria
233	6m 5s	yes	week2, hecaceres, soter, harill, voteHarill, harmony, aletheia,	no	0m 0s	0m 34s	0m 42s	no visit	1m 23s	0m 34s	no visit	1m 14s	no aria
234	4m 2s	yes	week2, hecaceres, soter, soter, harmony, snout, harill, harill, soter,	no	0m 0s	no visit	no visit	no visit	no visit	1m 10s	no visit	completed	no aria
235	24m 15s	yes	week2, hecaceres, voteHecaceres, snout,	no	3m 18s	completed	completed	2m 58s	completed	1m 9s	completed	completed	no aria
236	13m 5s	no	week2, roso, aletheia, harmony, snout, soter, clocktower,	Plumjah	2m 58s	completed	no visit	no visit	no visit	1m 8s	completed	1m 38s	no aria
237	6m 9s	no	hecaceres, voteHecaceres, roso, snout, harill,	no	3m 46s	completed	no visit	no visit	no visit	1m 15s	completed	1m 8s	no aria
238	3m 15s	yes	week2, roso, hecaceres, voteRoso,	no	0m 40s	no visit	no visit	no visit	no visit	no playback	2m 23s	no visit	no aria
239	8m 15s	yes	week2, roso, snout, voteRoso, snout,	no	3m 5s	no visit	no visit	1m 27s	no visit	0m 18s	completed	no visit	no aria
240	11m 10s	yes	week2, roso, snout, aletheia,	no	0m 0s	3m 2s	completed	no visit	1m 21s	completed	2m 5s	no visit	no aria

ID	Session Duration	Location Shared	Locations Visited (in order)	Character Created	Time Spent in Villager Section	Harill's Bunker	Soter's Courtyard	The Magic Woods	The Font	Stall Sixteen	The Academy	The Subterranean Mill	The Clocktower
241	16m 34s	yes	week2, roso, snout, hecaceres, soter, harmony, harill, clocktower, snout, snout,	no	2m 3s	3m 15s	2m 1s	no visit	completed	1m 18s	completed	1m 49s	no aria
242	27m 29s	yes	week2, roso, snout, roso, voteRoso, soter, harill, week2, roso, soter, hecaceres, voteHecaceres, snout, harmony, snout,	no	3m 0s	completed	0m 45s	2m 16s	no visit	completed	completed	1m 47s	no aria
243	9m 15s	yes	week2, roso, voteRoso, clocktower,	no	1m 3s	no visit	0m 52s	no visit	1m 15s	no playbck	1m 49s	completed	no aria
244	2m 16s	yes	week2, roso, voteRoso, clocktower,	no	0m 14s	no visit	no visit	no visit	no visit	no visit	1m 4s	no visit	no aria
245	12m 26s	yes	week2, roso, voteRoso, harill, harill, aletheia, aletheia, harmony, roso, roso,	no	0m 0s	0m 43s	no visit	2m 48s	no visit	no visit	1m 17s	no visit	no aria
246	4m 8s	yes	week2, roso, voteRoso, snout,	no	0m 0s	no visit	no visit	no visit	no visit	completed	1m 24s	no visit	no aria
247	26m 38s	yes	week2, roso, voteRoso, soter, harill, snout, harmony, aletheia, hecaceres,	no	4m 22s	3m 45s	completed	2m 40s	completed	completed	completed	1m 53s	no aria
248	2m 15s	yes	week2, roso, voteRoso, soter, hecaceres,	no	0m 35s	no visit	0m 15s	no visit	no visit	no visit	1m 14s	no playbck	no aria
249	15m 14s	yes	week2, snout, clocktower, aletheia, hecaceres, voteHecaceres, harill, harmony, clocktower, roso,	no	1m 4s	3m 15s	no visit	2m 47s	1m 7s	no visit	completed	completed	no aria
250	4m 45s	yes	week2, snout, harill, roso,	no	0m 0s	1m 46s	no visit	no visit	no visit	1m 13s	completed	no visit	no aria
251	8m 29s	yes	week2, snout, harmony, hecaceres, aletheia, clocktower, harill, roso,	no	0m 0s	2m 18s	no visit	1m 16s	no playbck,	completed	no playbck	1m 15s	no aria
252	16m 8s	yes	week2, snout, hecaceres, aletheia, soter, clocktower, harill,	no	2m 4s	completed	completed	completed	no visit	1m 7s	no visit	no visit	no aria
253	7m 44s	yes	week2, snout, roso, clocktower,	no	5m 37s	no visit	no visit	no visit	no visit	no playbck	no playbck	no visit	no aria
254	24m 53s	yes	week2, snout, roso, hecaceres, clocktower, roso, soter, harmony, aletheia, harill, voteHarill, hecaceres,	no	3m 42s	3m 25s	completed	completed	completed	completed	2m 37s	completed	no aria
255	10m 38s	yes	week2, snout, roso, soter, hecaceres, harmony, clocktower, week2, snout, soter, hecaceres, voteHecaceres, aletheia, harill,	no	1m 26s	no visit	1m 15s	no visit	completed	completed	2m 15s	completed	no aria
256	21m 15s	yes	harmony, aletheia,	no	5m 12s	2m 15s	completed	completed	1m 6s	completed	no visit	1m 15s	no aria
257	6m 58s	yes	week2, soter, harmony, harill, soter, hecaceres, clocktower,	no	0m 0s	2m 5s	1m 14s	no visit	completed	no visit	no visit	1m 9s	no aria
258	4m 59s	yes	week2, soter, hecaceres, clocktower, snout, roso,	no	0m 20s	no visit	1m 5s	no visit	completed	completed	1m 27s	0m 24s	no aria
259	7m 23s	yes	week2, soter, snout, aletheia, harmony, clocktower, roso, voteRoso,	no	1m 6s	no visit	no playbck	1m 16s	1m 45s	1m 4s	completed	no visit	no aria
260	7m 23s	yes	week3, aletheia,	no	0m 3s	no visit	no visit	5m 47s	no visit	no visit	no visit	no aria	no aria
261	11m 28s	yes	week3, aletheia, createCharacter, createCharacter, week3, aletheia, harill, soter, snout, roso, clocktower,	no	10m 49s	no visit	no visit	no playbck	no visit	no visit	no visit	no aria	no aria
262	35m 51s	yes	week3, aletheia, harill, soter, snout, roso, clocktower,	no	2m 0s	completed	completed	completed	completed	completed	completed	no aria	no aria
263	7m 12s	yes	harmony, hecaceres, roso,	no	0m 14s	no visit	no visit	2m 46s	1m 4s	completed	1m 27s	no aria	no aria
264	8m 30s	yes	week3, aletheia, hecaceres, soter, aletheia, soter, roso, harill, aletheia, aletheia,	no	0m 0s	1m 54s	no playbck	1m 54s	no visit	no visit	0m 4s	no aria	no aria
265	9m 11s	yes	week3, aletheia, aletheia, aletheia, snout, harill, soter, soter, snout, roso, harmony, harmony, snout,	no	0m 0s	2m 8s	0m 49s	no visit	0m 4s	0m 22s	1m 42s	no aria	no aria
266	16m 41s	yes	week3, aletheia, snout, roso, harmony, clocktower, hecaceres, harill, hecaceres, soter,	no	2m 0s	completed	1m 40s	completed	0m 52s	completed	completed	no aria	no aria
267	7m 25s	yes	week3, aletheia, soter, harill,	no	0m 0s	3m 41s	completed	0m 34s	no visit	completed	no visit	no aria	no aria
268	2m 37s	yes	week3, clocktower,	no	0m 0s	no visit	no visit	no visit	no visit	no visit	no visit	no aria	no aria
269	16m 2s	yes	week3, clocktower, harmony, roso, snout, snout, aletheia, soter, hecaceres, harmony, snout,	no	1m 10s	no visit	completed	completed	1m 14s	completed	2m 21s	no aria	no aria
270	7m 17s	yes	week3, clocktower, roso, aletheia, harill, harmony, soter, aletheia,	no	0m 39s	1m 49s	0m 28s	completed	1m 12s	no visit	1m 6s	no aria	no aria
271	6m 27s	yes	week3, clocktower, snout, roso, aletheia, harill, clocktower,	no	0m 0s	2m 51s	no visit	0m 37s	no visit	completed	1m 19s	no aria	no aria
272	14m 19s	yes	week3, harill, aletheia, clocktower, harmony, hecaceres,	no	0m 7s	3m 29s	2m 47s	completed	1m 39s	completed	2m 16s	no aria	no aria
273	7m 14s	yes	hecaceres, soter, roso, snout, week3, harill, harmony, roso,	no	0m 39s	completed	no visit	no visit	completed	no visit	no playbck	no aria	no aria
274	26m 8s	yes	week3, harill, hecaceres, snout, aletheia, clocktower, harmony, harill,	no	7m 53s	completed	no visit	completed	1m 29s	completed	no visit	no aria	no aria
275	5m 28s	yes	week3, harill, soter, aletheia, snout, hecaceres,	no	0m 18s	1m 14s	2m 3s	1m 9s	no visit	completed	no visit	no aria	no aria

ID	Session Duration	Location Shared	Locations Visited (in order)	Character Created	Time Spent in Villager Section	Harill's Bunker	Soter's Courtyard	The Magic Woods	The Font	Stall Sixteen	The Academy	The Subterranean Mill	The Clocktower
276	5m 19s	yes	week3, harill, soter, roso,	no	1m 34s	2m 9s	1m 26s	no visit	no visit	no visit	0m 57s	no aria	no aria
277	3m 19s	no	week3, harmony, aletheia, roso,	no	0m 0s	no visit	no visit	1m 0s	2m 18s	no visit	no playback	no aria	no aria
278	18m 55s	yes	week3, harmony, clocktower, snout, roso, soter, snout, aletheia, harmony, hecaceres, harill, harill,	no	1m 59s	3m 9s	completed	2m 43s	completed	completed	1m 28s	no aria	no aria
279	8m 19s	yes	week3, harmony, harill, roso, hecaceres, hecaceres, clocktower,	no	1m 1s	2m 38s	no visit	no visit	1m 30s	no visit	completed	no aria	no aria
280	23m 15s	yes	week3, harmony, harmony, roso, snout, hecaceres, harill, soter, aletheia, harmony,	no	3m 19s	3m 25s	2m 45	completed	completed	completed	completed	no aria	no aria
281	15m 8s	yes	week3, harmony, hecaceres,	no	no	completed	2m 15s	1m 29s	completed	completed	2m 42s	no aria	no aria
282	7m 12	yes	week3, harmony, snout, harmony, roso, harill, hecaceres,	no	0m 0s	2m 58s	no visit	no visit	completed	no visit	1m 38s	no aria	no aria
283	9m 29s	yes	week3, harmony, snout, snout, roso, hecaceres,	no	0m 0s	0m 47s	0m 10s	0m 23s	0m 37s	completed	completed	no aria	no aria
284	5m 49s	yes	week3, hecaceres,	no	5m 31s	no visit	no visit	no visit	no visit	no visit	no visit	no aria	no aria
285	27m 4s	yes	week3, hecaceres, aletheia, harmony, snout, roso, clocktower, harill, soter,	no	6m 19s	completed	completed	completed	completed	completed	completed	no aria	no aria
286	9m 7s	yes	week3, hecaceres, aletheia, snout, roso, clocktower, harill,	no	1m 40s	3m 17s	no visit	0m 57s	no visit	0m 50s	completed	no aria	no aria
287	13m 14s	yes	week3, hecaceres, aletheia, snout, roso, harill, soter,	no	0m 0s	3m 1s	no playback	completed	no visit	completed	0m 49s	no aria	no aria
288	6m 21s	yes	week3, hecaceres, harill, clocktower, aletheia, snout, soter	no	0m 0s	0m 49s	1m 4s	2m 4s	no visit	completed	no visit	no aria	no aria
289	9m 18s	yes	week3, hecaceres, harmony, soter, snout, harill, roso,	no	2m 16s	no visit	1m 8s	no visit	1m 43s	completed	2m 29s	no aria	no aria
290	21s 48s	yes	week3, hecaceres, snout, aletheia, harmony, harmony, soter, roso, snout, harill, clocktower,	no	2m 19s	completed	2m 1s	2m 17s	completed	completed	2m 16s	no aria	no aria
291	3m 58s	yes	week3, hecaceres, snout, harill, clocktower,	no	0m 0s	1m 48s	no visit	no visit	no visit	completed	no visit	no aria	no aria
292	21m 52s	yes	week3, hecaceres, snout, harmony, aletheia, roso, roso, harill, aletheia, soter, soter,	no	4m 11s	2m 31s	2m 16s	3m 4s	completed	completed	2m 29s	no aria	no aria
293	3m 20s	yes	week3, hecaceres,snout, soter, snout,	no	0m 5s	no visit	1m 5s	no visit	no visit	no visit	completed	no aria	no aria
294	0m 23s	yes	week3, roso,	no	0m 6s	no visit	no visit	no visit	no visit	no visit	no playback	no aria	no aria
295	3m 8s	yes	week3, roso, aletheia,	no	0m 0s	no visit	no visit	no visit	no visit	no visit	completed	no aria	no aria
296	4m 12s	no	week3, roso, aletheia, soter, clocktower, hecaceres,	no	0m 0s	no visit	1m 9s	0m 39s	no visit	no visit	1m 52s	no aria	no aria
297	9m 31s	yes	week3, roso, harill, hecaceres, snout, hecaceres, roso, hecaceres, clocktower, snout, hecaceres,	no	0m 0s	3m 36s	no visit	no visit	no visit	completed	completed	no aria	no aria
298	22m 29s	yes	harmony, snout, soter, snout, createCharacter, aletheia, aletheia, hecaceres,	Highwayman	5m 10s	completed	completed	completed	completed	completed	completed	no aria	no aria
299	6m 18s	yes	week3, roso, roso,	no	0m 0s	no visit	no visit	no visit	no visit	no visit	completed	no aria	no aria
300	27m 41s	yes	week3, roso, roso, aletheia, harill, aletheia, harill,	The Ghost	5m 18s	completed	no visit	completed	completed	no visit	completed	no aria	no aria
301	4m 48s	yes	week3, roso, snout, hecaceres, roso, harill,	no	0m 0s	no playback	no visit	no visit	no visit	1m 12s	completed	no aria	no aria
302	15m 51s	yes	week3, roso, snout, hecaceres, soter, aletheia, harmony, harill, roso, clocktower	no	1m 12s	completed	1m 25s	3m 39s	completed	1m 36s	2m 14s	no aria	no aria
303	14m 35s	yes	week3, roso, snout, roso, hecaceres, harill,	no	0m 0s	completed	no visit	no visit	no visit	1m 45s	1m 42s	no aria	no aria
304	23m 33s	yes	week3, roso, snout, soter, harill, hecaceres, snout, harmony, aletheia, hecaceres, clocktower,	no	3m 0s	3m 32s	no playback	3m 6s	1m 15s	completed	2m 18s	no aria	no aria
305	19m 41s	yes	hecaceres, snout, roso, harill, harill,	no	2m 25s	completed	completed	3m 41s	1m 27s	completed	2m 5s	no aria	no aria
306	2m 41s	yes	week3, snout,	no	0m 0s	no visit	no visit	no visit	no visit	completed	no visit	no aria	no aria
307	2m 34s	yes	week3, snout, harill, aletheia,soter, snout, roso, hecaceres,	no	0m 0s	completed	completed	1m 26s	no visit	no playback	completed	no aria	no aria
308	23m 40s	yes	week3, snout, harmony, aletheia,hecaceres, snout, roso, snout, soter, harill, roso, clocktower, snout,	no	2m 19s	completed	1m 12s	3m 14s	2m 25s	completed	completed	no aria	no aria
309	19m 19s	yes	week3, snout, clocktower, hecaceres, soter, roso, harmony,	no	1m 4s	3m 5s	completed	3m 24s	completed	2m 16s	completed	no aria	no aria
310	2m 33s	yes	aletheia, harill, soter, roso, week3, snout, createCharacter,	Lamb Chopped	0m 0s	no visit	no visit	no visit	no visit	no playback	no visit	no aria	no aria
311	21m 9s	yes	week3, snout, harill, soter, aletheia, harmony, hecaceres, roso, harmony,	no	1m 14s	completed	completed	3m 21s	2m 36s	completed	completed	no aria	no aria
312	9m 30s	yes	week3, snout, harmony, hecaceres, harill,	no	3m 3s	no playback	no visit	no visit	completed	completed	no visit	no aria	no aria

ID	Session Duration	Location Shared	Locations Visited (in order)	Character Created	Time Spent in Villager Section	Harill's Bunker	Soter's Courtyard	The Magic Woods	The Font	Stall Sixteen	The Academy	The Subterranean Mill	The Clocktower
313	19m 6s	yes	week3, snout, hecaceres, harmony, roso, soter, clocktower, snout, aletheia, roso, harill,	no	4m 28s	2m 15s	completed	1m 15s	completed	1m 27s	1m 49s	no aria	no aria
314	11m 13s	yes	week3, snout, roso, clocktower, roso, harill, harmony,	no	2m 5s	2m 12s	no visit	1m 9s	completed	completed	2m 37s	no aria	no aria
315	19m 8s	yes	week3, snout, roso, hecaceres, harill,	no	8m 12s	2m 16s	no visit	no visit	no visit	completed	2m 4s	no aria	no aria
316	26m 49s	yes	week3, snout, roso, hecaceres, soter, harill, aletheia, harmony, aletheia, snout, clocktower, harill, roso,	no	5m 16s	completed	completed	completed	completed	completed	completed	no aria	no aria
317	8m 28s	yes	week3, snout, snout, hecaceres, hecaceres, clocktower, roso, harmony, aletheia, voteRebind, harill,	no	0m 0s	2m 18s	no playbck	no playbck	no visit	no playbck	no visit	no aria	no aria
318	13m 52s	yes	week3, snout, snout, hecaceres, roso, soter, harill,	no	1m 29s	3m 24s	no visit	no visit	no visit	completed	completed	no aria	no aria
319	16m 38s	yes	week3, snout, snout, roso, harill, soter, harmony, harmony, aletheia, snout, soter, hecaceres,	no	1m 42s	completed	2m 25s	no visit	completed	1m 1s	2m 5s	no aria	no aria
320	36m 5s	yes	week3, snout, soter, aletheia, harmony, harill, hecaceres,	no	4m 12s	completed	completed	completed	completed	completed	completed	no aria	no aria
321	6m 48s	yes	clocktower, roso, snout, week3, snout, soter, harmony, roso,	no	0m 22s	no visit	completed	no visit	1m 1s	1m 27s	no playbck	no aria	no aria
322	9m 51s	yes	week3, soter, aletheia, roso, hecaceres, snout, roso, roso, harill, harmony,	no	0m 0s	2m 8s	1m 12s	completed	completed	no playbck	no playbck	no aria	no aria
323	4m 16s	no	week3, soter, clocktower, roso,	no	0m 23s	no visit	1m 35s	no visit	no visit	no visit	1m 59s	no aria	no aria
324	8m 52s	yes	week3, soter, harill, snout, hecaceres, aletheia, harmony, clocktower, roso,	no	0m 24s	2m 1s	1m 4s	2m 15s	1m 12s	no visit	no playbck	no aria	no aria
325	14m 14s	yes	week3, soter, harmony, roso, clocktower, hecaceres, hecaceres, hecaceres, snout, harill,	no	1m 2s	1m 29s	0m 49s	no visit	completed	1m 34s	completed	no aria	no aria
326	23m 46s	yes	week3, soter, hecaceres, hecaceres, snout, clocktower, harill, aletheia, harmony, aletheia,	no	7m 10s	3m 36s	completed	3m 54s	0m 4s	completed	completed	no aria	no aria
327	17m 5s	yes	week3, soter, hecaceres, snout, roso, harill, clocktower, clocktower, aletheia, harmony, snout, harill,	no	1m 58s	3m 23s	2m 47s	2m 45s	completed	completed	completed	no aria	no aria
328	14m 16s	yes	week3, soter, snout, hecaceres, harill, clocktower, harmony, snout,	no	2m 45s	3m 12s	1m 18s	no visit	completed	completed	no visit	no aria	no aria
329	27m 21s	yes	week3, soter, snout, roso, harmony, aletheia, hecaceres, clocktower, roso, harill, soter,	no	4m 0s	completed	completed	3m 12s	1m 42s	1m 16s	2m 18s	no aria	no aria
330	1m 14s	yes	week4, aletheia, clocktower,	no	0m 0s	no visit	no aria	no playbck	no visit	no aria	no aria	no aria	no playbck
331	9m 19s	yes	week4, aletheia, harill, clocktower, roso, clocktower, snout, clocktower, hecaceres, soter, harmony,	no	0m 15s	2m 6s	no aria	completed	2m 52s	no aria	no aria	no aria	2m 47s
332	3m 30s	yes	week4, aletheia, harmony, harill, clocktower, roso, hecaceres, snout, soter,	no	0m 9s	0m 16s	no aria	0m 8s	0m 10s	no aria	no aria	no aria	no visit
333	26m 28s	yes	week4, aletheia, harmony, harmonyExtra, snout, clocktower, soter, hecaceres, roso, clocktower, snout, harill,	no	5m 17s	completed	no aria	completed	completed	no aria	no aria	no aria	3m 47s
334	30m 41s	no	harill, harmony, harmonyExtra, soter, harmony, hecaceres, clocktower,	no	9m 12s	completed	no aria	completed	completed	no aria	no aria	no aria	completed
335	4m 20s	yes	week4, aletheia, snout, roso, clocktower, soter, hecaceres, harmony, harmonyExtra,	no	0m 20s	no visit	no aria	1m 4s	0m 49s	no aria	no aria	no aria	1m 6s
336	1m 49s	yes	week4, aletheia, soter,	no	0m 0s	no visit	no aria	1m 1s	no visit	no aria	no aria	no aria	no visit
337	20m 1s	yes	week4, aletheia, soter, harmony, harmonyExtra, soter, roso, clocktower, snout, roso, clocktower, harill, hecaceres, aletheia	no	1m 29s	completed	no aria	completed	completed	no aria	no aria	no aria	completed
338	5m 29s	yes	week4, clocktower, aletheia, harill, harmony, week4, clocktower, harill, aletheia, snout, clocktower, roso,	no	0m 0s	0m 23s	no aria	1m 40s	0m 25s	no aria	no aria	no aria	no visit
339	19m 9s	no	hecaceres, snout, harmony, harmonyExtra, clocktower, week4, clocktower, hecaceres, harill, harill, soter, harill, aletheia, harmony, harmonyExtra, harmony, snout,	no	3m 18s	completed	no aria	2m 9s	1m 38s	no aria	no aria	no aria	3m 21s
340	28m 2s	yes	snout, roso, soter, hecaceres,	no	9m 31s	completed	no aria	2m 17s	completed	no aria	no aria	no aria	completed
341	2m 55s	yes	week4, clocktower, roso,	no	0m 0s	no visit	no aria	no visit	no visit	no aria	no aria	no aria	1m 49s
342	2m 27s	yes	week4, clocktower, snout, clocktower, clocktower,	no	0m 37s	no visit	no aria	no visit	no visit	no aria	no aria	no aria	0m 43s

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343	2m 20s	yes	week4, harill,	no	0m 0s	2m 3s	no aria	no visit	no visit	no aria	no aria	no aria	no visit
344	4m 16s	yes	week4, harill,	no	0m 0s	completed	no aria	no visit	no visit	no aria	no aria	no aria	no visit
345	17m 12s	yes	roso, snout, clocktower, soter,	no	2m 5s	completed	no aria	2m 21s	1m 14s	no aria	no aria	no aria	3m 0s
346	5m 55s	yes	week4, harill, aletheia, hecaceres,	no	0m 0s	completed	no aria	completed	no visit	no aria	no aria	no aria	no visit
347	6m 31s	yes	week4, harill, aletheia, snout, clocktower,	no	0m 13s	completed	no aria	2m 39s	no visit	no aria	no aria	no aria	1m 34s
348	12m 14s	yes	week4, harill, aletheia, snout, clocktower, roso, clocktower,	no	0m 31s	2m 5s	no aria	no visit	completed	no aria	no aria	no aria	3m 10s
349	4m 44s	yes	week4, harill, harmony, aletheia, clocktower,	no	0m 28s	1m 27s	no aria	1m 20s	1m 9s	no aria	no aria	no aria	no playback
350	13m 41s	yes	week4, harill, hecaceres, clocktower, roso, clocktower, harmony, harmonyExtra, aletheia, hecaceres,	no	0m 25s	2m 15s	no aria	3m 22s	1m 18s	no aria	no aria	no aria	completed
351	11m 5s	yes	week4, harill, roso, roso, roso, clocktower, snout, snout, hecaceres, aletheia, harmony,	no	1m 5s	completed	no aria	2m 22s	no playback	no aria	no aria	no aria	completed
352	13m 9s	yes	week4, harill, soter, aletheia, harmony, snout, roso, clocktower, hecaceres,	no	0m 0s	completed	no aria	completed	3m 1s	no aria	no aria	no aria	completed
353	10m 16s	yes	week4, harmony, aletheia, snout, clocktower, soter, harill, week4, harmony, harmonyExtra, harill, hecaceres, snout,	no	0m 0s	2m 20s	no aria	no visit	1m 9s	no aria	no aria	no aria	completed
354	8m 41s	yes	clocktower, soter, roso, clocktower,	no	0m 0s	1m 15s	no aria	no visit	2m 4s	no aria	no aria	no aria	completed
355	19m 44s	yes	week4, harmony, harmonyExtra, hecaceres, harill, aletheia, snout, clocktower, roso, roso, clocktower, hecaceres,	no	2m 12s	completed	no aria	1m 8s	2m 17s	no aria	no aria	no aria	3m 51s
356	15m 28s	yes	week4, harmony, harmonyExtra, snout, clocktower, harill, hecaceres, clocktower, aletheia,	no	1m 13s	completed	no aria	2m 33s	1m 40s	no aria	no aria	no aria	4m 2s
357	20m 12s	yes	week4, harmony, harmonyExtra, soter, snout, roso, clocktower, harill, aletheia, roso, hecaceres,	no	3m 5s	2m 4s	no aria	completed	1m 41s	no aria	no aria	no aria	3m 33s
358	23m 12s	yes	week4, hecaceres, aletheia, roso, hecaceres,	no	3m 8s	2m 12s	no aria	completed	2m 16s	no aria	no aria	no aria	completed
359	30m 6s	yes	createCharacter, harmony, harmonyExtra, harmony, harill, harill, soter, aletheia, snout, hecaceres, snout, aletheia,	Pursewarden	2m 0s	completed	no aria	no playback	completed	no aria	no aria	no aria	completed
360	10m 40s	yes	week4, hecaceres, clocktower, harill, clocktower, snout, snout, harmony, harmonyExtra, harmony, harill, soter,	no	0m 0s	5m 2s	no aria	no visit	5m 2s	no aria	no aria	no aria	4m 22s
361	10m 4s	yes	week4, hecaceres, harill,	no	1m 19s	1m 49s	no aria	2m 10s	no playback	no aria	no aria	no aria	3m 6s
362	2m 49s	yes	week4, hecaceres, harmony, harmonyExtra, soter, snout,	no	0m 0s	completed	no aria	no visit	no visit	no aria	no aria	no aria	no visit
363	24m 15s	yes	clocktower, roso, roso, harill, soter, aletheia, hecaceres,	no	4m 8s	completed	no aria	2m 17s	3m 4s	no aria	no aria	no aria	2m 17s
364	18m 52s	yes	week4, hecaceres, harmony, snout, harill, clocktower, roso, aletheia, hecaceres,	no	3m 12s	2m 15s	no aria	no playback	3m 1s	no aria	no aria	no aria	completed
365	24m 35s	yes	week4, hecaceres, roso, clocktower, snout, aletheia, harmony, harmonyExtra, soter, harill, clocktower,	no	3m 46s	completed	no aria	2m 19s	4m 14s	no aria	no aria	no aria	completed
366	3m 4s	yes	week4, hecaceres, snout, clocktower,	no	0m 0s	no visit	no aria	no visit	no visit	no aria	no aria	no aria	2m 47s
367	18m 11s	yes	week4, hecaceres, snout, clocktower, harill, aletheia, snout, soter, roso, harmony, harmony, hecaceres,	no	5m 35s	completed	no aria	completed	completed	no aria	no aria	no aria	completed
368	30m 1s	no	week4, hecaceres, snout, clocktower, roso, clocktower, hecaceres, soter, aletheia, harmony, harmonyExtra, soter,	no	8m 20s	2m 16s	no aria	completed	4m 2s	no aria	no aria	no aria	completed
369	4m 5s	yes	harill, aletheia, snout, snout, clocktower, week4, hecaceres, snout, clocktower, soter,	no	0m 0s	no visit	no aria	no visit	no visit	no aria	no aria	no aria	completed
370	12m 42s	yes	week4, hecaceres, snout, clocktower, soter, harill, aletheia, harmony, soter,	no	0m 0s	2m 2s	no aria	no playback	4m 12s	no aria	no aria	no aria	3m 20s

ID	Session Duration	Location Shared	Locations Visited (in order)	Character Created	Time Spent in Villager Section	Harill's Bunker	Soter's Courtyard	The Magic Woods	The Font	Stall Sixteen	The Academy	The Subterranean Mill	The Clocktower
371	14m 35s	yes	week4, hecaceres, snout, snout, harill, aletheia, harmony, harmonyExtra, soter, clocktower, snout, roso, snout,	no	2m 26s	completed	no aria	no playbck	3m 44s	no aria	no aria	no aria	3m 0s
372	3m 38s	yes	week4, hecaceres, soter, harmony, harmonyExtra,	no	0m 0s	no visit	no aria	no visit	3m 11s	no aria	no aria	no aria	no visit
373	1m 59s	yes	week4, roso, clocktower,	no	0m 0s	no visit	no aria	no visit	no visit	no aria	no aria	no aria	no playbck
374	14m 51s	yes	week4, roso, clocktower, aletheia, harmony, harmonyExtra, hecaceres, soter, harmony, harill, snout, clocktower, harill, hecaceres, hecaceres,	no	2m 18s	completed	no aria	2m 10s	4m 4s	no aria	no aria	no aria	3m 17s
375	7m 46s	yes	week4, roso, clocktower, harmony, aletheia,	no	0m 0s	no visit	no aria	no playbck	completed	no aria	no aria	no aria	3m 9s
376	3m 16s	yes	week4, roso, clocktower, hecaceres,	no	0m 0s	no visit	no aria	no visit	no visit	no aria	no aria	no aria	completed
377	8m 56s	yes	week4, roso, clocktower, snout,	no	0m 0s	no visit	no aria	no visit	no visit	no aria	no aria	no aria	3m 5s
378	4m 10s	yes	week4, roso, clocktower, snout, clocktower, harmony, week4, roso, clocktower, snout, clocktower, harmony, harmonyExtra, harill, hecaceres, aletheia, soter, roso, clocktower,	no	0m 0s	no visit	no aria	no visit	no visit	no aria	no aria	no aria	completed
379	13m 13s	yes	week4, roso, roso, clocktower, roso, hecaceres, harill, aletheia, soter, harmony,	no	0m 0s	completed	no aria	1m 23s	2m 26s	no aria	no aria	no aria	completed
380	8m 52s	yes	week4, roso, roso, clocktower, snout, roso, clocktower, hecaceres, harill, harmony, harmonyExtra,	no	0m 0s	2m 18s	no aria	completed	no playbck	no aria	no aria	no aria	completed
381	9m 13s	yes	week4, roso, soter, harmony, harill, snout, clocktower, clocktower, hecaceres, harmony, harmonyExtra, aletheia, hecaceres,	no	0m 0s	1m 15s	no aria	no visit	2m 5s	no aria	no aria	no aria	3m 8s
382	11m 38s	yes	week4, snout, aletheia, soter, roso, clocktower, harill, harmony, harmonyExtra, hecaceres, clocktower,	no	1m 3s	1m 47s	no aria	1m 1s	completed	no aria	no aria	no aria	completed
383	25m 10s	yes	week4, snout, clocktower, hecaceres, clocktower,	no	2m 21s	completed	no aria	2m 17s	3m 15s	no aria	no aria	no aria	completed
384	3m 19s	yes	week4, snout, clocktower, aletheia, roso, clocktower,	no	0m 0s	no visit	no aria	no playbck	no visit	no aria	no aria	no aria	no playbck
385	4m 49s	yes	week4, snout, clocktower, harill, snout,	no	0m 50s	1m 29s	no aria	no visit	no visit	no aria	no aria	no aria	2m 16s
386	18m 44s	yes	week4, snout, clocktower, harmony, harmonyExtra, hecaceres, soter, harmony, harill, aletheia,	no	4m 50s	2m 8s	no aria	completed	2m 50s	no aria	no aria	no aria	completed
387	15m 11s	yes	week4, snout, clocktower, harmony, roso, aletheia, soter, harill, harmony, harmonyExtra, clocktower, clocktower,	no	2m 11s	completed	no aria	2m 21s	0m 14s	no aria	no aria	no aria	3m 17s
388	7m 14s	yes	week4, snout, clocktower, roso, clocktower, aletheia, harill, harmony, harmonyExtra, soter, hecaceres,	no	1m 16s	completed	no aria	2m 25s	1m 29s	no aria	no aria	no aria	completed
389	12m 2s	yes	week4, snout, clocktower, roso, hecaceres, harmony, week4, snout, clocktower, roso, hecaceres, harmony, harmonyExtra, harill, aletheia, roso, snout	no	0m 0s	no visit	no aria	no visit	4m 39s	no aria	no aria	no aria	4m 8s
390	31m 57s	yes	week4, snout, clocktower, roso, hecaceres, harmony, harmonyExtra, harill, aletheia, roso, snout	no	0m 0s	completed	no aria	1m 17s	2m 28s	no aria	no aria	no aria	completed
391	48m 41s	yes	week4, snout, clocktower, roso, hecaceres, harmony, harmonyExtra, harmony, soter, aletheia, harill, clocktower, roso, harmony, aletheia, hecaceres, harill, snout, roso, clocktower, snout, aletheia, harmony, aletheia, harmony, hecaceres, harmony,	no	6m 25s	1m 58s	no aria	3m 24s	completed	no aria	no aria	no aria	1m 1s
392	29m 12s	yes	week4, snout, clocktower, roso, hecaceres, roso, snout, harill, aletheia, harill, harmony, harmonyExtra, harill, hecaceres, clocktower, soter, harmony,	no	4m 15s	completed	no aria	completed	4m 9s	no aria	no aria	no aria	completed
393	14m 8s	yes	week4, snout, clocktower, roso, hecaceres, soter, harmony, harmony, harmonyExtra, harill, snout, clocktower,	no	1m 26s	2m 1s	no aria	no visit	completed	no aria	no aria	no aria	completed
394	13m 27s	yes	week4, snout, harmony, harmonyExtra, roso, clocktower, soter, harmony, hecaceres, roso, aletheia, harill, harill,	no	1m 7s	compelted	no aria	1m 42s	3m 10s	no aria	no aria	no aria	completed
395	5m 24s	yes	week4, snout, hecaceres, clocktower, soter, harmony, harill, week4, snout, roso, clocktower, roso, hecaceres, soter, harmony, harill, aletheia, roso,	no	0m 0s	no playbck	no aria	no visit	2m 10s	no aria	no aria	no aria	2m 25s
396	17m 40s	yes	week4, snout, roso, clocktower, roso, hecaceres, soter, harmony, harill, aletheia, roso,	no	4m 26s	2m 4s	no aria	completed	completed	no aria	no aria	no aria	completed
397	11m 10s	yes	week4, snout, roso, snout, clocktower, harill, soter, harmony, harmonyExtra, hecaceres, roso, aletheia, hecaceres,	no	1m 1s	completed	no aria	1m 48s	completed	no aria	no aria	no aria	3m 22s
398	6m 51s	yes	week4, snout, roso, snout, soter, clocktower, aletheia, harill, week4, soter, harmony,	no	0m 12s	no playbck	no aria	2m 21s	no visit	no aria	no aria	no aria	2m 50s
399	4m 49s	no		no	0m 0s	no visit	no aria	no visit	completed	no aria	no aria	no aria	no visit



ID	Session Duration	Location Shared	Locations Visited (in order)	Character Created	Time Spent in Villager Section	Harill's Bunker	Soter's Courtyard	The Magic Woods	The Font	Stall Sixteen	The Academy	The Subterranean Mill	The Clocktower
400	4m 12s	yes	week4, soter, harmony, harmonyExtra, clocktower, week4, soter, harmony, harmonyExtra, hecaceres, roso, roso, clocktower, snout, clocktower, harill, harill, aletheia, roso, hecaceres,	no	0m 0s	no visit	no aria	no visit	0m 12s	no aria	no aria	no aria	no playback
401	16m 44s	yes	soter, hecaceres,	no	4m 20s	completed	no aria	2m 1s	no playback	no aria	no aria	no aria	completed
402	5m 55s	yes	week4, soter, roso, clocktower, harill, hecaceres,	no	0m 10s	completed	no aria	no visit	no visit	no aria	no aria	no aria	3m 7s
403	6m 48s	yes	week4, soter, snout, clocktower, roso, hecaceres, aletheia, week5, aletheia, aletheia, clocktower, hecaceres, snout, clocktower, roso, aletheia, voteFall, harill,	no	0m 0s	no visit	no aria	2m 13s	no visit	no aria	no aria	no aria	completed
404	10m 48s	yes	week5, aletheia, aletheia, clocktower, hecaceres, roso, clocktower, week5, aletheia, clocktower, hecaceres, roso, clocktower, hecaceres,	locked	locked	2m 8s	no aria	completed	no aria	no aria	no aria	2m 53s	2m 45s
405	7m 25s	yes	week5, aletheia, harill, hecaceres, clocktower, clocktower, aletheia,	locked	locked	no visit	no aria	no playback	no aria	no aria	no aria	completed	no playback
406	5m 47s	yes	week5, aletheia, harill, hecaceres, clocktower, clocktower, aletheia,	locked	locked	no playback	no aria	0m 23s	no aria	no aria	no aria	1m 56s	2m 3s
407	6m 40s	yes	week5, aletheia, hecaceres, harill, clocktower, snout, snout, aletheia, voteRebind, harill,	locked	locked	1m 13s	no aria	0m 54s	no aria	no aria	no aria	1m 39s	2m 4s
408	14m 34s	yes	week5, aletheia, hecaceres, hecaceres, clocktower, soter, aletheia, aletheia, voteFall,	locked	locked	2m 45s	no aria	2m 9s	no aria	no aria	no aria	3m 28s	completed
409	14m 34s	yes	week5, aletheia, hecaceres, hecaceres, clocktower, soter, aletheia, aletheia, voteFall,	locked	locked	2m 45s	no aria	2m 9s	no aria	no aria	no aria	2m 46s	no visit
410	6m 10s	yes	week5, clocktower, harill, hecaceres, harmony, snout, clocktower, soter,	locked	locked	no playback	no aria	no visit	no aria	no aria	no aria	1m 49s	completed
411	3m 50s	yes	week5, clocktower, hecaceres, snout, aletheia, roso, week5, clocktower, hecaceres, soter, harmony, harmony, clocktower, aletheia, snout, harill, aletheia, aletheia, voteFall, harill,	locked	locked	no playback	no aria	no visit	no aria	no aria	no aria	completed	no playback
412	14m 55s	yes	week5, harill, clocktower, hecaceres, clocktower, soter, roso, aletheia, voteFall, harill,	locked	locked	completed	no aria	completed	no aria	no aria	no aria	3m 30s	completed
413	8m 48s	yes	week5, harill, clocktower, hecaceres, clocktower, soter, roso, aletheia, voteFall, harill,	locked	locked	2m 27s	no aria	1m 39s	no aria	no aria	no aria	1m 20s	completed
414	4m 44s	yes	week5, harill, harill, hecaceres, clocktower, harill, soter, soter, harill, aletheia,	locked	locked	no playback	no aria	no playback	no aria	no aria	no aria	1m 31s	2m 18s
415	4m 46s	yes	week5, harill, harill, hecaceres, hecaceres, aletheia, harill, clocktower, harill, harill, roso, harmony, aletheia,	locked	locked	0m 52s	no aria	0m 22s	no aria	no aria	no aria	0m 12s	0m 36s
416	9m 8s	yes	week5, harill, harmony, hecaceres, clocktower, snout, aletheia, voteRebind, harill,	locked	locked	completed	no aria	1m 10s	no aria	no aria	no aria	1m 18s	2m 30s
417	3m 12s	yes	week5, harill, hecaceres,	locked	locked	no playback	no aria	no visit	no aria	no aria	no aria	2m 34s	no visit
418	6m 19s	yes	week5, harill, hecaceres, hecaceres, clocktower, harmony, week5, harill, hecaceres, soter, clocktower, hecaceres,	locked	locked	no playback	no aria	no visit	no aria	no aria	no aria	compeltd	completed
419	14m 21s	yes	week5, harill, hecaceres, soter, clocktower, hecaceres, aletheia, voteRebind,	locked	locked	2m 44s	no aria	2m 8s	no aria	no aria	no aria	2m 31s	3m 19s
420	11m 10s	yes	week5, harill, hecaceres, soter, roso, snout, clocktower, harmony, soter, aletheia, voteFall, harill,	locked	locked	completed	no aria	2m 2s	no aria	no aria	no aria	3m 0s	completed
421	13m 54s	yes	week5, harill, roso, snout, hecaceres, soter, harmony, clocktower, roso, hecaceres, hecaceres, harmony, aletheia, voteRebind, harill,	locked	locked	completed	no aria	3m 1s	no aria	no aria	no aria	2m 40s	completed
422	6m 57s	yes	week5, harill, snout, hecaceres, snout, clocktower, roso, roso, aletheia,	locked	locked	no playback	no aria	1m 27s	no aria	no aria	no aria	2m 45s	1m 13s
423	14m 53s	yes	week5, harill, soter, aletheia, harmony, hecaceres, snout, roso, clocktower, harill, aletheia, voteRebind, harill,	locked	locked	2m 48s	no aria	2m 9s	no aria	no aria	no aria	completed	completed
424	0m 16s	yes	week5, harmony,	locked	locked	no visit	no aria	no visit	no aria	no aria	no aria	0m 9s	no visit
425	7m 10s	yes	week5, clocktower, hecaceres, soter, clocktower, roso, clocktower, harill,	locked	locked	no playback	no aria	no visit	no aria	no aria	no aria	3m 24s	completed
426	9m 13s	yes	week5, harmony, hecaceres, harill, clocktower, clocktower, aletheia, voteFall, harill,	locked	locked	2m 35s	no aria	1m 54s	no aria	no aria	no aria	3m 10s	completed
427	4m 30s	yes	week5, harmony, hecaceres, roso, roso, clocktower, snout, week5, harmony, hecaceres, soter, soter,	locked	locked	no visit	no aria	no visit	no aria	no aria	no aria	2m 20s	1m 12s
428	9m 29s	yes	week5, harmony, hecaceres, soter, soter,	locked	locked	no visit	no aria	no visit	no aria	no aria	no aria	no playback	no visit

ID	Session Duration	Location Shared	Locations Visited (in order)	Character Created	Time Spent in Villager Section	Harill's Bunker	Soter's Courtyard	The Magic Woods	The Font	Stall Sixteen	The Academy	The Subterranean Mill	The Clocktower
429	7m 4s	yes	week5, harmony, roso, clocktower, aletheia, harill, soter, hecaceres, harill,	locked	locked	2m 13s	no aria	no playback	no aria	no aria	no aria	1m 54s	no playback
430	14m 9s	yes	week5, harmony, soter, hecaceres, clocktower, clocktower, soter, clocktower, roso, aletheia, voteRebind, harill,	locked	locked	2m 12s	no aria	completed	no aria	no aria	no aria	1m 59s	completed
431	20m 12s	yes	week5, harmony, soter, hecaceres, hecaceres, clocktower, snout, roso, aletheia, voteRebind, soter, harill,	locked	locked	completed	no aria	completed	no aria	no aria	no aria	completed	completed
432	16m 20s	yes	week5, harmony, soter, hecaceres, snout, roso, clocktower, hecaceres, aletheia, aletheia, voteFall, harill,	locked	locked	3m 1s	no aria	2m 22s	no aria	no aria	no aria	completed	completed
433	2m 43s	yes	week5, hecaceres, clocktower,	locked	locked	no visit	no aria	no visit	no aria	no aria	no aria	1m 8s	1m 42s
434	6m 2s	yes	week5, hecaceres, harill, clocktower, snout, snout, aletheia, voteFall, harill,	locked	locked	1m 8s	no aria	0m 49s	no aria	no aria	no aria	1m 10s	0m 56s
435	5m 13s	yes	week5, hecaceres, harill, clocktower, soter, harmony, aletheia, clocktower, clocktower, aletheia, soter, snout, roso, clocktower, voteFall, harill, harill,	locked	locked	no playback	no aria	no playback	no aria	no aria	no aria	completed	2m 20s
436	14m 2s	yes	week5, hecaceres, harill, harill,	locked	locked	completed	no aria	2m 7s	no aria	no aria	no aria	3m 10s	completed
437	2m 19s	yes	week5, hecaceres, harmony, harmony, soter, roso, clocktower, week5, hecaceres, harmony, snout, clocktower, soter, snout, aletheia, voteRebind, harill,	locked	locked	no visit	no aria	no visit	no aria	no aria	no aria	1m 12s	0m 28s
438	12m 11s	yes	week5, hecaceres, roso, clocktower, harill, soter, aletheia, voteRebind,	locked	locked	completed	no aria	1m 40s	no aria	no aria	no aria	3m 10s	2m 57s
439	10m 54s	yes	week5, hecaceres, roso, harill, clocktower, aletheia, voteFall, harill,	locked	locked	completed	no aria	1m 42s	no aria	no aria	no aria	5m 16s	2m 19s
440	7m 58s	yes	week5, hecaceres, snout, clocktower, harmony, aletheia, voteFall, soter, harmony, harill,	locked	locked	1m 37s	no aria	1m 12s	no aria	no aria	no aria	1m 6s	1m 42s
441	19m 20s	yes	week5, hecaceres, snout, clocktower, soter, roso, harmony, aletheia, voteFall, harill,	locked	locked	2m 41s	no aria	completed	no aria	no aria	no aria	completed	2m 12s
442	9m 10s	yes	week5, hecaceres, soter, harill, aletheia, harmony, snout, roso, clocktower, hecaceres, aletheia, voteRebind, harill,	locked	locked	1m 30s	no aria	completed	no aria	no aria	no aria	2m 40s	completed
443	14m 29s	yes	week5, hecaceres, clocktower, snout, harill, aletheia, voteFall, harill,	locked	locked	2m 44s	no aria	completed	no aria	no aria	no aria	2m 38s	completed
444	6m 16s	yes	week5, roso, clocktower, hecaceres, clocktower, harill,	locked	locked	1m 3s	no aria	1m 19s	no aria	no aria	no aria	0m 39s	2m 40s
445	3m 16s	yes	week5, roso, hecaceres, aletheia, clocktower, harill, aletheia, voteRebind, harill,	locked	locked	no visit	no aria	no visit	no aria	no aria	no aria	completed	2m 21s
446	12m 36s	yes	week5, roso, hecaceres, aletheia, clocktower, harill, aletheia, voteRebind, harill,	locked	locked	completed	no aria	1m 19s	no aria	no aria	no aria	completed	4m 4s
447	13m 39s	yes	week5, roso, hecaceres, harill, clocktower, clocktower, clocktower, aletheia, voteRebind, snout, soter, harill,	locked	locked	2m 17s	no aria	2m 3s	no aria	no aria	no aria	1m 34s	3m 17s
448	9m 7s	yes	week5, roso, hecaceres, hecaceres, clocktower, clocktower, soter, aletheia, voteRebind, soter, harmony,	locked	locked	no visit	no aria	completed	no aria	no aria	no aria	completed	2m 19s
449	9m 42s	yes	week5, roso, hecaceres, snout, snout, aletheia, clocktower, harmony, aletheia, voteFall, harill,	locked	locked	completed	no aria	1m 40s	no aria	no aria	no aria	completed	3m 18s
450	39m 13s	yes	week5, roso, roso, roso, snout, clocktower, hecaceres, hecaceres, clocktower, harmony, aletheia, voteRebind, harill,	locked	locked	completed	no aria	2m 11s	no aria	no aria	no aria	completed	1m 43s
451	9m 47s	yes	week5, roso, roso, soter, hecaceres, harmony, clocktower, hecaceres, clocktower, snout, roso, snout, aletheia,	locked	locked	1m 49s	no aria	2m 3s	no aria	no aria	no aria	2m 26s	1m 56s
452	0m 17s	yes	voteRebind, soter, harmony, harill, snout, harill, week5, roso, snout,	locked	locked	no visit	no aria	no visit	no aria	no aria	no aria	no visit	no visit
453	18m 29s	yes	week5, roso, snout, hecaceres, snout, clocktower, harill, harmony, aletheia, voteRebind, roso, hecaceres, harill,	locked	locked	completed	no aria	2m 49s	no aria	no aria	no aria	completed	completed
454	15m 21s	yes	week5, roso, soter, soter, clocktower, hecaceres, clocktower, roso, clocktower, aletheia, voteRebind,	locked	locked	2m 43s	no aria	2m 8s	no aria	no aria	no aria	completed	4m 27s
455	1m 9s	yes	week5, snout, aletheia, clocktower,	locked	locked	no visit	no aria	no playback	no aria	no aria	no aria	no visit	no playback

ID	Session Duration	Location Shared	Locations Visited (in order)	Character Created	Time Spent in Villager Section	Harill's Bunker	Soter's Courtyard	The Magic Woods	The Font	Stall Sixteen	The Academy	The Subterranean Mill	The Clocktower
456	19m 45s	yes	week5, snout, aletheia, hecaceres, hecaceres, soter, snout, roso, clocktower, snout, clocktower, aletheia, voteRebind, harmony, snout, snout, harill, harill,	locked	locked	completed	no aria	2m 41s	no aria	no aria	no aria	2m 4s	completed
457	2m 48s	yes	week5, snout, clocktower, aletheia, roso, hecaceres, hecaceres, clocktower, week5, snout, harmony, hecaceres, clocktower, voteFall, harill,	locked	locked	no visit	no aria	no visit	no aria	no aria	no aria	0m 51s	0m 38s
458	8m 34s	yes	week5, snout, hecaceres, voteFall, harill,	locked	locked	0m 53s	no aria	1m 50s	no aria	no aria	no aria	2m 11s	3m 35s
459	0m 57s	yes	week5, snout, hecaceres, week5, snout, hecaceres, roso, aletheia, clocktower, aletheia, voteFall, harill,	locked	locked	no visit	no aria	no visit	no aria	no aria	no aria	0m 15s	no visit
460	9m 24s	yes	week5, snout, hecaceres, voteFall, harill,	locked	locked	2m 4s	no aria	1m 48s	no aria	no aria	no aria	2m 35s	3m 46s
461	3m 49s	yes	week5, snout, roso, aletheia, hecaceres, soter, snout, snout, clocktower, week5, snout, roso, hecaceres, cloctower, harmony, aletheia, voteRebind, soter, clocktower, harill,	locked	locked	no visit	no aria	no playback	no aria	no aria	no aria	2m 16s	no playback
462	13m 12s	yes	week5, snout, roso, hecaceres, cloctower, harmony, aletheia, voteRebind, soter, clocktower, harill, week5, snout, roso, hecaceres, hecaceres, harmony, harmony, clocktower, clocktower, soter, aletheia, aletheia, voteRebind, harill,	locked	locked	completed	no aria	2m 2s	no aria	no aria	no aria	completed	completed
463	17m 41s	yes	week5, snout, snout, aletheia, roso, soter, clocktower, week5, snout, snout, clocktower, hecaceres, soter, clocktower, week5, snout, hecaceres, hecaceres, snout, clocktower, hecaceres, aletheia, voteFall, harill,	locked	locked	completed	no aria	3m 4s	no aria	no aria	no aria	2m 53s	2m 39s
464	2m 28s	yes	week5, snout, snout, aletheia, roso, soter, clocktower, week5, snout, snout, clocktower, hecaceres, soter, clocktower, week5, snout, hecaceres, hecaceres, snout, clocktower, hecaceres, aletheia, voteFall, harill,	locked	locked	no visit	no aria	no playback	no aria	no aria	no aria	no visit	no playback
465	3m 58s	yes	week5, snout, snout, clocktower, hecaceres, soter, clocktower, week5, snout, snout, hecaceres, hecaceres, snout, clocktower, hecaceres, aletheia, voteFall, harill,	locked	locked	no visit	no aria	no visit	no aria	no aria	no aria	2m 30s	no playback
466	18m 35s	yes	week5, snout, snout, hecaceres, hecaceres, snout, clocktower, hecaceres, aletheia, voteFall, harill, week5, snout, snout, hecaceres, clocktower, soter, harmony,	locked	locked	completed	no aria	completed	no aria	no aria	no aria	2m 41s	3m 6s
467	4m 50s	yes	week5, soter, harill, hecaceres, aletheia, clocktower, week5, soter, harill, hecaceres, aletheia, clocktower, clocktower, soter, harmony, hecaceres, aletheia, hecaceres, clocktower, clocktower, aletheia, voteRebind, snout, roso, roso, harill,	locked	locked	no visit	no aria	no visit	no aria	no aria	no aria	2m 25s	1m 10s
468	5m 12s	yes	week5, soter, harmony, hecaceres, aletheia, hecaceres, clocktower, clocktower, aletheia, voteRebind, snout, roso, roso, harill,	locked	locked	no playback	no aria	1m 54s	no aria	no aria	no aria	completed	no playback
469	15m 50s	yes	week5, soter, harmony, hecaceres, snout, hecaceres, clocktower, clocktower, snout, roso, aletheia, voteRebind, harill,	locked	locked	completed	no aria	completed	no aria	no aria	no aria	completed	completed
470	14m 47s	yes	week5, soter, hecaceres, snout, clocktower, harmony, aletheia, voteFall, harill,	locked	locked	completed	no aria	3m 6s	no aria	no aria	no aria	2m 37s	completed
471	12m 17s	yes	week5, soter, hecaceres, snout, clocktower, harmony, aletheia, week5, soter, hecaceres, soter, clocktower, roso, harmony, snout, aletheia, harmony, aletheia, voteFall, harill,	locked	locked	completed	no aria	2m 8s	no aria	no aria	no aria	no playback	2m 14s
472	10m 40s	yes	week5, soter, hecaceres, soter, clocktower, roso, harmony, snout, aletheia, harmony, aletheia, voteFall, harill,	locked	locked	2m 9s	no aria	completed	no aria	no aria	no aria	completed	completed
473	2m 14s	yes	week5, soter, snout, roso, roso, hecaceres, hecaceres, week5, soter, snout, roso, hecaceres, hecaceres,	locked	locked	no visit	no aria	no visit	no aria	no aria	no aria	no playback	no visit

Visit Duration	Episode 1 (no. visits)	Episode 1 (% of total)	Episode 2 (no. visits)	Episode 2 (% of total)	Episode 3 (no. visits)	Episode 3 (% of total)	Episode 4 (no. visits)	Episode 4 (% of total)	Episode 5 (no. visits)	Episode 5 (% of total)
< 1 minute	13	8%	1	1%	1	1%	0	0%	3	4%
1 - 5 minutes	46	27%	14	16%	11	16%	20	27%	15	21%
5 - 10 minutes	40	23%	22	25%	24	34%	14	19%	23	33%
10 - 20 minutes	40	23%	28	32%	19	27%	26	35%	27	39%
> 20 minutes	32	19%	23	26%	15	21%	14	19%	2	3%
Totals	171	100%	88	100%	70	100%	74	100%	70	100%

Character Aria Viewing	Episode 1 (no. visits)	Episode 1 (% of total)	Episode 2 (no. visits)	Episode 2 (% of total)	Episode 3 (no. visits)	Episode 3 (% of total)	Episode 4 (no. visits)	Episode 4 (% of total)	Episode 5 (no. visits)	Episode 5 (% of total)	Full Opera (no. of visits)	Full Opera (% of total)
Limited viewing (0% - 20% of character arias initiated, usually watched briefly)	50	29%	11	13%	7	10%	7	9%	7	10%	82	17%
Fleeting viewing (20% - 40% of character arias initiated, occasionally watched for longer)	31	18%	12	14%	12	17%	15	20%	12	17%	82	17%
Modest viewing (40% - 60% of character arias initiated, often watched for longer)	37	22%	25	28%	21	30%	13	18%	14	20%	110	23%
Sustained viewing (60% - 80% of character arias initiated, mostly watched for longer)	27	16%	20	23%	12	17%	25	34%	30	43%	114	24%
Comprehensive viewing (80% - 100% of character arias initiated, mostly watched in full)	26	15%	20	23%	18	26%	14	19%	7	10%	85	18%
Totals	171	100%	88	100%	70	100%	74	100%	70	100%	473	100%

## 5. Villager Feed Data

Posts made by members of the Digital Chorus organised by 'Residency' can be viewed from the next page.

To view the results of data coding for 'Level of Engagement' click [here](#) [PDF].

To view the results of data coding for 'Type of Social Interaction' click [here](#) [PDF].

Residency	Character Name	Archetype	Message	Timestamp	Episode
aletheia	Aspect	A Poet	Yawn, is it time to get up yet?	02/05/15 12:01	1
aletheia	acbah	A Healer	As I wander through the woods searching for the ingredients I need to heal. I find comfort in the knowledge I will surely succeed	02/05/15 14:14	1
aletheia	Yogiri	A Dreamer	Oh academia Such pomp and confusion creating illusions of loftier climes	02/05/15 18:10	1
aletheia	Yogiri	A Dreamer	Poor old Harill! If only we could entice him out	02/05/15 18:07	1
aletheia	Yogiri	A Dreamer	Im wondering where the crow is going now	02/05/15 17:57	1
aletheia	Lady Husk	A Rebel	Today a thousand birds fell from the skyl lie beneath the leaves while I dream of you	02/05/15 18:00	1
aletheia	Molly	A Coward	A beautiful afternoon has been tainted by the shadows above Im a bunny and only a little one Im scared	02/05/15 16:09	1
aletheia	Unholy Sheep	A Sadist	I think we need to find Harmoni bring her to Snout. She took from us what wasnt hers to take and I think id like to taste her.	04/05/15 16:09	1
aletheia	Unholy Sheep	A Sadist	Razor, Could you cut through something amorphous?	04/05/15 16:14	1
aletheia	milesopark	A Saboteur	a spanner in the works, a square peg in a round hole, a spare part, a large cog in a small machine	05/05/15 22:54	1
aletheia	thewoodcutter	A Poet	I sit by my cabin and chop chop chop, but Im going not staying here, today the woods...tomorrow the village haha	07/05/15 19:08	1
aletheia	thewoodcutter	A Poet	number 2, who will be your replacement ?	07/05/15 21:58	1
aletheia	acbah	A Healer	I have the ingredient needed to fulfill the question I have been trying to solve I must keep its secret or trouble will unfold	09/05/15 12:52	2
aletheia	Molly	A Coward	No Harmony please dont leave the woods! we arent ready	10/05/15 13:26	2
aletheia	Unholy Sheep	A Sadist	I want Snout to be the head of this village!!! We shall persuade him. He is fun and he doesnt eat ssheeeeeep!!!	11/05/15 20:38	2
aletheia	acbah	A Healer	Fear not I have found the remedy all will be revealed in time but we must deserve the rewards so take heed.	12/05/15 14:17	2
aletheia	nicky	A Sadist	worried about this hermit, needs company, whatabout kermit?	12/05/15 16:30	2
aletheia	acbah	A Healer	where is Hecaceres? Is it not strange she has disappeared I fear danger.rn	17/05/15 17:20	3
aletheia	The Ghost	A Poet	People fear the inevitable, why? What calamity could possibly befall me now?	20/05/15 14:18	3
aletheia	The Ghost	A Poet	Everybody is a canvas. The breadth of their life painting on their face.	20/05/15 14:23	3
aletheia	The Ghost	A Poet	Oil on canvas, acrylic on canvas, pencil on canvas, charcoal on canvas, blood on canvas, what difference does it make?	20/05/15 14:24	3
aletheia	Molly	A Coward	I address, of course, cowhead and lambchop over at stall sixteen, but those sentiments are universally applicable	20/05/15 14:31	3
aletheia	Highwayman	A Sadist	The other animals might reassure you, Alethia but I lost 2 friends. Why send anyone? The West can look after itself	21/05/15 20:18	3
aletheia	thewoodcutter	A Poet	A figure, a man but more, is astride his horse in the magical woods. His fists, as hard as diamonds, look for something to destroy	21/05/15 20:43	3
aletheia	Unholy Sheep	A Sadist	Today I accidentally cut of my toe in the woodyard	26/05/15 21:52	4
aletheia	Pursewarden	A Poet	Some are worried about their toes, I am worried about the future of this village. I think we need to flee... through the portal!	26/05/15 19:00	4
aletheia	acbah	A Healer	We live based upon selective fictions.	27/05/15 16:49	4
clocktower	mioplis	A Storyteller	I have to answer now but is it too late to save us all?	28/05/15 16:00	4
clocktower	Gray	A Saboteur	I stand and stare and wait and see it all enfolding before me	01/05/15 18:15	1
clocktower	Gray	A Saboteur	Pretty weird world. Looks cool. Roso seems annoying.	01/05/15 19:12	1
clocktower	mioplis	A Storyteller	hi Monsieur Hugill	01/05/15 19:13	1
clocktower	wallace	An Evangelist	I tirelessly search for the answer to the question.	02/05/15 14:05	1
clocktower	wallace	An Evangelist	its nice to be wished a good morning. For those of you who require faith council, please make your way to the village clock!	04/05/15 10:54	1
clocktower	Meigui	A Storyteller	Ms Maven, she is a frightened soul deep down. Do not worry about what lays underground, for there is love above that keep us safe	04/05/15 17:09	1
clocktower	Meigui	A Storyteller	Im surprised Soter can still fly, his ego being so big and heavy.	04/05/15 19:11	1
clocktower	Meigui	A Storyteller	This is the stuff of nightmares. Im outta here!	04/05/15 19:15	1
clocktower	Meigui	A Storyteller	Ive always loved the mill the way my voice echoes of the walls to the steady beat of the machines buried underneath the surface	04/05/15 19:21	1
clocktower	Meigui	A Storyteller	My spirit is way too restless to linger around here.	04/05/15 19:23	1
clocktower	Meigui	A Storyteller	Great. What kind of evil is hanging over our heads?	04/05/15 19:27	1
clocktower	Valandil	A Magician	Theres something not right about that Harill. No wonder he left.	04/05/15 19:42	1
clocktower	wallace	An Evangelist	Snout seems a dangerous fellow perhaps we village folk need to intervene in his practices.	06/05/15 09:04	1
clocktower	singer	A Rebel	Ms Maven, her quarters may be gloomy but her heart is bright. Some say i am blinded by the witch but i say i see clearly	06/05/15 10:07	1
clocktower	Number 2	A Trickster	I used to be in the group, then I left. I fell asleep and then woke up and looked out of the window...where am I ??	07/05/15 18:39	1
clocktower	JPlant	An Evangelist	Singer dear, you reside in The Village.	07/05/15 21:36	1
clocktower	mioplis	A Storyteller	villagers should not concern themselves with the ramblings of wallace. My gospel is the only truth. This world courses toward ruin	08/05/15 10:29	1
clocktower	mioplis	A Storyteller	I continue to watch the goings on in this weird and wonderful villagenbut I worry for its inhabitants trouble is comming	08/05/15 14:30	1

Residency	Character Name	Archetype	Message	Timestamp	Episode
clocktower	Wellwisher	A Storyteller	Welcome to episode 2 of the village, The Election. Who will you swear in to keep the village safe from harm?	08/05/15 23:19	1
clocktower	wallace	An Evangelist	Harmony talks of danger at the clocktower? I have seen nothing strange here. Dont let her worry you. Come and see me for guidance	09/05/15 12:04	1
clocktower	singer	A Rebel	theres something not right here,I mean how big is this village?does anyone ever leave? took a look around on foot, no self drive	11/05/15 18:59	2
clocktower	singer	A Rebel	number 2...who pulls the strings ?	11/05/15 19:04	2
clocktower	Number 2	A Trickster	The Colonel....we are all pawns me dear....	11/05/15 21:15	2
clocktower	mioplis	A Storyteller	I have the answer but what is the question. Danger lurks I I worryfor the inhabitants.Take care fellow villagers its coming!	12/05/15 14:15	2
clocktower	singer	A Rebel	in colour ?	12/05/15 17:03	2
clocktower	singer	A Rebel	Hecaceres..who does she really answer to ???	12/05/15 17:07	2
clocktower	JPlant	An Evangelist	Clear as day do not trust Hecaceres, do not vote for her. I think wallace works for her. His evangelism is a cover for evil	13/05/15 17:49	2
clocktower	Number 2	A Trickster	Singer is an individual, he is always trying....and I am the boss.	15/05/15 11:50	2
clocktower	mioplis	A Storyteller	the time is drawing near we must be ready for the inevitable	17/05/15 17:13	3
clocktower	wallace	An Evangelist	Mioplis, you speak as if you know the truth? Perhaps we should discuss what you THINK you know...	21/05/15 12:37	3
clocktower	wallace	An Evangelist	Aleteia thinks there is some odd goings on here. I have nothing to hide. Speculate all you like, this clocktower is void of evil	21/05/15 12:40	3
clocktower	Meigui	A Storyteller	My Dad would tell me to stop feeling sorry for myself. Get a grip, dude!	21/05/15 12:23	3
clocktower	Meigui	A Storyteller	Snout, have you ever considered seeing a shrink?	21/05/15 12:27	3
clocktower	Meigui	A Storyteller	Locked out of the clock tower, I haunt the graves of the nearby cemetery. How I long to climb the towers winding staircase!	21/05/15 12:31	3
clocktower	Meigui	A Storyteller	Yes, listen to the candles, Harill. Look into those pretty little flames!	21/05/15 12:37	3
clocktower	JPlant	An Evangelist	Wallace is the only entity with the ability to enter the clocktower? Hmm. There is malice behind his concern. He draws you in near	22/05/15 22:12	3
clocktower	singer	A Rebel	I am observing watchmaker, he is up to something and never comes out from his shop	26/05/15 20:47	4
clocktower	Number 2	A Trickster	I am the new number 2. But who is number 1? As the portal in this clocktower widens, I see his face beginning to emerge.	27/05/15 11:07	4
clocktower	mioplis	A Storyteller	its time! all villagers must be ready this day, for the beginning of the end is upon us.	28/05/15 15:59	4
clocktower	Meigui	A Storyteller	Im all for a good lynching but I just came from the clock tower so I dont think theres much point. See ya!	28/05/15 12:46	4
clocktower	Meigui	A Storyteller	The ego has landed.	28/05/15 12:47	4
clocktower	Meigui	A Storyteller	Aletheia, I will follow you everywhere if you share with me the gift of perfect pitch!	28/05/15 12:51	4
clocktower	Meigui	A Storyteller	There is a hauntingly beautiful quality to industrial sunsets. It reminds me of the everburning lights in the land of my mother.	28/05/15 13:00	4
clocktower	Meigui	A Storyteller	But what does that blue cross up there mean?	28/05/15 13:01	4
clocktower	wallace	An Evangelist	You need my council now more than ever! The death of hecaceres makes clear she is not evil. A more viscous force is out there	28/05/15 19:02	4
clocktower	Number 2	A Trickster	At last we glimpse the face of number 1. A man in a monkey mask? Perhaps. It is you dear friends. You are all creators	01/06/15 21:30	4
harill	Zammster	A Hermit	dddd	01/05/15 18:40	1
harill	Companion	A Samaritan	I visit Harill from time to time. As isolated as he is, he remains friendly. Folk who live here should be like him	02/05/15 13:45	1
harill	crixus	A Rebel	greetings all who dwell within this village!	07/05/15 16:26	1
harill	Alberto	A Hermit	Harill needs cheerying up, I am a party animal, and talk constantly	08/05/15 14:23	1
harill	Companion	A Samaritan	I worry for Harill he is rushing into things. He is in a bad place and appealing to the crowd? He may just get his heart broken	10/05/15 13:20	2
harill	Companion	A Samaritan	is there anything we can do to help him? im not sure voting him in will help	10/05/15 13:21	2
harill	Companion	A Samaritan	I cant but help feel that we have driven him to this.	23/05/15 13:18	3
harill	Companion	A Samaritan	Finally, Harill makes a stand! Im so pleased. I wish him luck on his quest	29/05/15 20:45	4
harmony	adagio	A Victim	Oh, Harmony. You speak of vitality? Is this what you took from me? Is this why i feel empty?	05/05/15 01:34	1
harmony	Fulcrum	A Healer	nobody wants to live here and i dont know why. It is a peaceful land and the alchemist isnt so bad. She regrets what she did!	05/05/15 14:34	1
harmony	lazy dreamer	A Hermit	I quite like the alchemist act. Now I have an excellent excuse to just relax all day and dream of the apocalypse...	06/05/15 20:40	1
harmony	Fulcrum	A Healer	Should we forgive Harmony? Yes, of course! She has suffered long enough.	09/05/15 15:24	2
harmony	Melody	A Poet	I forgive you, sweet lady of the font. I forgive you and im here for you.	10/05/15 17:46	2
harmony	lazy dreamer	A Hermit	not only shall we forgive Harmony but persuade her to keep it this way. She is wonderful, love how she has sucked energy out of me	11/05/15 20:40	2
harmony	Melody	A Poet	Harmony, your wise words and warnings are spoken so gently. The mill seems a dangerous place to be. I hope you can protect us	17/05/15 10:23	3
harmony	lazy dreamer	A Hermit	Oh yeah. Did Aletheia see the future and decided to change it by killing Hecaceres?One can dream..	26/05/15 21:06	4
harmony	Fulcrum	A Healer	I have a theory. Aletheias book of prophecies was deliberately placed in the village to misguide the residents...	27/05/15 22:37	4
harmony	Fulcrum	A Healer	...and the dangers of the clocktower are false. It is the mill that threatens the safety of this world.	27/05/15 22:38	4

Residency	Character Name	Archetype	Message	Timestamp	Episode
hecaceres	Minotaur	A Rebel	It is surprisingly peaceful down here...The sky? Torched. The rivers? Infected. Yet around me, barely a whisper	01/05/15 18:21	1
hecaceres	Caretaker	A Saboteur	Hecaceres wanders the corridors of the mill scorning her world, yet at the same time coveting her power I am here to sabotage.	03/05/15 13:17	1
hecaceres	Caretaker	A Saboteur	I begin planning my rogery in the coal store...	03/05/15 13:24	1
hecaceres	Evangeline	A Dreamer	The world down here moves, yet the air lays still. From out of the darkness comes such bright light. Am I but dreaming?	04/05/15 18:10	1
hecaceres	Caretaker	A Saboteur	Ms Maven, I do need help. But an old fool finds it hard to trust another...How do I know where you loyalties lay?	05/05/15 09:11	1
hecaceres	pembo	A Gossip	I do not trust this place one bit. there are lights and sounds down here that provide cause for concern. Caretaker must be helped	07/05/15 12:37	1
hecaceres	Caretaker	A Saboteur	the election shows the deviousness of Hecaceres. I work to undermine her. The coal store was unfruitful, I move to the tower.	10/05/15 15:34	2
hecaceres	pembo	A Gossip	I can help you caretaker. Just say the word. I have many useful skills and can aid you in throwing a spanner in the works	13/05/15 11:17	2
hecaceres	Caretaker	A Saboteur	The witch has left for the surface so I make my way to the grindstone. Harmony tried, Soter got it twisted, but I will prevail	23/05/15 17:27	3
hecaceres	Caretaker	A Saboteur	There is much activity here and I will soon be caught. The time to act is now. This village will burn we must sabotage the mill!	26/05/15 12:44	4
hecaceres	pembo	A Gossip	does caretaker still work to disjoin the mill? or has he been silenced? Who built the coal creatures down here? Not hecaceres..	28/05/15 20:41	4
hecaceres	pembo	A Gossip	there is something else down here. Something even more terrifying than the goat of the mill.	28/05/15 20:41	4
roso	Ms Maven	A Wizard	So I shall gather my magical roots and runes for one never knows when the darkness shall descend upon us...	02/05/15 00:51	1
roso	Ms Maven	A Wizard	Oh lonely hermit...what is it that you run from that is worth such isolation and pain? For the stars are beautiful but silent	02/05/15 01:24	1
roso	Socrates	A Sage	The hour of departure has arrived and we go our ways: I to die, and you to live. Which is better? Only God knows.	02/05/15 13:07	1
roso	Ms Maven	A Wizard	Today I saw a lone deer in the magical woods and the fear in her eyes reflected the shadows encircling us all	02/05/15 21:30	1
roso	Ms Maven	A Wizard	Yogiri Perhaps the pomp of the academy disguises a more dire directive	02/05/15 21:56	1
roso	Ms Maven	A Wizard	Caretaker, doth your rogery need a hand? For I have a few spells that may shed light in the darkness...	04/05/15 12:13	1
roso	Ms Maven	A Wizard	Wallace, what think you of the spirit that both protects and ensnares us? All is quiet now, but I fear what may be underfoot!	04/05/15 12:15	1
roso	Ms Maven	A Wizard	Caretaker, my loyalties lie with my own survival, and thus, the survival of this Village!	05/05/15 12:30	1
roso	Ms Maven	A Wizard	Wallace, what reassuring words, but perhaps you are under her spell and cannot see the truth?	05/05/15 12:31	1
roso	Manuel	A Saboteur	Y cuando comienzan a cantar? Me aburro...	05/05/15 23:05	1
roso	Catalyst	A Gossip	Consider me your insider in this science institute. For a small price I will leak details of the professors latest innovations	06/05/15 10:12	1
roso	gjerrells	A Wizard	Such fun to meet all the inhabitants of the village...	06/05/15 23:40	1
roso	Ms Maven	A Wizard	Manuel, si toca el triangulo despues la musica comenzara. Perdoname, Mi espanol es terrible	07/05/15 19:59	1
roso	Ms Maven	A Wizard	Ummm...anyone worried about the woodcutter psychopath running around the village???	07/05/15 20:01	1
roso	Ms Maven	A Wizard	VOTE ROSO! VOTE ROSO! The Man of the FUTURE! The Man with the PLAN! VOTE ROSO! SAVE THE VILLAGE!	09/05/15 15:29	2
roso	Catalyst	A Gossip	Roso works on a new timepiece! one that shares vital signs...Sounds very familiar to me. Typical of this arrogant innovator	11/05/15 15:43	2
roso	Catalyst	A Gossip	I may take on Caretakers ways and sabotage the professors laboratory	11/05/15 15:45	2
roso	The Colonel	A Gossip	I sit,I watch,and play chess by the water, friend or foe ?	11/05/15 19:09	2
roso	Falдор	A Magician	An eagle will fly, up to the tree...you want a magician, dont look at me!!! I am still in the academy !!!!!	12/05/15 16:41	2
roso	The Colonel	A Gossip	number 2....yes we are all pawns, but its how you move across the board of life that counts..you can be king !	12/05/15 17:00	2
roso	The Colonel	A Gossip	I need a map....in colour	12/05/15 17:01	2
roso	Ms Maven	A Wizard	Colonel. Perhaps we should sabotage the board....it sounds like plans may be underway...	14/05/15 20:21	2
roso	Ms Maven	A Wizard	Poor Sam, if his meat likeness even remotely resembles him in reality! A face a mum could be proud of!	19/05/15 19:24	3
roso	Ms Maven	A Wizard	Llorona !! Cross the river and have some fun!	19/05/15 22:25	3
roso	Manuel	A Saboteur	Poor Baby.	19/05/15 22:34	3
roso	Manuel	A Saboteur	I was talking about Aletheia and Harill	19/05/15 22:36	3
roso	Catalyst	A Gossip	Hat What did i tell you? Roso, the great cerebral only NOW lowers himself into the vaults to search for info about Heca. The fool.	22/05/15 19:16	3
roso	Ms Maven	A Wizard	Perhaps it is too late for the inventor to change the inevitable!?!?! I shudder in fear...	26/05/15 15:53	4
roso	Catalyst	A Gossip	Snout beats Roso up the clocktower ,leaving the professor behind on all counts. It seems creativity can triumph over science.	01/06/15 16:12	4
snout	Lamb Chop	A Dreamer	I find myself locked within the butcherâ€™s cold store. Surrounded by meaty friends, and the mumbblings of that stinkin pig	02/05/15 15:23	1
snout	Razor	A Sadist	I chop, I debone and cleave! Snout talks about me. I'll make scraps out of them tasty boys in the cold store!@%&*	02/05/15 15:46	1
snout	Olivia	A Guardian	Assistant to the butcher pig. I standby and watch his madness unravel. Hes eyeing me up for raw materials for his work	05/05/15 09:27	1
snout	Cow head	A Victim	Thats all that is left of me. Every time Snout had a customer I lost a little part of me. What is going to happen to me now?	06/05/15 20:43	1
snout	Lamb Chop	A Dreamer	Well this might be it for me. Finally placed in Snouts butcher shop window, trimmed and seasoned...Its only a matter of time now	10/05/15 17:23	2



Residency	Character Name	Archetype	Message	Timestamp	Episode
snout	Lamb Chop	A Dreamer	Vile creatures leer at me behind glass as they make their way rumbustiously down the promenade...	10/05/15 17:32	2
snout	Cow head	A Victim	Hope the elected creature will make a new law where caws or shall I say cows heads are holy	11/05/15 20:36	2
snout	plumjah	A Healer	My fruitful powers will heal The Village...	12/05/15 17:01	2
snout	Olivia	A Guardian	Snouts barbarous competition will cut short the lives of many a lamb leg and loin at store 16. I despise working for this savage	13/05/15 09:11	2
snout	Mike	A Dreamer	Welcome to my operal You will like this show!	13/05/15 13:20	2
snout	Cow head	A Victim	Somebody please help me. Dont want to become a canvas	17/05/15 20:37	3
snout	Lamb Chop	A Dreamer	Well lovely villagers, looks like im for the final chop. Shit.	20/05/15 21:43	3
snout	Lamb Chopped	A Magician	Im gonna haunt the shit out of Snout.	20/05/15 21:47	3
snout	Olivia	A Guardian	Lamb Chop, Lamb Chop, im so sorry I couldnt save you. Haunt away, I have your back. I lurk behind the piggy with a tuned blade..	22/05/15 13:52	3
snout	watchmaker	An Inventer	I need to purge the way the village is run and atomize those who mean to steal our minds	26/05/15 18:37	4
snout	Cow head	A Victim	I survived the carving, yay. But, even though, my brains are intact, I dont understand whats happening around. Im scared	26/05/15 23:12	4
snout	Lamb Chopped	A Magician	Suckle on the shock, grimy pig. I hope that vision of Hecaceres burns deep and vividly into your overfed, vacant skull.	27/05/15 19:20	4
soter	Sozzee	A Puritan	Worldly Worrior	01/05/15 18:07	1
soter	Candle	A Hero	I want to be like Soter. He has all the fun! Sooooo brave and magnificent!	01/05/15 18:26	1
soter	Monsieur Hugill	A Poet	Hello	01/05/15 18:35	1
soter	Goz	A Trickster	i managed to hitch a ride up to the castle The view is green and gratifying I like it up here so ill think ill stick around	03/05/15 10:35	1
soter	Barbarella b	A Wizard	Barbarella boo boo is a long lost wizard trying to make her way through her magical journey	06/05/15 18:08	1
soter	Barbarella b	A Wizard	Barbarella can only been seen by other who take on the craft.	06/05/15 18:10	1
soter	Goz	A Trickster	tell us Barbarella, what is your craft? and what business has a wizard at the table of the white horse?!	06/05/15 23:47	1
soter	Goz	A Trickster	Aha! Another victory for Soter, the brave! Harmony sulks at the base of the world. Should we trust her? No. Time for some cheese!	09/05/15 11:36	1
soter	Goz	A Trickster	I guess its lonely at the top... not many seem to want to live here. But then again, who wants to dwell with one so deluded	21/05/15 22:04	3
soter	Goz	A Trickster	today my master grounds the great halls of Soter and this is where my journey ends..	21/05/15 22:06	3

# Endnotes

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1. Readers should note that the survey of digital opera has been updated since the development of *The Village* to include more recent and illustrative examples of developmental practice. Despite this revisit, there remains a lack of opera conceived for the web. ↵
2. The opera features two onstage singers who perform on a minimalist square stage in front of a 70' x 42' video screen that attempts to depict the intangible, metaphorical aspects of Wagner's opera. Film is used in particular to amplify the 'union of opposites' thread that runs through *Tristan and Isolde* through depictions of man and women, light and dark, and fire and water (Viola 2013). ↵
3. The opera borrows the form of *Dante's Inferno* to chronicle Packer's journey through the 'underworld of America', as told by his doppelganger, the 'secretary at large' of the fictional US Department of Art & Technology (ZERO1 2010). The filmic elements of the staged work comprise mostly layered documentary footage that recount major US news events such as the collapse of the World Trade Center to evidence the unfolding political crisis at the time (ibid). *A Season in Hell* therefore adopts an analytical tone that is reminiscent of Bertolt Brecht's politicised enquiry into the nature of reality via 'Dialectic Theatre' (Barnett 2016). ↵

4. This analogy is presented by Phillip Auslander in a conversation with Robert Blossom about Filmstage: a series of experiments that fuses cinema and live performance. Blossom likens on-stage actors to "fifty-watt bulbs waiting to be screwed into their source and to shine with the light that is perpetual but which they only reflect at fifty watts" (Blossom cited in Auslander 2008, p.40-41). ↩
5. The lead character Machiavel is based on the politician, philosopher and playwright Niccolò Machiavelli. ↩
6. Instructions retrieved from <http://www.iorpheus.com/ringtone-choir> on 1 June 2014. The website for *iOrpheus* has since been decommissioned. ↩
7. See also Jaron Lanier, who when arguing against crowd ideology in design in *You are Not a Gadget* suggests that: "there is no evidence that quantity becomes quality in matters of human expression or achievement. What matters instead, I believe, is a sense of focus, a mind in effective concentration, and an adventurous individual imagination that is distinct from the crowd" (2011, p.50). ↩
8. *OperaLand* is available at <http://operaland.org.s3-website-us-west-2.amazonaws.com/> (Accessed: 27 July 2020). ↩
9. *The Show Must Go On* was created for iOS devices but is now unavailable on the App Store. A Royal Opera House announcement of the game can be found at: <https://www.roh.org.uk/news/royal-opera-house-launches-a->

new-game-the-show-must-go-on (Accessed: 27 July 2020). ↵

10. Pugh and Goshka's interactive animations are available at

<http://werkflow.co.uk/projects/antigona-gareth-pugh/> (Accessed: 27 July 2020). ↵

11. Give that many OCPs are designed as individual encounters, the use of the term 'audience' to describe those experiencing the work is no longer satisfactory. Terms such as 'viewer', 'listener', 'interactor' and 'user' are more accurate. 'User' is often chosen as it makes no specific image to a form of media (unlike 'viewer' or 'listener'), however this term is not ideal given its rather functional overtones. ↵

12. *Soul Seek* is available at <http://www.slsk.nl/> (Accessed: 27 July 2020). ↵

13. Video playback on the web has remained stable since the introduction of the HTML5 video element. Other components of the website such as text and image are similarly standardised. The web version of *Omnivore* is available at <http://omnivoretheopera.net/> (Accessed: 27 July 2020). ↵

14. MMORPG is an acronym for massively multiplayer online role-playing game. ↵

15. The libretto for *Oikospiel* is available at [http://davidkanaga.com/oik\\_os/oik-libretto.pdf](http://davidkanaga.com/oik_os/oik-libretto.pdf) (Accessed: 27 July 2020). ↵

16. 'Walking simulators' (or 'walking sims') in gaming culture is sometimes used

as a derogatory term to describe titles where gameplay comprises mostly of exploring a landscape and finding objects. Although walking sims can present compelling narratives, they typically lack the challenge and risk that some players desire from gaming experiences (Clark 2017). ↩

17. It should be noted that Skains does not necessarily subscribe to this view but rather makes the observation. ↩

18. In explanatory sequential design a researcher collects and analyses quantitative data, then uses the findings to inform the direction of qualitative data collection. A researcher using this method may for example use interviews to further interrogate trends revealed by a survey. Exploratory sequential design is similar in its approach, yet here qualitative data informs the design of quantitative data collection methods. A research here may for instance may use focus group interview to identify concepts or issues, then design a survey to measure them. ↩

19. The inclusion of an apostrophe in 'pataphysics was mandated by Jarry to "avoid a simple pun" (Jarry 1911, p.21). The nature of the pun is unclear, however annotations of *Faustroll* by Simon Watson Taylor suggest an aural similarity to *patte à physique* ('physics paw' in the English). Hugill in *Pataphysics: A Useless Guide* points to a continuing ambiguity around the conventional use of the apostrophe (2012, p.8). The use of the apostrophe in this commentary is in accordance with a ruling by the Vice-Curator-Founder of the *Collège de 'Pataphysique*, which is summarised on the website for the

Musée Patamécanique. The rule states that 'only when consciously referring to Jarry's use of the word or his Science should the word 'pataphysics carry the apostrophe' (Musée Patamécanique, no date). ↩

20. Polly uses the phrase 'surfing the Internet' in an article for Wilson Library Bulletin (1992). Her reference to qualities of "randomness, chaos, and even danger" is often incorrectly cited to be from this article. This description is in fact found within Polly (1994), in which she explains why she chose 'surfing' as a metaphor for web interaction. ↩

21. In the field of artificial intelligence and web research, an ontology is "a document or file that formally defines the relations among terms" (Berners-Lee, Hendler and Lassila 2001). ↩

22. A knowledge graph (KG) such as Google Knowledge graph has a restricted domain, and therefore lacks the universality of the Semantic Web. A KG however operates using very similar principles and technologies to that of the Semantic Web, and as such has been described as a self-contained Semantic Web (Ehrlinger and Wöß 2016). ↩

23. In computer science, an index is a method of structuring data to facilitate operations such as a lookup or sort. ↩

24. The number of vocal variants available for each scene differs across the work. There are three vocal variants available for each scenes in the first group of scenes (scenes 1-3), three variants for each scene in the second

group of scenes (scenes 4-6), and four variants for each scene for the third group of scenes (scenes 7-10). ↩

25. Calculating the total number of possible permutations of the Land of Lace can be achieved by summing the total possible permutations of vocal variants (which are linked explicitly to animated miniatures) and the total possible permutations of 'sound' materials:

Text for scenes 1-3: 6 permutations (3!)

Text for scenes 4-6: 6 permutations (3!)

Text for scenes 7-10: 24 permutations (4!)

Sound for each scene: 10 options

Sound for all scenes:  $10^{10}$

Total permutations:  $6 \times 6 \times 24 \times 1/10^{10} = 8.6 \times 10^{12}$  ↩

26. Readers should note that two additional islands were featured in the focus group: The Soundhouse and Ringing Isle. This commentary omits a discussion of these islands as they do not feature in the current manifestation of *T/V* nor are relevant to this research. The islands were designed as educational tools that may provide outreach opportunities for The Opera Group rather than operatic experiences, and as such were included in focus group discussion to meet the reporting requirements of the Paul Hamlyn Foundation as activity funder. Reference to these islands has been removed from screen captures and transcriptions of individual responses for clarity, but remain in transcriptions of focus group discussions

for the purposes of context and flow. ↩

27. Visitor engagement reported by a custom embedded data capture (EDC) system that sets browser cookies to track engagement. The total number of unique *visits* to *The Village* across its live period is reported by the EDC as 1,909, which excludes revisits during the same episode from the same device. My estimation of the total number of unique *visitors* is however based on viewership figures for episode 1 only, which is ~600 (Figure 5.7). Due to the volatility of cookies (i.e. they are occasionally cleared) and the possibility of visitors using multiple devices across the live period, it is highly unlikely that cookies can track visitor engagement accurately across the entire live period. It is assumed therefore that unique visit counts from episode 2 onwards will include a high proportion of individuals that engaged episode 1. The estimate of 600 unique visitors is a lower bound estimate, and indeed the actual total viewership for *The Village* may be significantly higher. ↩
28. The actual percentage of visitors engaging from outside of the UK ranges from 50% to 67%. Although only 33% of visits originated from the UK (Figure 5.16), 17% of the remaining 67% were from locations that could not be determined. ↩
29. The term 'model window' in the context of user interface design refers to a content area that is overlaid on another. ↩



30. Examples such as The Mother and The Trickster can be found in *The Archetypes and the Collective Unconscious* (Jung 1981). Further archetypal figures such as The Explorer, The Rebel, The Everyman and The Caregiver have been attributed to Jung yet explicit mention of them is difficult to pinpoint in his work. ↩
31. Symbols found in the Magic Woods and in Aletheia's character arias point also to qualities of The Mother archetype as described by Jung. These include "maternal solitude and sympathy [...] helpful instinct or impulse [...] all that cherishes and sustains, that fosters growth and fertility" (Jung 1981, p.82). ↩
32. Readers should note that the paper cited was published after the development of *The Village*. It is included for interest only in lieu of references that note wider public opinion on the effects of Internet use, and particularly social media consumption, on attention spans. ↩
33. ASMR (Autonomous Sensory Meridian Response) is a neologism that describes a tingling sensation that typically presents in the scalp, neck and upper spine in response to auditory and visual stimuli. The phenomenon has in recent years gained traction on YouTube, leading to a proliferation of video content by 'ASMRtists' that exploit whispering and soft-speaking amongst other techniques to induce ASMR responses in viewers that are susceptible to triggers. Such 'tingle' videos are often intimate in nature, and are widely considered to give rise to feelings of relaxation. ↩

34. Included in this discourse is the impact of the recorded medium on the livelihood of musicians. Concerns can be found as early as 1906, where conductor John Sousa in his article *The Menace of Mechanical Music* presents a techno-dystopian vision of a world where 'canned' music displaces human skill, intelligence and soul (Sousa 1906). Later attempts by the American Federation of Musicians in the 1940s to ban its members from recording music illustrate similar anxieties around music as labour (Peterson 2013). ↩
35. Dixon treats the terms 'live' and 'liveness' differently, with 'live' seemingly referring to corporeality and 'liveness' a quality that may or not be experienced by an individual. The descriptor 'live performance' here then is for convenience, and is in and of itself not a comment on its intrinsic liveness. ↩
36. Readers should note that the number of visitor journeys captured by the EDC is far fewer than it's reported visit count. This are two reasons for this: 1) data entries were not created if visits ended unexpectedly during aria playback (i.e. a browser crash or visitor-initiated exit), and 2) the behaviour of the EDC system was unpredictable in cases where viewings were concurrent. EDC entries nevertheless cover engagement fairly evenly across the opera's live period, and as such the data is considered to represent how visitors to *The Village* navigated the opera at large. ↩
37. This reduction is likely due to individuals choosing not to return to the opera

because a) they felt that their curiosity had been satisfied, or b) the work didn't maintain their interest. ↩

38. In the context of opera, the term 'work' would typically refer to the performance itself rather than the material that underpins it (i.e. the libretto and/or score). The work is the embodiment of such material. ↩

39. Future creators of online opera should however be mindful of the emerging challenges in this area. In terms of access for example, users in recent years are opting out of sharing location data due to concerns around privacy (Newman 2020; Joseph 2020). ↩

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