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The Imaginary Voyage: an online opera

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Abstract

This short feature describes a project to create an online opera which deploys a new web technology, the Syzygy Surfer, developed in the Institute of Creative Technologies (IOCT) at De Montfort University. The project is a collaboration between the IOCT and The Opera Group.

Keywords: digital, opera, pataphysics, voyage, interactive, web art

1. Introduction

The Imaginary Voyage is a unique work that sets out to reinvent the form of opera in a digital context. It is conceived and delivered entirely through the web, either over desktop and laptop machines or, in the form of a downloadable app, via tablets and smartphones. The challenge, therefore, is to create a work that is operatic in scale and conception within the constraints or new possibilities of these media. From the outset, we were determined not to make something that simply remediated theatre-based opera. For the work to be successful, we reasoned that it had to emerge organically from the internet and from the digital technologies in which it was created. Yet, at the same time, we did not want to lose the power and splendour of familiar opera. Translating a traditional art form into new media therefore became a theme. Digital creativity is at the heart of the piece. The project is a collaboration between the Institute of Creative Technologies (IOCT), Leicester, UK, and The Opera Group, London. The work was conceived by Andrew Hugill and Lee Scott (IOCT) and Frederic Wake-Walker (TOG). The interface design, app development and web programming was undertaken by Lee Scott during a Knowledge Transfer Partnership in 2012–2013.

The Imaginary Voyage takes as its starting point an ancient narrative form. Very early examples include Iambulos's Islands of the Sun, written in the first century BC, which set the pattern for many novels to come. The essential story is an imaginary voyage to a series of islands of different character, or to a single island that has many different facets. Thomas More's Utopia (1515) was the first to revive the form in the renaissance, to be followed in rapid succession by many other examples, including Francis Bacon's New Atlantis. A satirical tradition began with Francois Rabelais' Gargantua et Pantagruel (1532), and included such classics as Cyrano de Bergerac's descriptions of voyages to the Moon and the Sun (1657/1662) and Jonathan Swift's Gulliver's Travels (1726).

Our online opera is most directly inspired by some modern reworkings of this form, in particular the navigation ‘from Paris to Paris by sea’ described in Alfred Jarry’s *Gestes et Opinions du Docteur Faustroll, pataphysicien* (*Exploits and Opinions of Dr Faustroll, pataphysician*) (Jarry 1996, 197), first published in 1911, and the structural navigation of the apartment building at 11 rue Simon-Crubellier in Georges Perec’s *La Vie mode d’emploi* (*Life a user’s manual*) (Perec 2011). Additional inspiration came from some of the short stories of Jorge Luis Borges (Borges 2000) and the whole genre of steampunk, with its extension of Victorian technologies into a digital age.

The central scenario, therefore, is that the user is the main character in the opera, undertaking a voyage from island to island. Each island tells its own story, but the whole navigation becomes a narrative of its own. Levels of interactivity vary from island to island, but the user is able to keep a ‘breadcrumb trail’ of the journey, enabling returns to familiar or pleasurable places, and a sense of the way in which the many divergences occur. At no point is the navigation predictable: surprise and novelty is built in at every level. On the other hand, neither is the experience random or lacking in a sense of poetic unity. Striking the balance between these two aspects underpins many of the technical aspects of the creation.

The Imaginary Voyage deploys a new technology developed in the Institute of Creative Technologies at De Montfort University: the ‘Syzygy Surfer’ (Hendler and Hugill 2011). This is a creative search engine that exploits metadata to deliver deviations or swerves, sudden unexpected alignments and anomalous moments, instead of the predictable target-driven results of conventional search. This is the engine that underpins much of the operatic experience and guarantees that user interest is maintained and that novelty is constantly renewed, but in a way that is not too divergent.

Each island contains three elements: the text or libretto, which is either spoken or sung; the music, which is without voices; and the imagery, which may be moving or still or a combination of the two. The island’s general character is predetermined by three main factors: duration (conditioned by the relative length of the musical fragments); spatial aspects (reverberation characteristics and settings); atmosphere (mood and ‘feel’). These may themselves be determined by the text used, the musical or visual content, or the types of singer. In some instances, one of these predominates in setting the character, in other cases there is more of a synthesis.

The methods of creating each island also vary, but all methods are characterised by the same approach to content: it must be capable of seemingly endless recombination and variation, but in ways which are perceptibly meaningful and not simply random. This introduction of an aesthetic and semiotic layer is expressed mostly at the level of unseen metadata, giving the user a seamless experience whose mysterious hidden order only gradually (if at all) becomes apparent. It is in this deliberate ambiguity that the mystery of the opera resides and which provides a reason for users to revisit the work time and again.

2. Creating islands

Each island is constructed from ‘fragments’ of sound and image that are sequenced and combined dynamically by the Syzygy Surfer. We begin the sequencing process by attaching descriptive meta- data to the sound fragments. This method is very similar to the ID3 tagging system that is used to embed track identification data within an mp3 audio file. In this case, however, the metadata layer contains information about a sound’s musicological attributes, such as harmonic structure, spectromorphology, voicing, instrumentation and genre. The Syzygy Surfer focuses on one attribute, for example ‘Voicing: Trio’. It then searches a bank of audio files, held in a MySQL database, to identify another sound fragment that shares this particular tag. This file is then queued for play- back. From here, the Syzygy Surfer can either iterate this process based on the tag ‘Trio’, or can identify the current sound file and refocus the search based on one of its other attributes, such as ‘Harmony: Modal’.

A separate tagging procedure is employed to connect image fragments to sound fragments. In this instance, we select one universal attribute that can be applied across all three of our compositional elements: sound; image; and text. For this we assign each fragment a perceived ‘feeling’ or ‘mood’, and draw from a pool of metadata that includes tags such as: joy; calm; awe; sadness; and confusion. The subjective nature of this categorisation system, coupled with the notion that a sound or an image can evoke any number of emotions, often results in Syzygy Surfer connections that are completely unexpected and rather delightful. The Imaginary Voyage currently consists of five islands: The Isle of Cack; The Amorphous Isle; The Land of Lace; The Ringing Isle; and The Soundhouse.

We first created the Isle of Cack, with original music by Andrew Hugill and imagery and processing by Lee Scott. Drawing from Jarry’s (1996, 32 – 34) description, we establish the atmosphere of the island as effluvial, ruptured and unsettling. The music is highly varied in texture, harmonic structure and genre, and features sounds from a range of sources including frogs, pianos, electronic synthesisers and the orchestra. Each musical fragment has a duration of around five seconds; however, the Syzygy Surfer will often interrupt playback after only a fraction of a second. The island therefore feels as if it is being experienced in irregular ‘bursts’. The text element comprises sung and spoken samples that are similarly dislocated and variously redundant. Visually, we focus on the polarity between the reality of existence and the anarchy of the surreal. Themes include: rotting fruit; death; taxidermy; and surgery; and also: dancing fish; ‘unrotting’ fruit; underwater lighthouses; and smiling frogs. Many of these images and some accompanying sounds are manipulations of creative commons-licensed materials from websites such as Wikimedia, Vimeo, Freesound and Flickr.

The Amorphous Isle is ‘like soft coral’ (Jarry 1996, 41). It is languid and drifting, shapeless and ambiguous. Texts are generated by Fania Raczinski’s working prototype of the Syzygy Surfer, which uses Faustroll as prime material. The island is presented as a quincuncial projection¹ designed by Lee Scott, complete with pulsing gridlines and

¹ The “Peirce quincuncial projection” is a form of map that presents a sphere as a square. It is often used as a way of representing Earth in two dimensions.

curious symbols that mark musical settlements. There are thirty settlements in total: seven of these are dedicated to Jarry's description of the three 'kings' that reside on The Amorphous Isle, ten are 'lighthouses' that appear on the coastline, and thirteen exist as 'nebulas', pockets of activity that have no fixed location. Each settlement is assigned a visual theme such as cyclical movement, abstract pattern or light in motion, as well as a specific 'feel' that is determined by its musical content. The music is composed by Andrew Hugill, and comprises spoken word, choral singing, and accompanying sounds of thirty seconds duration. The music includes slow, subtle transformations, gentle textures, drones and a fairly static harmonic structure.

The Land of Lace is altogether more unified than the other islands, and is intended to feel more like a 'conventional' aria that sets the ten evocative images, derived from Aubrey Beardsley, in Jarry's (1996, 35 – 36) description. It is through-composed by Andrew Hugill and consists of ten vocal lines that may be substituted one for another, each in two versions, one English and one French, thus giving the user a choice of languages. Each of these ten lines is set to one of ten possible accompaniments, scored for flute, organ, harmonium, piano, celesta, glockenspiel, harp, harpsichord and untuned percussion. The combination of instruments in each line is determined by a Greco-Latin bi-square, with two 'active' instruments and two 'passive'. These roles imitate the behaviour of the four bobbins in bobbin lacemaking. As it works through the ten lines, the music gradually becomes more harmonically complex and decadent in style. The Syzygy Surfer performs numerical operations to determine a route through the accompaniment that ensures the



Figure 1. The Land of Lace screenshot. Image created by Jo Lawrence.



Figure 2. Quincuncial projection of The Amorphous Isle.

musical language evolves as intended. The Syzygy Surfer is also used to navigate the visual material of The Land of Lace, which is created by Jo Lawrence and inspired by images from Jarry, Beardsley and patterned lace, that progressively becomes more intricate over time (Beardsley 1967).

The Ringing Isle is most directly inspired by the description of ‘frozen words’ in Rabelais’ *Pantagruel* (Rabelais 2006, 638). The voyagers hear the sounds of an ancient battle that have been frozen into coloured snowballs. As the balls melt, the sounds they contain are released into the air. In the opera, the user releases ‘snowballs’ that contain computer-generated electronic ‘glitch’- like sounds created by Andrew Hugill alongside the release of words, cries and noises that have been frozen in time. The result is a ringing texture of surprising sonorities.

The Soundhouse is created by Lee Scott, and attempts to apply modern compositional techniques to the traditional repertoire. We draw upon the highly stylised Steampunk genre to create a ‘coal-fuelled’ music-making machine that plunders Baroque, classical, and romantic and contemporary opera, remixes them, and spits them out as a mashup mix of mangled melodies and hashed harmonies. The users are very much at the centre of this process. By setting dials and pushing pistons, users can select various instrument – mood combinations, and conjure a matrix of sounds that can be layered, time-stretched and reversed.

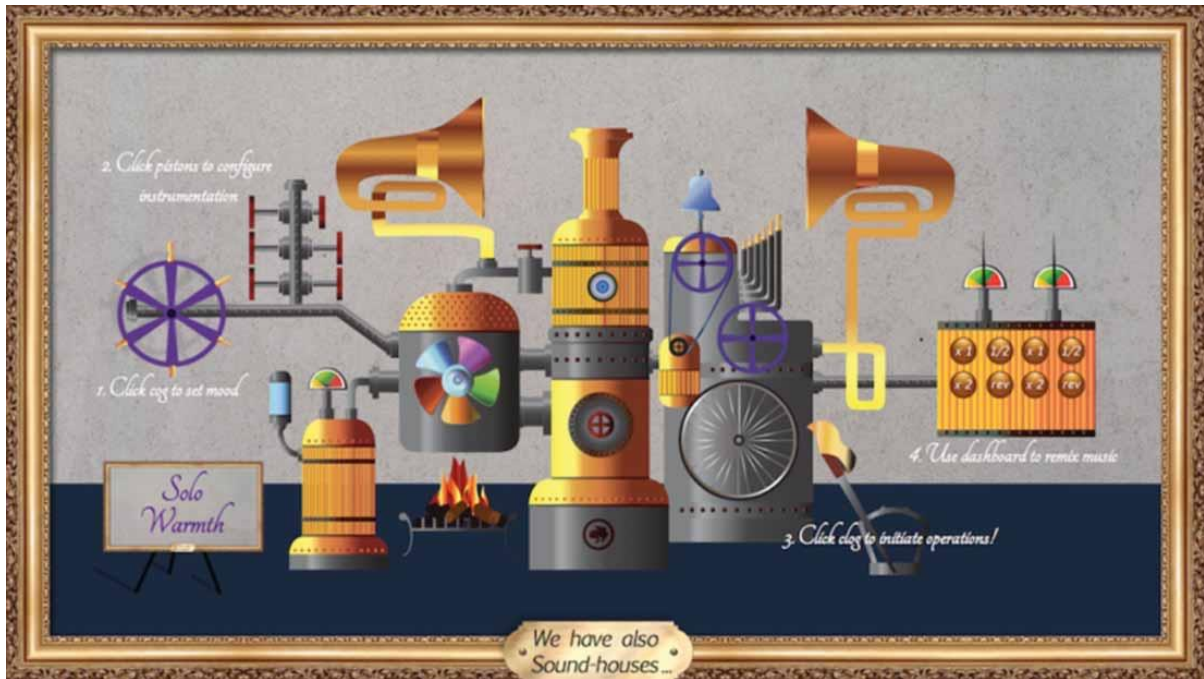


Figure 3. Screenshot of The Soundhouse.

3. Interactivity

One thing that makes The Imaginary Voyage unique as an opera is that it offers its users a certain degree of autonomy. In other words, a user is able to shape how their musical and visual experience evolves over time. Each island invites the user to engage with the three elements that predetermine its character: duration; spatial aspects; and atmosphere.

In The Isle of Cack, the focus is on duration. Here, the level of user activity influences the pacing of content delivery, and in turn how ‘ruptured’ the island is. Interactivity in The Amorphous Isle is again based on duration; however, there is also a spatial component. The user is able to govern the ‘amorphousness’ of the island by manipulating a compass that controls how slowly one sound, or image transitions into the next. The multimedia stream can range from drifting, yet defined, to highly diffused.

The Imaginary Voyage tracks user navigations using an interactive ‘breadcrumb trail’. In the Amorphous Isle this takes the form of a written account, akin to a ‘ship’s log’, that details the user’s voyage to the various settlements that inhabit the island. The log, penned in real-time, becomes more convoluted as the journey unfolds. The ‘breadcrumb trail’ in The Isle of Cack attempts to echo the manner in which multimedia content is presented on the island. Here, the navigation is documented as a series of small images that fill the computer screen over time. By selecting an image, the user will revisit a familiar audio–visual combination. From here, the Syzygy Surfer will begin plotting a new and unique onward journey.

Audience evaluation sessions will be undertaken before the work is launched officially. The system will also offer opportunities for continuous audience evaluation. Some initial audience tests were made during a symposium on digital opera at the IOCT, following which some changes were made to the interactivity. In particular, giving the user more control over their interaction, but making that control mysterious in its effects, was the main outcome of this exercise. The artistic effectiveness of the user experience depends to some extent on the way in which the interaction plays with expectations.

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