Affective Communication in Cultural Museum Exhibitions: A Case-Study

Investigation of the Exploitation of Digital Surrogates at

the National Library of Ireland

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by

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Abstract

The overall aim of this research is to evaluate the contribution of digital surrogates to affective communication in cultural museum exhibitions.

Current literature in the field has been reviewed, including the motivations and theory behind exhibition design, the potential of digitization, and previous research incorporating the use of digital surrogates in exhibitions.

A combined approach has been taken in the research methodology. Both quantitative and qualitative methods have been used to gather data, using the case of the Yeats exhibition at the National Library of Ireland. A questionnaire survey was carried out in order to illuminate visitors’ perceptions of the exhibition. Some of those involved in the exhibition were interviewed so that some richer information could be gathered and the aims of the exhibition established.

The findings of the research point out the ways in which the digital surrogates were used to support, and the extent to which they contributed to, affective communication in the exhibition. These findings are then drawn on to create recommendation for the Yeats exhibition, and to create guidelines for the exploitation of digital surrogates in cultural museum exhibitions.
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Chapter 1  Introduction

The increasing availability of interactive multimedia technologies has changed the delivery and level of information conveyed in museum exhibitions. Interactive technologies have been introduced into the museum setting as guides, and as actual exhibits, either in a gaming or ‘playful’ setting or as a means to present information about objects or digital surrogates of objects.

Digital surrogates of artefacts can be manipulated and presented in such a way as to present a richer learning experience for the museum visitor. The presentation of objects within a collection is no longer limited because of physical or conservation issues, as digital surrogates allow a potentially limitless number of visitors to interact directly with the object. Surrogates also offer the potential to provide several deeper levels of information about the object within an exhibition setting.

1.1  Rationale

As interactive technologies are being increasingly employed in museum exhibitions it is important for museums to establish what exactly are the benefits of investing in these technologies, and whether or not they can help achieve the aims of an exhibition. This is particularly important in the case of cultural museums as here the emphasis is placed on the conveyance of information and the interpretation of objects, rather than using technology for technology’s sake or to create a ‘fun’ experience, as may be the case in a science museum.

The exploitation of digital surrogates may be particularly relevant in a cultural setting as digital surrogates, as well as overcoming the traditional ‘barrier’ of the glass case, can be exploited to create a deeper, multilayered information experience.
This research focuses on a case study at the National Library of Ireland. In the National Library of Ireland multimedia technology has been used to augment the value of what are primarily text based artefacts. Two exhibitions based on the lives of the prominent Irish literary figures Joyce and latterly Yeats, have employed technology to allow for the representation of the multitude of contexts and various levels of information that can be drawn from such historical, cultural and literary figures. In an exhibition such as this the importance lies not only in the artefacts themselves but in the way they may be interpreted in relation to the subject. The library employed at least two forms of multimedia interactive technology in the Joyce exhibition. ‘Turning the Page’ technology, based on scanned images of the Joyce manuscripts, allowed visitors to simulate interacting with the object directly in an augmented environment. Strategically placed interactive touch screens enabled access to contextualised information at various levels as dictated by the user. The Yeats exhibition is a follow-up to the Joyce exhibition in that it is based in a similar context and uses similar technology.

Considering the Library has chosen to implement interactive multimedia, and make use of digital surrogates of its artefacts in two consecutive exhibitions, it is important to ask what the rationale is behind the use of these technologies and whether or not they have contributed to the achievement of the Library’s aims in mounting the exhibition. Asking these questions will also help illuminate the argument for and against the use of interactive technology and digital surrogates in the larger context of cultural institutes and contribute to the development of guidelines for the implementation of such technology.
1.2 Aims

The aim of this dissertation is to explore how digital surrogates may be successfully used and augmented in cultural museum exhibitions in order to create an optimal information experience, that affords users choice in terms of the amount or level of information, that can be accessed, as well as in the way information is accessed. Such an exploration will test the proposition that digital surrogates can in fact be exploited to create a richer museum exhibition visiting experience.

This study explores this in the context of the Yeats exhibition at the National Library of Ireland, focusing on the Library and its visitors. Rather than being an in-depth look at the technology, its infrastructure and the technical aspects of its implementation, the aim is to focus on visitor perception and experience, the aims of the curators, and the content of the exhibition. The use of technology and digital surrogates of objects is seen within the context of its setting, its users, and the information it is meant to convey.

Another aim is to question how important the actual physical presence of an object is to an exhibition. In other words, of what value might an exhibition be where the only objects to be exhibited are digital surrogates of objects that are not physically on display?

1.3 Objectives

The objectives of this study are as follows:

- To define the aims of the exhibition in the case study
- To analyse the levels and facets of information (such as historical, biographical, literary) that are presented in the exhibition and how this information is presented.
• To ask users whether the design of the exhibition, in particular the use of multimedia technology, met their expectations
• To discover what users have learned and if this matches the aims of the exhibition design
• To look at how the use of technology fits within the exhibition as a whole and identify strengths and weaknesses in the design.

1.4 Methodology

The methodology for the study is primarily qualitative. Background information has been drawn from literature providing an overview of the principles and theory behind exhibition design, some of the technology that has been employed to exploit digital surrogates in a museum setting, as well as an analysis of cases of other exhibitions where digital surrogates have formed the whole or part of the exhibition.

The case of the National Library of Ireland has been used to answer some of the questions that arise from this background analysis. Semi-structured interviews with those involved in the exhibition design, and a visitor questionnaire survey, consisting of a selection of closed and open-ended questions, have been carried out in order to determine the success of the exhibition itself and, in particular, its use of digital surrogates.

1.5 Scope and Limitations

Since this study is based on a case study at the National Library of Ireland many of its finding may be relevant within this context only. In a wider context the outcomes of this study are primarily intended to provide some considerations for the design of exhibitions using digital surrogates.
The fact that data gathering was carried out over a period of three months during the summer means that it has not been possible to include school tours, which constitute an important part of the National Library’s intended audience, in the data gathering. However, as is discussed in further chapters, the exhibition visiting experience for school tours is tailored to be very different to that of the general public, and as such, had it been included in the study, it might have biased results.

1.6 Structure of Dissertation

Chapter two is a literature review, outlining the context and the background of the study. The various methods used to carry out the study are discussed in chapter three. An outline of the case in question is presented in chapter four. The results of the data gathering are presented in tabular form in chapter five. These results are then incorporated into diagrams and compared and contrasted for the discussion chapter. Finally, chapter seven, will draw conclusions from both the literature review and the findings. A set of guidelines for the exploitation of digital surrogates will be outlined and recommendations for further research will be made.
Chapter 2  

Literature Review

2.1  Introduction

There have been very few studies related to the use of digital surrogates in museum exhibitions. Most recent studies in this area have focused on the actual design of interactive exhibitions, the development of the technology used and the involvement of users in the design process (user-centred design). Since this study focuses on the exploitation of digital surrogates within the context of museum exhibitions and visitor perceptions of the effectiveness of such an exhibition this literature review will provide an overview of the area of exhibition design, interactive technology in museums, and cases where digital surrogates have been used in exhibitions. The review starts with a definition of the functions of the museum in order to illuminate how exhibitions fit into, and help support, these functions. This is followed by a discussion of the purpose of museum exhibitions, an outline of the theory behind exhibition design, and some considerations for the design of exhibitions. Digital surrogates, their use in museums, and the potential advantages of exploiting them in exhibitions, are then discussed.

Finally this chapter closes with a discussion of some considerations for interactive exhibition design and an overview of some of the research that has been carried out into the use of technology, in particular technology which exploits digital surrogates, in museum exhibitions.
2.2 Museum Theory and Exhibition Design

“Most modern museums are concerned with collecting, preserving, and providing access to important cultural and historical artefacts with the explicit intention of educating and informing the public about those artefacts” (Taxen, 2004).

Caulton (1996) divides museums into generations. The focus in first generation museums was on collection and preservation, whilst second generation museums focus on content through the interpretation of objects or phenomenon. Third generation museums, he predicts, will, with the increase in the use of technology in museums, focus on virtual reality. However this does not mean that technology will be an end in itself rather it is a new tool for interpretation and communication. Both Taxen and Caulton acknowledge the shift in emphasis from the significance of artefacts to the experience of visitors.

Museum theory acknowledges the fact that objects in a museum are open to an almost infinite number of interpretations depending on the context of interpretation such as social, economic, political and cultural (Silverstone, 2000) as well as the context of the museum itself and the experience or knowledge of the user (Falk & Dierking, 1992). The significance of an object may be reinforced or suppressed by the museum in which it is shown, the theme and purpose of the exhibition, the physical content of the exhibition and the objects situation in relation to other material such as information displays or other objects (Vergo, 2000).

Constructivist museum theory emphasises the learning process over the actual body of knowledge. According to constructivism a museum visitor does not merely absorb information, but constructs new knowledge by interacting with information and assimilating it into what is already known. This theory then would indicate that the affectiveness of the communication in a museum exhibition is dictated as much by its physical layout, the interactions within it, and the visitors’
own personal knowledge and expectations, as it is by its informational content. It follows then that an affective exhibition is, in constructivist terms, one that allows individuals to explore multiple narratives and construct knowledge through exhibits which present multiple scenarios and outcomes according to the choices of the visitor. (Leslie & Gleeson, 2006)

There are four stages in the exhibition process- conceptual, developmental, functional, and assessment. What the exhibition is about and the message it is intended to convey is decided at the conceptual stage. In the developmental stage such concerns as the information content, physical layout and technology are determined. The period during which the exhibition is up and running is the functional phase. Because of the new focus in museums on the visitor experience and learning, the assessment phase has become increasingly important (Taxen, 2003) in order to evaluate how affective an exhibition has been in achieving its learning objectives.

Exhibitions can be divided into six types (Agren, 1995):

- A contextual exhibition presents objects in context or in their appropriate environment, for example, in a diorama
- In an isolating exhibition, such as an art gallery exhibition, objects are displayed in such a manner as to emphasise their aesthetic properties
- Systematic exhibitions impose a scientific order, such as chronological or biographical, on artefacts
- An exhibition integrating focusing on social and cultural aspects of objects supplemented by other media for visualisation, is an analytical exhibition.
- Storytelling exhibitions, often the format in history museums, focus not on the objects themselves, but on the history of humans associated with them
- MetarelATION, through the juxtaposition of seemingly unrelated objects, is designed to make visitors reflect and stimulate debate.
Sparacino et al. (1999) believe that all museums are narrative spaces which tell stories. Traditionally these stories have been told through signs, labels, catalogues, tours, audio tours, and more recently video and multimedia kiosks. These media have several limitations as Sparacino (2003) discusses. Text panels are limited physically in the amount of information they can display and large panels of text can disrupt the pace of a visit. Catalogues can include more information but are too cumbersome to carry around an exhibition. Guided tours can provide rich information at a natural pace but deprive the visitor of choice. (Vom Lehn & Heath, 2003). Audio tours solve many of these problems as they can provide several levels of information at a pace that suits the visitor as well as allowing the visitor choice in what information and artefacts to explore. Audio tours, however, can be disruptive also as the button pushing involved can be confusing. A solution to this problem is to make the device location sensitive (Petrelli & Not, 2005). Video and multimedia kiosks although rich in information are often limited by their location which can be away from the artefacts being described. (Ciolfi & Bannon, 2003)

The drawbacks of these traditional media, coupled with the ‘instant gratification’ society that has emerged with the proliferation of computers and multimedia, has meant that museum curators have had to revisit traditional methods of presenting and exhibiting cultural artefacts (Alonzo et al., ). One solution to this problem is to provide audiences with a more interactive or even immersive experience.

2.3 Interactive Exhibition Design

“A hands-on or interactive museum exhibition has clear educational objectives which encourage individuals or groups of people working together to understand real objects or real phenomena through physical exploration which involves choice and initiative.” (Caulton, 1996)
Interactive exhibitions are not necessarily technology based, but since this research is centred on the use of digital surrogates, we will focus on interactive technology in exhibitions.

The technologies used in museum exhibitions range from stationary multimedia kiosks, to personal digital assistants, wearable devices and digital virtual reality technology. As stated earlier, multimedia kiosks have their drawbacks but they can also motivate visitors to spend more time with exhibits and can provide a deeper level of information about the exhibit. PDAs are less physically constrictive than kiosks and have similar functionality. However, because they are designed for used by an individual PDAs can disrupt the social nature of museum visits (Vom Lehn & Heath, 2003).

Virtual reality technology can provide the novelty to keep visitors engaged with an exhibit, as well as facilitate and encourage social interaction. Immersive environments provide a new way of exploring information and use more natural modes of interaction hence, in theory, are easier for the visitor to use. The challenge for virtual reality is to continue to remain novel so as to hold the attention of visitors whilst still supporting the learning purposes of the exhibition. (Rousseau, 2001)

As is evident from the description of some of the technology employed in exhibitions, technology can provide a more flexible or personalised experience as well as more wide ranging information regarding exhibitions and artefacts than traditional museum displays such as wall boards and text panels (vom Lehn et al., 2003). Technology can also help create a more interactive experience as it can adapt to visitors’ preferences, allow the simulation of an activity, facilitate social interaction or contribute to the creation of a completely immersive experience. In order to prevent technology detracting from the actual message of an exhibition it is important to follow guidelines and to facilitate collaboration between curators and designers.
An affective interactive exhibit must have clear goals, immediate unambiguous feedback, opportunities for action in balance with personal ability (Csikzentmihalyi, 1990). It is important also that an exhibit is not limited physically either in terms of location or technology (Taxen, 2003).

A useful set of desirable attributes have been devised by Caulton (1996) for the design of interactive exhibits:

- Direct and obvious actions and reactions
- Clear goals
- Easy to use and requires minimal label reading
- Works at multiple levels
- Encourages social interaction
- Open-ended variable outcomes
- Founded on research into existing knowledge and understanding of targeted visitors
- Multisensory and employ a range of interpretive techniques, appealing to visitors with a wide range of interests and learning styles
- Challenging but not threatening
- Provides enjoyment for visitors or makes them feel they have understood something more
- Well designed, safe, robust and easily maintained.

These guidelines provide a useful framework for the evaluation of interactive exhibits.

Pehlivanides (2005) has identified a new design field called cultural information interaction design which is concerned with the design of interactive presentation in museums. Pehlivanides describes four levels of involvement in the production of a cultural information system (fig. 1). At the base of the schema is the knowledge that is to be conveyed by the system and comes from curators, historians
or archaeologists. The second level, the mechanisms, is the technology designed by programmers or engineers. The expressions through which the knowledge is conveyed are designed by the interaction designer and finally the user interface is put in place. This schema is a holistic view of the interdisciplinary nature of the design of interactives for museums.

**Fig. 2.1 Production of a cultural information system schema**

Many researchers in interactive exhibition design place visitors at the centre of the design process as visitors have knowledge of what it is to be a visitor (Taxen, 2003).

Taxen has development an evaluation methodology for co-operative design based on the case of The Well of Invention at the Museum of Science and Technology Stockholm.

Petrelli and Not (2005) when designing HyperAudio, a context sensitive adaptive mobile museum guide, stressed the importance of user centred design in which users are consulted at the beginning, and throughout the design process. User centred design starts with the analysis of users, the tasks they wish to carry out and the environment in which they will operate. It is an iterative process involving users
from the beginning and throughout the design process to test the design. User centred design ensures that the focus in design is not on the capabilities of technology but on the needs of the user and on its context. The HyperAudio design process involved a survey of science museum users to determine their demographic information and visiting habits. The survey showed that the social dimension of the visits was far more important than demographic attributes in dictating the form of the visit. As a result of their findings the amount of user interaction, such as the inputting of user information, with the technology was reduced. HyperAudio became more of a companion than a museum guide, optimising the delivery of information by remembering which exhibits had been visited by users already and changing the information delivered accordingly. The authors also noted that the type of interaction desired by visitors or user requirements depended on the context or domain e.g. type of museum.

2.4 Digitisation

Digitisation is the process of sampling an analog object (this may be an artefact, image, text or audio) with a device to transform it into digital form. As digitisation technology and computers become faster and less costly the creation and storage of high quality digital copies of objects within a collection has become more viable for museums.

The creation of digital surrogates of artefacts in a collection serves several purposes. It supports the museum in its mission to record, conserve and provide access to a collection.

Besser, in 1997, predicted a significant increase in the use of digital images and multimedia by cultural repositories such as museums. He based this prediction on the changes that were occurring in libraries at the time which he believed were ten years ahead of museums in terms of the uptake in technology. This increase in
the use of digital images and multimedia would result from the convergence of the dynamism of collection management systems and the accessibility of multimedia technology.

As technology and file size improves, museums, in their mission to manage their collections and record details of artefacts, are able to add more detailed information to their digital collection management repositories including text and high quality digital images of the objects. The advantages of collection management systems are that they can import files and store a large almost unlimited amount of information.

Multimedia systems on the other hand, designed for specific exhibitions, are relatively static as they are intended for the exploration of a specific topic and are limited in their application and range of information. Their advantages lie in their user friendly interfaces, their ability to adapt to user preferences and to provide a narrative. The convergence of these two types of systems would allow for the dynamic creation of narratives which provide in-depth contextual information through an accessible user interface.

Besser saw this convergence in the context of the World Wide Web. Digital images undoubtedly have the potential to increase access by providing access to objects within a collection to a wider audience. This does not mean, however, as Besser suggests, that the public will be less interested in travelling to the museum site. If we extend Besser’s comparison between libraries then we can see that the library, as space, is no less important today than it was ten years ago, rather some of its functions have changed. Less an information repository the library has become a space of facilitation for accessing information, technology, and for collaboration. As well as holding information, it provides support for its navigation. The case is not that users are less interested in visiting the library it is that they are more interested in what the library provides access to, rather than what it holds.
The Bernini Digital project (Bogen, 2005) is an example of a digitisation project. The purpose of this project was to create digital replicas of a group of four 17th century Bernini sculptures located at the Galleria Borghese in Rome.

The creation of digital surrogates of the sculptures is not merely for conservation or recording purposes, but supports access, education, and research. The surrogates are presented in a virtual environment within which they can be manipulated. This is particularly important for research, as originally Bernini had intended that the sculptures be placed in a particular formation and had even designed the plinths upon which they were placed. However, over time, and with the redesign of the museum, the sculptures had been moved and placed on new plinths. Hence the intended formation has been lost without any record of its original set-up. The manipulation of the 3D surrogates within the virtual environment allows for different permutations of the formation and different heights of the sculptures to be tested.

Bogen describes this virtual environment as a ‘real’ immersive experience which allows users to interact directly with the objects, collaborate with others, which creates a sense of excitement. The digital images are of such a high quality that the surface texture of the artefact can be explored and the effect of various changes in light can be illustrated. Angles that would be impossible for an ordinary visitor to view, such as the view from above the sculpture, can be seen in the virtual environment.

The Bernini Digital project illustrates the potential that digital surrogates have for research, for further exploration of an artefact and the additional functionality a digital surrogate can have over its real-life counterpart.
2.5 Digital Surrogates and Exhibition Technology

The digital surrogate’s usefulness ranges far beyond collection management purposes. As the Bernini Digital Project illustrates, a digital surrogate can provide more interactive dimensions than the real object. The flexibility that digital surrogates offer has been exploited for several purposes in exhibitions, through the use of a wide range of technologies.

The PEACH (Personal Experience with Active Cultural Heritage) project (Zancanaro, 2003) (Rocchi et al., 2003) is an example of a project where digital surrogates of an object being exhibited have been used to provide deeper levels of information about, and relating to, the object. As part of an exhibition of a large 15th century fresco in Trento, Italy the digital surrogates are used to provide deeper levels of information on particular details of the fresco. Employing PDAs, virtual windows and large stationary screens this exhibition illustrates that the way in which digital surrogates may be exploited depends not only on the context of the information that can be conveyed but also on physical context such as location and technology.

The PDAs were able to detect the visitor’s location in relation to the fresco and react accordingly by highlighting on the PDA screen the particular panel in front of which the visitor was standing and providing the option of receiving a presentation on the particular panel by clicking on the highlighted area. Visitors were able to view particular parts of each panel on the PDA screen whilst standing in the physical context of the actual fresco.

The virtual windows and stationary screens did not have the mobility of the PDA but compensated for this by being able to provide larger images of the fresco and deeper layers of information. The type of information provided related directly to the activities or items represented in the details of the fresco and also to more general descriptions of activities, items and their context. A third level of information then described particular examples of the phenomenon the visitor had chosen to explore.
The text, images, audio and speech for the presentations were constructed automatically by intelligent engines which retrieved this material from a semantically enriched multimedia database.

A subjective evaluation of the PDA was carried out. Prior to testing users pointed out a potential problem with the introduction of the PDA guide into the exhibition, which was that it would detract from the actual fresco. This is a problem also discussed by Taxen (2003). He points out that interactive exhibits that are game-like or employ special effects may detract from rather than assist in the interpretation of information. However it was found that the cinematic techniques used in the presentation complemented and helped provide further detail of the fresco rather than detracting from the enjoyment of the real thing.

Other findings from the subjective evaluation were that the PDA presentations:

- Created a better understanding of details in the fresco
- Helped identify less visible details

And that:

- Localisation allowed quick identification of the panels referred to in the audio presentation.

There are several points that can be drawn from the PEACH project for this study:

- The use of digital surrogates can help provide a better understanding of an artefact
- That the ways in which digital surrogates can be exploited depends on the physical context in which they are used
• Digital surrogates of objects can enable visitors to view artefacts in greater
detail than would be possible by just standing in front of the artefact
• The nature of digital surrogates means that they can be stored, retrieved and
integrated with other forms of information to create automatically assembled
presentations relevant to a specific context
• The use of technology and special effects need not distract from the intended
aims of an exhibition so long they are in keeping with the context of the
exhibition.

Vom Lehn and Heath (2003) through carrying out an observational survey of
visitor interaction with PDAs found that the PDA presentation (even if it was purely
audio) often substituted for the exhibits it was describing. Even though users of the
PDA positioned themselves so as to face the exhibit featured on the PDA their
attention remained focused on the PDA screen, the exhibit only receiving a cursory
glance. There seems to be no apparent reason for the fact that in the PEACH study
users claimed that the PDA did not detract from viewing the exhibit whilst Von
Lehn and Heath’s finding were the opposite. The reason for this discrepancy may
lie in the method of evaluation. The subjective evaluation used in the PEACH study
only reported the users’ perceptions of their interaction, whilst Vom Lehn and
Heaths evaluation was based on observation of the users’ actual actions. The
disparate findings in these two studies raises a question over which is more
important, user perception or user actions? Which is the better indication of whether
or not an exhibition has achieved its aims? Is the amount of attention a visitor gives
an exhibit more or less important than what the visitor has learned during the visit?

In cultural museum settings it is important that technology is not used for its
own sake but used to improve the visitors experience, and to facilitate learning and
the transfer of knowledge. In the Hunt Museum exhibition ‘Retracing the Past’,
(Ferris et al., 2004) interactive multimedia technology was employed in a non-
intrusive manner (as it not the use of technology for its own sake) to add value to
artefacts within the Hunt collection. The objects used in the exhibition were objects
which had been misclassified, or whose use was unknown, and therefore open to interpretation. Interestingly, the physical presence of the objects themselves seems to have become secondary to the purpose of the exhibition, as visitors became engaged in gathering and exploring information relating to the objects and the interpretations of others. The visitor turned investigator as she explored a multiplicity of perspectives and had access to multiple layers of content through various media in the exhibition ‘Study Room’. Visitors could use their RFD tagged key to access maps and other information on an interactive desktop. Virtual representations allowed examination of objects in fine detail and would simulate the sound of the object when tapped with a magic wand. Users could submit their interpretation over a ‘telephone in the ‘Room of Opinion’. Their interpretation would then be stored on a radio channel in the study room for future investigators to listen to. A graphical representation of each visitor’s opinion appeared on a screen in the room giving the visitor a sense of their own contribution.

The use of interactive multimedia added value to objects which had, seemingly, no worth in the context of the collection as a whole as they had not been assigned a particular meaning. Conversely, while serving to increase the value of the objects as exhibition pieces its use may have made the actual physical presence of the objects a secondary consideration.

Recently Lindgren et al. (2006) have conducted research into how digital and physical artefacts can complement each other in learning about mechanical motion. Observation of the exhibition showed that although the interactions with the real objects lasted longer more people used the digital 3D models

Although set in a scientific rather than cultural setting the outcome of this research is important because it found that the learning tools and information content are more important than whether or not an object is ‘real’ or a digital reproduction.
The Hunt Museum exhibition illustrates how digital surrogates and technology can be integrated into an exhibition in a non-intrusive manner to create an augmented exhibition visiting experience. “La Scena di Puccini” (Sparacino, 2004) is an example of how technology can provide a completely immersive exhibition visiting experience. “Puccini Set Designer” is an exhibition which uses technology to convey how Puccini worked as a set designer. The exhibition consists of several “body driven interactive multimedia narrative spaces”. The aim in using technology and creating these immersive spaces was to create in visitors a sense of wonder, curiosity and genuine interest in the objects on show. The objects on show included drawing by Puccini of set and costume designs. These sets and costumes were converted into 3-D holograms using scanned images of the drawings and were then placed beside the original drawings. Visitors were then able to physically interact with and move through the holograms in the narrative spaces as the technology responds to their gestures. The 3D models were also used in an interactive documentary table at which visitors could sit and navigate documentaries of varying lengths. This exhibition illustrates how the manipulation of digital surrogates through the use of an array of technology can meet the communication aims of an exhibition. These immersive spaces prove that the exploitation of digital material for exhibitions is not limited to screen-based activities.

2.6 Conclusion

This chapter has outlined the functions of museums today and how exhibitions support some of these functions. An argument has been put forward for the introduction of interactive technologies into museum exhibitions. Considerations for the design of museum exhibitions have been discussed as well as guidelines which can be used to evaluate the design of interactive exhibits. The context of the exhibition, including the institutional, physical and its target audience, should be of utmost importance in determining its design.
Although digital surrogates have an almost unlimited potential for use in museum exhibitions, their affectiveness is dependant on the way in which they are manipulated, the accompanying information, the technology used to exploit them and its appropriateness for the exhibition context.

As the role of museums change it has become increasingly important to explore the potential of new technologies as well as the impact these new technologies have on the museum visitor. Limited funding should encourage museums to exploit existing resources, of which in many museums digital replicas of artefacts in their collection may be one, in new and exciting ways. Some of the ways in which digital artefacts have been exploited in exhibitions in the past have been outlined. The majority of these studies focus on the actual design process involved rather that how the digital surrogate has been exploited or how affective the exhibition communication has been in the eyes of the visitor.
Chapter 3  Methodology

3.1 Introduction

This chapter describes the methodology and methods that were used in this study. It sets out the proposition, describes the sources of data that were used and how the data was collected. It also discusses reasons for the method chosen as well as outlining some drawback of these methods of data collection. It concludes with a description of how the data is analysed and a discussion of its reliability and validity.

3.2 Proposition

This study sets out to test the proposition that digital surrogates can in fact be exploited to create a richer museum exhibition visiting experience.

As stated earlier this will be explored through a case study set in the National Library of Ireland. The emphasis on visitor experience necessitates that contextual issues such as personal motivation, social context and physical (Caulton, 1996) layout are investigated.

The visitor experience is also explored from two points of view; that of the curators and designers and that of the visiting public. The curators and designers points of view relate to their aims in designing the exhibition in terms of the type of information and visitor experience that was intended in its design. The visitors’ point of view relates directly to their perception of their visiting experience to their expectations and learning experience of the finished exhibition.
3.3 Case Study Research

Yin (2003) uses the following definition of a case study:
“an empirical enquiry that:

- Investigates a contemporary phenomenon within its real-life context, especially when
- The boundaries between phenomenon and context are not clearly evident.”

In this case study the contemporary phenomenon being investigated is the use of digital surrogates of objects within the real-life context of the Yeats exhibition at the National Library of Ireland.

As has been illustrated in the Puccini, Hunt and PEACH projects, the affective use of digital surrogates in museum exhibitions cannot be separated from its context. The affective use of digital surrogates in museum exhibitions is inextricably linked with affective communication within the exhibition, the information content, institutional aims and the perceptions of the user.

Case studies can be used in explanatory, exploratory and descriptive research. Although primarily used to answer ‘how and why’ research questions, the case study can also be used in evaluation to:

- **Explain** presumed casual links in real life interventions
- **Describe** interventions and their context
- **Illustrate** topics around the interventions
- **Explore** situations where an intervention has no clear, single set of outcomes (Yin, 2003).
This case study could be described as both exploratory and evaluative, exploring the phenomenon in question, describing the case of the Yeats exhibition, and attempting to evaluate how affective the exploitation of digital surrogates was.

The advantages of case study research are that the investigator need have no control over the phenomena or environment in the case study, and the methods for the case study can be derived from both quantitative and qualitative research methods.

The use of a quantitative method such as the questionnaire survey alone to explore and evaluate the exploitation of digital surrogates would have been extremely limited in terms of investigating context because of the lack of depth, and the limited number of questions and variable that can be included in a questionnaire.

Some criticisms (Yin, 2003) of case study research are that there is very little literature dedicated to the area and so strategies for analysis are not well defined. The extent to which the findings of a case study can be extrapolated is also limited, but as the preceding literature review has illustrated, affective communication in any exhibition is context sensitive and that context varies, not only between types of museums and visitors, but also between the informational content of each exhibition and its aims.

The quality of a case study also depends very much on the strengths of the researcher involved. The only way to try and assure that subjectivity and bias has been kept to a minimum is to, as has been done in this case, document all the data that has been collected and use the most appropriate forms of analysis.
3.3 Qualitative Research

The methodology for this study is primarily qualitative, with some quantitative elements, and combines interviews with a questionnaire survey.

The reasons for integrating these different methods are:

- To explore the different aspects of the use of digital surrogates in the exhibition such as the design, information content and layout, and user interaction.
- To answer the question about whether digital surrogates can be used affectively to create a richer exhibition visiting experience from two different viewpoints or ontological perspectives: that of the institute and that of the public.

Qualitative analysis, as well as having the capacity to constitute compelling arguments about how things work in particular contexts, allows for the development of understandings and explanations of the social world (Mason, 2002)

Although the term qualitative research can refer to a wide range of research methods Mason (2002) identifies some unifying features within the area of qualitative research:

- Qualitative research is concerned with how the social world is interpreted, understood, experienced, produced, or constituted.
- It is based on methods of data generation which are both flexible and sensitive to the social context in which data are produced
- The emphasis is placed on a more holistic form of analysis and discussion, which involves understanding of complexity, detail and context.
This research shares these common features as it:

- Is concerned with users’ experience and interpretation of experience as well as how this experience was produced.
- Utilises flexible methods of data generation, such as semi-structured interviews, which have been adapted to individual contexts
- Recognises that the use of digital surrogates must be seen in context and includes the overall design of the exhibition and informational content in its analysis and discussion.

An interpretivist approach has been taken to the collection of data as people and their interpretations, perceptions and meanings are taken as the primary source of data (Mason, 2002) in this study. The key data sources are the curators and designers of the exhibition, the tour guides, the visiting public, the library literature, and the exhibition itself.

3.4 Data Sources

The data sources for this case study were as follows:

- A literature review of material relating to cultural institutes, exhibition design, previous exhibitions employing digital surrogates. The literature did not cover the technological aspects of digitization or of designing interactive exhibits as this has been more widely covered and less likely to have any bearing on the affective use of digital surrogates
- Institutional publications, in particular publications relating to the exhibition as these help provide a further insight into the content and aims of the exhibition
• The curators and designers of the exhibition in order to gain insight into the exhibition design and their perceptions of the potential of using digital surrogates in exhibitions
• The tour guides in order to obtain richer insight into the visitor experience
• Visitors in order to evaluate the exhibition
• The physical exhibition

3.5 Interviews

Interviews are an excellent way of generating substantial in-depth qualitative data and are an essential source of case study evidence as they are concerned with human perception and can help provide insight into a specific situation (Yin, 2002). There are several types of interviews including structured, semi-structured, and unstructured interviews. Because of the depth of the information resulting from an interview, in particular less structured interviews, are best carried out with a small number of respondents.

Structured interviews consist of a list of closed or fixed questions where the respondent may be given a list of options as answers. Semi-structured are more flexible and consist of a list of prepared questions with a list of probes and prompts to guide the interview. Depending on the answers given the questions asked or sequence of the questions may be changed. Unstructured interviews have no fixed questions and are lead by the interviewee.

Robson (2002) identifies two instances when semi-structured interviews should be employed as a research method:

1. for exploratory work before a quantitative interview
2. for individual historic accounts of phenomenon
In this case the purpose of the interview was to obtain accounts of the process that had been involved in the development of the exhibition as well as the thinking behind its design. Collecting these individual accounts helped establish a context for the use of digital surrogates and contributed to the identification of a cohesive set of aims for the exhibition. Hence the decision to make the interviews semi structured.

Originally the interviews were also intended to be exploratory in order to inform the design of the visitor questionnaires, but time constraints necessitated that the questionnaire be distributed before interviews could be carried out.

Interviews provide a depth, complexity and roundedness that cannot be replicated in other methods such as questionnaire surveys. (Mason, 2002) However there are drawbacks to using interviews as a research method:

- The data or information collected in interviews is difficult to quantify or use for cross analysis.
- The way in which questions are framed in an interview can be leading and the lack of standardisation of questions asked can cause bias.
- The analysis of the data can be difficult and time consuming (Robson states that interviews of less than 30 minutes duration are unlikely to generate any meaningful data whilst the transcribing of an interview can take up to ten times its duration).

The consequences of these drawbacks can be minimised by:

- Arranging questions into general areas of interest or topics in order to facilitate analysis
- Asking clear and straightforward question and avoiding using cues which may lead to a particular response (Robson, 2002)
- Recording the interview so as to capture as much data as possible
3.6 Interview Design

Semi-structured interviews were carried out with a curator, two designers, and a tour guide. Since the respondents all operate in different contexts within the exhibition three separate sets of interview questions were drawn up. The interview questions for the curators and designers can be divided into three general areas which are the overall exhibition design, technical aspects and use of technology, and past experience. The questions for both interviews were grouped together into categories to facilitate subsequent data analysis. The initial questions related to the exhibition as a whole and were designed to both put the respondents at ease and to contribute to the exploration of the context of the case study. Subsequent questions related to digitization, multimedia, and design considerations. Both interviews ended with questions about previous exhibition experience. Both interviews were at least fifteen questions long and lasted over an hour.

The purpose of the interview with the tour guide was to obtain richer information on actual visitor experiences than could be collected in the questionnaire, and was concerned with the tour guide’s observation of visitor interaction with exhibits, as well as the tour guide’s own learning experience.

The semi-structured nature of the interviews facilitated the re-ordering or omission of questions according to responses from interviewees and enabled the modification of lines of enquiry to match the apparent knowledge of the respondent.
3.7 Exhibition Evaluation

Part of this study takes the form of an evaluation of the exhibition itself in order to determine how affective the use of digital surrogates has been.

There are three stages of evaluation in the exhibition process. These are front-end, formative and summative (Hooper-Greenhill, 1994). Front-end analysis refers to the preliminary research involved in designing an exhibition, such as user analysis, generating themes and ideas, testing titles and creating mock-ups. Formative analysis is particularly important in the preparation of interactive exhibitions as it involves testing the design and detecting potential problems. Summative analysis takes place during the exhibition and is about measuring the success of the exhibition and informing the design of future exhibitions.

Since this evaluation takes place after the exhibition has opened it takes the form of a summative evaluation. Its purpose is to help meet the stated aims and objectives of:

- Producing a set of recommendations that could be referred to in the design of future exhibitions at the Library
- To ask users whether the design of the exhibition, in particular the use of multimedia technology, has met their expectations
- To discover what users have learned and if this matches the aims of the exhibition design

The evaluation involves presenting questionnaires to visitors in order to obtain some basic demographic and contextual information and to gauge their expectations and response to the exhibition. The exhibits themselves, in particular the interactive displays will also be analysed using Caulton’s (1996) interactive design guidelines. Since it is virtually impossible to distinguish the affectiveness of the use of digital
surrogates in the exhibition from the use of interactive technology it is important to determine how well the interactives were designed for their purpose.

3.8 Questionnaire Design

The questionnaire survey took place over the space of a week. The questionnaire was designed to measure visitor interaction with the digital surrogates and technology within the exhibition as well as to provide an overview of the type of information that they took from the exhibition. Fourteen questions in all, nine closed and 5 open-ended, are included in the questionnaire.

The design and content of the questionnaire is drawn from two studies, one carried out by Petrelli and Not (2005) and the other by Sparacino (2005) for the Puccini exhibition.

The survey carried out by Petrelli and Not (2005), as a precursor to the design of Hyperaudio, found that the demographic profile of the visiting population, such as age or education, did not affect the type of visit or the visitor’s attitude to technology. Despite this finding it was decided to gather some demographic data in the questionnaire for the following reasons:

- As Petrelli and Not point out, the type of museum visiting experience varies with the type of museum and hence, there is a need for direct empirical analysis of each application domain. Though it is unlikely that the demographics of the population for this study will differ greatly from the Petrelli & Not study it is important to allow for differences that might occur because of the change in context.
- To allow for the possibility that one of the aims of the Library, in launching the exhibition, was to attract as varied an audience as possible.
• So that respondents would be presented with a questionnaire that was familiar in structure, starting with simple and familiar questions rather than launching into more complex abstract questions, about the visiting experience.

Although the survey carried out by Petrelli and Not was carried out during the design process rather than for the finished exhibition, its structure is useful because it is divided into sections starting with a personal data section, a section on museum habits consisting of questions about frequency of museum visits and who the visitor has come with, an itinerary section to detail the length and purpose of visit and use of guides, and a styles of visit section enquiring into general attitudes and opinions about ways of visiting museums.

The questionnaire for this survey begins with a personal data section. It was felt that it was important to establish whether the visitor had come alone, with family, or as part of a group. Petrelli and Not had found that it was these ‘social dimensions’ that dictated the pattern of the visit. In retrospect, considering the findings from the interviews, it might also have been useful to ask whether the visitor was returning or intended to return again to visit the exhibition.

The questionnaire also includes a section similar to the itinerary section; questioning the visitors about their expectations, use of multimedia installations, and favourite aspects of the exhibition. The final section, rather than being concerned with the style of visit, consisted of questions about the visitor’s learning experience, if they had learned anything new and asked for a description of one new thing that had been learned.

Although Robson recommends the use of closed questions in a survey, as open-ended questions can be inefficient and ineffective, the questionnaire for this case study included both closed and opened ended questions. This survey was not merely concerned with gathering some demographic facts and finding out whether or not
visitors had made use of the digital surrogates, it was also interested in finding out about the visitors learning experience and whether the use of digital surrogates had contributed to this learning. The somewhat constructivist view was taken that imposing a preconceived framework of the types of learning that a visitor might experience could bias results. The fact that previous research in this area is very limited meant there was an absence of a credible framework to follow. Allowing, or searching, for the unexpected is then imperative.

Learning and knowledge are also personal and contextual making it difficult to breakdown into just a few categories. Open-ended questions provide a richer picture of the visitors’ experience.

Many of the actual questions included in the survey are drawn from a study by Sparacino (2003). The study reported on by Sparacino is an observational one but asks questions such as:

- Are the interactives easy and intuitive to use?
- Do they help get the intended message across?
- Are visitors intimidated by the technology?

Since much of the decisions and aims for the exhibition in this study were similar it was felt that many of the questions raised about the user’s interaction with technology and their learning experience would be relevant to this case study.

3.9 Questionnaire Sample Selection

The sample for the questionnaires was chosen at random. The questionnaires were left at the exhibition exit and it was up to the visitors whether they wished to volunteer to respond. It was planned that two hundred questionnaires would be distributed over a period of two weeks but the response was so strong that all the questionnaires were returned in one week.
As mentioned in the introduction, an important section of the visiting population, namely school tours, could not be included in the sample because of the time of year the survey took place. However, these tours are structured so that students are given particular activities to carry out, and hence must interact with certain exhibits. Such a structured visit would have biased the results on the use of the interactive exhibits and the answer to the question on what was learned. The exclusion of this section of the population then allows for a more real analysis of how affective the use of digital surrogates was in its own right.

3.10 Reliability and Validity

Objectivity in this study has been maintained as much as possible through the use of a combination of methods of data collection. In order to avoid subjectivity in the interpretation of data much of the data has been coded or indexed.

The following table illustrates the validity behind the methods used for data collection:

<table>
<thead>
<tr>
<th>Objective</th>
<th>Methods</th>
<th>Reasoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define aims of exhibition</td>
<td>Interviews with designers and curators/</td>
<td>The respondents will be asked directly what their aims are. The semi-structured nature of the interviews should discover other implicit aims. Interviewing both curators and designer should uncover aims from both the point of view of information content and learning as well as technology and interaction. Review of literature from exhibition</td>
</tr>
<tr>
<td>To analyse the levels and facets of information (such as historical, biographical, literary) that are presented in the exhibition and how this information is presented.</td>
<td>Interviews, review of exhibition literature, photographs of exhibition</td>
<td>Interviews will uncover how it was decided to structure the information and why. The literature is an indication of the informational content of the exhibition. The photographs provide details of how the information was actually laid out.</td>
</tr>
<tr>
<td>To ask users whether the design of the exhibition, in particular the use of multimedia technology, has met their expectations.</td>
<td>Questionnaire survey. Interview with tour guide.</td>
<td>Visitors are asked if the exhibition has met their expectation and whether they used the multimedia technology, if they found it easy to use and if not why. The interview with the tour guide will provide a view of how visitors actually interacted with the exhibition.</td>
</tr>
<tr>
<td>To discover what users have learned and if this matches the aims of the exhibition design (how affective has it been).</td>
<td>Questionnaire survey. Interviews with curators and designers. Interview with tour guide.</td>
<td>Visitors are asked to describe one thing they have learned. This can then be checked against the aims uncovered through the interviews with curators. The tour guide can be seen as a power user, interacting with the exhibition almost everyday and familiar with all levels of information content.</td>
</tr>
<tr>
<td>To look at how the use of technology fits within the</td>
<td>Questionnaire survey. Interviews.</td>
<td>Interviews with the designers and curators will illuminate the</td>
</tr>
</tbody>
</table>
exhibition as a whole and identify strengths and weaknesses in the design.

reasoning behind the inclusion of technology and its intended goals. Interviews will also identify any flaws perceived by the designers. Visitor questionnaires identify problems encountered by the users.

Table 3.1. Objective and Methods

The external validity is the extent to which one can make wider generalisations from a study to the wider population from which a sample is selected. The population in question here is the general visiting public at the National Library of Ireland. Since the sample for the questionnaire was random this increases its possibility for generalization. The lack of control over the sampling process however may compromise this somewhat as, since it was entirely up to the visitor whether to respond or not, those who either had a very positive experience or a very negative experience may be more motivated to fill out the questionnaires. Respondents’ motivations in filling out questionnaires is a risk with most random surveys. In order to minimize any bias or at least identify a bias the tour guide was interviewed about her observations of visitors’ interaction with exhibits.

3.11 Analysis of Data

The data retrieved in the questionnaire survey was coded and inputted into SPSS in order to produce a statistical analysis of variables and a diagrammatic representation of responses. It was particularly challenging coding the open-ended questions as the loss of some of the richness of responses was inevitable. In order to compensate for this, examples of individual responses to questions are reproduced in the discussion in order to explain particular results.
One of the purposes of the survey was to compare its results with the aims of the exhibition. These aims are derived from interviews with those involved in the design of the exhibition. The questions for each interview were already grouped into general categories however the responses to individual questions often fall into more than one topic area. The data collected in the interviews has been divided into general categories derived from the original research questions, as well as from the interview data, in order to create a resource from which the motivations behind, and the aims of the exhibition, can be determined. The advantage of indexing the data in this way is that it helps to go beyond an impressionist view of the interview data and reduces subjectivity.

In order to gain a clearer picture of context, the points of view of each individual case will be analysed so as to avoid any loss which might have occurred in a purely cross-sectional analysis.
Chapter 4  Case Study Overview: The National Library of Ireland and the Life and Works of William Butler Yeats.

4.1  Introduction

The purpose of this chapter is to provide an overview of the Yeats exhibition, its content and layout, and its context.

4.2  The National Library of Ireland

The National Library was founded in 1877 by the Royal Dublin Society in Leinster House. The Library moved to its current premises on Kildare Street in 1890. The Library is now recognised as a cultural institution and, as such, operates under the aegis of the Department of Arts, Sport and Tourism. The primary mission of the Library is to (a) collect, (b) preserve, and (c) make accessible, material relating to Ireland (National Library of Ireland, 2006).
4.3 The Yeats Exhibition

The Life and Works of William Butler Yeats (WBY) opened at the National Library in May, 2006. Put together over a period of two years, the exhibition benefited from the work of five dedicated exhibition staff in the Library, a team of designers from Martello Media, input from several Yeats scholars, artworks by various artists, and the guidance of a film producer.

The exhibition itself grew from a need to promote and illuminate the Library’s burgeoning collection of Yeats manuscripts. Donated by the Yeats family over a period of sixty years or so, the collection consists of original manuscripts of Yeats’ work, notebooks and correspondences, as well as Yeats’ own personal library.

The Yeats exhibition was not the first exhibition of manuscripts relating to an Irish literary figure to take place at the library, nor was it the first exhibition in which digital replicas of the manuscripts has been made available. In order to support the Library’s mission of making its collection accessible (through the exhibition and interpretation of material), a new exhibition area was opened in 2004. The first exhibition to take place in this new space was dedicated to the Irish novelist James Joyce. The exhibition included interactive touchscreen and turning the page technology, allowing visitors to interact directly with surrogates of the manuscripts.
Also included in the exhibition was a reproduction or ‘evocation’ of Joyce’s bedroom, where visitors could interact directly with the environment.

Best known to the Irish public as a poet and playwright, Yeats is one of Ireland’s most important literary and cultural figures. Born in 1865 Yeats enjoyed a lifetime which was analogous to the transitions, both cultural and political, that the island of Ireland underwent during this same period.

4.4 Exhibition Layout and Content

The structure and content does not point to any one style of exhibition. In fact the exhibition is a combination of types. It is contextual in that it presents information in appropriate environment, i.e. the evocations. It is scientific, as it is biographical in order. It is also a storytelling exhibition, telling the story of Yeats’ life by interpreting the artefacts on display.

4.4.1 Structure

The structure of the exhibition is biographical. Beginning with Yeats’ origins and family tree and ending with his death and funeral in 1936 the physical layout of this structure is circular.

Visitors to the exhibition are not explicitly directed. There are no arrows or maps and the layout is intuitive, transitions in life sections being indicated by changes in colour. Directly in front of the entrance is the ‘Verse and Vision’ space, a circular reflective

Fig. 4.2 Verse and Vision
area where people can sit and listen to Yeats’ poetry and watch the words and related images appear on four large high screens.

4.4.2 Evocations

There are four evocations scattered throughout the exhibition. The evocations are small curved enclosures where significant locations in Yeats’ life are recreated. Each evocation is accompanied by a documentary film relating to Yeats’ life or interests during that particular period. The four documentaries are, in the order in which they appear, Affairs of the Heart, Players and Painted Stages, The Other World, and The Mask.

4.4.3 Display Cases and Touchscreens

The display cases contain a selection of manuscripts from the library’s collection. Also contained in the cases are photographs and artefacts lent by the family. The display cases are dimly lit with small spot lights, so as to protect the delicate manuscripts contained within. The touchscreens provide a means to examine the contents of the display cases more closely. The touchscreens and display cases are placed beside one another. Each display case and its contents are exactly represented on the touchscreen so that users can view an object in more detail by touching it on the screen.
4.4.4 Poetry in Process: The Tower

The Tower is a collection of poems, which Yeats had published individually at various stages, and had, subsequently, collected and arranged them in one final volume.
The Tower installation is a semicircular structure which has been designed to look similar to an open book. On the open pages of the book is a map of the process leading up to the creation of the Tower, from the writing of the first poem to the book’s publication. In front of this are two touchscreens where users can view the book and access further information and a master class tutorial by touching various locations on the same map.

4.4.5 Poetry in Print: Crafting the Book

Directly opposite the Tower, completing the circle, is the Poetry in Print installation. Yeats was not only concerned with the content of a book, he believed that a book could be a work of art in its entirety including the illustration, binding, type, and even the paper on which it was printed.

The installation includes a display of Yeats’ book art alongside two touchscreens which illustrate the process behind the design of Yeats’ books and provides insight into the work of the designers involved.

4.4.6 Signature Images

Once it had been decided that the structure of the exhibition was to be biographical the designers and curators had to decide how to indicate the various phases in Yeats’ life. This was done using signature images from each period, the colour theme of each image following the lunar cycles of Yeats’ life. Once the images were identified digital copies were made and reproduced as large wall boards.

The signature images had a dual purpose:

(1) To indicate the transition of phases in Yeats’ life
(2) To draw attention to the touchscreens relating to each phase.

The relationship between each phase and its representative touchscreen was indicated by the use of the signature images as screensavers. This ploy and the proximity of the screens to the images negated the need for wallboards with large blocks of explanatory texts.

4.4.7 Facsimiles

The reproductions or facsimiles of artefacts, such as Yeats’ passport and the scrapbook of photographs of Yeats’ family, are arguably the most simple and effective exploitation of digital surrogates in the exhibition. Visitors are able to touch and turn the pages of perfectly replicated copies of Yeats’ passports, investigating Yeats’ travels for themselves.

Fig 4.6. Signature Image of Maude Gonne

Fig 4.7. Facsimile of a passport
Also replicated are pictures of the Yeats family. Far more intimate than a graphical representation of the family tree, the visitor can handle the album of pictures and draw their own relationships from interacting with them.

![Picture album](image1)

**Fig. 4.8. Picture album**

A questionnaire filled in by Yeats on creativity has been reproduced on a wallboard. Enlarged enough to make Yeats’ quite intricate writing as legible as possible, the questionnaire serves to make Yeats more ‘real’ as an individual, as visitors can read his writing first hand and appreciate him not just as a creative genius but as a fellow member of a form filling society.

![Wallboard of Questionnaire](image2)

**Fig. 4.9 Wallboard of Questionnaire**
4.4.8 Turning the Page

As a result of its success in the Joyce exhibition, two turning the page installations were also included in Yeats. Designed by Armadillo at the British Library these installations enable documents to be viewed at such a high level of detail that even the grain of the paper is apparent on the screen. The installation uses a book metaphor for interaction, as users can literally turn the page by dragging its corner across the screen.

Fig. 4.10. Turning the Page Installations
Chapter 5  

Findings

5.1 Introduction

This chapter presents the results of the questionnaire survey and the findings from the interviews. The results of each phase of data collection are presented in the order they were carried out. Firstly the results of the visitor survey are presented in tables. These are followed by the results of the interviews with a curator and the designers from Martello Media. Lastly the results from the interview with a tour guide are indexed and presented in tabular form. An in-depth discussion of these results and their implications will be presented in the next chapter.

5.2 Questionnaire Survey

The questionnaire survey was distributed over a period of a week and had one hundred and forty eight respondents. The questionnaire consisted of fourteen closed and open-ended questions. The responses from the survey were coded and inputted into SPSS. The results are presented here in tabular form. They responses are show in numbers rather then percentages to give a truer picture of the data gather. Percentages are used for the discussion, in the following chapter.

1. Age Range and Group Type

<table>
<thead>
<tr>
<th></th>
<th>Group</th>
<th>Family</th>
<th>Friends</th>
<th>Alone</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-12</td>
<td>1</td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13-17</td>
<td>1</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-30</td>
<td>2</td>
<td>6</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>31-55</td>
<td>4</td>
<td>17</td>
<td>13</td>
<td>21</td>
</tr>
<tr>
<td>56 or above</td>
<td>17</td>
<td>8</td>
<td></td>
<td>20</td>
</tr>
</tbody>
</table>
2. Has the Exhibition Met Expectations?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>4</td>
</tr>
<tr>
<td>Partially</td>
<td>9</td>
</tr>
<tr>
<td>Yes</td>
<td>44</td>
</tr>
<tr>
<td>Exceeded</td>
<td>88</td>
</tr>
</tbody>
</table>

3. Favourite Part of Exhibition

<table>
<thead>
<tr>
<th></th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evocations</td>
<td>20</td>
</tr>
<tr>
<td>YPod</td>
<td>43</td>
</tr>
<tr>
<td>Facimlies</td>
<td>7</td>
</tr>
<tr>
<td>Artifacts</td>
<td>7</td>
</tr>
<tr>
<td>Tower</td>
<td>1</td>
</tr>
<tr>
<td>Touchscreens</td>
<td>15</td>
</tr>
<tr>
<td>Information</td>
<td>1</td>
</tr>
<tr>
<td>Wall Displays</td>
<td>2</td>
</tr>
<tr>
<td>All</td>
<td>12</td>
</tr>
<tr>
<td>Abbey</td>
<td>6</td>
</tr>
<tr>
<td>Women</td>
<td>2</td>
</tr>
<tr>
<td>Study</td>
<td>2</td>
</tr>
<tr>
<td>Esoteric</td>
<td>1</td>
</tr>
<tr>
<td>Manuscripts</td>
<td>6</td>
</tr>
<tr>
<td>Objects</td>
<td>2</td>
</tr>
<tr>
<td>Occult</td>
<td>5</td>
</tr>
<tr>
<td>George</td>
<td>1</td>
</tr>
<tr>
<td>Influences</td>
<td>1</td>
</tr>
<tr>
<td>Tour</td>
<td>2</td>
</tr>
<tr>
<td>Family tree</td>
<td>1</td>
</tr>
</tbody>
</table>
4. Least Favourite Part of Exhibition

<table>
<thead>
<tr>
<th></th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evocations</td>
<td>7</td>
</tr>
<tr>
<td>YPod</td>
<td>7</td>
</tr>
<tr>
<td>Exhibition cases</td>
<td>3</td>
</tr>
<tr>
<td>Too much in exhib</td>
<td>5</td>
</tr>
<tr>
<td>Manuscripts</td>
<td>3</td>
</tr>
<tr>
<td>Wall displays</td>
<td>3</td>
</tr>
<tr>
<td>Sound</td>
<td>13</td>
</tr>
<tr>
<td>Darkness</td>
<td>6</td>
</tr>
<tr>
<td>Too many people</td>
<td>1</td>
</tr>
<tr>
<td>Too much in small space</td>
<td>1</td>
</tr>
<tr>
<td>Not enough seating</td>
<td>1</td>
</tr>
<tr>
<td>Not enough poetry</td>
<td>1</td>
</tr>
</tbody>
</table>

5. Use of Touchscreens

<table>
<thead>
<tr>
<th></th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>126</td>
</tr>
<tr>
<td>No</td>
<td>15</td>
</tr>
</tbody>
</table>

6. Reasons for Not Using Touchscreens

<table>
<thead>
<tr>
<th></th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>2</td>
</tr>
<tr>
<td>No interest</td>
<td>2</td>
</tr>
<tr>
<td>Don't know</td>
<td>1</td>
</tr>
<tr>
<td>Didn't know how</td>
<td>1</td>
</tr>
<tr>
<td>Didn't like them</td>
<td>1</td>
</tr>
<tr>
<td>Too loud</td>
<td>1</td>
</tr>
<tr>
<td>Too many people</td>
<td>1</td>
</tr>
</tbody>
</table>

7. Were the touch screens easy to use?

<table>
<thead>
<tr>
<th></th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>117</td>
</tr>
<tr>
<td>No</td>
<td>11</td>
</tr>
</tbody>
</table>
8. Reasons for difficulty with touchscreens

<table>
<thead>
<tr>
<th>Reason</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Didn't work</td>
<td>6</td>
</tr>
<tr>
<td>Uninteresting</td>
<td>3</td>
</tr>
<tr>
<td>Too loud</td>
<td>1</td>
</tr>
<tr>
<td>Cluttered</td>
<td>3</td>
</tr>
<tr>
<td>Lack of instruction</td>
<td>1</td>
</tr>
</tbody>
</table>

That the major difficulty with the touchscreens was that they did not work does not mean necessarily that the technology is not robust. The short time over which the data was collected may be unrepresentative of the how the interactives behave over the course of the exhibition.

9. Did inclusion of touchscreen make for a more enjoyable experience?

<table>
<thead>
<tr>
<th>Response</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>127</td>
</tr>
<tr>
<td>No</td>
<td>7</td>
</tr>
</tbody>
</table>

10. Was anything new learned?

<table>
<thead>
<tr>
<th>Response</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>104</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
</tr>
</tbody>
</table>
11. Describe one new thing learned

<table>
<thead>
<tr>
<th>Topic</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yeat's Personal Life</td>
<td>14</td>
</tr>
<tr>
<td>Influences</td>
<td>4</td>
</tr>
<tr>
<td>His Work</td>
<td>11</td>
</tr>
<tr>
<td>Abbey Theatre</td>
<td>4</td>
</tr>
<tr>
<td>Political life</td>
<td>5</td>
</tr>
<tr>
<td>Everything</td>
<td>5</td>
</tr>
<tr>
<td>Work Process</td>
<td>4</td>
</tr>
<tr>
<td>George</td>
<td>3</td>
</tr>
<tr>
<td>Affairs</td>
<td>9</td>
</tr>
<tr>
<td>Occult</td>
<td>16</td>
</tr>
<tr>
<td>Family</td>
<td>8</td>
</tr>
<tr>
<td>Political situation</td>
<td>1</td>
</tr>
<tr>
<td>Women</td>
<td>7</td>
</tr>
<tr>
<td>Relationships</td>
<td>6</td>
</tr>
</tbody>
</table>

12. Did interactive displays provide new information?

<table>
<thead>
<tr>
<th>Response</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>93</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
</tr>
</tbody>
</table>

13. Further comments:

This open-ended question was included to allow visitors to make additional comments that they felt were relevant but not necessarily applicable to the questions already asked. The response to this question was relatively small and the comments were so disparate in nature that it was felt that the coding of data from this question would render it meaningless. Some respondents drew attention to physical aspects of the exhibition, such as sound and lighting, that they were unhappy with. It may have been that they viewed these physical aspects as separate from the content of the exhibition, and hence did not include these comments under the ‘least favourite part of the exhibition’ question. These
comments have been coded and included in the ‘least favourite part of the exhibition’ results.

Other comments generally are in praise of the exhibition overall and the presentations given by the tour guides:

5.3 Interviews

The interviews with a curator and two designers of the exhibition have been indexed according to the categories that interview question were divided into prior to the interviews taking place. These categories have then been divided into sub-categories which have been derived from the actual content of the interviews.

The following people were interviewed:

Ciara McDonnell, Exhibition Manager. Interview Duration: 1 Hour

Ms. McDonnell, as well as having acted as a curator prior to the opening of the exhibition, manages the day to day running of the exhibition, its marketing, and education and outreach programmes. The curators of the exhibition decided the content of the exhibition, including the objects to be displayed, the signature images to be used, and the information content of the touchscreen interactives. Much of the layout and all of the technical aspects were left up to Martello Media to design.

One aspect of the design which was felt to be particularly important was the evocations as in recreating
Rob Reid & Peter Whittaker, Exhibition Designers. Interview Duration: 75 Mins

Both Rob Reid and Peter Whittaker were part of the design team for the exhibition. Mr. Read was primarily responsible for the design and installation of the interactives whilst Mr. Whittaker worked with the graphic design and images which appear throughout the exhibition. Interviewing the two together, although adding some difficulty to the transcription of the interview, created a richness and added an unexpected dimension to the interview as the two not only responded to the questions asked of them in the interview but also raised questions of their own for the other to answer. A dialogue immersed between the two as they corroborated each others recollections and added to each other’s responses.

Although Martello Media have in the past decided what the content of an exhibition will be in this case the content was dictated by the curators. This collaboration was felt to be beneficial as the material in question was complex and the curators’ knowledge was invaluable. The design team set their own design guidelines and felt, from past experience and from looking at the previous Joyce exhibition, that a simple interface for the interactive would be more affective than a ‘fun’ interface with complicated actions and animations.
Outline of Exhibition

This section covers the aims and objective of the exhibition as well as its layout and content.

<table>
<thead>
<tr>
<th>Aims</th>
</tr>
</thead>
</table>
| **Curator** | • A celebration of the immense riches that we have.  
• to put it together really in a coherent format and show off what we have  
• but also show off certain things that people maybe didn’t realise he was involved in  
• to bring what we have to a wide audience with explanatory sort of companion text and notes to make the understanding richer  
• to bring what we have to the widest range of library audiences that we have so everything from scholars to local Irish people |
| **Designer** | • To be different/ a change from the Joyce exhibition.  
• make the most of or show off the Yeats manuscripts in the Library  
• To cater for a wide audience rather than just academics by providing interpretation. |

<table>
<thead>
<tr>
<th>Communication Objectives</th>
</tr>
</thead>
</table>
| **Curator** | • that he was also a poet, a writer, an Irish states man, also the international scene. All the different things he was involved in.  
• the poetry  
• his family  
• His reaction to the Irish state then things like 1916, |
becoming senator, being involved in the coinage commission, being very much pro divorce.

- Occult
- Travelled
- Rhymers Club, Aubrey Beardsley
- actual physical presentation of the book

<table>
<thead>
<tr>
<th><strong>Exhibition Layout</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Curator</strong></td>
</tr>
<tr>
<td>The way it’s laid out is autobiographical or chronological. It starts off with his early life and goes right through to his epitaph. And that’s the 4 evocations that focus on particulars aspects of his life, with the four films. because it is this circular shape you do get this ideal of it coming full circle. It comes full circle with the 2 interactives in the middle, the tower and the book art which complement each other. We have facsimiles of passports, we have facsimiles of little notebooks.</td>
</tr>
<tr>
<td><strong>Designer</strong></td>
</tr>
<tr>
<td>It’s going to be dark space. The spatial layout was essentially decided in the first 2 months of the design process and was refined in an iterative process e.g. the inclusion of pockets, curves for the a.v. installations. It also means that the screens, from a distance, don’t tend to be these gigantic white blocks in comparison to the large signature images that they are directly in front of. So just based on that on this kind of reversed text idea that text in light colours the backgrounds are dark.</td>
</tr>
</tbody>
</table>
Technically they’re slightly harder to read but I find, in a dark space, it can be very distressing having a bright white square.

- We also went for colour themes. You had colour themes in your interactive.

- Those signature images were going to be wall boards about the cases with text all about what was in the case and the best objects in the case and then much more detailed text about that whole period of his life. But very quickly we, understanding how much was going into the cases you see you’ve got this case absolutely full of objects, dense with information. That’s when we decided to switch to beside that having one big simple image that sums up what he’s interested in or that period of life

- The poles, the way they float in space: more elegant than anything we’ve done before regarding touchscreens which was nice it could make them into a design element as opposed to something which was a gigantic box on the wall which could be very daunting.

- We had that shape that was already there so we just reused that shape so we used knew that we needed text, text and 3 images (VERSE AND VISION)

- They also told us that there were lunar cycles in Yeats’ life which gave us colour schemes, warm colours and cold colours.

<table>
<thead>
<tr>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curator</td>
</tr>
</tbody>
</table>
- things that people haven’t seen before that are considered important
- Manuscripts that they would not have seen before because it’s never been put on display.

**Designer**

- Originally they planned just to include manuscripts in the cases but were advised to include ‘life cases’ which would complement the manuscripts
- they absolutely chose what went into the exhibition
- They decided because they have the whole collection at their fingertips (none of it could be taken out of the library cause it’s so valuable) plus they’re all scholars, they sent their life researching the stuff
- In the beginning we gave them guides like let’s not have too many manuscripts and stuff about the people as well and his influences.
- They know which image is important and how they link to each other so I relied on them to… pick out images. We were looking for images that could be treated thematically similarly

### Digitisation

This section includes the interviewees’ views on the advantage of digitisation and any data relating to the digitisation of objects for the exhibition.

<table>
<thead>
<tr>
<th><strong>Advantages of Digitisation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Curator</td>
</tr>
</tbody>
</table>
| Designer | flick through inside so obviously it allows so much more scope to include  
| • also there will be items that won’t be in the case but are related but we don’t have space for it  
| • We are going to produce a DVD, hopefully in the autumn, which will include, in theory it should include all of the things that are in the digital interactives. So that means people can bring the exhibition home with them so that’s a sort of fall out. It’s a by-product  
| • turning the page technologies, which we used before, that really does give people an idea of the book  
| • when people can actually use it, taking the tutorials and the explanation that gives people a deeper understanding than just looking at something in the case  
| • it’s possible to show the work in progress, all the different stages  
| • You can show every single page of the most delicate manuscripts and have as many people see them as you want. It’s kind of like democratic access to objects that you couldn’t show otherwise.  
| • Multilanguage captioning: you have more detailed captioning per object  
| • If you wanted you could have, originally they did actually want 2000 word essays on each object but you can actually do that with that technology  
| • The problem that we had in there is conservation. They cannot display things for as long so they’ve got 14 leaves of Isle of Inisfree- they’re gonna swap them around every three months whereas we can show all of |
them all the time and obviously into the future, 20 years from now you’ve got the DVD and you can still look at them, so from an actual conservation point of view it’s an advantage of digital.

- You can layer information very nicely on top of already existing stuff. You’ve got the layering, you’ve got the journalistic approach of a summary and a bit more detail
- you’ve got the manuscript there in front of you untouched but then you can layer information over it, highlight the various areas because the manuscript can be hard to interpret, the handwriting isn’t always easy to understand, so you can highlight things, do the transcripts and all that and then you can wipe it all away again. You can have it optional so you can remove it
- fine level of detail
- 3D images
- zoom in on the pages
- search the pages for words

**Digitisation of Objects in Collection**

| Curator | • the digitization is an outreach thing (rather than for preservation)  
• They’re going to be used in the DVD  
• The technical side we didn’t’ know much about. It was Martello Media who came in and photographed lots of material |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Designers</td>
<td>• Half and half we started with initially scanning, doing one or 2 days just scanning what was in there but very</td>
</tr>
</tbody>
</table>
quickly things just started appearing out of nowhere so they started to photograph. They scanned half the stuff, we scanned half the stuff, they photographed. For special stuff Peter had to go in and photograph it for large formatted images.

- they made available the signature images which were gonna be 2 metres high and we were taking sections out of them so I went in and used the photographic table because I wasn’t actually able to scan them—some of the things were either too big or too fragile.
- They has their own photographer and they’re own scanners which they made available.

**Interactivity**

The interactivity section relates to the design of the touchscreen interactives and the technical considerations for their installation and maintenance. The other interactive element which came into focus during the interviews are the facsimiles and data relating to these is also included in this section.

**Design and Purpose of Interactives**

<table>
<thead>
<tr>
<th>Designers</th>
<th>The transparency, the ease of access, the tool.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>interactive zooming</td>
</tr>
<tr>
<td></td>
<td>The touch screens are used to display more of the collection than would be physically possible otherwise. There are 400 objects on display and a further 2500 represented through the touch screens.</td>
</tr>
<tr>
<td></td>
<td>To actively seek out more in-depth information through the touch screens e.g. the Master Class</td>
</tr>
</tbody>
</table>
installation which illuminates the process behind the writing of Yeats’ poems.

- avoid using wallboards which were overloaded with text while at the same time providing a deeper level of detail
- provide a multilingual facility
- An interface that doesn’t get between you and the information so you can drill down easily effectively and know where you are at all times.
- Having a real expert over the shoulder telling you into your ear exactly how it is.

Curator

- gives people a deeper understanding than just looking at something in the case
- it should be fun, enjoyable, informational, educational
- - making it accessible
- exploratory

Past Experience

Other exhibitions which the curator and designers have been involved in may have influenced the design of the exhibition. Data relating to the previous Joyce exhibition at the National Library and its bearing on the design of the current exhibition is included in this section. Similar projects by Martello Media are also included.

The Joyce Exhibition

Curator

- what you can do with IT
- The evocation of Joyce’s bedroom was popular- tactile
and people could relate to it

| Designers | • The verbal tour was the inspiration for the master classes  
• high resolution flash interactives: the machines weren’t really fast enough to run it  
• sometimes they(interactives) were so beautiful that you didn’t know what to do or where the information was  
• making the interactives fun made information hard to find and therefore the interactives hard to use |

**Martello Media Projects**

Past projects and experience may also have informed the design of the current exhibition.

<table>
<thead>
<tr>
<th>Martello Media Projects</th>
</tr>
</thead>
</table>
| • The Cathach CD-ROM  
• it was aimed more at an academic market so we had transcriptions in Latin and English so you could switch between the 2  
• You could search the pages for words as well and you could zoom into a level up to something like 800% |
5.4 Tour Guide Interview

Sarah O’ Connor: Tour Guide. Interview Duration: 30 Mins
Since it was not possible within the limits of this dissertation to observe visitors directly interacting with the exhibits it was felt necessary to interview one of the three tour guides as they observe the visitors’ interaction on a day to day basis. This interview took place after the questionnaire survey had been conducted, comments from which made the necessity to interview a tour guide all the more apparent as many respondents had commented on the excellence of the tours.

Ms. O’Connor had been acting as tour guide since the exhibition’s inception. The half hour long tour of the exhibition involved leading groups through the biographical path of the exhibition, providing an overview of each thematic area, drawing visitors’ attention to particular exhibits and displays, and providing a demonstration on how to use the interactive touchscreens.

The tour guide interview was also considered valuable because, as someone who interacts so regularly with the exhibition, the tour guide could be viewed as a ‘power user’, familiar with all the objects and levels of information contained in the exhibition as well as the functionality of the interactive touchscreens.

Unfortunately, due to the nature of the environment in which the interview was conducted, the recording of the interview could not be transcribed so only notes from the interview have been indexed here.
Visitor Observations

Visitor Feedback

• Generally very positive
• Say that it’s necessary to come back to take in all of the information
• Some complain about the poor lighting so I have to explain that it is for conservation reasons and that the touchscreens are there so the objects can be viewed in more detail

Visitor Interaction

• Visitors like the facsimiles but some think they are real and are afraid they might be stolen
• I think older people may be reluctant or afraid to use the touchscreen
• Children love them
• I don’t know if people view them on their own or gather around them
• Older visitors are not familiar with the technology
• I sometime show people how to use the touchscreens

Exhibition Layout

• The layout gives people the opportunity to sit down and soak things in
• The inclusion of the poetry reading plus the lack of arrows makes it less linear
• You’re not just going into a long room

Duration of Visits

• The average visit lasts about an hour
• Some people only stay for 15 minutes and other may stay for up to 3 hours
## Personal Experience

<table>
<thead>
<tr>
<th>Learning for the Exhibition</th>
</tr>
</thead>
<tbody>
<tr>
<td>- From prior research and reading</td>
</tr>
<tr>
<td>- When giving a tour you need to know exhibits- read all captions and texts to do with exhibition.</td>
</tr>
<tr>
<td>- From the text in the exhibition</td>
</tr>
<tr>
<td>- The touchscreen text contributed a lot to tour.</td>
</tr>
<tr>
<td>- There is so much in the exhibition that you’re learning all the time</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Information Layering</th>
</tr>
</thead>
<tbody>
<tr>
<td>- I’m learning all the time</td>
</tr>
<tr>
<td>- My experience would be different to visitors’ because I’m here all the time- I’d still say I don’t know 100% of exhibitions because there’s so much there</td>
</tr>
<tr>
<td>- I think it’s a good thing, because the exhibition is running for a long time, so people can come back and still get something new from their visit.</td>
</tr>
</tbody>
</table>
5.5 Touchscreen Interactives Evaluation

A simple evaluation of the touchscreens has been carried out using Caulton’s (1996) desirable attributes of exhibition interactives.

<table>
<thead>
<tr>
<th>Interactive Evaluation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear Goals</td>
<td>The goals of the touchscreens are made clear as they are strategically placed near the objects/in the area they are related to. This is reinforced by using screen savers of the related signature image on each screen. It is made clear that the touchscreen is there to provide a deeper level of information.</td>
</tr>
<tr>
<td>Easy to use, requiring minimal label reading</td>
<td>No training is required to use the interactives. The visitor interacts with the touchscreen by touching icons on the screen. The icons are clearly labelled and the information they represent is clear.</td>
</tr>
<tr>
<td>Works at multiple levels</td>
<td>Visitors have the option of viewing various levels of information such as, at a superficial level, a summary, or, at a deeper level, a tutorial. Alternatively a visitor may use the interactive to view an object in greater detail.</td>
</tr>
<tr>
<td>Encourages Social Interaction</td>
<td>It is unclear whether or not the interactives encourage social interaction as the text on the screen can really only be viewed by one or two users at a time.</td>
</tr>
<tr>
<td>Open-ended variable outcomes</td>
<td>The user has a choice of paths when using the interactives but the outcomes of paths are set.</td>
</tr>
<tr>
<td>Founded on research into existing knowledge and understanding of targeted visitors</td>
<td>The designers recognised that the interactives were aimed at a wide ranging audience from academics to children and designed the interactives accordingly.</td>
</tr>
<tr>
<td>Multisensory and</td>
<td>The interactives employ both sound and images and users</td>
</tr>
</tbody>
</table>
The design of the interactives meets all but one of Caulton’s design criteria. It seems that the touchscreens do not explicitly encourage social interaction. The only exception to this is the Tower installation where two touchscreens are placed side by side. This may encourage visitors to interact by comparing the information they retrieve. Also, in the Tower installation, the screens are placed in front of a large ‘map’ of the process of creating the Tower. This placement may encourage visitors to work in pairs, one with the screen whilst the other locates the corresponding location on the ‘map’. Observation of actual visitor interaction in this area would be necessary to determine whether this is so.

<table>
<thead>
<tr>
<th><strong>employ a range of interpretive techniques, appealing to visitors with a wide range of interests and learning styles</strong></th>
<th>can learn from simply reading about an objects or by listening to and watching a tutorial.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Challenging but not threatening</strong></td>
<td>The interactives are challenging in the depth of information they contain but users are not bombarded by this information. Aesthetically also the touchscreen are much less intimidating than a traditional kiosk.</td>
</tr>
<tr>
<td><strong>Provides enjoyment for visitors or makes them feel they have understood something more</strong></td>
<td>The interactives are not designed to be ‘fun’. They are designed to add to the visitors’ knowledge by providing deeper levels of information</td>
</tr>
<tr>
<td><strong>Well designed, safe, robust and easily maintained</strong></td>
<td>The data for each interactive is easy to load. By not using ‘high-end’ technology the designers’ have made the interactives easier and cheaper to maintain or replace if necessary.</td>
</tr>
</tbody>
</table>
Chapter 6  Analysis and Discussion

6.1  Introduction

This chapter draws together the findings from chapter five in order to analyse and discuss the combined results in relation to the research proposition and aims. The exhibition aims are drawn together from the publications accompanying the exhibition and the interviews with the curator and designer. These aims are then discussed in terms of how and if they were achieved. Some of the data gathered in the questionnaire survey will confirm whether specific aims were achieved.

During the interviews specific communication objectives or exhibition messages were identified. These messages are elaborated on and compared to the feedback received from visitors in the questionnaire concerning what they learned and what their favourite part of the exhibition was. This section will particularly focus on how the use of digital surrogates supported the delivery of messages and the visitors’ experience of interacting with the digital surrogates.

Finally the advantages of exploiting digital surrogates as identified in the interviews will be discussed
6.2 Aims of the Exhibition

1. To bring the collection to a wide audience.
This means interpreting the collection for and making it available to an audience of all ages, and social groupings such as families, tourists and tour groups, individuals, and couples.

The age distribution of respondents shows that nearly 70% of respondents were above the age of 31. That so many of the respondents fall into the 31-55 age range can be attributed to two factors:

- This is one of the largest age ranges in the survey
- Most visitors who fell into this age range were visiting with their family and probably responded to the questionnaire as a representative of the family unit.

Age Distribution

<table>
<thead>
<tr>
<th>Age</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-12</td>
<td>10.0%</td>
</tr>
<tr>
<td>13-17</td>
<td>20.0%</td>
</tr>
<tr>
<td>18-30</td>
<td>30.0%</td>
</tr>
<tr>
<td>31-55</td>
<td>40.0%</td>
</tr>
<tr>
<td>56 or above</td>
<td>30.0%</td>
</tr>
</tbody>
</table>
Had this survey been carried out during the school term the number of respondents under the age of 17 and attending in a group would have been greater. Taking this into account the exhibition has attracted a wide ranging audience. Since 91% of respondents from this audience found that the exhibition met or exceeded their expectations it is reasonable to deduce that the aim of making the collection accessible to a wide audience has been achieved.

2. **To cater for a people with a wide range of prior knowledge**

It was important that the exhibition cater for both academics and those with very little prior knowledge about Yeats. Assuming that the audience came from a wide range of backgrounds and had a varying degree of prior knowledge, the fact that 93% of respondents said they learned something new from the exhibition
would indicate that the exhibition did cater for varying levels of knowledge as it is likely that some scholars would be familiar with almost everything that is know about Yeats already.

The interview with the tour guide would also indicate that someone with a large amount of prior knowledge can continue to learn new things from the exhibition.

3. To showcase and make the most of the Library’s collection and to provide some interpretation.

The library has used a wide range of media in order to showcase and interpret the Yeats collection. It has overcome many of the limitation that were imposed on the display of the manuscripts by providing digital surrogates of the manuscripts on the touchscreens, giving visitor access to the manuscripts whilst still maintaining the state of preservation of the originals. This also helps to overcome the physical limitation of the space, the fact that not all manuscripts could be physically shown in the cases, and the necessary dimness of the space.

Visitors are also provided with information which allows them to interpret Yeats’ work for themselves through the documentary films about his life. Considering this, the placing of the Verse and Vision space at the entrance/exit to the exhibition is particularly apt, as the visitor can, at the beginning of a visit, enjoy Yeats’ poetry with only their own prior knowledge. Equally the visitor may return to Verse and Vision at the end of the exhibition, having acquired new knowledge from the evocations and the touchscreen presentations, and apply this new knowledge to their experience.
Communication Objectives

Because of the broad spectrum of activities that Yeats was involved in during his lifetime several messages were to be conveyed by the exhibition. Each message was conveyed using a variety of methods. Here each message will be identified and compared with what visitors said they learned in order to determine how affective the methods were in communicating the different messages.
1. Yeats as Author

How Yeats worked, from writing and reworking his poetry to creating the finished book, is a central message in this exhibition. Handwritten drafts of his poetry and writing are displayed in cases, and the various stages of his work are illustrated in the Tower installation. The process creating the physical book is also detailed in a computer installation and in the display of a large signature image of his book art.

2. Yeats’ poetry

Familiarise people with the beauty of Yeats’ poetry. This is conveyed most explicitly through Verse and Vision. Also manuscripts of Yeats’ poems are scattered throughout the display cases and touchscreens. A large percentage of people mentioned Verse and Vision as their favourite part of the exhibition, although a certain number mentioned it as their least favourite part of the exhibition. The majority of the respondents who disliked Verse and Vision were children. This may be because listening to poetry is a passive and reflective experience and it is most likely the children preferred to keep moving through the exhibition and having a ‘hands-on’ approach. Others mentioned their dislike of the voices used. A small number of people also mentioned enjoying seeing the actual poems in the display cases, in particular the Isle of Inisfree.

3. Public Life

Yeats was an active figure in Irish public life both culturally and politically. In later life he won the Nobel prize for literature and became a senator, working with the coinage commission and speaking out in favour of divorce and against censorship. A documentary film, The Mask, is dedicated to Yeats’ public life, and a signature image of the design of an Irish coin with an accompanying computer installation draws attention to his work in the coinage commission.
Percent of respondents said that their favourite part of the exhibition related to this area. Percent said that they had learned something new which related to Yeats’ public life.

4. Involvement in Occult

Yeats maintained an interest in the occult throughout his adult life. This aspect of his life is has only recently come to the attention of scholars. Yeats’ involvement in the Golden Dawn is highlighted by a display case of artefacts and an accompanying touchscreen. George, his wife, shared Yeats’ interest in the occult and partook in automatic writing. An evocation and documentary film, The Other World, provides visitors with deeper levels of information. Visitors can interact directly with the Pial Notebook, a tool for occult experiments used by Yeats and Maude Gonne, through a turning the page installation. That the largest percentage of new learning related to this area was expected.

5. Family

The Yeats family were key figures in the cultural scene in Ireland during the nineteen hundreds. A wall board of the family tree, a picture album and a display case of artefacts are dedicated to this area.
6. **Personal Life**

The people he encountered, his friends, lovers, and literary contemporaries, all influenced Yeats’ work. Such influences include Maude Gonne, his wife George, Lady Gregory and Ezra Pound. A documentary, *Affairs of the Heart*, charts Yeats’ love life. Yeats was also influenced by his travels and the people he met from other countries. Influential places, real and imagined, are mapped out on an interactive touchscreen. A room in the castle, Thor Balleylea, is recreated in an evocation.

**New Information**

**What visitors learned**

![Pie chart showing visitor learning](chart.png)

**Fig. 6.4 Visitor Learning**
6.3.1 Discussion

As can be seen in fig. 6.3 there is a wide and varied distribution of new information learned by visitors. This would indicate that the exhibition has been largely successful in achieving its communication objectives. That a large number of respondents mention Yeats’ involvement in the occult as something they learned is to be expected as this area of Yeats’ life is only now coming to light. Yeats’ personal life also features prominently.

Although a person’s favourite element is subjective this feedback can indicate the wide range of preferences to which the exhibition caters. Again there is a wide and varied range of favourite aspects of the exhibition. Some of this relates to the information content of the exhibition, further establishing that the exhibitions messages have been successfully conveyed. Others relate to the more experiential aspects of the exhibition such as the evocations, the YPOD and the touchscreens, which may reflect the various learning preferences of individuals, as well the success of the various methods used to convey messages. There is no area or message that does not feature in the feedback.
Verse and Vision (YPOD) and the evocations seem to have evoked a strong reaction, both positive and negative, in visitors. Reasons for the dislike of Verse and Vision will be discussed later. Respondents who disliked the evocations primarily dislike their content, in particular the evocation relating to the occult. This may be because of the new and controversial nature of this aspect of Yeats’ life.

Physical aspects of the exhibition feature prominently as a least favourite aspect. The wide range of media used in the small space of the exhibition caused a conflict in audio presentations. The dark environment of the exhibition was necessary for the conservation of the artefacts on display. The interview with the
tour guide would indicate that visitors were happy with this once the reason was explained.
The results of the question, about what has been learned, are dictated by the visitors’ prior knowledge. Visitors’ favourite part of the exhibition is dictated by personal preferences.

6.4 The Exhibition and Physical Artefacts

A very small number of people mentioned the actual artefacts as their favourite part of the exhibition. This does not mean, however, that the presence of the artefacts was not central to the visitors’ learning experience. It may just indicate that the presence of artefacts in a cultural exhibition such as this is something that visitors take for granted. In order to establish whether or not the presence of actual artefacts is central to the visitors’ learning experience in a cultural museum it would be necessary to do one of two things:

- Either distribute a similar questionnaire in a cultural museum exhibition which does not incorporate the actual physical artefacts or
- Explicitly question visitors on how the presence of the artefacts contributed to their experience.

6.5 Exploitation of Digital Surrogates

Digital surrogates were exploited in two ways in the exhibition:

(1) as digital objects in the touchscreen interactives
(2) to create replicas and images of artefacts
6.5.1 **Touchscreen Interactives**

The touchscreens had four objectives:

1. To reduce the need for large amount of explanatory text on wall boards
2. To provide layers of information
3. To enable visitors to see objects in greater detail
4. To show more artefacts than was physically possible otherwise
5. To make the collection more accessible
6. To act as a tool for finding information

The interactive touchscreens have achieved all of these objectives. There are 400 objects on display and a further 2500 represented on the touchscreens. Information that would have been displayed on wallboards is available on the interactives, as well as several more layers of information. This information is multilingual, increasing its accessibility. 90% of respondents said that they found information in the touchscreen that they wouldn’t have found anywhere else in the exhibition indicating that the touchscreens did, in fact, act as a tool for finding information.
Fig. 6.6 Reasons for not using interactives

Fig 6.6 Reasons why touchscreens were not easy to use
A conflict arose between the curator and designer interviews over whether the interactives should be fun. The designers believed that adding fun features would detract from the purpose of the interactives, whilst the curator believed that it was essential that the interactives had a fun dimension. The majority of respondents (over 90%) to the questionnaire found the interactive touchscreens enjoyable and easy to use. It would seem then that an interactive can be enjoyable without being ‘fun’. The transparency and ease of access, the simple interactions and lack of frustrating special features, clearly makes the interaction more enjoyable.

11% of respondents did not use the touchscreens. Although some of these did not do so because of lack of time, most were uninterested. There are always going to be visitors who have no interest in interacting explicitly with technology either due to a lack of knowledge about technology or because of a preference for a different learning style. It is important then that an exhibition allows for this by presenting the visitors with other options or by using ubiquitous technology.

A Chi square test of the correlation between age and use of the touchscreens showed that age does not have any bearing on the use of touchscreens. However anecdotal evidence from the tour guide interview would suggest otherwise. This may be because of a preconception, similar to that disproved in the Petrelli and Not (2005) study, that older people are afraid to use the technology, or it may be a bias in the survey. An alternative reason may be that the tour guides were asked by older visitors to show them how to use the screens, giving the tour guides the impression that older people were nervous of the technology while at the same time giving these visitors the encouragement and know-how to use the technology.
6.5.2 Facsimiles and Signature Images

The use of facsimiles and the signature images has been discussed in chapter four. The facsimiles are mentioned as favourite part of the exhibitions, particularly by children. That this is so may indicate that children prefer to explore rather than have a passive experience such as Verse and Vision. As in the Hunt exhibition (Ferris et al., 2004), facsimiles enabled visitors to interact with the artefacts and become explorers in their own right.

6.6 Digital Surrogates and Affective Communication

The results of the visitor survey would indicate that the exploitation of digital surrogates can contribute to affective communication in a cultural museum exhibition. Those who used the interactive touchscreens said that it provided information that would not have been found elsewhere. The vast majority of visitors used the touchscreen, indicating that they were, not only an affective tool for communicating information, but one that had integrated well into the exhibition as a whole. The advantages identified in using digital surrogates are numerous:

- Allows access to and interaction with an object without compromising on conservation
- Can overcome the physical limitation of an exhibition space
- Allows visitors explore artefacts for themselves
- Information can be layered over a digital surrogate of an object
- Can provide the visitor with more choice
- Easily reproduced
- Connections can be made between objects and concepts (e.g. the Tower)
For the Library the use of digital surrogates will extend beyond the physical confines of the exhibition. The touchscreen presentations can be easily transferred to DVD. This extends the Libraries outreach, providing access to, and promoting the collection to, those who may not be within easy access of the building.
Chapter 7 Conclusions and Recommendations

7.1 Introduction

This study aimed to explore how digital surrogates may be successfully used and augmented in cultural museum exhibitions in order to support affective communication. This final chapter will examine if this aim was achieved and to what degree the research objectives have been fulfilled. Limitations in this case study will be identified and possible changes to the original research methodology discussed.

Areas for further research will be suggested. Recommendations for possible improvements in the design of the exhibition will be made and a set of guidelines for the design of cultural exhibitions exploiting digital surrogates will be presented.

7.2 The Proposition

That digital surrogates can aid affective communication in cultural museum exhibitions has been proven. Digital surrogates can be exploited to aid affective communication by:

- Allowing visitors to interact directly with virtual artefacts
- Allowing visitors to interact directly with physical replicas of artefacts
- Facilitating the layering of information with the artefact
- Overcoming the physical limitations of exhibition display
- Allowing the exhibition messages to reach beyond the confines of the museum building (i.e. the DVD)
- Allowing explicit connection between objects, and objects and concepts to be made (e.g. the Tower).
The use of digital surrogates can add a further dimension to exhibitions when used to create either a virtual or physical replica of an artefact. They can support constructivist learning, as visitors can construct their own interpretations by interacting with the artefact directly and by applying their existing knowledge and knowledge picked up throughout the exhibition to this interpretation.

7.3 Discussion of Objectives

7.3.1 Aims of the Exhibition

The aims of the exhibition were derived from interviews with those involved in the planning of the exhibition. What emerged was a desire, not only to showcase the collection, but to reach out to as many people as possible and to illuminate previously overlooked areas of Yeats’ life. The range of content in the exhibition, the broad spectrum of respondents to the questionnaires, and the results of the question about what was learned, show that all of these aims were achieved.

7.3.2 Levels of Information in the Exhibition.

Exhibition messages were drawn from the interviews, and how these messages were conveyed was identified by analysing the structure of the exhibition and combining this analysis with interview data. The messages indicated the facets of information that were included in the exhibition, and the analysis and interviews indicated how this information was conveyed and at what levels.
7.3.4 Visitor Expectations

Visitors were asked if the exhibition met their expectations and the majority responded in the positive. The use of multimedia technology was successful, in that the majority used, and learned something new from, the touchscreens.

7.3.4 Visitor Learning

Visitors were asked what they had learned and this was then compared to the intended messages of the exhibition. The broad spectrum of learning reported by visitors proved that the core messages of the exhibition had been conveyed. The wide range of favourite aspects of the exhibition exhibited the array of learning styles that were catered for. This feedback, perhaps, emphasises the importance of using several methods for the transfer and creation of knowledge in an exhibition.

7.3.4 To look at how the use of technology fits within the exhibition as a whole and identify strengths and weaknesses in the design.

The touchscreen interactives were evaluated, using Caulton’s (1996) guidelines for interactive exhibits, in order to identify any weaknesses in design. Only the social dimension of the interactives was called into question. Visitor feedback about difficulty with the touchscreens identified any further weaknesses. The strength of the design of the interactives was its simplicity. It focused on making the information contained within easy to find. This did not detract from visitors’ enjoyment and may, in fact, have contributed to the positive feedback regarding their enjoyment.
7.4 Suggestions for Further Research

As mentioned in the discussion chapter, the importance of artefacts in the learning experience was brought into question by the lack of respondents who mentioned the artefacts as their favourite part of the exhibition. The inclusion of a question asking visitors whether they had learned anything new by seeing the artefacts would have illuminated the importance of the presence of artefacts more explicitly, but would not necessarily have defined the value of an exhibition that depends solely on digital surrogates. Further research could be carried out into this area by performing a similar study in a cultural exhibition which only uses digital surrogates of artefacts.

The importance of the social dimension of the exhibition visit has already been identified by several authors (Taxen, 2003)(Petrelli & Not, 2005), and guidelines for the design of exhibitions to support social interaction have been developed (Vom Lehn et al., 2004). In the evaluation of the touchscreen interactives it was unclear whether or not the interactives detracted from or supported social interaction. It may be useful to further explore how digital surrogates can support social interaction in museum exhibitions.

7.5 Recommendations for the Yeats Exhibition

It is clear that the exhibition has been successful in achieving its aims. However, some areas of the exhibition did receive negative feedback from visitors.

7.5.1 Sound

Most of the negative feedback received in the questionnaires related to the overlapping of sound from the various media and the twice daily tours. A solution to this may be the provision of headsets for the evocation areas as these were the
areas where sound caused the most problem. Visitors could be provided with a headset each upon entry to the exhibition, and sensors used to detect the location of the visitors so that the audio could be fed accordingly. Probably a more practical solution would be to provide headsets within each evocation. The evocation spaces are small and usually accommodate a maximum of three or four people so only twelve headsets would be required in all. The headsets would probably make the experience no less social in nature considering the small space of the evocations. The drawback to this solution is that it would be necessary to replace the headsets at regular intervals.

It would not be advisable to install headsets in the Verse and Vision space. This is a larger space and social in nature. The poetry readings are performances and intended to be enjoyed collectively by an audience.

The tutorials on the interactive touchscreens were also described as too loud. A headset might also be installed here. At the tutorial level the decision to listen to a ten minute tutorial is a subjective and personal one. It may be that individuals would feel more comfortable listening to the tutorial if they felt they were not impinging on another visitor’s experience.

The provision of headsets would also mean that the tours would impinge less on those who were not part of the tour. Verse and Vision is possibly the loudest part of the exhibition and so visitors in Verse and Vision would not be distracted by the tour.

7.5.2 Lighting

That some visitors felt that there was not enough light in the exhibition was to be expected. It is important that visitors continue to be informed of the reason for this, either during the tours or in introductory literature.
7.5.3 Immersive Environments

To some extent the exhibition does provide immersive experiences through the evocations. However, digital surrogates could have been exploited to create more interactive immersive environments. The various aspects of Yeats’ story would have been open to this kind of interpretation. Yeats’ plays at the Abbey Theatre might have, similarly to Puccini’s sets (Sparacino, 2004), been created in 3-D, including the actors and masks.

An alternative immersive interactive experience might have been a recital space where visitors could recite a favourite line from one of Yeats’ poems. The concept would be similar to the room of interpretation at the Hunt Museum exhibition (Hall, 2004), where visitors could record their interpretations for others to listen to. This does not involve the exploitation of digital surrogates but serves to illustrate the immersive potential of such as cultural exhibition. It might also have counteracted some visitors’ dislike of the voices used in Verse and Vision.

7.6 Guidelines for Cultural Exhibition Design Incorporating Digital Surrogates

- Using a wide range of media to exploit digital surrogates can lead to a richer visiting experience, catering to a wide range of learning preferences.
- Exploiting digital surrogates does not necessitate a high-tech approach. Digital surrogates can simply be used to create physical replicas of objects.
- Focus on the message not the media. The technology used in an exhibition should suit the message it is intended to convey. This can mean using a simple interface rather than one which is designed to be ‘fun’.
- Insure that different media is integrated effectively with the exhibition. Technology and media such as touchscreen and audio visual presentation should not be considered separate from the exhibition as a whole, and should
be seamlessly integrated into a holistic experience. Nor should the various media conflict with one another.

- Provide visitors with choice and layers by information. This can be done layering information with digital replicas of objects or by connecting replicas of objects.
- Remember that not all visitors are excited by, or interested in, technology, and screens in particular. Digital surrogates can be exploited to accommodate this by either being incorporated in an immersive experience or by being used to create digital replicas.
- Using digital surrogates to create an immersive environment or to allow visitors to interact directly with an objects, enables visitors to create their own interpretation and build on their own knowledge, supporting the constructivist museum approach.

7.7 Limitations of the Study

As has already been discussed in chapter one, the study is limited by the period of time over which it was conducted. A longer study might have incorporated focus group interviews with visitors to gather richer information about the reasons for their preferences and to explore alternative exploitations of digital surrogates. This type of study would be best carried out further into the running time of the exhibition as many visitors may have returned several times to the exhibition by this stage.

The findings can only be extrapolated within the context of the exhibition because of the contextual nature of the case study. However it is hoped that the guidelines drawn from the finding and the literature review can be applied to the wider setting of cultural museums.
7.8 Summary

This chapter has drawn from the research findings and literature review in order to create a list of guidelines for the exploitation of digital surrogates.

It has been found that digital surrogates can aid affective communication in cultural exhibitions but this is dependent on the method of exploitation being sensitive to the context of the exhibition.

The National Library of Ireland has succeeded in achieving its aims and the exploitation of digital surrogates has been instrumental in this.

Now that this has been proved it is important to go forward and further explore the potential of digital surrogates, both in terms of their potential to supplement and replace artefacts in cultural exhibitions, and in terms of the way they can be exploited beyond the confines of the computer screen.

Word Count: 19,233
APPENDIX A: Visitor Questionnaire

Questionnaire
Age range: 5-12☐  13-17☐  18-30☐  31-55☐  56 or above☐

You are here:
With a tour group☐  family☐  friends☐  alone☐?

Has the exhibition met your expectations?
No☐  Partially☐  Yes☐  Exceeded☐

What was your favourite part of the exhibition?
____________________________________________________________________
____________________________________________________________________

What was your least favourite part of the exhibition?
____________________________________________________________________
____________________________________________________________________

Did you use the touch screen displays in the exhibition? Yes☐  No☐

If not, why did you not use the displays?
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Did you find these displays easy to use? Yes☐  No☐  N/A☐
If not why were they difficult to use?

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Did the inclusion of interactive displays make your experience more enjoyable?
Yes ☐ No ☐

Did you learn anything new from the exhibition? Yes ☐ No ☐

Please describe one new thing you learned?
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Did the interactive displays provide you with new information you would not have found elsewhere in the exhibition? Yes ☐ No ☐

Do you have any further comments that you would like to make about this exhibition?
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Thank you for taking the time to complete this survey. The information you have submitted will be used to form part of a study into affective communication in museum exhibitions and may be used to inform the design of future exhibitions at the Library.
APPENDIX B: Interview with Curator

Outline of Exhibition

1. Why did you decide to create an exhibition about Yeats?

2. How long did it take to plan the exhibition?

3. What are the objectives of the exhibition?
   Audience it is aimed at, message to be conveyed.
4. What are the communication objectives of the exhibition?
The type of information that is to be communicated e.g. aspects of Yeats’ personal life, literature, politics, social conditions themes to be explored.

5. How did you decide which objects were to be included?

Digitization

6. What, do you think, are the advantages of using a digital replica of an object in an exhibition?
7. Why did you decide to include digital/interactive displays in the exhibition?

8. What was the original motivation for digitising the objects included in the exhibition? Was the digitization of the object for the exhibition or had it already been done?
   For preservation, access, exhibition purposes?

9. Why did you choose these particular items to digitize?

   Will the digitised artefacts be used for other purposes? Can they be reused?

10. What was the process involved in selection and digitization?
    Timespan, problems encountered, people.
11. What are the goals for the interactive displays?

12. How did you decide what information was to be included in the interactive exhibits?

13. In your opinion does the design of the displays meet all of these goals?

14. Why did you decide to outsource the design of the exhibition?

   Why Martello media.

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**Job Organisation**

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15. Did you create any exhibit design guidelines?  
Such as:  
Use of labels  
Placement of artefacts  
Technology to be used  
Location of interactive displays  
How interactives are to be used (button pushing, integrated)  
Layout of the space as a whole

16. Last year you launched a similar exhibition centring on Joyce. Did you learn anything from this exhibition that you then applied to the Yeats exhibition?  
Mistakes that might have been made.  
Good points/bad points.

17. Did you use feedback from visitors to the Joyce exhibition when planning the Yeats exhibition?
APPENDIX C: Martello Media Questions

Outline of Exhibition

1. What was the rational behind the exhibition design?

2. How much input did you get from the Library about the design of the exhibition?

Interactivity

3. What was the rational behind the inclusion of the interactive elements in the exhibition?

4. How have you made the interface of the interactive elements easy and fun to use?
5. What design guidelines did you set yourselves for the interactive exhibits? / Were you given design guidelines by the library?

6. How did you set out to meet these guidelines?

7. How did you select the media/technology to use in the exhibition?

Digitization

9. Were you involved in the digitization of the objects included in the exhibition?

10. How did you decide what information was to be included in the interactive exhibits? Multilayered information?

11. What, do you think, are the advantages of using a digital replica of an object in an exhibition?

Past Experience

12. Did you receive any input from the previous Joyce exhibition?
13. What have you learned from designing this exhibition that you would use in the design of future exhibitions that use digital artefacts?

14. Have you been involved in the design of multimedia exhibition in the past? (in particular exhibitions using digital surrogates).

15. Can you outline the most successful cases and what aspects made them such a success?
APPENIX D: Interview with a tour guide.

Begin with an explanation of the research in question and the purpose of the interview.

Visitor Observation

What has visitors’ reaction to the exhibition been like?

How do visitors interact with the touchscreens? Alone? In a group? Are they intimidated by them?

How long, on average, would you say a visitor stays in the exhibition?

How do you think visitors respond to the layout of the exhibition? Non-linear, passive experience/proactive experience.
Personal Experience

How did you prepare your presentation for the tour? Previous knowledge/ research? From exhibition content?

Do you have a favourite part of the exhibition? Why?

What do you think about the layering of information in the exhibition?

Thank you for taking this time to talk with me.


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