Shaping Experiences in the Hunt Museum: A Design Case Study *

Kieran Ferris, Liam Bannon, Luigina Ciolfi, Paul Gallagher, Tony Hall, Marilyn Lennon

Interaction Design Centre
Dept. of Computer Science & Information Systems
University of Limerick
Ireland.

Email: Author.name@ul.ie, eg: Kieran.Ferris@ul.ie

Abstract

Re-Tracing the Past: exploring objects, stories, mysteries, was an exhibition held at the Hunt Museum, in Limerick, Ireland from 9th - 19th June 2003. We attempted to create an exhibition that would be an engaging experience for visitors, that would open avenues for exploration, allow for the collection of visitor opinions, and that would add to the understanding of material already in the Museum, rather than focus on "gee-whiz" technology. Thus our augmented environment completely hid the technology from view. A key objective was to be faithful to the ethos of the Museum, and to produce an exhibition that would stand up to scrutiny by Museum professionals. This design study paper gives a flavour of the exhibition by taking the reader on a tour of the whole design and development cycle - through site pictures, drawings, scenarios, pictures of the exhibition spaces, the interactive components, and visitor comments.

ACM Classification: H.5.2 User Interfaces.

General terms: Design; Human Factors; Theory.

Keywords

Assembly; Collaborative Design; Exhibition Design; Experience Design; Materiality; Museums; Space and Place; Ubiquitous Technologies.

Section 1. ‘Re-Tracing the Past’ - Overview

Re-Tracing the Past was an exhibition designed to show how novel interactive computer technologies could be sensitively introduced into a museum setting, adding value to the existing artefacts in the Museum, creating an interesting enjoyable visitor experience. The exhibition was an integral part of the Hunt Museum catalogue for 2003, and was open to the public for a ten day period in June, 2003. During this time the exhibition space was continually in use, with all the interactive artefacts 'live' for the duration of the Exhibition, maintained unobtrusively by our research staff.

Two room-sized spaces - the Study Room and the Room of Opinion (as above) - were created within the temporary exhibition area of the Museum. Interactive installations were embedded within these spaces, taking great care to ensure that the installations melded seamlessly into the setting, rather than being seen by visitors as 'the computer section' of the Museum. The first space, the Study Room, enabled visitors to explore various details of mysterious objects in the Hunt collection. The purpose of this area was to provoke their imagination, to show that there are a multiplicity of perspectives from which to understand these objects, and that there can be several kinds of evidence that might be used to interpret them. The second space, the Room of Opinion, enabled visitors to record a personal opinion on the nature and possi-
ble use of these mysterious objects. These recordings were collected and also made available to the visitors for scanning and listening in real-time. Thus, visitors could actually contribute to the exhibition in a very direct way, and also hear what other visitors had contributed to the exhibition.

The overall aim of Re-Tracing the Past was to support playful exploration of museum artefacts and encourage visitor reflection on the processes involved in their identification and categorisation. Within the Hunt Museum's collection, there are a number of mysterious objects that have either been misclassified in the past, or their former use has never been clearly established, thus rendering them impossible to fully interpret. Some of these objects are currently identified as the Oxford Disc, the Carved Stone Ball, the Y-shaped object(s) and the Dodecahedron (see Fig 2). A label was placed beside the authentic objects exhibited in the Museum indicating the possibility of exploring the artefacts in "Re-Tracing the Past" and inviting the visitors to participate. On entering the exhibition, visitors were given keycards each representing one object, which they could use to interact with the installations. Printed on these keycards was the name and an image of the mysterious object, with an RFID tag embedded inside. Information displays were triggered by simply placing the cards on particular areas of each interactive component in the exhibition room. The Study Room as a learning space offered access to different kinds of informative content in a playful and engaging way. The installations were designed to provide different "layers" of content that visitors could progressively discover, without having to follow a prescribed sequence of actions. In the Study Room visitors explored various features of the mysterious objects. Some of the issues we wanted the visitors to reflect on were: were they part of a larger assembly? Where in the world were the objects made? What might they have been used for? What are they made from? In what period were they made? How might they have been made? Here, we briefly outline the main features of the installations we developed for the Exhibition. Diagrams and pictures of the installations and their use are provided in the second section of the paper.

1.2 The Study Room

This room contained four interactive installations.

1. Combination Machine - (Fig. 3). When a card was placed inside the trunk, the visitors were provided some information about the context where the object was found (a burial site, a religious site, etc). If two cards were placed into the trunk together, some fictional and some possible connections between objects were suggested, to prime visitors imagination about objects and encourage creativity and playfulness when recording their own opinions in the Room of Opinion. This installation was designed to encourage visitors to think about the objects in a playful and creative way using the information gathered at other stations, as a basis for developing their own interpretation of an object.

2. Virtual Touch Machine – (Fig. 4). This installation focuses on the material qualities and details of the objects. The Virtual Touch Machine enables visitors to examine virtual models of the objects in fine detail – zooming in and zooming out to examine traces of the physical workmanship involved in the production of the objects and the patterns on the objects (the raised segments and grooves on the carved stone ball, for example). A "magic wand" was an integral part of the installation and, by handling it and turning it, visitors could manipulate the object model on the screen and reveal details that would otherwise be invisible. The machine also allowed visitors to explore the material qualities of the objects, as the wand allows users to "tap" the 3D objects on the screen in order to hear the sound they would produce if tapped in reality.
3. Interactive Desk – (Fig. 5). The desk enables visitors to trace the provenance of the objects. Placing a card on specific locations on an overlaid map on the desk displays information related to the objects’ geographical origin and their relationships with other parts of Europe.

4. The Radio – (Fig. 6). The ‘radio’ enabled visitors to listen to the collected opinions, theories and stories of other visitors about the objects. By changing channels on the radio, visitors could browse the myriad of opinions on each object. By "tuning" within a band, individual opinions were progressively revealed. This installation helped visitors shape their opinions, giving them an opportunity to compare their evolving ideas on the origin of the objects with those left by others. Listening to other people’s stories also motivated them and reinforced their involvement in the activity prior to their visit to the Room of Opinion. After recording their opinion in the other room, most visitors returned to the radio installation to listen again to their own and other visitor opinions.

1.3 The Room of Opinion
The Room of Opinion was a very different space to the Study Room. Visitors could handle physical replicas of the objects, and then leave their own opinion on the function of the objects. The room was sonified with a dynamic "murmur" consisting of modified fragments of earlier visitor opinions. The room also included a dynamic graphic display representing the collection of visitors' opinions. The main elements in this space were:
1. Replica objects: The visitors were able to physically handle an accurate replica of the object they have been studying, before recording their story. They could also see other objects and perhaps consider repeating the experience with a different object.

2. Recording Station: The visitors could record their opinion through an interactive phone station in the room. The ambient audio space changed, as the ambient "murmur" representing "the world of opinion" would increase in volume and travel across the room, while fragments of the latest recording smoothly "settled" into the murmuring sound. The recording was also immediately added to the database of visitor opinions accessible through the radio in the Study Room.

3. Graphic Display of Visitor Opinions: As the visitor’s opinion was being stored, a visual analogue of this process could be seen on the display in front of them, as a new trace joined the swirling cloud of opinions. The display was a final visualisation of the visitor’s contribution to the exhibition, and it made them aware that their contribution to the exhibition had a role in shaping the display and that their opinion was now part of the exhibition itself.

Returning to the Radio in the Study Room the visitors were able to once again tune into the "stations" and hear their opinion which they had recorded moments earlier.

Section 2. The Evolution of the Exhibition
In this section of the paper we provide an abbreviated walk through the evolving design of the exhibition – by means of diagrams, scenarios and photos, interspersed with textual material delineating some of the key design themes that preoccupied us.

2.1 Understanding The Hunt Museum
The design of "Re-Tracing the Past" has been informed by the history of the Hunt Museum. The museum’s exhibition and access policies, and its educational approach were studied (Ciolfi et Al, 2002; Hall et Al, 2002). We also examined the wealth of information regarding the history of the collection and of the Hunt family patrons, in order to inform the scenarios and design concepts that we developed. We wished to ensure that whatever we designed would fit into the ethos of...
the Museum. Thus the "Re-Tracing the Past" exhibition was a site-specific intervention and its rationale is deeply grounded in the fabric of the museum.

The final design of the exhibition represented the outcome of an extensive series of studies that stretched over two years. We conducted surveys of the museum spaces in order to appreciate not only the Hunt Collection in its entirety, but also the features of the space, the exhibition layout and the information made available to the public. Through this phase of fieldwork we became familiar with the objects on display and with the history of the Hunt family, as the two are interwoven in the Museum. We also learned about museum policies for exhibiting the collection and communicating it to the public. Textual information – in terms of labels or information panels - available to the visitors within the Museum rooms is minimal: very simple labels to indicate the nature, the provenance and the period are placed near an object or a group of objects. This is a conscious choice by the Museum, as they have developed a very sophisticated form of 'human help' that can be interrogated by visitors, in the form of a very experienced and wide-ranging cadre of Docents – volunteer 'guides' that are available in the rooms of the Museum. Understanding the role of these museum Docents is essential to understanding the nature of the Hunt Museum. The Docents span a range of ages and expertise, being experts in one or more fields related to the Hunt collection: history of art, glassware, earthenware, jewellery, sculpture, decorative arts, etc. They also have a thorough knowledge of the history of the overall Museum collection and of the Hunt family. Docents are not simply tour guides, and they do not deliver 'conventional' pre-packaged soundbites of information, but rather they are able to integrate a historical and artistic description of objects with, for example, anecdotes, curious details, references to the history of the Hunt Family, of the city, etc. It is this contextualising of information about the artefacts, the stories of their provenance and use, that visitors find so interesting and engaging. The curators view the role of the Docents as that of being the ambassadors of the Museum, communicating and interpreting the collection for the visitors. The prominence of the Docents' role within the museum is also motivated by the curators' desire to make of the Hunt Museum a space for enquiry and reflection, where visitors are not simply inundated by pre-packaged information, but actively participate in examining and interpreting objects. The research team had been struck from the very outset by the special role of the Docents, and were very keen to ensure that the interactive exhibition being planned would not usurp or attempt to substitute this very human 'face' of the Museum. The design team were keen to involve museum personnel in the preparatory work leading to the design of the exhibition: curators, docents and educators took part in several brainstorming and scenario-based design sessions, where the features of the interactive exhibition were collaboratively explored and evaluated by the Museum's personnel together with the designers. As well as working with the Museum personnel, we conducted extensive observation sessions within the Museum, focusing on the visitors' experience of the Museum, both while visiting the main exhibition galleries and participating in hands-on activities such as educational workshops and handling sessions (Fig. 9). We also analysed the flow of people through the museum, their behaviour, and visitor communication surrounding particular exhibits such as the "Cabinets of Curiosities" (Fig. 10).

The content of the interactive exhibition was thus informed by a variety of sources: the official records on the objects, the Docents' knowledge, and interviews with experts on the collection such as Prof. Patrick Doran, biographer of John Hunt. The wealth of data that emerged from our series of field studies shaped the design of "Re-Tracing the Past" at many different levels: most importantly we intended our exhibition to embody the spirit of the Hunt family, and to serve as an extension of the permanent galleries.

Figure 9. A handling session at the Hunt Museum. Figure 10. Visitors at the 'Cabinet of Curiosities' in the Hunt Museum.
2.2 Evolving the Design Concept - Scenario Building.

Scenario 1.
Work in the Hunt Museum began with activities such as surveys of the space, studies of visitor flow, observations of visitors in the rooms, video observations of particular installations within the museum, observation of "handling" workshops for visitors, and interviews with staff and Docents. From this, we entered an initial phase of exploring initial design concepts through data analysis and subsequent brainstorming sessions. An unrestricted collection of ideas were put forward, from the creation of an ‘attic’ space, to the exploration of an “Alice in Wonderland” theme or of a ‘false wall’ in a room with hidden compartments. The ‘Attic’ (Fig. 11) proposal was an ambitious idea to create a sloping roofed construction, which would be dimly lit and populated with various artefacts such as trunks, storage boxes, shuttered windows etc. The user would then be allowed to explore the space - opening various objects and discovering their contents, using torches, lanterns and keys, to illuminate and open up their physical and digital contents. The False Wall idea originated as a response to the technical requirements of the exhibition; in being able to hide the computer equipment it would take to run such an exhibition. It was thought that the walls of the exhibition space could be hollowed out in a subtle manner, and various displays, peepholes, and alcoves could be the basis of delivering content (Fig. 12). The study room was inspired by the famous "Studiolo" from the Palace at Gubbio, Italy, now housed in the Metropolitan Museum of Art in New York. This optical illusion of a ‘study room’ through Trompe l'Oeil was created by inlaying numerous pieces of laminated wood to create an elaborate scene of cabinet doors, storing a range of artefacts including musical instruments and books. The main collection in the Hunt Museum physically encouraged visitors to open drawers and explore the artefacts that were laid inside. This active involvement with the collection could be further explored within the exhibition, and to use a ‘study-room’ with its numerous drawers and filing cabinets would be an ideal way to continue this element of curiosity. As well as the above themes, and others which were explored, the main design plan at this stage was to break the existing room into a number of different segments, parts of which would be the public side of the exhibition, whilst others segments would be reserved for technical staff and the hiding of equipment.

Scenario 2.
Building upon what emerged from the first iteration of scenarios, it was decided to further investigate the ideas of the attic or basement space, and the study-room with hidden spaces. Further research revealed that John Hunt, the assembler of the Hunt collection, actually had a ‘secret room’, which led off his own study room and that contained some of the most precious and controversial artefacts of his collection. Though we did not want to simply recreate John Hunt’s study room, we felt that this would be an interesting connection with the museums history. Firming up the general layout of the exhibition, it was decided to break the space into two sections (Fig. 13) one being the ‘study room’, and the other the ‘secret room’. Once the general structure of the exhibition was decid-
ed upon we continued to investigate how this space might be populated with interactives, which in some way would support the exploitation of the Hunt Museum collection.

Playing on the element of curiosity, the team investigated everyday objects within the space, for example the desk, mat, lamps, filing cabinet, or in the case of the secret room a more playful delivery of content such as ‘monkey traps’ digital drips, window / shutter displays with peepholes and controllers between the two spaces.

This phase of design was also influenced by what we were learning from an earlier exhibition of our EU SHAPE project held in Nottingham Castle, UK (Fraser et Al, 2003). Interesting issues emerged at a number of different levels - technical, narrative, interactive, educational. We also learned more generally about many issues of constructing a “live” digitally augmented exhibition within an academic research project, where financial resources are tight. One idea that appealed from the exhibition was the attempt to allow the visitor to add content of their own to the exhibition in the form of a drawing. This had an impact upon the overall design of our Re-Tracing the Past exhibition, and as a result we sought to create and assemble a corpus of material, drawings, writings, recordings or thoughts from the visitors about some element of the Hunt collection in order to make our exhibition a truly “living” one, with elements of the exhibition being created daily during the life of the exhibition.

Scenario 3.

A very detailed walkthrough scenario was written up, aesthetically describing the two rooms, with outline sketches of them (Fig. 14 + 15), whilst also clearly stating the purpose of the interactives within the space. In doing so, a larger narrative for the experience was developed. This then proposed to the Hunt museum, and to the larger design group. We reproduce a sample from our scenario notes below:

"The space will be populated with pieces of antique furniture ranging from a desk to a cabinet, mats, bookshelves, a clock and a few strange devices. The smell of old books and beeswax should be evident when you walk into the space. The lighting will be quite low, not dim but comfortable, over head lighting will be kept to a minimal (projection surfaces in the space) but a number of standing lamps will be dotted in the corners."

"The radio will look like a big old classic radio, wooden, large, built in speaker, tuning dial etc. It is at this point that the visitor will be able to listen to other people’s opinions on the artefacts. Turning one dial will allow the user to select an object, and then they will be able to ‘tune in’ different stations that are actually recordings of people’s opinions…"

The purpose of this final scenario, signed off by all the parties involved, was to clarify the design rationale of the exhibition. We then needed to allow sufficient time for the development of the coding and content of the interactives, the sourcing of materials and props, the combining of digital and material content, and the building of the large physical ‘set’ within the museum space. As there were approximately 30 people physically involved in the creation of Re-Tracing the Past, it was very important to have a cut off point which gave enough time to coordinate and build the exhibition to an agreed standard.

2.3 Building the actual Exhibition in the Hunt Museum

Creating the Physical Setting

The actual building of the Exhibition took place over a 7-week period. This involved not only the creation of the exhibition set and components, but also the drawing up and distribution of promotional materials, the sourcing of props, and the hiring of specific display equipment. The Museum allowed us 2 weeks setup time in advance of the opening of the Exhibition to the public: the first week was devoted to the physical creation of the ‘stage set’, whilst the second week was focused on the installation and technical refinement of the interactive artefacts themselves. In the physical set-up of the exhibition, we maintained some free space between the real walls of the Gallery and the wooden partitions that enclosed the Study.
Room and the Room of Opinion, in order to allow for equipment positioning and maintenance (Fig. 16). This setup also allowed researchers to control and troubleshoot the installations scattered around the gallery space "live", without interfering with the visitors experience. We filled the wooden frames with cardboard thus creating fake walls. These were then wallpapered in the Study Room and covered with black felt hangings in the Room of Opinion. The opening of Re-Tracing the Past was staggered over a 2-day period. Although the exhibition was open to the public on the 9th of June, the official opening did not happen until the second day, the 11th. This was done so that the Exhibition team could overcome any technical difficulties that were encountered at the beginning of the public viewing, receive some initial feedback from the Museum personnel and Docents, and also set up the video-recording system for carrying out evaluation. When the exhibition was officially opened to the public, the overall installation was considered to be quite stable and robust, and indeed remained so for the duration of the Exhibition.

2.4 Interactive Technology Implementation

In the Re-Tracing the Past exhibition the visitors were given colour printed credit card size (8cm x 5cm) key-cards with a picture of the original object on them and their name (Fig. 18). RFID tags were embedded in the printed cards so that users had the ability to directly control the multimedia installations.

- The Combination Machine was the least sophisticated of all of the interactives with one tag reader attached to one computer.

- The Virtual Touch machine was a collection of three networked machines. One computer controlled the projected 3D studio MAX graphical models while two other computers sent messages across a network to update the view on the models. One of these machines had a Texas Instruments tag reader attached, so when a card was placed on the reader, a message was sent and a particular model would move to the foreground of the projection. The other machine had a Polhemus Fastrak magnetic position sensing system attached. The Polhemus was attached to a "wand", which provided the ability to track the position of the "wand" in real space. Once the wand was tapped against a virtual barrier in front of the projected display, the system calculated the velocity of the movement and used this to generate a sound, using a Sound Model (Rocchesso et Al, 2003). This sound was generated in real time, using the characteristics of the object, and the velocity of the strike against the object.

- The Interactive desk used a hybrid tracking technique which combined RFID tags and a web-cam tracking algorithm. With RFID tags there is a limitation that the receiver unit can only detect which tags are within its detection range. There is no means of detecting where the units are inside its detection circle. So by using an image analysis algorithm to detect position and the RFID to identify the card it was possible to correctly track the position of the cards on the Interactive Desk.

- The Radio was used as a "sonic browser" (Brazil & Fernström, 2003) for navigating through the corpus of opinions left by previous visitors. A knob on the right hand side of the radio was used for channel selection. The knob was connected to computer by way of a PICO adc 11 device. The adc 11 has the capability of recording voltages. By connecting a switch to the knob, four switch states could be measured, allowing visitors to change object categories by the turn of the knob. A knob on the left hand side of the radio allowed users to move their station selector (a blue vertical line) over and back across the highlighted strip. When operated, the knob turned the x-plane roller taken from a deconstructed mouse! This allowed the user instant control over the station selector on the radio.

- The Recording Station consisted of the plastic shell and handset of a normal telephone, placed on top of a plinth (Fig. 8+21). Underneath the plastic mould of the phone were a motor and a RFID reader. When the RFID tag reader recognised a card in its proximity it would start the motor to pull the card into the plinth (the motor was connected to the PC by way of another PICO adc 11 device). After a person made a recording and hung the phone up (which was detected by magnetic sensors and the PICO device) a copy of the recording was sent to the radio and also to the Murmuring Machine. The murmuring machine, an Apple MAC running a MAX/MSP patch continuously played back all the recorded soundfiles in

Figure 16. One of the ‘behind the scenes’ technical areas.
the room of opinion. Finally the recording station sent a copy to the large graphic display.

- The large graphic display in the Room of Opinion is a graphical representation of the collection of opinions left by visitors in the life of the exhibition. The Interactive Painting would poll every three seconds the directory listing of four separate Windows folders, each representing one of the four objects. Whenever a new file was added to one of these folders, a brushstroke animation was initiated.

Section 3. The Experience of the Exhibition.

A very important aspect of our approach to the design of “Re-Tracing the Past” has been our perspective of studying the museum not only as physical space, but as a place. When a new element is introduced within a certain environment, it does not only affect the structural arrangement of the space, but also the way in which it will be perceived, inhabited and used by human actors. Thus we focused on the issues involved in modifying and extending the nature of the Hunt Museum as a place through the novel interactive exhibition being designed, and on the interweaving of structural properties of the environment with people’s experience of it (Ciolfi, 2004).

This perspective implies a vision of space as place: an environment inextricably linked with the wealth of human experiences and use occurring within it, and invested by values, attitudes and cultural influences. In other words, the concept of place extends the concept of physical space so that it encompasses not only its structural, geometrical essence, but also the dimension of its experience by human actors.

Places both constrain and enable us: they offer "clues" (physical possibilities, rules, conventions and past experiences) that shape our behaviour, while simultaneously our actions construct, modify and give new meaning to places (Sack, 1997). In museums rules and cultural conventions are quite strongly present: visitors are in a public space, but they are not allowed to behave like in many other public spaces. Touching, sitting down outside specifically designated areas, eating are often not allowed. Usually there is a path to be followed, so physical movement can also be shaped by rules. Many more unspoken but accepted rules of conduct are present, such as not getting too close to other visitors looking at the same painting or exhibition.

In "Re-Tracing the Past" we aimed to design an environment that would draw from and share the Hunt Museum’s place-related features, but would also have its own character, appeal and affordances. We envisaged the interactive exhibition as an environment where visitors’ experience would be arranged around four main activities: exploration of objects, investigation of informative material, reflection on their nature and use, expression of an opinion.

The two spaces that constituted the exhibition were designed for supporting different activities in different ways. Our concern to create a sense of place also meant that the "feel" and material quality of the two spaces had to be designed so to offer two different localised experiences, even though they are interconnected. As a consequence, another major goal of the exhibition was to create two visually attractive and welcoming environments that would fit with the Hunt Museum exhibition design policy and with the décor of the Museum’s "home", Limerick’s Custom House.

Firstly the ‘Study Room’ was a comfortable personal domes-
evokes in visitors (immutable "labels", prescriptive information, impossibility to touch or get closer to objects, et cetera). In creating a space that was reminiscent of a study room, continuity of material artefacts was essential. Much like an art director dresses a stage, each artefact was considered for the properties it would contribute to the space. These artefacts, from the wallpaper, to the titles of the real books on the shelves, to the casual seating, were in keeping with the period, and the use of the study room. A local antique dealer gave us a loan of period lamps, which were the main source of light in the room. The quality of light gave a domestic ambient light, rather than the harsh white light of a museum spotlight. Persian carpets underfoot created a different footfall sound, Venetian glass bottles, scrolled up papers, fresh houseplants and the smell of wax furniture polish diminished the cold character of the basement exhibition space. An old map hung beside prints and an old framed schoolboy brass band photo. Sketches, as if new proposals, were pinned to the wall behind the leather topped writing desk. The artefacts were intended to prompt visitors’ activity, and like any place, all of the artefacts in the room were also clues to past activities that may have taken place there. Old maps, books and trunks hinted at exploration and study, an old leather seat at the study desk invited the user to take the place of the collector. A narrative of use was established using props, and the props invited the user to act out that narrative.

On the other hand, the Room of Opinion was the place where visitors could examine the objects themselves and leave their interpretation. Thus, we envisaged a space with very different features from those of the Study Room. In our final design, the Study Room contained information sources as well as props and elements that would contribute to its homely feeling. The Room of Opinion had to be less crowded, immersive without being cluttered, and contain only minimal elements, albeit replicas of the objects and an installation to manage the body of opinions. This space contained less prompts as it was intended as a space for reflection and development of opinion. Replicas of the four mysterious objects were placed on plinths, under spotlights, open to handling. The visitors were encouraged to handle the objects, helping them to form ideas of their possible use. The surrounding sounds of soft murmurs in the space, if listened to carefully, were the opinions of previous visitors. A telephone on a fifth plinth in the room was the point where visitors ‘rang–in’ their opinions. Messages left on the telephones’ ‘answering machine’ could be found immediately on the radio in the Study Room next door. This telephone and the radio linked the two spaces. The telephone was used for recording opinions because the act of speaking into a telephone is routine and more private than speaking into a microphone; this helped the visitor to overcome any shyness they might have in using a recording device. A large swirling, watercolour-like projection image behind the recording telephone (Fig. 21) was used as a metaphor for the evolving mass of recorded opinions to date. The subtle animated image was responsive to the addition of a new recording, as was the murmuring sound in the room, both subtly indicating to the visitor that their recorded opinion had been added to the corpus of opinions.

**Concluding Remarks**

The general reaction to the exhibition was very positive, based on comments in the GuestBook, and face-to-face interaction between visitors and design team members during the exhibition. Close to 1000 people actually visited the exhibition in the short time it was open, including several school groups. Based on the reactions of people, we certainly believe that we achieved a number of our original goals with the exhibition. The technology added value to the original artefacts, the focus of the visitors was on the objects and not the technology, and the exhibition maintained the ethos of the Hunt, with the use of Docents and the exhibition design team members as the 'human face' of the Museum. We were also very
pleased that many Museum personnel and curators from other museums were quite positive about what had been accomplished. Indeed, many voices were raised to have the Exhibition become a traveling one, or somehow to preserve some aspects of the exhibition for the future. The former idea did not make sense, both due to time and money constraints, and more importantly, because of the intimate link between the exhibition design and the actual location of the exhibition in situ in the Hunt Museum. Interpretation and understanding required the coupling of the real Museum setting with the exhibition. However, we did feel that it would be useful to preserve some of the "look and feel" of the exhibition for the public, and so we have developed a website that provides an overview of the exhibition and the interactive installations. This will shortly be made available online to the general public (see Fig. 23 for an image from the website). We are still in the process of evaluating more fully different aspects of the exhibition, and critically examining these issues, which will be presented in future papers. In this paper, our focus has been on providing a glimpse of the overall design process for a real exhibition, showing how our ideas were informed by initial observations and interviews, and following through to brainstorming and scenario development, prototype development, and ultimate installation. as we have attempted to elucidate our design rationale from the outset of the process, as well as providing an overview of the different design phases of the work. Perhaps one of the most gratifying results of the work for the design team was evident in the enthusiasm with which visitors greeted the exhibition, as evidenced in their reactions. To conclude, we leave the reader with some excerpts from our ultimate evaluators, the public!

" I found the exhibit interesting and fresh. Extremely good for children i.e. getting them interested in a fun and interactive way, while getting away from the mundane textbooks used in schools in this country. Work like this is sure to promote the museum and its artefacts.Overall well done!"

"The exhibition was very interesting - it really brought the past into the present- well done!"

"Really innovative exhibition - has lots of potential for development, installation in museums."

"So good to see object/archaeology/technology and context merge with interactivity - thank you!"

Re-Tracing the Past - Exhibition GuestBook
(Excerpted Comments by Visitors)

References


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