

# **Co-Designing Novel User Experiences at a Historic Manor House**

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We have engaged with Chawton House staff in a number of workshops to develop concepts and content for visitor experiences and discussed the potential use of the system for a variety of purposes. Furthermore, we worked with teachers of a local primary school to develop an educational fieldtrip to the estate. This is to be seen as one instance of further user groups using the grounds and the system for their own purposes. In July 2005, a demonstrator system was employed for an educational experience for schoolchildren on a fieldtrip to the estate. Incidentally this event and first-hand experience of the working prototype helped Chawton House staff to understand the potential of the system, which had remained abstract and non-imaginable to them despite all our prior efforts. Thus, a major challenge of engaging in co-design of UbiComp technologies is that these systems cannot be adequately demonstrated or fully understood until they have been built (at least to the level of a working prototype).

In this paper we will first present the setting of Chawton House and some of our considerations in developing and organizing the experiences. Then we describe how we involved users and stakeholders in co-design, and reflect on emerging themes for further work. We focus on the issue of co-designing UbiComp scenarios and applications, on exploring a space of opportunities offered by these new technologies, and the challenges we've encountered in doing so.



Chawton House and the school children are the 'end users' of this experience.

### **Understanding the Setting**

#### *Interpreting and living the house*

In addition to observing tours, we were given tours of the grounds during one of our workshops (described later). From this personal experience, from observing tours for other visitors and from discussion with staff we learned a range of important lessons.

The visitors' experience of the house and its grounds is actively created in personalized tours of the grounds. The staff 'live the house' both in the sense that it is their life but also that they want to make it come alive for visitors. Giving tours is a skilled, dynamic, situated and responsive activity: no two tours are the same (although material may be common to different tours), and depend on what the audience is interested in. They are forms of improvisation constructed in the moment and triggered in various ways by locations, artefacts and interaction with visitors. Docents want to 'enthuse' visitors, transfer their own enthusiasm for the estate onto them and attend in their interactions or choice of topics to subtle cues in body language and engage in conversations. The information they give is not a formalized body of knowledge that could be made immediate use of for digitally augmented tours. Information is of many types – factual, speculative, anecdotal. It is embedded in the house and grounds and situationally constructed.

House and grounds are interconnected in a variety of ways. Thus artifacts or areas cannot be considered in isolation. There are many stories to be told and different perspectives from which they can be told, and these stories often overlap. Thus information exists in several layers and is usually not conclusive. This is reflected by curators of historic houses talking about 'interpreting historic houses' (Waterson 2004). In addition, pieces of information, for example about a particular location like the 'walled garden', can be hard to interpret in isolation from information about other parts of the estate – there is a complex web of linked information.

Every docent tells a different set of stories, yet they share stories that they pick up from each other and that develop a life of their own. Visitors will also engage in very different ways during tours. For example, when observing a visitor tour of the grounds we found that some visitors stayed next to the docent and listened to him, while others remained further away, engaging in social conversation or being interested in aspects of the gardens that the tour did not cover (in this case, the flowers and plants).

#### *Our design conclusions*

The basic issues for us for developing a guide system thus were: (a) how to preserve the human agency and skill that is intrinsic to current experiences of the estate; and (b) how to abstract these things and make them work digitally, in ways

that don't 'put us out of a job' (one curator's concern) or create sterile experiences for visitors.

Our personal experience of both being given and observing tours led us towards the idea of re-using 'real stories' told by the docent during actual tours, that were categorized according to rough topics. Visitors would be able to state

device. The two teachers from a primary school in Southampton were interested in using Chawton House for fieldtrips with children for literacy education and creative writing. The rich atmosphere and history of the house and landscape is valued as inspiring

that were slowly emerging and therefore not mentioned during workshops. Visitor tours are arranged and scheduled by the acting director's assistant. Aiming for scholarly recognition and press coverage, the house is increasingly being used for special events by scholarly and professional societies that are of interest for the estate, for example a dinner for the Royal Society of Architects and the annual meeting of the Jane Austen society. Furthermore, the library participates in making literature accessible to the blind.

The importance of visitors to the house seems to be an issue which is currently being re-assessed. On first contact by our project partners, Chawton House was seen primarily as a library and there was some unease about how public the house should be. Willingness to accept visitors has increased since this this contact, with visitors being seen both as a source of income to pay for renovations, and as a means of gaining increased public interest.

### **Co-Designing Experiences**

As stated, we decided to focus on designing concepts for visitor tours of the grounds with Chawton House staff; and an educational experience with teachers. Workshops with Chawton House staff focused on understanding their work and the setting, developing visions of possible visitor tours and collecting content that could be used for tours. Workshops with teachers were concerned with understanding how fieldtrips are organized and what their aims are, and designing a fieldtrip that would employ our

We videotaped these tours to select stories for reuse in audio tours (Figure 3). We ourselves attempted to ask questions to trigger desired stories and turn this into a natural situation, but to refrain from interruptions. This delivered a wide range of stories in different voices from different points of view that were richer and more detailed than those generated by the first workshop. For us as researchers the videos further provided us with insights into how docents interact with the environment and how stories are triggered by locations. On listening to these tapes we decided to use these recordings instead of re-recording the stories, as curators became very lively in their story-telling and we found this authenticity intriguing and valuable (as described previously).

A third workshop presented the docents with the collected stories and deepened the conceptual discussions. Our attempts to categorize the collected stories together with curators failed. At this point, they were mostly concerned with the correctness of stories and felt that we as researchers could equally well sort stories according to topics. A successful part of this workshop was a walk along the house front carrying a laptop and playing some of the audio snippets, to give an idea of how these snippets could be used during a tour. Here docents were confronted with their own voices being reused, but becoming mingled with snippets from other docents, and had a first impression of

designed wilderness (a small forest) would spark imagination.

The overall design of the fieldtrip then looked as follows. After a guided tour of the house that focuses on its inhabitants (owners and servants), the children are introduced to the devices. In pairs they visit locations in the grounds where they hear introductory descriptions and are given simple tasks, e.g. to record an enactment of a conversation (using the device) or to generate descriptions of the location or just to think about a question. Then they meet with the entire group again and share their experiences. Groups then decide on a character they want to write about and two locations for a second round, which provides them with instructions that have them start devising a story, and thinking about characters and settings. To review their collection and start writing a story, they return to the house. When it came to thinking about the concrete activities that children would be asked to do in certain locations, the teachers became hesitant in designing instructions, as it had been quite a while since they visited Chawton House. It was therefore decided to meet for a third workshop on the grounds.

The meeting at Chawton House provided an opportunity for a short introduction of teachers to the curators. The main part of this meeting consisted of walking the grounds and the teachers brainstorming ideas for activities and instructions, at times assisted by us with background

part of the research team (responsible for the User-Centered Design part) enter the process at a time when they had already talked with other members of the research team about initial ideas. Coming in later, we had to repeat some of this in order to understand the setting and the users. Some parts of the workshops were therefore experienced as repeating topics, yet this was indispensable, as an understanding of the setting could not simply be transferred from one member of the research team onto another. These repetitions as well as the difficulties of users to envisage the future technology required a lot of patience from them in following us through workshops.

For this, building up personal relations and showing real interest in their work was essential. Mutual understanding and engagement with Chawton House staff was in large part based on enthusiasm about the house. Fostering personal relations (e.g. by thank you notes via emails) and

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paper technologies the children are used to, such as a booklet for taking notes.

#### *In-situ Versus Reflective Elicitation and Envisionment*

One of the major issues for future analysis of data (our recordings from workshops) will be the different methods and approaches used and what kind of engagement these engendered. Roughly speaking, this is comparing workshop sessions seated around a map and utilizing this as shared reference with sessions taking place on the grounds and walking around. There were a range of purposes or activities that were pursued using both methods

- a) discussion
- b) authoring
- c) imagination of use of the device

Our experience from the first workshop with Chawton House staff led us to realize that they were not comfortable with telling stories when seated inside the house. Instead one of them suggested going outside and being taken on a guided tour for collecting their stories. While we had hoped to get an overview of topics, discussion often tended to become very abstract and general. Walking around the grounds during the second workshop was highly successful and convinced us that telling stories is indeed triggered by being in location. Reviewing the tapes we could also tell the difference between stories told around the map and the more engaged and dramatic rhetorics when in-situ, in the well-known situation of taking people around the grounds.

Yet on reviewing the tapes we also found that discussions around the map were useful in other respects. For example, the practice of taking visitors around involves mainly interacting with visitors and prohibits reflecting about this with other docents at the same time. Walking the grounds with all docents at once would have created a very unusual situation. Sitting around the map allowed for more reflective conversation. Topics that came up and that we assume to be afforded by the birds-eye view of the map included that often visitors walking the grounds on their own would stop at the upper terrace and not continue towards the walled garden or not realize that they are allowed to go inside. There was also a lot of discussion about types of visitors and that docents would not categorize visitors, but respond to their body language and questions. Other discussions provided us with background on how the staff peff (Y)- p50 -1..3(d)-1.454.yrd us 5s-1.2(50 54(h)41.454.y3(du)-4.lp)4.8(du)-4.lwalled ganusewe 2(e st)4.2(a)0e Třtu

Yet a clear understanding of what the system is and enables only emerged during the actual fieldtrip. Both teachers and docents commented later-on that up to the day they had had only a fuzzy understanding and that the experience of the day had enabled them to see its potential:

Docent: *“Not being technically minded, it didn’t mean a great deal to me to begin with; but to actually see it working, and to see how the technology had been integrated - with the tour of the historic house and the grounds, that was very interesting.”* (...) *“I think when it first started I thought it was going to be along the lines of the ones that you often see people use at historic sites and museums where you have information programmed into it, and then you wander round and you often see a little card with a number on it, and then you press that number into the little keypad and it’ll tell you something about the object at that point. So I thought perhaps it was going to be something like that. But I think this has probably got the potential to be a lot more flexible.”*

Teacher: *“I thought that (devising the fieldtrip) took a long time, only because we were not quite sure about the technologies. And now we’ve seen them, and we’ve got a much better understanding, I think.”*

During the interviews with docents directly following the fieldtrip they had partially observed, they started reflecting on other experiences with tour guides and comparing them with what they had seen as well as envisioning how the device could enable visitors to explore deeper levels of information and present them with different perspectives on a location from different docents (we had used three clips by different docents on the wilderness for the fieldtrip).

For docents the potential of the device and how visitors might experience using it became clearer still in the last feedback workshop, when we handed them the devices with a static version of the school fieldtrip (one had to select which location one was in instead of this being detected automatically). Docents enjoyed this and now started questioning us about the technical functionality, and what would happen if the device was connected, while we were explaining and proposing further opportunities.

#### *Making sense of UbiComp*

One of the hardest challenges for the co-design process was the difficulty for stakeholders and users to imagine what the technology would look like, how it would respond and what it could offer them. Showing videos of previous systems helped little, as these were not providing actual experience and were too far from users’ contexts. On the other hand if they referred to prior experiences, e.g. the wands at other historic sites, there was always the risk of this limiting their envisionment. We were thus in the dilemma of providing

users with a too guiding vision provided by us and not enabling them to envision anything novel.

is not a simple or straightforward process, for many reasons. One is that, unlike many instances of CSCW pre-UbiComp, the problem space is not as defined or constrained: rather than a problem space, Chawton House, both for its curators and the teachers that designed the fieldtrip, represents a space of possibilities: an opportunity space. This means that we are asking the people we co-design with, to re-envision and extend their existing practices. This involves careful engagement grounded in good understandings of current practices and the latitude or 'give' in this practice that might allow new practices to emerge. At the same time, a key issue with this type of technology is that it is hard to see what it can do and how it can be used until it is built: there is a basic issue of what form the lo- and mid-fidelity prototypes that user centred design depend on might take: what often gets demonstrated is the system at at least hi-fidelity prototype level, because only at this level does its functionality become clear. This issue is compounded by lack of cultural familiarity. UbiComp systems are at the cutting edge of computing research and development, and are far less familiar to users than, for example, websites and desktop applications, and this means there is less current knowledge to draw on when working with users to develop UbiComp systems with us, i.e. do co-design. All of these issues strongly suggest that creating persistent UbiComp infrastructures in opportunity spaces like Chawton House depends on a long-term iterative process of mutual exposure and communication to build relationships, including the regular rolling out of experiences as demonstrators; and particularly finding effective and meaningful ways to do prototyping. This process might lead to a progressive decoupling of owners

from developers as owners increasingly understand and take charge of the system. Thus we aim to move to other forms of engagement particularly working with how our existing demonstrator could be repurposed as an in-situ authoring tool along the lines we have indicated.

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