Supporting Socially Coherent, Personalized Experiences for Groups in Museums and Galleries

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Abstract
The designers of mobile guides for museums and galleries are increasingly looking to deliver rich interpretation that can be personalized to meet the diverse needs of individual visitors. However, increased personalization can mean that the sociality of museum visits can be overlooked in the design of the user experience. Our work has sought to resolve the tension between the personal and social in museum visiting by inviting visitors to personalize and gift interpretations to others in their social groups. We tested the approach in two different museum settings and with different types of small group to investigate how groups of visitors negotiated these experiences together, shedding new light on social interactions around personalized experiences delivered on mobile devices. We finish by tentatively discussing the implications of our findings on the design of wearable, co-located interactions.

Author Keywords
Galleries; museums; visiting; mobile guides; collaboration; personalization; interpretation; wearables.

ACM Classification Keywords
H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Introduction
Visiting experiences in museums and galleries are typically delivered on mobile devices, intended for use by individual visitors – whether this is an app on the visitor’s own smartphone or a device they have borrowed from the museum. Most people, however, visit these settings with friends, family, or a loved one. Group visiting is rarely considered in the design of mobile museum guides, and this is further exacerbated by the recent trend for personalization – filtering or adapting content to the individual visitor’s preferences, knowledge or behavior. Most attempts at personalization focus on individuals [2], despite the prevalence of social interaction between pre-established groups [5].
Studies of museum visitors have highlighted the challenges that can arise when visiting in groups, such as the difficulties of splitting attention between exhibits, information and the needs of fellow visitors, which can lead to a near constant state of interruption [8]. Research into how social interaction can be supported during group visits has looked into sharing audio guides between pairs [1] and making connections with others around objects [4], but have yet to tackle incorporating personalized interpretations in group experiences. It is this combined challenge of how to deliver personalized experiences in a way that complements and supports the interactions inherent in group visiting that our research aims to address, extending and bringing together what we already know about both personalization and supporting group visiting.

Our research explores a novel approach to resolving the tensions between personalization and group visiting. In this paper, we outline our approach and draw upon user studies in which we tested the approach with groups of museum and gallery visitors, before turning to the potential implications for our work should interactions shift from mobile to wearable.

**Our approach to personalization in groups**

Our approach to personalization is fundamentally different from previous attempts – we propose that sociality can be embedded within a visiting experience from the offset, by getting visitors to design experiences for one another. We sought to realize this approach by inviting visitors to design interpretations of exhibits that were specifically tailored for others that they know well, that would be delivered as part of a mobile tour. The result is a personalized gift experience that is made by one person to communicate a personal interpretation to another that they know well. We felt that by tapping into the knowledge of visitors who know each other, we could facilitate the creation of experiences that are at once personal and social, engaging the visitors who had either designed for a friend and are eager to find out how it is received, or are on the receiving end of a highly personalized interpretation.

Our approach involved first identifying a template experience that visitors could use as a basis for their designs – for this we used our previously designed experience for pairs of visitors at a sculpture garden [6]. The experience consisted of a tour of a set of sculptures with, for each sculpture, a curated music track, an instruction for how to engage with the sculpture, and a portion of text to read after engaging. The design involved the application of Benford et al.’s trajectories framework to structure the delivery of the experience to support social interaction between pairs of visitors using mobile audio guides [3]. Briefly, this involved switching visitors between a mode of isolated engagement with a sculpture and a mode of being socially engaged with their partners through delivering audio and text at different points throughout the experience.

To initially test how visitors designed experiences for others, we invited eight visitors to design a personal tour of a contemporary art gallery that was specifically tailored for a friend or loved one [7]. They chose a set of objects from the exhibition, and for each object chose the resources that would provide a personalized interpretation for their partner, using the template of a piece of music, an instruction for what to do, and a portion of text to read after engaging. The content they
designed was delivered as a mobile experience to be used by the designer and recipient on their individual mobile devices as they visited the gallery together.

The approach was then extended to larger and more diverse groups – families and larger groups of friends. We recruited twelve groups of 3-4 visitors and invited members of each to design different parts of an experience for their fellow group members. Each group’s designs were collected together in a mobile experience which was then delivered to all the group members on their individual mobile devices. We studied them as they negotiated the experiences in their groups.

**Supporting mobile co-located interactions**

Our approach relies on supporting visitors to draw on the interpersonal relationships with the people they visit museums with, to self-design experiences that they can then use together. This often resulted in rich and intense shared experiences for all involved. Often interpretations went beyond what would usually be raised in an art or history museum, drawing on intensely personal knowledge or shared memories. Even when the experiences were more akin to traditional museum interpretation, the dynamic of having visitors design the experiences specifically for each other led to them discussing and dissecting the interpretations to collaboratively create their own meaning.

We found that the effort involved in designing an experience for another – in a way that mirrors choosing or making a gift for somebody – created a two-way social obligation. The recipient of the gift is obliged to see the experience through to the end and reciprocate by giving their time and complying with the experience. Meanwhile, the designer has an interest in seeing the experience carried out successfully, ensuring the recipient is able to get the most out of it – by themselves engaging with the experience, supporting their partner in carrying the experience out and often leading the way. This gifting dynamic imparts sociality not just into the design of the experience (drawing upon interpersonal relations between designer and recipient) but also in how visitors use the resulting mobile experience in a visit.

Finally, we found that despite using the trajectories framework to try to orchestrate how and when visitors encountered each other socially during the shared visit, in practice it’s not possible to predict how much a group will want to interact in the course of a visit. Some groups were very integrated to the point that they synchronized playing the audio on their individual mobile devices, while in other groups some members chose to spend part or all of their visit alone. Delivering the experience on individual mobile devices gave groups the flexibility to make each of these scenarios possible.

**From smartphones to wearables**

We found that delivering our experiences to visitors on their own, individual devices gave them flexibility and control over their experience. However, holding a smartphone for the duration of the visit may not be ideal for all visitors – they might be wearing coats, carrying bags, have reduced mobility, or want their hands free to touch or interact with participatory exhibits.
We therefore feel that a natural next step for our research is to consider how the future deployment of museum experiences on wearable rather than mobile devices might affect how our gifting approach plays out with groups of visitors. Wearable technologies eliminate the need for users to hold, and in some cases, operate, technology with their hands. This could be key to a smoother experience for users of museum guides who would no longer need to carry a device. However, in making devices smaller and less conspicuous, it may be harder for visitors to detect and respond to what their group members are doing. In the case where visitors run a guide on a smartphone, it is relatively easy for them to see what others are looking at, engaging with or listening to. Our approach relies in part on visitors being able to detect visual cues that tell them when it is appropriate to interrupt one another, which then allows visitors to flexibly synchronize and engage with one another as and when it suits.

Our position, therefore, is that a shift from mobile to wearable would necessitate a careful consideration of how a reduction of conspicuous interactions with technology might affect how well a social visit plays out. We propose to bring to the workshop our experiences of studying groups of museum visitors negotiating personal yet socially coherent experiences and the implications of these for wearable, co-located interactions.

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References