Supporting Village Community Through Connected Situated Displays

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ABSTRACT
We present the Wray Photo Display, a public photo sharing application supporting shared history and identity in a rural community. This system can help to improve awareness for those absent from key community events, or who have become temporarily or permanently separated from the geographic community.

Keywords
Situated displays, community, participatory design.

1. INTRODUCTION
Studies into network technologies and communities [3] have shown great potential for supporting community life and sustaining interpersonal ties. As digital situated displays [2] become more and more feasible for real-world deployments, it is our belief that these displays also show potential in this regard by acting as public displays of community-related material, such as photos and advertisements. In this sense, situated displays would become "mundane" in much the same way as noticeboards or other everyday displays of information.

However, it is clear that such displays cannot be deployed in a haphazard fashion, instead requiring careful consideration of the unique socio-technical challenges presented by individual communities. Without an understanding of the issues in a given community and the involvement of community members, it seems unlikely that a system will meet their requirements and is more likely to fail.

We support a participatory approach to display design, in which systems are co-realised with their end-users. In this submission, we describe the Wray Photo Display [4], a simple photo sharing application designed to investigate how a community display is used, explore the deployment environment and generate ideas and feedback from residents.

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SIMTech '08, November 20–21, 2008, Cambridge, UK.

Figure 1. The Wray Photo Display.

2. THE WRAY PHOTO DISPLAY
The Wray Photo Display is a touch-screen display showing categorised thumbnails of photographs which can be touched to open up a larger view, add comments via an on-screen keyboard and read comments left by others. An associated website allows residents to upload their photos and create categories, in addition to browsing and commenting.

Since August 2006, the display has been deployed in Wray, a rural village in Lancashire with a population under 500, initially located in the village hall and later in the village's only post office and shop. It has been well embraced by the community, becoming a popular addition to village life, particularly in the second location, where it is frequently seen by shoppers.

Our approach with the Photo Display was based upon the technology probe [1], in which a simple but functional prototype is deployed with the aims of exploring the environment, field testing technologies and helping to inspire design ideas and feedback from members of the community. The deployment has been coupled with meeting and attendance and public events to gather feedback from residents, as well as a comments book left by the display for users to leave their opinions. Based on this feedback, several iterations of the prototype have been deployed.

3. ISSUES AND FINDINGS
Using the Photo Display as an exploratory tool has led to a better understanding of both the community in Wray and the role which digital displays might be able to play in the community, from the

content which is most important to residents to their feelings on privacy issues.

3.1 Content and Use

From the images uploaded and categories created by residents, it is clear that certain aspects of community life are particularly important to residents. The images uploaded so far have strongly represented the village's history and important community events, particularly the scarecrow festival. Feedback that we've received has indicated how residents have enjoyed these photos and feel the display could be helpful for new residents moving into the village.

There is clear evidence that it has evoked powerful memories and feeling of nostalgia towards community life. For example, former residents visiting the village have described finding a photo of their own parents as children and we have often observed groups of residents clustered around the display, discussing old photos and identifying who is in then.

3.2 Methodology

We believe our methodology has proved to be particularly suitable for longitudinal deployment, providing a wealth of feedback from a large number of community members. The long-term nature of the deployment has allowed us to see past the 'novelty' phase and better gauge how the technology can fit into everyday life.

Another interesting aspect of this is the issue of ownership. Within months of the initial deployment, our contact in the village moved the display herself when its original location became unsuitable, moving it from the village hall to its current location in the post office. The most recent version of the display has also been augmented with sticky notes advertising new features. It is encouraging that the display seems to have been accepted and 'owned' by at least part of the community.

3.3 Issues

Although the display has been successful overall, problems persist with usability and inclusivity. Although the usability of the display and its website have improved vastly in response to feedback from participants, the use of a web application to upload photos and the necessity of digitising photos before this can be achieved remains problematic.

This highlights a vast difference in what the designers and end-users might consider to be everyday technologies—log-in screens and upload forms seemed natural to the designers, but not to many of the village's residents. If the use of digital photos and photo displays were to support communities in a mundane fashion, these issues need to be addressed, particularly in relation to elderly residents.

4. FUTURE WORK AND OUTCOMES

Our research goals include the development of rural display prototypes, the evaluation of various design and interaction techniques for these displays, and achieving an understanding of rural communities as a deployment environment. To achieve this, we will continue development of the Wray Photo Display, based on feedback from residents and our own observations of its usage, before beginning work on a new display design for the village offering more services.

Although photo sharing with the display has been well-received and shown much potential, there is much more that could be achieved with community displays. Possible features might include local news, advertisements, an events calendar and other community information. While this could be provided through a website, the use of a public display makes these services accessible to those without easy Internet access and provides peripheral awareness when passing by.

We intend to continue working closely with residents during the design process, taking into account the lessons learned from the Photo Display.

5. ACKNOWLEDGMENTS

This work is funded by a Microsoft Research European PhD scholarship and the EPSRC funded CASIDE project (grant ref: EP/C005589). We would also like to thank Chris Conder and the continually helpful and enthusiastic residents of Wray (www.wrayvillage.co.uk).

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