Exploring the Use of Non-Digital Situated Displays in a Rural Community

Nick Taylor
Computing Department
Lancaster University
LA1 4WA, UK
n.taylor@comp.lancs.ac.uk

Keith Cheverst
Computing Department
Lancaster University
LA1 4WA, UK
kc@comp.lancs.ac.uk

ABSTRACT

Public, situated displays of information are truly ubiquitous, found in all walks of life providing a wide range of information—but not necessarily in digital form. In this paper we present a survey of non-digital situated display usage in a small, rural community in North West England, with the intention of exploring how community display practices might be improved by digital technology.

1. INTRODUCTION

Information is ubiquitous, and while digital situated displays may yet have some distance to cover before they can fully reach their potential, existing non-digital noticeboards and information displays surround us in the workplace, social spaces and even the home. These displays of information may be used on a daily basis, providing a wide range of information and forms of interaction, which are often so ubiquitous as to be transparent.

Over the last two years, we have worked with a small rural community in Wray, North West England, developing and deploying a public photo display [5] in an effort to understand the ways in which public displays can help to support notions of community, and the user-centred techniques which we can use when designing these displays. From the outset, feedback collected from residents has frequently spoken of a desire for a broader range of content, including various forms of community information which might commonly be found on noticeboards, such as advertisements, timetables and newsletters. For this reason, we are particularly interested in the ways that existing public displays, especially noticeboards, are utilised within the community.

However, the use of information displays is often governed by various codes of conduct, both written and unwritten, which may be extremely specific to a particular environment. For example, Lancaster University's campus has a number of large, locked noticeboards dedicated to particular services, such as the student cinema or housing office, many smaller boards managed by the students' union, and hundreds of flyers and posters taped

Proceedings available online at:
http://wraydisplay.lancs.ac.uk/ozchi08

Figure 1. A noticeboard in Wray.

to pillars along its central walkway, governed by a 'poster code' which dictates appropriate behaviour, in addition to unwritten understandings, such as when it is permissible to cover up an older poster. While this may be an extreme example of regulation surrounding information displays, it is clear that any designer of digital noticeboard systems for use in communities must have some appreciation of these codes of conduct.

In this paper, we present the formative stages of our effort to understand the use of public displays in communities, in which we explore the existing use of noticeboards in Wray and their strengths and weaknesses when compared to possible digital alternatives, similar to prototype noticeboard systems developed for use in the workplace [1,2,3]. Through discussions with residents and a detailed survey of noticeboards in the village across two trips, we examine how these displays are used and the implications of these usage patterns on digital display design.

2. COMMUNITY DISPLAYS IN WRAY

2.1 Overview

There are numerous information displays in Wray, from noticeboards to road signs, fulfilling a variety of different purposes and with greatly varying levels of formality, maintenance and security. Most obvious are the designated noticeboards located outside the village hall (Figure 1), post office, church and local café, and inside the post office. These noticeboards host a wide range of content, from advertisements to official notices, representing the main method for general residents to post information publicly.

Figure 2. Noticeboard advertisements.

Beyond these noticeboards, there are a surprising number of information displays which are so transparent that they are taken for granted during day-to-day interactions—the plethora of road signs and other pieces of highly location-specific information displayed in any village or town. For example, the village has several bus stops, each with a timetable—while these may seem mundane, bus services in a rural community may be infrequent and yet those without their own transport may be entirely reliant on these services to reach shops and other facilities, making this information particularly important.

2.2 Content

Community information comes in many forms, and this is reflected by the variety of content displayed around the village. The most numerous of these by far appeared to be advertisements. Typically these advertised small, local businesses (including beauty therapists, driving lessons, tuition, contractors etc.), as well as items for sale by residents and advertisements for small jobs. It seems logical that these smaller businesses will utilise local noticeboards rather than more expensive advertising methods, and that the community would wish to support them over larger companies.

Both upcoming village events and historical information are displayed prominently in the community. For example, during one visit, several noticeboards displayed advertisements for the annual produce show and the upcoming appearance of a touring performance group, while an engraved metal sign on one building declares: "Built in 1704, this former Quaker Meeting House is now used as Wray Methodist Sunday School", and both the village hall and local pub display historical photos. This emphasis on current events and historical information is reminiscent of our past findings that residents were particularly interested in historical photos of the village and photos of recent events [5].

In addition to this content, various displays also show information about local services, maps, wildlife and activities, as well as information about health services and charities which may be of interest to residents. This is often highly localised, not only to the local area, but also to the vicinity of the display: the display outside the church is exclusively for church information, a series of displays near footpaths outside the village show information about walks and wildlife, and the post office counter and is surrounded by numerous posters and flyers advertising services they offer.

2.3 Permanency

The permanency of information displays varies greatly, as one would expect based on the varying degrees to which different information remains current. Information displays thus range from permanent fixtures which are intended to remain indefinitely, through to very temporary signs for specific, short-term events which might be valid for hours or days, with an entire spectrum of information in between which may remain valid for weeks or months.

During our fieldwork, we saw warning signs and apology notices around roadworks and signage advertising a special event that morning at the village school at the very temporary limits of this spectrum, and signs built directly into the brickwork of buildings representing the most permanent. Between these two extremes, photos of displays taken on various visits across two years show both a great amount of variation in adverts on noticeboards, but also more permanent notices which seem not to have changed during our work.

2.4 Access Control

Several of the village's noticeboards, particularly those outside, have glass doors, primarily for protection from the elements, but also as an effective form of access control. Although doors outside the village hall are unlocked, allowing public access, the noticeboard outside the post office is reserved for local council use and remains locked. Interestingly, the church noticeboard's doors are unlocked, though content seems to be exclusively church-related; this suggests a certain amount of trust in residents to behave appropriately, and a degree of respect for these unwritten codes of conduct from community members.

2.5 The Effect of Technology

While noticeboards and other information displays themselves may not be digital, they are not unaffected by modern technology, and many show clear signs of the impact technology has had. Many notices have been created using desktop publishing applications and many, even those which are handwritten or homemade, contain email or website addresses.

We were particularly drawn to an item on the nature noticeboard, where an email printout regarding local wildlife sightings had been posted directly on the board (Figure 3), mirroring existing prototype systems which allow web content
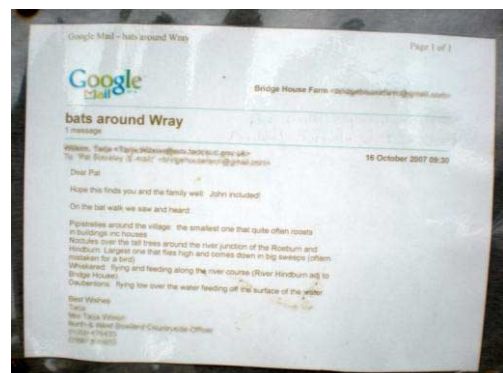

Figure 3. An email printout on a noticeboard.

Figure 4. An drinks refrigerator appropriated as a noticeboard.

to be posted on public displays. It is also worth noting that the contact details of the recipient (a local resident) and sender (a local government official) were included in the email.

3. NON-DIGITAL VS DIGITAL

Our aim with this work has not only been to gain an understanding of displays in the village, but also to highlight issues with existing displays and how they might be addressed by a digital solution, but also the strengths of simple information displays which might be lost.

'Stale' content seems to be a considerable problem for non-digital displays. Frequently, it appears that notices are left on displays long after their expiry date, with the effect of 'cluttering' the display and making new items less noticeable, while also potentially becoming confusing or even outright deceptive. One particular item on the village hall noticeboards caught our eye: a faded flyer advertising the original deployment of our photo display two years ago in August 2006, including its original (and now incorrect) location in the village hall, alongside a further flyer inviting participants to complete our web survey from August 2007. This item and many others were also ambiguously dated, referring only to the date and month. While this is perfectly understandable given the intended lifespan of flyers, there is clear potential for confusion when unintentionally left for longer periods of time. A digital solution to this issue might allow expiry dates to be set on notices, and even increase the visibility of notices as important dates approach, while applying indexicality [4] to determine an appropriate level of detail.

During discussions with residents, problems with 'outsiders' posting items on noticeboards were also raised. In one instance, a window cleaner from outside the village had posted his own advertisement over the top of one belonging to a local window cleaner, which was seen as inappropriate. In a digital system, we can imagine some form of moderation which would either prevent such unwanted content from being posted, or at least quickly remove it.

However, while non-digital displays may have issues which could potentially be addressed by technology, it is important to note their many advantages. We cannot overstate the obvious ease of use presented by paper flyers, the affordability of large displays, and their durability in a public or outdoor environment. If a digital display is considerably harder to use, it is likely that residents will simply opt to post a paper notice rather than use the digital system. Additionally, paper flyers and posters can be displayed almost anywhere, allowing any surface which seems to afford noticeability as an information display to be easily appropriated. In the village post office, for example, the side of a branded drinks refrigerator has been used as a noticeboard rather than a less visible board around the corner (Figure 4), obscuring the logo and obstructing its ability to function as an advertising device. It is difficult to see how this level of flexibility and ease of use could be replicated in a digital system with today's technology and designing to support such flexibility and appropriation is a key challenge.

4. SUMMARY AND FUTURE WORK

Our brief formative study has shown the wide range of ways that information displays are used, even within a single small community, and the relative strengths and weaknesses of these displays when compared to potential digital solutions. We intend to continue working with Wray towards the design of a digital noticeboard deployment which might augment these existing information displays.

However, it is becoming clear that careful thought needs to be given to the social conventions surrounding notices in the community, and the difficulties of use which might pose a barrier for any digital system. With deeper analysis of existing displays and further discussion with residents, we hope to continue to develop a greater understanding of these subtleties.

5. ACKNOWLEDGMENTS

6. REFERENCES

1. Churchill, E. F., Nelson, L. and Denoue, L. *Multimedia fliers: Information sharing with digital community bulletin boards*. In Proc. C&T 2003, Kluwer (2003), 97-117.

2. Grasso, A., Muehlenbrock, M., Roulland, F. and Snowdon, D. *Supporting communities of practice with large screen displays*. In O'Hara, K., Perry, M., Churchill, E. and Russell, D. Public and Situated Displays: Social and Interactional Aspects of Shared Display Technologies, Kluwer (2003), 261-282.

3. Greenberg, S. and Rounding, M. *The Notification Collage: Posting information to public and personal displays*. In Proc. CHI 2001, ACM (2001), 514-521.

4. Kjeldskov, J. and Paay, J. *Indexical interaction design for context-aware mobile computer systems*. In Proc. OZCHI 2006, ACM (2006), 71-78.

5. Taylor, N., Cheverst, K., Fitton, D., Race, N., Rouncefield, M. and Graham, C. *Probing communities: Study of a village photo display*. In Proc. OZCHI 2007, ACM (2007), 17-24.