
The 'hacking of third places' within a Rural Village Community

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Abstract

Through our on-going 'research in the wild' activities involving the design, deployment and evaluation of situated digital displays within a rural village community (called Wray) we have observed members of the village demonstrating the confidence to carry out their own 'hacking' of third places within the village, e.g. taking the lead in installing the digital displays in the village Pub. However, in terms of possessing the knowledge to 'hack together' their own technologies there appears to be evidence that the so-called 'digital divide' is still a prevalent feature limiting the capacity for rural communities such as Wray to carry out their own technology hacking.

Author Keywords

Community of Practice; Situated Displays; Rural Community; Research in the Wild.

ACM Classification Keywords

H.4.3. Communications Applications; H.5.2. [User Interfaces]: User-centered design; H.5.3. [Group and Organization Interfaces]: Theory and Models; J.4. [Social and behavioral sciences]: Sociology.

Introduction

In this extended abstract we discuss some of the issues related to 'hacking' (and the knowledge/skill associated

with this) and 'third places' that we have experienced through our ethnographic action research project with the rural village community of Wray. The on-going project (which commenced in 2006) involves the participatory design, deployment and longitudinal evaluation of situated displays designed to support notions of community [8][9].

Background – repurposing display hardware

Our first explorations into situated displays started nearly fifteen years ago with work on Hermes displays [1]. This was an example of 'hacking' or 'repurposing' standard Off-the-Shelf PDAs (that were no longer needed by the research project for which they were purchased) in order to create single purpose (or 'Information Appliance' like) awareness displays - these displays were literally drilled into the brickwork outside ten offices in Lancaster's old Engineering building in order to support the community of lecturing staff present within the building.



Figure 1. An early Hermes unit (circa 2001) with Java iButton reader.

There are a couple of important points to note here in relation to 'hacking'. Firstly, the displays were designed

to act as technology probes [2] and to be evaluated over a longitudinal period. Consequently, a significant degree of technical work had to be invested in order to provide the displays with the strong degree of reliability required to gain the required trust from 'owners' of the displays so they might become part of their everyday communication activities. The term 'Hacking together' appears to have a connotation of doing something in a relatively rapid manner and yet for even relatively mature technologies we (as designers/developers) still appear a long way from being in a position to 'throw together' interactive systems that will have sufficient reliability for longitudinal evaluation – although as a proof of concept demonstrator the reliability requirements are, of course, much reduced. In [6] the authors identify a set of challenges and issues that researchers working in the area of 'situated displays to support community' are likely to encounter and group these into the following five distinct layers – (1) hardware, (2) system architecture, (3) content, (4) system interaction, and (5) community interaction design. For the Hermes system the challenges for reliability occurred mostly at the hardware and system architecture layers.

ICT Hacking Knowledge vs Craft Knowledge

It is important to note that for Hermes the technologies used were by no means 'cutting edge', however, neither had they reached the stage of maturity where supporting knowledge and tools, such as 'howto' documents and software toolkits, were available to support rapid hacking activities. In part this can be considered as simply the lifecycle of technologies. But it is interesting to compare the knowledge (and the way in which that knowledge may be passed on and learnt) that one might associate with technology hacking activities with the technical knowledge associated with a craft such as quilting.

The craft of quilting and the technical knowledge/skill associated with this craft provides an interesting point of comparison to 'hacking ICT' in that it supports the 'hacking' of textiles for repurposing and 'mend and made do' type sustainability. One exciting project that explores the combination of both ICT and more traditional quilting craft knowledge is the 'Techno quilt' [3]. In her paper, Keller discusses the assembly problems that she encountered working with the (relatively modest) NFC technology that underpinned (so to speak) the interactive digital quilt (allowing users to use their phones to access media associated with the different 'patches' comprising the quilt). Indeed, she highlights the need for "... making a beginners kit that enables fast track learning of textile and digital interaction and examining how this may contribute to innovation." As part of her research, Keller carried out an ethnographic study of two quilting groups within Wray in order to observe how the knowledge associated with quilting gets 'passed-on' within these groups and analyses her findings using Communities of Practice theory [4][10].

Experiences with the Wray Community

Since 2006 the authors have been involved in an ethnographic action research project with the residents of Wray village with the general aim of exploring the potential of situated digital display deployments for supporting sense of community [5]. In particular, the situated displays designed and deployed during the project have helped residents of the village share digital photos, the majority of which are related to Wray's heritage and history. The displays themselves have been deployed at various community hubs and third places within the village, e.g. the village hall, café and most recently the village pub.

During the early phases of the project, we studied those places in the village where information relating to village life was made public, e.g. the public noticeboard outside the village hall (see figure 1, left). The results of this study were discussed during an early participatory design workshop (attended by members of the Wray Computer club and Women's Institute) where it was agreed to use the village hall (which held regular 'coffee mornings', 'cinema nights' etc.) as the initial deployment setting for the first prototype Wray PhotoDisplay (Taylor et al, 2007). However, the setting required modification in order to support the internet connectivity required by the Wray PhotoDisplay and this connectivity was achieved by members of the Computer club 'hacking' the hall by using Homeplug technology to provide a link to the MESH network infrastructure which had been deployed as part on an earlier research activity by the University (see Figure 1, right).



Figure 1. (left) The Wray Village Hall and Public Noticeboard, and, (right) Members of the Wray Computer club using Homeplug technology to link to the MESH network to provide internet connectivity for the Wray PhotoDisplay (see Figure 2).

Our early engagement with the Computer club (a community of practice in the village for learning and passing on knowledge related to ICT) by attending two

group meetings in the village hall and handing out cultural probe packs designed to gather data on the use of public notices and noticeboards within the village [8]. During these early meetings with the Computer club it was clear that some of its members had very innovative ideas for ways in which modern technologies could be associated with public noticeboards within the village. For example, during one conversation with a member of the Computer club in his early forties we discussed the problem of information clutter on the noticeboard outside the village hall and he asked if it would be straightforward to have a 'noticeboard notification system' developed which would cause his mobile phone to vibrate as he passed the noticeboard if a new notice matching his particular interests had recently been added. At the time it was clear that the skills and knowledge required to enable him to 'hack together' such a system was not something that he was about to readily learn through his membership of the village Computer club. Although, the technical skills required for such a project would, in effect, be no more technically complex than those skills being passed on in the village quilting groups. There certainly appears to be an interesting contrast between the way in which communities of practice within the village are able to support the shared learning of the technical knowledge needed for the craft of quilting (e.g. the myriad of sewing stitches and associated techniques) and the technical knowledge needed for hacking ICT projects such as the aforementioned noticeboard notification system. This contrast between the embedding of digital and crafting knowledge within the communities of

practice present in Wray is clearly important when considering the inclusivity issues associated with 'hacking in third places' and seems to resonate strongly with the notion of the 'digital divide' [7].

However, it is worth noting that members of the Computer club did have the technical skill required to install the digital displays in different locations within the village. For example, our 'champion' within the village (and founding member of the Wray Computer club) was able to move the display to the village pub (see Figure 2) when the Post Office was no longer an option due to a change of ownership.



Figure 2. The Wray PhotoDisplay in the village Pub.

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