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Public space as a design factor in sharable technologies

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This position paper reports on some very early collaboration between an interaction design research group at Huddersfield University (live:lab) and a not-for-profit organisation known as Blink Media, also based in Huddersfield. Blink Media are grant funded through bodies such as NESTA and The Arts Council. Collaboration with live:lab was formed through a common interest in the design of creative user experiences using emerging and innovative technologies with an appreciation that our respective approaches were very different. Blink Media create artefacts and user experiences that are purely novel, intriguing and engaging. In contrast live:lab's approach is to build an empirical and theoretical understanding of interaction design in terms of novel interactive technologies and in particular pragmatic design techniques required to develop them.

This paper reports on some initial interviews with Blink Media to understand their design and development approach to interactive technologies that employ sharable interfaces.   There is a growing interest in providing sharable displays and developing an understanding of engagement. For example, studies have explored social engagement in closed public events (Brignull and Rogers 2003) or through the use of interactive notice boards in a commercial environment (Grasso, Muehlenbrock et al. 2003) or as a medium for cooperative team working (Izadi, Brignull et al. 2003) together with long term acceptance of this form of interactive medium (Churchill, Nelson et al. 2004). These studies have examined how people might engage with a public display, taking into account issues such as social embarrassment, levels of peripheral and focal awareness to the device, how to alter engagement thresholds, perceived interest, enjoyment and utility, and how to create opportunities for social exchange and improve 'communality'. Our emphasis, however, is slightly different. We are keen to explore how design activity and implementation might affect interaction design issues as well as social engagement. Although the key criteria for success are the same, that is, positive engagement and successful social exchange, the process of designing through experiential learning also plays an important part in defining eventual success.

The first project, RFID Snakes and Ladders, was created for the Media Centre in Huddersfield and its purpose was to increase social interaction throughout the building as it consisted of physically separated SMEs and start-up companies. Apart from a coffee shop on the ground floor, there was little opportunity to meet other individuals from other companies who share the same building. The game was implemented for a month during the Summer of 2006. Residents were provided with an RFID tag. To play, participants visited a large prominent 'dice' object and pass the tag in front of the object in order to throw the dice. The object of the game is the same as conventional snakes and ladders – the winner is the first person to land on the last square. Feedback about the player's own and other player positions on the board is gained through web access to the snakes and ladders display. If a player lands at the foot of a ladder or the head of a snake, then the player must visit a ladder object to climb up, or the snake to avoid sliding down within a specified time limit. This encourages residents to visit different parts of the building which increases corridor foot traffic and thus facilitating casual and serendipitous conversation. Thus, shared experience of the game is formed in the corridors and coffee shop of the building.

Structured evaluation of the project was not carried out but informal interviews were conducted by the designer of the game, however the respondents knew the interviewer was also the designer which created a heavy bias in responses. Despite this, it was evident that the game was extremely successful and many of the residents remarked how the game provided opportunity for more incidental conversation. Before the implementation of the game, residents reported a sense of reluctance and awkwardness in initiating conversation with members of other organisations as they knew little about what other organisations did and if they were competitors or not. Another key lesson learnt from this project was the importance of

game facilitators. It was impracticable for the games designers to be permanently on site to support the game and so the Media Centre receptionists were given this task. Again this proved to be an important success factor as they could explain the rules and purpose of the game which helped encourage the more cynical or reluctant users of the game. It also proved useful to the receptionists as a means of increasing contact with the building residents. Some residents did withdraw over time because it was not engaging enough for them. The project was also successful as it used existing RFID technology already available in the building. Another important design factor was the need for robustness both in terms of interacting with the objects and the web site. Any downtime due to malfunction would have had a strong detrimental impact. More practically, the dice, ladder and snakes objects needed to be heavy to avoid theft as these were installed in pubic open spaces.

Another related project reinforces the importance of understanding the relationship between public space and supporting facilitation of social engagement. Blink Media created a vending machine for mobile phones known as Bluevend. This has undergone various iterations but began as a device to allow attendees at film festivals to download short 1-3 minute films. This provided an alternative medium for film makers to advertise and promote their work amongst attendees. The aim of the project was to encourage sharing and discussion of the short films during the festival. This required careful design of the vending machine in terms of its appearance and interaction. This was important to minimise maintenance of the vending machine during the festivals and one of the reasons why the mobile phone formed the sharable interface rather than the vending machine. In early iterations of the vending machines, the interface design and navigation was complex but the designers quickly began to recognise that much of the hand-holding and introductory pages could be removed because the location of the vending machine and shared common purpose intrinsically defined the specificity of the device. This contrasts with the previous project where common purpose and interest amongst the resident users could not be assured.

The position paper hints at some of the important situated design decision making that occurred during these projects and how, through iterative experiential learning, part of the design of sharable interfaces was contingent on the designers' understanding and perceptions the intended public place and how sharing activity would occur. The designers' needed to reduce support or maintenance during the implementation of the sharing devices and this directly affected the design and subsequent success. Through our collaboration we hope to ensure that our interaction design understanding of sharable interfaces, and other novel interaction styles, captures the design context as well as empirical analysis of the sociability of sharable interfaces.

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