

Designing Technology for Community Appropriation

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INTRODUCTION

Computation is weaving itself into our daily fabric. All around us new devices, environments, and systems are opening themselves up for user adoption and in many cases adaptation, such as SMS messaging on cell phones. New and unexpected interactions with the immaterial have expanded the design territory to include people as designers, and Moran described design as a “negotiated social process”.[7] The design process now extends beyond the formulation of a computational artifact and onto how the user experiences an artifact. This mutual relationship has heightened the understanding of what we, as designers, should be designing for, but does not necessarily provide us with the tools and practices to design technology that is truly open for later appropriation. This seems even more challenging in the case of technology, which is specifically aimed at a whole community of users rather than an individual [5].

In order to ground the discussion of user involvement from design to re-design or appropriation and adaptability, we will briefly present projects where the role of the user and or the openness of the design are explored. Combined questions and observations introduced by these case studies provide a basis for the workshop, together with submissions by the participants.

As the workshop is about methods and strategies for designing systems that allow for appropriation and mutation, the workshop activities will attempt to involve the participants in a process of design and mutation of their own as a tool for reflection. Focus will be placed on openness, transparency and adaptability. The day will be constructed as a design exercise rather than an exchange of position papers. It will also involve some community participation in the form of a community panel which will provide a critical audience for the ideas developed during the workshop.

EXAMPLE PROJECTS

The organizers of the workshop have recently been engaged in the design and development of several community technology projects, both in Sweden and the USA, some of which are on-going. These have used a variety of methods for both involving the community in the design process and making the technology open enough for community appropriation:

Underdogs & Superheroes

Rather than starting with a concept, technology or business plan, Underdogs & Superheroes [6] engaged game-based methods to ensure participatory and public involvement from the very beginning of the design process. We found that games helped capture people’s imagination by creating an alternate universe without the limitations of here and now. In the end, Underdogs & Superheroes supported social relationships and (mis)behaviors as mediated by public space through designing a system of open artifacts. The open artifacts were designed together with the ‘users’ or ‘players’ inside the design space itself.

Tejp Audio Tags are low-tech prototypes located in urban settings adding new layers of personal information and meaning onto public spaces. With Audio Tags, people are able to leave and retrieve sonic messages through direct physical interaction. These prototypes were created with the openness of the artifact in mind rather than involving people from the start, to simply see what would occur once they were placed inside the context of use. Here we were able to observe information content and user behaviors influenced by both the physical and immaterial characteristics of the prototypes, with physical interaction and open experiences providing new channels for free expression and public communication to occur.[3]

Static! is an attempt to develop a palette of critical design examples, e.g., prototypes, conceptual design proposals and use scenarios, in order to develop a more profound understanding of energy in design, and to support awareness of design issues related to energy use early in the product development process. Drawing on projects like Underdogs & Superheroes (involving people early on in the design process) and Tejp that seeks to create open systems for user appropriation, we hope to emphasize transparency in the design of energy-related components, where visibility and use are brought to the forefront in products, enabling people

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to have an increased awareness of and control over the energy in the things they use.

Designing technology for Urban Grind (a coffee shop) that can be used by the community has been more of an exercise in appropriation than in participation. We have spent time observing and interviewing customers; we have a steering group, and have worked hard to get input and suggestions. The effect of designing technology that is relatively simple and open however has allowed for emergent properties that are more interesting than the initial ideas.

On the counter of Urban Grind is a small tableau of two plastic farm animals: a pig and a cow, plus an ever-changing set of props. Customers and workers are free to rearrange pig and cow, and had been doing so for months before our arrival. For this technology probe we have added a small camera, a viewing screen and a large plastic button on the counter to create CowCam. By pressing the button people take a photograph that is pushed directly to the Urban Grind Community website. CowCam was inspired by the desire of the owners to create an archive of the antics of Pig and Cow. Few people knew there was a website, so were happy creating a snapshot. Rapidly people began to take snapshots of themselves. 44% of the pictures are portraits of individuals or groups of people. Children, babies, single men; everyone poses and performs for the camera. This is not completely surprising, but it isn't what we designed it for. As awareness of the website has grown more people are adding comments and jokes to one another's pictures, with it being used as a way of communicating with remote friends and family.

The second technology probe is the Bulletin Board, which displays events that are happening in Urban Grind, as well as images from CowCam. Community adaptation and appropriation has operated on different levels for the Bulletin Board. Initially it was designed for displaying photographs and artwork. However, CowCam provided the majority of content in the initial release, and we were amazed when we had requests for more, as the Bulletin Board had been adopted as a form of performance venue, in conjunction with CowCam.

The Bulletin Board was also designed physically to enable community appropriation for movie nights, or cartoon mornings or presentation by community groups who use the café after hours. It is a large plasma display and we had originally planned it to be hung in portrait mode, near to the entrance of the café. But that would have rendered it useless for appropriation, so we hung it in landscape mode, and positioned it on the other side of the café near the stage. This makes it perfect for use by things other than the Bulletin Board, but not so good for the Bulletin Board itself, mostly because of legibility issues.

RESEARCH ISSUES

Designing for community appropriation raises multiple issues, for example:

1. How do we engage the community of users to participate in both the design and the appropriation of the technology?
2. Should we be trying explicitly to create open and adaptable systems, or is user adaptation an example of re-engineering and hacking that will take place regardless of our design intentions?
3. Will ubiquitous computing provide the raw material for endless redesigning, or will it hide the materials of production from the end users?
4. How do communities collectively appropriate new technologies? Is everyone really a designer?
5. How do you create an open object that allows for free play? How do appropriation and or adaptability relate to the openness of an object?
6. How do we build transparency into an object and or system to increase awareness of and control over the use of that object?

WORKSHOP GOALS

The goal of the workshop is to actively engage people in the discussion surrounding appropriation and adaptation. Our aim is to provide new tools and inspiration for creating open and responsible systems that support increased awareness while relinquishing control to the use and stimulating free play and or interaction. A major goal of the workshop is for the participants and organizers to develop bonds and synergies with one another that lead to substantial ongoing research and design ideas...creating a community surrounding these design issues

REFERENCES

1. Galloway, Anne et al., Panel: Design for Hackability. *Proceeding of DIS2004*, (Boston, MA, 2004).
2. Hutchinson, H., Mackay, W., et al. Technology Probes: Inspiring Design for and with Families, *Proceedings of CHI 2003* (Ft. Lauderdale, FL, April 2003) ACM Press, 17-24.
3. Jacobs M., Gaye L., and Holmquist L. E. Tejp: Ubiquitous Computing as Expressive Means of Personalizing Public Space, *Proceedings of UbiComp 2003*. (Seattle, USA, October 2003).
4. March, W., et al. Boundaries of Ubiquity. *Proceedings of Ubicomp 2004*. (Nottingham, UK, September 2004).
5. Mazé, R. and Redström, J., Form and the Computational Object. *Proceedings of CADE 2004*, (Malmö, Sweden)
6. Mazé, R. and Jacobs, M., Underdogs & Superheroes: Designing for New Players in the Public Space. *The Good, the Bad, The Irrelevant*. 2003.
7. Moran, Thomas P., Everyday Adaptive Design. *Proceedings of DIS2002*, (London, UK, 2002).