New Photographic Technology and the Social Uses of Images

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People use new technology according to what it means for them and how it fits their higher-order goals and on-going activities. To understand how people do and will use new technology, and how to design it to be usable and attractive, then, requires understanding the purposes for which new technology is likely to be used.

Virtually everyone is in some way affected by personal photography —as photographer, subject, or viewer. Photos are of great sentimental value: often the one thing that people rush to save when their house burns is their pictures. Our contention is that networked imaging devices (now represented by cameraphones) are becoming ubiquitous, and that the ease with which images can now be captured digitally and shared via the internet are fundamentally changing photographic practices – but in ways continuous with past practice.

Understanding The Uses of Existing and Emerging Photo Technology

In this project, we're interested in emerging technologies for personal photography: digital photography, of course, but especially cameraphones and photoblogs. Cameraphones are improving in image quality and in image capture technology. What most distinguishes them, however, is their ubiquity and convenience: an image capture device that is always at hand. In addition, internet-enabled cameraphones offer new possibilities for photo annotation, use, sharing, and retrieval. When coupled with technology like GPS, cameraphones offer added capabilities for associating photos with contextual information and with one another.

We use the term "photoblog" as a catch-all term for the array of internet-based genres for photo display and sharing. Traditional personal photo collections consist of framed photo displays, photo albums, and, most of all, disorganized boxes of envelopes of prints and negatives, most of which are rarely viewed by the owner, even more rarely by friends and family, and never by strangers. Internet-based sites now make images easily viewable (and downloadable) by others. While some sites are aimed at (and may be limited to) friends and family, many are viewable by the world at large, giving any photographer a public forum for their photos.

The MMM2 project (with which this project is associated) is developing a prototype context-aware cameraphone application for mobile media sharing, and an associated web-based photo sharing application.

This project it about using social science findings, methods, and perspectives to understand personal photography in ways that will inform design. We are investigating the purposes for which people have used personal photos. In addition, we are investigating cutting-edge uses as harbingers of how people will use image capturing and sharing technology for new purposes.
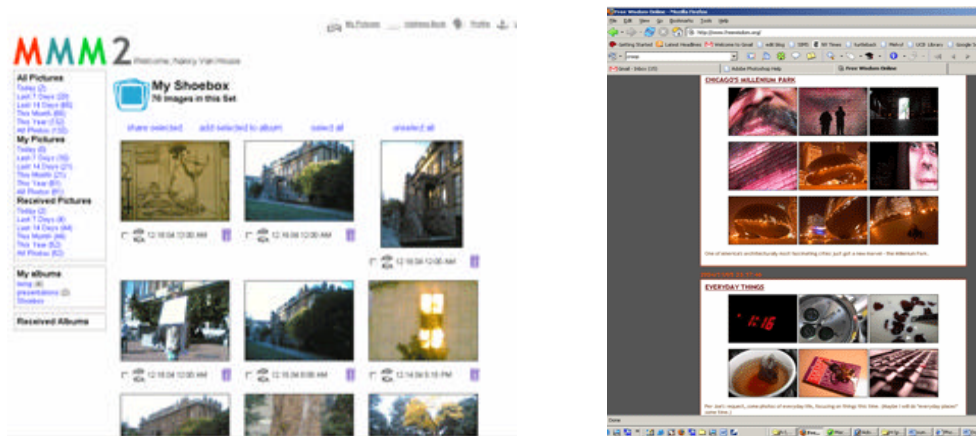
Collecting Data: Interviewing and Examining Images

Our approach consists of interviewing photographers and examining images and collections. We are interviewing casual photographers, both digital and film, asking what people take pictures of, what they do with the images, and, most important, why. In addition, through the MMM2 project we have given cameraphones and service to about 60 SIIMS students and faculty, a technology-savvy group with social and professional ties. This project is, in essence, a small experiment demonstrating how people may use digital images when they have a camera always-at-hand, with minimal barriers to personal use and sharing of photos. Finally, we are examining internet-based sites of many kinds on which people post photos.

Some Key Findings

• We have identified four high-order traditional uses of photos: constructing personal and group memory; creating and maintaining relationships; self-expression; and self-presentation. From our study of cameraphone users, we identified a fifth category: functional images. People are using cameraphones like copy machines, to capture images for later use (e.g., a whiteboard at a meeting). From our data, we conlude that self-expression and self-presentation are rapidly growing: making pictures easy to take, view, and share, and having an audience and (for cameraphone users) a camera always at hand encourage experimentation with more expressive uses of images.

• The printed photo remains highly important for many uses. The affordances of the physical artifact enable, for example, gift-giving and display in ways that digital images do not satisfy. In addition, many people are concerned about the persistence of digital images, a problem not shared by printed images.

• The face-to-face encounter, or at least the real-time, synchronous sharing of images, remains important to many of the uses of photos. This interaction allows the photographer to control the interpretation of the image, to tailor the story to the audience, and to re-live the experience portrayed.

• In addition, however, the cameraphones and the internet, separately and together, are encouraging innovative, exciting uses of images. Examining these innovations helps us to see the new interpretations of photos that are emerging. In particular, the use of images for communication – both functional communication and creating and maintaining relationships -- is growing. People use images to communicate with friends and colleagues (e.g., someone reminded his work group that their time was running out by sending everyone a picture of a clock). And they use them to communicate with strangers (the site sorryeverybody.com consists of images of Americans apologizing to the world for the 2004 election, and images of foreigners accepting their apologies). Challenge sites like Digital Street Games allow participants to compete, demonstrate their accomplishments, and rate one another's activities – all remotely

Plans

Our plans are to extend our interviews of casual photographers and cameraphone uses. We have only begun examining internet-based photo sites. In addition we will begin interviewing photobloggers. As MMM2 develops, we will have added quantitative data to add to our qualitative data on capture and sharing of images.

Our approach is rooted in science and technology studies (which emphasizes understanding the meaning of the technology to the users, and users' higher-order goals) and grounded theory (where the choice of subjects is governed by the categories of uses and users that emerge in the course of the interviews and the examination of photoblogs).

The primary outcomes of this study will be a framework for understanding users' higher-order intentions currently and potentially served by personal photographic images and by sharing technology; and a comprehensive assessment of the specific kinds of uses being made of images with emerging technology. In addition, the theoretical framework of this study (not described here) will be useful for other design efforts based on integrating understanding users needs, preferences, and goals with technological capabilities.