Finding inspiration in unconventional users of analogue cameras when exploring the future of digital photography

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A scenario of the future of digital photography

It is a summer evening in Göteborg, Sweden, and the sky is light and orange. Johan is riding his bike to a party when he hears, from a distance, the familiar sound of one of the ferries departing from the harbour. Johan has been waiting for this moment and sets off towards the river walk to catch up with the huge ship as it passes the bridge. In his pocket lies the new digital camera he has bought and he is excited to see what pictures he can get there with the sound of running engines in the background. By the river he picks up his camera, points it at the bridge and the sky, and when the horn of the ferry blasts, he snaps some pictures. He quickly looks at the pictures and smiles with satisfaction. The loud noise has changed the colours in the scene and made them all intense in the pictures, quite different from the images from yesterday's concert. He puts the camera back and heads for the party. He thinks he must not forget to show Andreas the pictures he took a moment ago: these ones captured the sound in a much cooler way than Andreas' recent images. He wonders where Andreas needs to go to beat this.

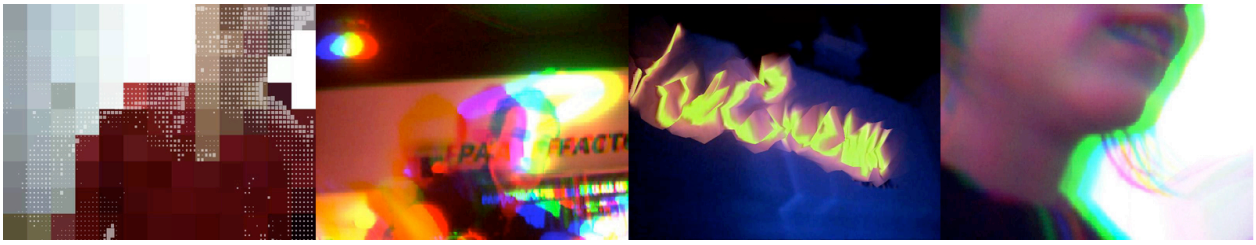

Figure 1: Photographs taken with the camera prototype

Context photography

The presence of digital cameras in people's everyday life is increasing rapidly. As creative tools, digital cameras have the potential to go beyond the mechanical and optical constraints specific to analogue cameras. However, for the average photographer, taking pictures with a digital camera is still very similar to its analogue counterpart. Imagine if additional parameters to light, speed and focus were to affect the images *visually* that you take. What if the context around you, as a photographer, played a more important role in the act of picture taking? Where sensor-based parameters such as sound, temperature, pollution or for instance the closeness of other cameras in combination with the scenery itself would contribute to the creation of a unique picture. Although the scene is the same, photographers would be able to capture different images depending on whether it is e.g noisy or quiet. What behaviour and pictures would this kind of camera give rise

to? Would amateur photographers search not only for pleasing sceneries, but also for sources of contextual information that produce the effects or feelings they want in their images? Or would photographers like to be able to interpret these visual effects and in such a way save contextual information about the moment of capture?

In order to explore alternative means of creating pictures, we are developing a particular concept, *context photography*. This consists of capturing more than incoming light in an image, i.e. the *context.* Information about the physical context gathered from various sensors visually affect pictures as they are taken, and open a new scope of possible experiences and practices. In the current phase of the design process, we have designed two camera prototypes (where the latter is briefly described in this paper) and tested them in user workshops. We have crystallised several indications on what it implies to modify the still camera into a context camera.

The current prototype exemplifies simplified yet realistic use, exploring issues related to real context input. It uses *movement* and *sound level* as sensor input, which visually affect the appearance of the images as they are being taken. It consists of a hardware platform (a Tablet PC with the screen acting as a viewfinder, a webcam serving as a lens and trigger, and a microphone measuring sound level, see Figure 2) and a simple software platform running real-time graphical effects that use the sensor values (from the webcam and the microphone) as parameters. Graphical effects are, for example, traces of colour or "pixels" following movement in the picture, and changes in colour towards a grey scale or increasing pixel size with rising sound level. Examples of pictures taken with the prototype can be viewed in Figure 1.

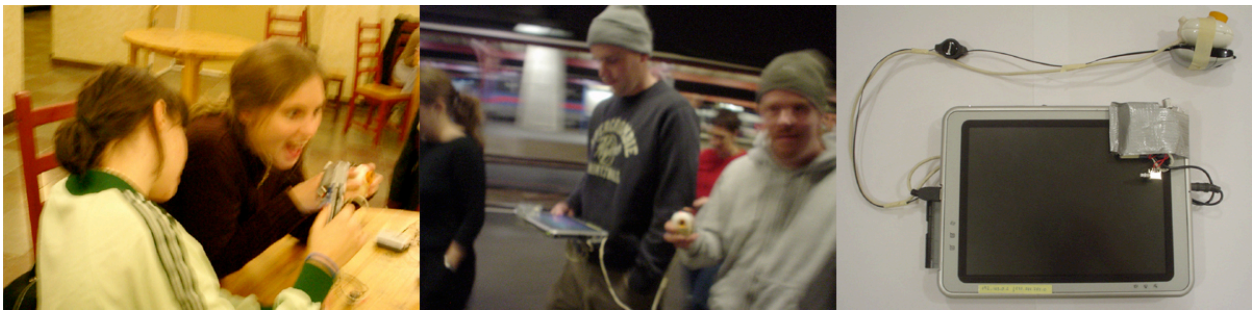

Figure 2: Workshop participants interacting with the current camera prototype

Keywords in our design process are *focus groups* of users and *rapid prototyping* for embodiment of ideas and for testing. We like to see a focus group as a *source of inspiration* helping us to push our ideas further and in new directions, rather than as a target group. This approach might be referred to as *user-driven innovation*. We look for users that have particular and perhaps peculiar requirements, as we believe that they are more likely to put our technology in a new light, as well as provide unconventional feedback. Using an analogue to the concept of "extreme characters", where fictive users are used to generate ideas in interaction design [1], we can think of our user groups as *"extreme users"*. As with extreme characters, the purpose is to inspire novel ideas that can be generalised for a larger audience. During the development process, we also use methods such as the use of props and scenarios in combination with semi-structured discussions. Our testing and evaluation workshops take place in everyday settings where the users get a hands-on experience with working prototypes (see Figure 2).

During the development of *context photography*, we have involved a group of dedicated lomographers (see The Lomographic Society [2]) as well as ordinary amateur photographers. Lomographers are (amateur) photographers who prefer and share an interest in old, analogue cameras (which create unpredictable colour and light effects when a picture is taken). Their explorative, "don't think, just shoot" attitude to photography made us believe that they could contribute with constructive but untraditional input on our concept. Moreover, everyday creativity is important to lomographers, which is something that we strive to support.

Working with the photographers has proved to be very useful, if not crucial. We have been able to get valuable user profiles illuminating what role a camera can have in everyday life, what kind of pictures are captured and which function these pictures have as mementos or art works. After the testing and evaluation, we also received essential feedback on how the prototypes, according to the photographers, in some ways failed to support important issues to them as artists: the importance of being unique and being able to express one's personality and that satisfying pictures should not be obtainable without effort. Our next phase includes implementing some of the test users' opinions, as well as refining the conceptual idea, and eventually evaluating the design iteration with the photographers.

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Contributer's background

Maria Håkansson is a Ph.D. student in Informatics and a researcher at the Future Applications Lab, Viktoria Institute, in Göteborg, Sweden. She has a M.A. in Computational Linguistics from Göteborg University. Currently, she is working with mobile media, in particular digital photography, where she explores and designs applications and concepts for the future. She also works with various user aspects in the field of ubiquitous computing.

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2. The Lomographic Society, www.lomography.com