

It's Fun to do Things Together: Two Cases of Explorative User Studies

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Abstract: This paper describes two explorative user studies conducted in a research project called Maypole. The purpose of the first user study was to understand how children thought communication with personal technologies could be fun. The second study focused on what children thought was fun in taking and editing digital images. In both studies, children aged 7–12 were given existing personal technologies to use in their own environment for one week. After that, a focus group was held with the children in order to discuss what they thought was fun in using the technologies.

The results of the two user studies illustrate how fun in using personal technologies could relate to a user's social behaviour, and not only to human-computer interaction. Therefore, designers are encouraged to explore further the social aspects of fun in their creations. Moreover, the two studies illustrate some methodological problems in studying a user's experience of fun, which refer to a need for more public research on methods.

Keywords: Children; Product concept design; Social aspects of fun; User study

1. Introduction

This paper is not the report of a scientific study on fun and computers, but the description of two explorative user studies carried out as a research project. We believe that it illustrates nicely how fun in using personal technologies can be based also on human interaction and not only on human-computer interaction. It also illustrates the methodological problems in studying users' experience of fun.

The paper describes two small user studies carried out in a project called Maypole (see more about this project in [1]). The aim of the project was to explore and create new ideas for communication products for children aged 8–12 and members of their social networks. It followed the principles of the user-centred concept design phase of product development but was a research project of six different European industrial and academic partners.

1.1. User Studies

The aim of the two user studies described in this paper was to learn more about children's ideas of fun in order to design fun product concepts for them. They were not the only user studies conducted in the Maypole project [1,2].

The first study, on the in2it, was carried out at a time when the scope of the project was focused

on everyday communication, and several completely different concepts were generated by the partners. The second study, focusing on the Game Boy Camera, was done when it had already been decided that the project would concentrate specifically on communication with digital images, and design and engineering partners were about to start the design of the concept for prototyping (Fig. 1).

In both studies, children were given existing yet novel technology to use for one week in their own environment. It was believed that by giving the children access to technology with features similar or close to the area of the project interests, allowing them to freely use the technology and discussing it afterwards, information could be gathered for generating and designing new product concepts.

2. Methods

2.1. in2it Study

With the help of the Netherlands Design Institute, we were sent six in2it devices by Philips Electronics for the first study. The in2it was designed by Philips in a user-centred process especially to meet the needs of young girls, a fairly untapped market niche [3]. It had a calendar and an alarm, it could be used for making tunes, drawings, stories and ID

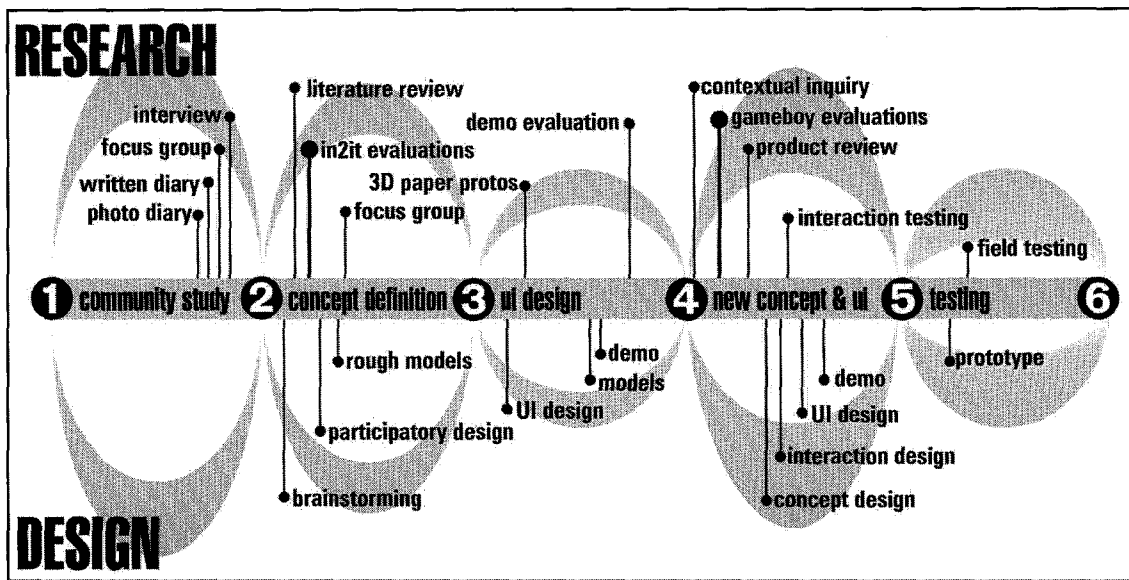


Fig. 1. Illustration of the experimental design process of the concept for communication with digital images in Maypole. The in2it study was carried out in the concept definition phase, and the Game Boy study in the new concept and UI phase. Reproduced from [2] with permission.

cards, and these could be traded between in2its via infrared. It could also be used to calculate bio-rhythms and make matches between two people.

The children participating in the study were five siblings, aged between five and twelve. The reason why we selected siblings to be the test users was that at the time of the project it was not clear on which age range the project wanted to concentrate. The siblings were different ages but still part of the same social network.

The siblings were given the in2it devices and translated manuals, and were invited back a week later to return them and discuss in the focus group what they had liked about them, what they had

done and where. A large part of the discussion was about their interests in general and their everyday lives and social activities. They were also asked to give suggestions for ways to improve the in2it devices. These suggestions were not intended to be used to improve the devices but were asked for because it was believed they would reveal something about the children's preferences in general.

2.2. Game Boy Camera Study

Three Game Boy Cameras and Printers were bought for the second study. The Game Boy Camera was an accessory for the Nintendo Game Boy, and has only just arrived on the Finnish market. It can be used for shooting and saving black-and-white snapshots, adding on stamps, frames and text, making animations, and taking panorama pictures. The self-made pictures can be printed out as stickers with the Game Boy Printer.

The field trial was conducted with separate groups of boys and girls. The groups were already established friends, the girls aged nine and ten, and the boys aged 8–13. The children were given the Game Boy equipment, a brief tutoring, and a translation of the basic features from the manual. They were also given a phone number to call in case of problems. A week later, they were invited to return the equipment and talk to us about what they had liked about the Cameras and Printers,



Fig. 2. One of the users with a Philips in2it.

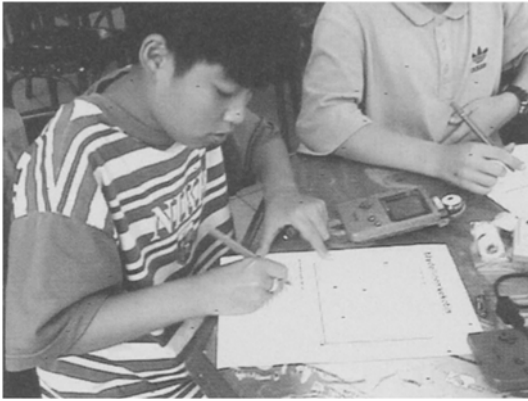


Fig. 3. One of the users with a Nintendo Game Boy Camera.

what they had done with them and where, and show us what kind of pictures they had taken.

3. Results

3.1. in2it Study

The first user study on using in2it devices gave first-hand impressions to the design–research group on what children thought was fun to do in their leisure time. The children considered gossiping, spying and practical joke messaging to be special fun activities related to communication. These activities were then explored in the features of the new product concepts generated by the project partners.

The favourite in2it features of the over-9-year-olds were matchmaking and creating face collages; the younger children liked drawing. The boy had also enjoyed the challenge of breaking the eldest sister's user password. At home they sent anonymous teasing messages to each other via the infrared link. The size and bulkiness of the in2its were not seen as a problem when used at home, but the children thought the machine was too big to be fun to carry around.

In the focus group, we found that the older siblings tended to control the conversation and do most of the talking. In order to get everyone's opinion, the younger ones were encouraged by asking them individual questions.

3.2. Game Boy Camera Study

The study using the Game Boy Camera indicated that users should be able to edit digital images before sending them over the wireless network to

others. All the children who participated in the Game Boy Camera study liked editing the pictures with silly stamps, such as adding ugly monster or beautiful princess eyes.

Moreover, the boys enjoyed the activity of taking pictures, preferably together, by spying on people, play-acting stories and staging silly pictures. They also spent a lot of time together exploring the product for new features and possibilities. They showed the Cameras to their friends and gave away most of the printed pictures they took. The girls preferred to take pictures of family, friends and pets, and they traded pictures with each other. The best pictures were printed out and kept as treasures, stuck to a notebook or pencil case.

4. Discussion

Although it is not possible to generalise about the findings of the two explorative user studies, it would appear that experiencing fun in product use would relate to human interaction as well. We hope that this paper works as an inspiration for designers to explore more fully the social aspects of fun in their creations.

The paper describes activities that the children experienced as fun, such as spying, gossiping, and taking pictures together. Personal technologies could support playful aspects of work as well. For example, experiencing work as a game and goofing around in the workplace [4] could be some them to explore further.

We also hope that our methodological problems in studying user experience of fun will encourage researchers and designers to study and develop valid techniques for observing and testing feelings of fun in product use.

Due to the tight schedule of the project and other parallel tasks, we did not think to observe the children in their own environment during the trials. In hindsight, a field enquiry could have given more reliable information on how the children used the devices, but we did not have the methodology for observing feelings in the field. Field methods developed for user research, such as contextual inquiry [5], or those presented by Hackos and Redish [6] or Wixon and Ramey [7], do not provide specific techniques to understand the user's feelings or attitudes, as their approach is more about understanding a user's tasks at work.

Another methodological problem was that, on the basis of our previous user studies with children, we were aware that children might adopt other

group members' opinions in focus groups. Indeed, we did detect sometimes that those who had different opinions did not say them aloud. However, it also worked the other way round, because sometimes, if a user tried to tell exaggerated truths in order to impress us, they were corrected by their friends in the group.

The reason why we took the risk of missing something in the focus groups was that we did not know the right terms and questions to talk about fun with children. We believed that in focus groups children would use their own language when among other, familiar children. If given more time, we could have tried to apply an informal method called "co-discovery exploration" [8] for iterative design of consumer products. In "co-discovery exploration", the users are asked to come in pairs to a laboratory. The method concentrates on cognitive and emotional aspects of the first impression, and initial use of a product. We wanted the users to explore the devices for at least some days in their own environment, but the idea of users exploring the devices in pairs after the trial could be worth trying, if field inquiry methods do not provide better alternatives.

As well as testing existing technologies, some of the empathic methods developed by designers during the design process to take into account users' needs, feelings and emotions could have been worth trying as we tried to explore what "fun" meant to our target group. However, the emphatic design techniques used in design companies vary. There are some publications about those techniques [9,10], but their descriptions are often too general to be applied in practice, and their successful implementation would also need years of accumulated experience.

Gaver et al. [11] have described a promising technique of emphatic design, called "cultural probes". To their target group they sent packages called probes, containing disposable cameras, postcards, maps, etc. with questions on specific experiences. The focus of their study was not on fun but the technique would be interesting to try when exploring users' experiences of it. However, the technique needs piloting in order to find the right language to ask about fun and a good way to communicate the gathered data to all parties in the design project.

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