Designing a Mobile Terminal for Horse Aficionados

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ABSTRACT
In this paper we describe the development and use of a novel, practical approach to the design of a mobile multimedia terminal for a virtual community. The specific design goal was a dedicated mobile terminal concept for horse aficionados who belong to the virtual stables community. We had to use a creative approach since the design was for a device of non-existent type, and to be used in a virtual environment by an atypical and challenging user segment. Using this approach we were able to get valuable contribution from the potential users to the design of the new terminal.

Keywords
Mobile multimedia, personal content, virtual communities, industrial design.

INTRODUCTION
Virtual stables are a popular phenomenon among Finnish preteen and teen female horse aficionados. They consist of websites that are created, maintained and used by these girls. At a virtual stable one can imagine and simulate virtually all activities of a real-world stable (taking riding lessons, currying, breeding foals, etc.) and assume roles that one would not be able to assume in real life, sharing all this with the rest of the community. Currently, all this is done using a desktop computer at home.

The motivation for our work was our assumption that a suitable mobile multimedia terminal would greatly expand the operational possibilities of virtual stables. New applications could emerge and existing applications could be improved and used “anytime and anywhere”.

ENGAGING TARGET GROUP TO THE DESIGN PROCESS
To better understand the world of virtual stables, we first familiarized ourselves with it by (1) making an extensive study of virtual stables in the web and (2) interviewing and observing horse aficionados at both real and virtual stables situations. In (2) we applied the contextual design method [1].

In order to design a dedicated mobile multimedia terminal for the virtual stables community, it was essential to get the target group to participate in the design process. However, traditional user study methods did not seem to fit the special circumstances. The interviews had revealed challenges in getting in-depth answers from preteen and teen girls. The girls seemed uncomfortable with the situations and peer pressure was noted. If the questions required additional thinking, the girls just quickly responded: “I don’t know”. Furthermore, “It’s ok” and “It’s nice” were expressions often used, without a clear meaning.

Instead of direct face-to-face communication, we adopted story writing as the means of involving our target group with the design process. Most activities in virtual stables take place in text format, with heavy emphasis on imaginary stories. Hence, story writing is very natural for the group. We decided to use it for soliciting usage scenarios to provide an understanding of the users’ needs and the use context [2].

To inspire the story writing, a draft concept design of a mobile multimedia terminal was created (Figure 1a). Its design and functionality were based on the study of the virtual stables and the interviews and observations we had done. Essential in this design was to explicitly show the functionality.

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Figure 1. a) first and b) second round designs of the mobile terminal for horse aficionados. (Design © Nokia / Jari Ijäs)
A public website was then created as an arena for the story writing about the imaginary usage of the terminal (in Finnish only, at http://www.sunpoint.net/~hepohopo2002/). By adopting the same format for the story writing arena as the virtual stables have, the rules and behaviour patterns of the target group and environment could be exploited. For example, the website included the same possibilities for social interactions as virtual stables, i.e. a guest book and email. Furthermore, our story-writing site was centered on the concept of a horse, as are the virtual stables. All this made the research environment very cosy for the target group.

On the website, a competition was declared. The participants were first introduced to the device with a picture (Figure 1a) and a brief description of its functionality. They were then encouraged to write a story of how they would use the device at real and virtual stables. They were also encouraged to invent additional features for the device. All qualifying story-scenarios were to be rewarded, and the best story would win the main prize.

Our story writing experiment resulted in 29 responses in one month. The qualified 24 stories about the usage of the device were clear and flowing stories, providing good usage scenarios. They described precise usage of various functions that were relevant to the context. The quality of the stories validates our assumption that the target group can address their needs and feelings well in the story-writing environment.

The scenarios in the stories show that the target group readily embraced the concept of a mobile terminal in the virtual community. Many respondents commented that the mobile terminal is “cute” or “cool”. They imagined a rich use of multimedia with it. All proposed functions of the design prototype got mentioned, and some scenarios mentioned more than one function. The proposed usage of multimedia were the following (examples of each case included in italics):

- Text via keyboard in 16 scenarios (67%); diaries of taking care of horses
- Still-pictures in 12 scenarios (50%); pictures of horses
- Video in 8 scenarios (33%); video of horses in pastures or of respondents horseback riding
- Sound to microphone/from loudspeakers in 9 scenarios (38%); neighs of horses and clapping of hooves
- Stylus input in 5 scenarios (21%); drawing or colouring horses, drawing of routine for dressage
- Headset in 4 scenarios (17%); listening to music
- Location finder in 2 scenarios (8%); locating caretakers of horses

Most importantly, half of the respondents (50%) came up with functionality other than that directly proposed by the initial design concept. These include a device collecting horse information, searching for horses or competitions, exchanging and saving addresses of virtual stables, and performing or monitoring content management. In these scenarios, the respondents not only saved content and then used it either directly or in their virtual stable, but they also implicated a use of database and/or search engine or an agent.

Not all the scenarios were realistic, though. The possibility of using a mobile terminal in the virtual environment sometimes mixed the concepts of “virtual” and “real” for our subjects. For example, one respondent described shooting a video from a virtual and imaginary show jumping competition. One fun application was the recording of scents from the real stables and releasing them back at home when in bed.

ENHANCED TERMINAL DESIGN

The first design of the terminal (Figure 1a) was made mainly to illustrate the functionality of the terminal. Based on the analysis of the stories, the design concept was taken further (Figure 1b). The new design

- shows solid basic forms to meet the challenges of a continuously changing operational environment.
- emphasizes the “buddy” element: the device was seen as a friend-like thing that supports and even gives advice to the user. The front cover resembles a mascot-like figure. The camera in the back can be seen as an eye (of a horse).
- allows easy and versatile use of different functions: for example, the stylus and the headphones are integrated, camera is easy to find, camera is directed backwards for taking pictures while talking on the phone or adding speech to the video, the large screen enables better viewing of multimedia elements and provides easier stylus input.
- includes a keypad to allow faster alpha-numerical input.
- is targeted for young girls, which is rather atypical for this kind of a device.

The final design and its functionality support our working assumption that a suitable mobile multimedia terminal would expand the operational possibilities of virtual stables. It is also proposed (but not further discussed in this paper) that these results and the design approach that was used can be generalized and applied to other virtual communities as well. Certain limitations apply, though: for example, the mascot-like cuteness of the terminal design is specifically targeted at the virtual stables community.

REFERENCES