

# Creating a context-aware mobile application to enlarge social cohesion: skating together

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## ABSTRACT

This research is aimed at creating an application that adapts to its environment and brings a user-community - skaters- together. A concept and a prototype have been developed as proof of concept that social applications can and should be build by focusing on the factors which determine social cohesion of the target audience. Context-awareness increases the usefulness of an app thereby increasing the social cohesion in the community.

## INTRODUCTION

Social media and location-based software are here to stay; they form part of reality of everyday life. What is missing however, at least in our opinion, in social location-based services is a focus on the specific target audiences and the features or characteristics of such audiences which may stimulate people to use these services. Facebook places and 4Square enable social connections between participants; provided that participants already found each other and the something to participate about.

We propose a slightly different approach: instead of throwing the means into the group, we propose to analyze a target group to establish what might bind them together and use that to design the social location-based services in such a way that users may become a socially coherent group (de Haan et al., 2010).

## SOCIAL LOCATION-BASED APP DESIGN

Skaters are a group or a subculture with well defined boundaries, characterized by a dress-code, musical taste, a 'lingo' and magazines, all centered around their sports: inline skating and skateboarding. We investigate our target audience with open interviews and questionnaires to establish specific wishes and needs to serve as design requirements. Skaters do not have a particular place to share pictures and video's. Also, even though skating is not a team sport, skating is not something that you do on your own: it is definitely a social activity. As such, skaters are always looking for other people to exercise their sport together. What is necessary is a mobile app which allows skaters to share information about skating locations or in lingo "sectors" and to contribute pictures and videos to share the experience of different locations. Sharing experiences and contributing is exactly the engagement that Rogers (2006) proposes as an additional requirement for ubiquitous computer apps. To skaters it makes the difference between a way-finder and a community app.

## Utility of context-awareness

Context-awareness indicates how an application can react to its environment. Since skaters are interested in finding locations and co-skaters it is natural to utilize context-awareness in the app, and more specifically, in the form of a location-based service using GPS. Our app will help skaters to find particular skating locations based on a number of characteristics, routes to these locations, and it will dynamically show how much "fun" the sector is by the number of visitors.

Note that, in addition to simply enabling users to utilize GPS to find things, the data about how users actually use GPS and locations is a main source to investigate the development of user requirements to improve the app, for instance, how skaters' increased experience translates into changes of favorite sectors, or how to support skaters that are new "in town". Context awareness is also a useful feature in that it helps users to focus on realizing their goals without being distracted by things that are not relevant in the particular circumstances.

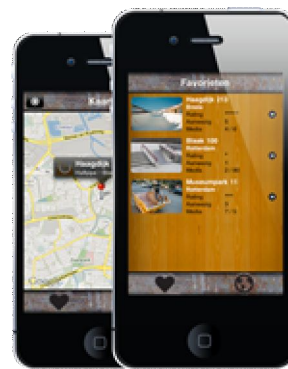
## INTERFACE DESIGN

Much attention has been spend on design for use in the actual context of use; it is not hard to find willing candidates for interviewing and testing at skate spots. The iPhone, a most popular smartphone in the community, offers a set of objects that did not require many changes. Similarly, the graphic design could be adopted without redesign. Next, we added a wireframe design and worked things out, first on paper for prototyping and next, for the finalization of design into Adobe Illustrator.

With these starting points, the next main hurdle was to translate the required design features onto a small screen. This is particularly important since the application is not meant for use at home on the sofa but rather "on the go". To realize this, we chose to use only two tabs and one follow-up view. Because the app keeps track of the context; hence: which view the user wants to see, there is no need for much navigation within the app - except for adding a new location but that is an explicit choice and the user can chose a comfortable seat to do this.

## Evaluation

We evaluated the application as a paper prototype and then developed a new method for evaluation using a clickable wireframe. A clickable prototype of the wireframe was developed in Adobe Flash and the wireframe was subsequently run on the iPhone. This allowed us to create a highly realistic prototype in a very fast and easy way without requiring us to develop a full-blown executable. The prototype evaluations were very effective for problem identification; e.g. users found it rather difficult to mark sectors as their favorites and also, icons turned out to be too small and sometimes misunderstood. After a number of small scale redesigns, the results became satisfactory.



## CONCLUSION

The application has taken slightly less then three months to be developed by a three person team of advanced media-technology students. In our view, the result is worthwhile, even though some additional effort is required to get the app into the App Store.

At least on paper, all visionary research, specifications and design have already been accomplished. We may conclude that we have shown that a mobile, social and context-sensitive application does indeed present an added value to the specific audience at stake.

## REFERENCES

- de Haan, G., Mulder, I. & Marseille, J. (2010). Friend or Fiend: Prototyping for Social Cohesion In: Proc. ECCE 2010, Caring for the Future, 25-27 August 2010, Delft, the Netherlands, pp. 377-378.
- Rogers, Y. (2006). Moving on from Weiser's Vision of Calm Computing: Engaging Ubicomp Experiences. In: Ubicomp 2006: Ubiquitous Computing: 8th International Conference, September 2006, Orange County, California.