The Emergence of E-Learning Needs in Participatory Re-Design of e-Service

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ABSTRACT

Several research initiatives are nowadays focusing on the idea of “smart” cities or territories, where “smart” refers to the assumption that information technology would improve the quality of life in the city. In our work, we discuss the contribution we gave to Smart Campus, a research project aimed at creating a community that would enable the emergence of a virtual campus in a university town. Our focus was to improve the quality of the students’ participation to the research project. Several interesting findings emerged from the work described in this paper, the most relevant being the importance given to functionalities replacing what students currently do with ad-hoc solutions using a range of unrelated services.

Keywords: Cities, E-Learning, Mobile Applications, Participatory Design, SmartCampus

INTRODUCTION

In this paper, we discuss the use of participatory methodologies for designing services to be added to a mobile application supporting students’ activities. Our work is connected to an on-going project for building a city-wide campus in Trento, a small city with a rather dynamic university environment located in northern Italy. Similar to other universities in Europe, the university facilities in Trento are scattered in various parts of the town, so there is not a campus as a geographical entity. The overall goal of the Smart Campus project is to build an integrated set of mobile applications, thus creating what could be described as a virtual campus. The project web site, http://www.smartcampuslab.it, provides additional details.

Since the beginning of the project, users (that is, students in Trento University) have been involved in designing services and applications for Smart Campus. The participation of the students has been via individual interviews and focus group (group interviews). In addi-
tion, students in ICT have been involved also in coding and testing the applications.

In the work described in this paper, we tried to increase the level of participation of the users, in the tradition of Participatory Design (PD in the following). The PD approach to design started in Scandinavia in the 70’s, pushed by workers’ increasing request for being involved in decision making processes regarding their workplace (Ehn, 1992; Simonsen & Robertson, 2012).

The most distinguishing trait of PD is probably the shift of responsibility (and power) from the designers to the users. Although there is no fixed prescription of the amount of “shift”, users are certainly empowered in these approaches while the designers move toward the role of experts facilitating and validating the design processes (Simonsen & Robertson, 2012).

Our research group was composed by young researchers guided by two instructors with long standing experience in PD methodology. The group is the result of a course aimed at providing the competences for facilitating PD processes. In the research work, the young researchers took the role of facilitators to a heterogeneous group of students.

In the following sections, after providing more details on the context and on the methodologies, we discuss the results of the Participatory Design process. We will describe how the results of PD workshops provided significant (and, to certain extent, unexpected) outcomes with relatively small effort, possibly providing the design of an application closer to the students’ needs. The research presented in this paper was also presented to a conference (Di Fiore et al., 2013).

THE FRAME OF REFERENCE

The best description of the Smart Campus project is the one found in the project website: “Smart Campus is a lab and a community. The lab builds a social and technical environment for collaborative service design. The community is composed of all students, researchers and campus staff, interested in taking advantage from the Smart Campus services, and in participating to their design.

Smart Campus provides advanced Information and Communication Technology (ICT) solutions to catalyze the creativity and enthusiasm of all people involved in a University campus, leading them to become active producers of innovative services designed to support their lives.” (Text from: http://www.smartcampuslab.it)

From a technical point of view, Smart Campus is an Android app or even better an app acting as a container for more specialized apps. The app was created by TrentoRise, a research institute on education and innovation systems, in order to improve the lives of University of Trento students. As underlined by the name chosen for this project, the initiative is part of a set of projects and initiatives sharing the vision of a smart city.

The “container” application is currently composed of six modules designed to meet all the students’ needs:

1. Viaggia Trento, this module focuses on information about the local transportation system (“Viaggia” is the Italian word for “Traveling”);
2. Vivi Trento, this module focuses on events in town that could be of interest for students (“Vivi” is the Italian word for “Living”);
3. My people, this module is a social network where connections are based on user’s interests;
4. Inbox, this module manages communication and official news from the university;
5. MyCV, this module allows the user to manage and display her own curriculum;
6. Lifelog, this module gives the user the possibility to create a journal built with daily experiences.

The ambitious goal of the project is to create the same services and community that would characterize a “physical” University campus. Quoting again the project website, the goal is to “increase the number of services, involving a
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