

ESDI and the design of mobile devices

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As a higher education institution in the area of design whose curriculum includes communication and product design, ESDI has an interest in maintaining both students and faculty up to date on the state of the art and future trends in Information and Communication Technologies, particularly mobile technology. The workshop is a chance for ESDI to obtain information on the different products and services and on the different profiles of users and sectors of society that will make use of this technology. It is also in the interest of the institution to contribute to the debate on the use of mobile devices as an entrance door to digital inclusion in Brazil.

Founded in 1963, ESDI is the oldest design college in Brazil and in South America, and since 1975 it has been linked to the State University of Rio de Janeiro (UERJ). ESDI started its Masters' program in Design in 2005 and launched its business incubator, Design Inc., in 2007. In the same year ESDI reached the highest grades among the 131 design courses in ENADE, a nationwide evaluation of higher education conducted by the Brazilian government. Also in 2007, a special article on design education published in October 15 by the American magazine "Business Week" appointed ESDI as one of the 60 best design programs in the world. Together with courses in the US, Europe and Asia, ESDI was the only school in Latin America included in the article.

ESDI seeks to provide education in design in its broadest sense, equipping students with a solid foundation in the field and preparing them to pursue in depth their individual areas of interest. For ESDI, the challenge of design educators in Brazil is to expose this young generation to a new design thinking, concerned with sustainability, taking into consideration the huge social and economical gaps in our society, rethinking the relations of production, distribution and consumption and finding new ways of dealing with the environment and a rational use of Brazil's natural resources. And this new generation faces the challenge of taking an entrepreneurial attitude towards the country's future.

Regarding ESDI's activities in the areas on mobile technology, one can mention as examples two projects developed in partnership with Motorola and Microsoft. A

partnership was established with Motorola Brazil in 2004, with the goal of developing design research on cell phones for Brazil and Latin America. As a counterpart to the research developed by ESDI's students, Motorola has built and equipped Motolab, a lab with rooms for the development of research projects and for the production of models using rapid prototyping technology. The final results of the second phase of the project, which involved user research and concept development, were presented to the client in 2006. ESDI plans to make a presentation regarding this project/research by its coordinator, Prof. João Bezerra de Menezes. The research aimed at defining usage patterns and preference profiles of users of C and D social classes. As part of the research methodology, users were interviewed and presented to images of different products. As a result, users were grouped according to its semantic profiles leading to the development of 3 different mobile phone designs.

A further example of ESDI's activities in the area of mobile technologies is a result of its 3rd and 4th-year students in 4 editions of the Microsoft Research Design Expo project (2004 to 2007). MSR Design Expo is a meeting of design and technology schools where selected projects of the invited universities are presented. In each university, different teams are asked to design "conceptware" design prototypes. In this context, part of the projects proposed involves the design of mobile devices for different purposes, e.g. a device to capture and create mixed media messages that can be easily exchanged between backpackers and their families and friends at home; a bracelet connected to a medical central which contains a person's medical information and can be decoded in pharmacies and hospitals through a digital security system; and an augmented reality glasses with audio and video outputs, linked to an educational database, that allows the user to visualize some content related to a specific place.

In the area of e-gov, a project recently carried out by ESDI's graduate students was the design of an interface for an online system of participative budget [1] whose extension to mobile devices is a natural continuation of this project.

ESDI also plans to participate in the workshop through a staff member of its Computer Lab. Denise Filippo is a recently graduated doctor in Software Engineering experienced in the use of mobile devices in the area of collaborative environments in web education and learning who has recently resumed her position as computer analyst at the university. In her doctoral thesis, services and functionalities were developed enabling teachers and students to keep track of the progress of discussion forums even while not connected to the environment. This was accomplished through the use of SMS notifications and, in the specific case of the mediators, summarized and graphical information presented through wireless PDAs was also made available. These tools were implemented in the AulaNet environment and evaluated with students and teachers of 4 editions of a distance course offered by the Catholic University of Rio de Janeiro (PUC-Rio) [2] [3] [4]. AulaNet, a web-based teaching and learning environment that has been developed by the Software Engineering Laboratory of PUC-Rio since 1997, is used in many universities and companies in Brazil and abroad.

In this context, ESDI understands that its participation in this workshop is relevant to the institution and contributes to the debate on the use of mobile computation and web technologies to deliver services to underprivileged populations.

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[3] Lucena, C.J.P., Lucena, M., Fuks, H. & Filippo, D. (2006) Extending Collaborative Learning Coordination Support in the AulaNet LMS using mobile devices. m-ICTE 2006 - IV International Conference on Multimedia and ICTs in Education, Current Developments in Technology-Assisted Education, vol 2, ISBN 84-690-2472-8, Nov, 22-25, Seville, Spain, pp 846-850

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