Workshop on Prototyping to Support the Interaction Designing in Mobile Application Development (PID-MAD 2013)

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Abstract
Recent changes in the mobile environment; such as the addition of multi-touch gestures, usage of sensors, or single-focused mobile apps; brought several challenges for interaction designers in communicating their ideas and thoughts enduring early design activities. Traditional prototyping techniques may not provide sufficient support due to the lack of current mobile interaction paradigms in them. Therefore, a shift is required in prototyping techniques and approaches in order to support properly the interaction design process of mobile application development for the current mobile environment.

Targeting these concerns, the workshop envisions that the research must address the need for a change in existing prototyping techniques as well as focusing on novel prototyping approaches and frameworks that would support not only the interaction design process but the whole development process of mobile application development.

Author Keywords
Interaction Design; Prototyping; Mobile Application Development.

ACM Classification Keywords
D.2.2 [Design Tools and Techniques]: Evolutionary prototyping, H5.2. [Information Interfaces and Presentation] User Interfaces - Prototyping

Introduction and Motivation

Mobile applications (commonly abbreviated as *mobile apps* or just *apps*) have made their way into our daily life. More and more people try to exploit the potential of mobile apps to support their daily life activities. They expect the availability of these apps to increase their task performing efficiency and comfort level. Due to the addition of the multi-touch gestures interaction paradigm and the great variation in smart-devices and their often sensor based functionality [1], Mobile apps differ from the conventional desktop applications in many ways. Moreover, the business model has also been changed due to the shifting from multi-tasks oriented desktop applications to single-task focused mobile apps [3].

This whole scenario brought several challenges to interaction design teams, as well as to other roles in mobile application development, for designing usable mobile apps that would meet the users' requirements accurately and would enable them to perform their task efficiently. Building sketches, wireframes, mockups, and prototypes (all these will refer just as prototyping techniques in later parts) is mostly part of the interaction design processes. These prototyping techniques provide a way to interaction designers for communicating their ideas and thoughts to the other stakeholders (i.e. developers, users, customers, etc.). Most of the existing approaches for prototyping are based on the conventional desktop paradigm; hence, they lack the ability to tackle the challenges that are brought by the current mobile environment. Although, a big shift has already been started in building prototypes for mobile devices, as shown by the availability of prototyping tools (e.g., Antetype[1], Axure[2], Fluid UI[3], POP[4], iMocBuilder [2]) for mobile apps. However, still there is a need to work on the way prototypes are build and utilized in order to support properly the interaction design process of mobile application development.

Targeting these concerns, the workshop envisions that the research must address the need to change the conventional prototyping techniques and approaches in order to make them appropriate for the current mobile environment. Moreover, there is the need to focus on novel approaches, techniques, and frameworks that would support the interaction design paradigms and processes of mobile application development and would enable designers to communicate their ideas properly.

PID-MAD 2013 will provide a platform for interaction designers and other interested communities (e.g. requirement engineers, usability engineers, project managers, mobile app developers, etc.) for discussing issues and defining novel methods and approaches for suitable prototyping in the mobile environment, as well as incorporating these methods and approaches in the interaction design process of mobile application development. Moreover, it will also be discussed how to make these prototyping approaches and techniques

1 Antetype Prototyping Innovation – http://www.antetype.com/

2 Axure RP – http://www.axure.com

3 https://www.fluidui.com/

4 http://popapp.in/

more useful in other parts of mobile application development such as during development or in user evaluation. Researchers and practitioners are invited to submit contributions including problem statements, technical solutions, experience reports, planned work and vision papers.

Workshop Topics
The workshop will be dedicated to observation, concepts, approaches, frameworks, and practices that would allow understanding, facilitating, and increasing the awareness of the role of prototyping during interaction designing phases particularly as well as in other phases of mobile application development. Topics of interest for paper submissions include, but are not limited to:

- Novel techniques and frameworks for building sketches, mockups, wireframes, and prototypes suitable for the mobile environment.
- Tools and environments which support building mockups/wireframes/prototypes for the mobile environment.
- Novel approaches for utilizing prototyping in other phases of mobile application development, such as in implementation or in testing.
- Prototyping approaches that focus on leveraging sensor usage (e.g., using the accelerometer) in early design phases.
- Prototyping of user context.
- Case studies and best practices.

Workshop Goals
The workshop aims at achieving the following goals:

- Consolidating the research and practice related to the prototyping practice in the interaction design process from the context of mobile environment.
- Establishing a platform which will bring the interested communities (such as interaction designers, requirement engineers, developers, managers, etc.) closer together and to discuss how to make changes in the existing approaches and frameworks, as well as to investigate novel methods for making the prototyping useful to not only within the interaction design process but throughout the whole development process of mobile application development.
- Growing the body of knowledge related to prototyping and interaction design for the mobile environment and identifying challenges and future avenues for research relevant for both academia and industry.
- Providing the relevant communities a dedicated forum for exchanging ideas and best practice and thus foster industry-academia collaboration.

Audience, Submissions, and Selection Process
Selection Process
The intended audience of the workshop is a mix of industrial and academic participation. An external program committee reviewed the submitted papers. The presented work was reviewed based on workshop relevance, academic rigor, innovation, industrial applicability, and quality of writing. The workshop uses EasyChair for handling the submission process.

Workshop Structure and Plan
The workshop will be a full-day long held on August 27, 2013. The workshop will consist of three 1.5 hours tracks for paper presentations, and a final 1.5 hours discussion session. Each paper presentation will be of 10 to 15 minutes long and will be followed by a discussant who will put the paper into a scientific perspective, list contributions, and raise issues and questions for discussions (10 minutes for discussion). The last session will be based purely on concluding discussions either through *fishbowl conversation* method or through *interactive group discussion* strategy.

After the Workshop
We intend to develop our workshop discussion results into a publication to be submitted for peer review, either in the way of a monograph, a journal paper, or a chapter in a handbook, aiming at the interested communities.

Workshop Website
The workshop has a dedicated web site (http://hciv.de/pidmad13/). The call-to-papers was announced in well-known places and news groups.

Organizing Committee

Shah Rukh Humayoun holds a PhD degree in Computer Engineering from the SAPIENZA University of Rome. Currently, he is working as a postdoc research fellow in the Computer Graphics and HCI Group at the University of Kaiserslautern. His current interests lie in human-computer interaction, mobile application development, scalability issues regarding mobile user interfaces, usability engineering, and software engineering. In past, he has successfully co-organized other workshops, e.g., ICSE'12 workshop: "UsARE 2012", ECCE '12 workshop: "Visualization - Beauty or The Beast", and CSERC '12 workshop: "Visualization in University level Computer Science Education".

Steffen Hess is leading the Usability and User Experience group at the Fraunhofer Institute of Experimental Software Engineering (Fraunhofer – IESE). His current research interest is in requirements, usability, and user experience engineering in different application domains. Thereby, especially interaction design, user experience prototyping and customization of mobile business apps is in the focus of his work.

Achim Ebert is professor and co-head of the Computer Graphics and HCI Group at the University of Kaiserslautern. His current research topics include information visualization, immersive scenarios, and human-computer interaction. Dr. Ebert has founded and is heading the IFIP working group 13.7 on Human-Computer Interaction and Visualization. He is also member of the IFIP technical committee TC13 on Human-Computer Interaction (IFIP – International Federation for Information Processing).

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