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# Research in the Large 3.0 – App Stores, Wide Distribution, and Big Data in MobileHCI Research

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## Abstract

Mobile HCI studies are often conducted in a highly controlled environment and with a small convenient sample. The findings cannot always be generalized to the behaviour of real users in real contexts. In contrast, researchers recently started to use apps and other wide distribution channels as an apparatus for mobile HCI research. Publishing apps in mobile application stores and public APIs for mobile services enable researchers to study large samples in their 'natural habitat'. This workshop continues the successful *Research in the Large* workshop series held at UbiComp 2010 and 2011. Relevant topics include the design of large-scale studies, reaching target users, dealing with new types of evaluation data, and heterogeneous usage contexts. We seek ways to systematically collect, analyse and make sense of large datasets, potentially in real-time. The goal of this workshop is to provide a forum for researchers and developers from academia and industry to exchange experiences, insights and strategies for wide distribution of user studies towards large-scale mobile HCI research.

## Keywords

Mobile HCI, user study, app store, large-scale, game

## ACM Classification Keywords

H.5.2 [User Interfaces]: Evaluation/Methodology

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## Description

The proliferation of mobile application stores has enabled gathering large datasets from wide audiences for research purposes, even for small research teams. In addition, existing ubiquitous services are providing researchers with data sets or access to content via APIs, greatly expanding the ability to investigate the use of these systems on a global scale. However, an overview of successful strategies and ways to overcome the challenges inherent to wide deployment and dealing with large data in mobile HCI research are not yet available. The design of large-scale studies, reaching target users, dealing with new types of evaluation data, and heterogeneous usage contexts have to be better understood.

The workshop will be a full-day workshop on mobile HCI research through the use of wide distribution, user participation, and app stores, with a special focus on the large datasets that can result from successful deployments. The workshop is a follow-up on the *Research in the Large* workshops at UbiComp 2010 [1] and UbiComp 2011 [2] and builds upon the associated special issue of the International Journal of Mobile Human-Computer Interaction [3]. The workshop will focus on the challenges and strategies for dealing with large deployments, including discussion of successful designs for large-scale studies, how to derive successful apps from research questions, changes in (mobile) ecosystems as well as tools for data acquisition and analysis.

The workshop will be widely publicized to a broad, international community in both academia and industry through active solicitation via our professional networks, newsletters and various (online) channels such as Twitter. We will also send out personal invitations to participants who might be interested, including participants from the

previous *Research in the Large* workshops and contributors to the associated special issue. Our aim is to have around 15 participants (in addition to the organizers) to facilitate a productive discussion.

## Outcome

The aim of this workshop is to bring together people who are active in the area of large-scale mobile HCI research. The expected outcome is an overview of the recent challenges of large public deployments and potential ways to overcome them. We aim to generate insights in new questions that present themselves when it comes to doing research in this wildly dynamic landscape of app stores, markets, new devices and services. Participants are expected to discuss, share, and take away beneficial insights, strategies, tips and tricks in dealing with large deployments and big data. A workshop webpage will be set up at [large.mobilelifecentre.org](http://large.mobilelifecentre.org) and will feature all accepted papers and a brief overview of the discussion.

## Topics of Interest

We envision participants from both industry and academia who have an interest and/or experience in the following themes:

- Attracting and recruiting a suitable sample
- Methods & experiences with research through app stores and other distribution platforms
- Dealing with big data: infrastructure, tools and experiences
- Strategies for research & development using these platforms
- Statistical & visual analysis methods and tools for the various sorts of data resulting from public apps

- Approaches to increase external validity
- Dealing with uncertainty and noise of data
- Deriving user and experience models/patterns
- Combination of large-scale studies with smaller studies
- Design of appropriate large-scale studies based on given research questions
- Re-integration of research in the large outcomes in the design & development process of apps

### Organization of the Workshop

The participants are expected to submit a paper of 2 to 4 pages via the workshop's submission system by May 25th 2012. All submissions must follow the Mobile HCI 2012 archive format. Participants will be selected on the basis of the quality of their position paper in a peer-review process. Successful submissions will have the potential to raise discussion, provide insights for the other attendees, and illustrate open challenges and potential solutions. The authors of accepted submissions will be notified by June 29th 2012. At least one author of an accepted paper needs to register for the conference and workshop itself.

The workshop will be held on September 21st 2012. It will feature short (5 to 15 minutes) presentations of research results, on-going work, ideas, concepts, and critical questions related to large-scale mobile HCI research. Every presentation will be followed by a brief corresponding discussion. Group discussions and dedicated breakout session will help to identify recent practical issues and shared challenges. We will encourage the attendees to show demonstrators during their presentation and in a dedicated demo session.

The workshop proceedings will be produced digitally, following the publishing standards of the ACM and will be ready for the ACM Digital Library. The proceeding will be available online and as a printed proceedings volume. Based on the quality of the papers we will consider publishing extended versions of selected papers in a special issue in an appropriate journal.

### Organizers' Backgrounds

The workshop organizers are the main experts in the field of large-scale mobile HCI research from academia and industry. They published the first papers about large-scale studies using mobile application stores. The organizers' work about large-scale research has been accepted at all major conferences of our field, including MobileHCI, CHI, and Pervasive. Further, they organized several highly successful scientific workshops at MobileHCI, CHI, and other conferences, including the successful *Research in the Large* workshop series. Some of them served as guest editor of a special issue about large-scale distribution of apps for research purposes in the International Journal of Mobile Human-Computer Interaction. The organizers' mobile apps that have been developed for research purpose have been installed by hundred thousands of users.

### References

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