

The Usability Lab of the Future

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Abstract: Which tools will be available for tomorrow's usability tester and HCI researcher? The multimodal interfaces of future applications (driven by speech, facial expressions, gestures, eye movement, physiological data, etc.), remote tests and multi-user applications pose new challenges with respect to data collection and analysis. During this session their usefulness will be discussed.

Keywords: Human-computer interaction, observation, video, usability labs, usability testing, remote evaluation

1 Introduction

Measuring human-computer interaction implies many questions about the right tools to use. With the wealth of currently available hardware and software, making the right choice is not easy. The speed with which new technology becomes available, will raise more and more questions in the future about which tools to use.

2 Issues

The developments that will influence the usability lab of the future run along different axes:

1. The current generation of observational data collection and analysis tools consist of conventional unimodal systems (recording user behavior only). The future may offer possibilities to create genuine multimodal systems (integrating behavior and multiple other modalities). Integrating behavioral and physiological measurements is a challenging task. Some of the possible modalities that could be added, are key strokes and mouse clicks, automatically recognized facial expression, user comments, speech signals, physiological data (heart rate, EMG, EEG, blood pressure, pupil diameter, etc.), eye movements, point of gaze and posture and gestures of the user.

2. At this moment a lot of testing is done locally, either in a lab or at the users' site. New technologies enable the development and application of tools that support analysis of user behavior even if users and evaluators are separated in time and space. This opens up the possibility of analyzing users in their daily environment and even in several contexts.
3. Usability evaluation concentrates on a single user whose behavior is being observed and tracked. In the usability lab of the future it will be possible to evaluate multi-user applications.

3 Goals

The goal of this SIG is to provide a platform for exchanging information about possible new methods and tools for HCI research, and for discussing their relevance.

4 SIG Activity Plan

The kick-off of this SIG is a presentation of a recent survey amongst usability testers. The findings summarize today's common practices amongst usability testers and HCI professionals. After this there will be a number of short presentations, in order to introduce the different development axes. After every presentation there is room for discussion and exchanging ideas about the presented topic.