

Testing in the e&t Usability Lab

Usability testing is a highly efficient method for measuring the level of user friendliness and acceptance of a new product. Observing typical present or future users working through a set of tasks identifies weaknesses as well as positive aspects of any device or software application. In consequence valuable insights are collected for a focused and cost effective optimization of the product under scrutiny.

Set-up of the Usability-Lab

In the usability-lab, subjects are observed while performing predetermined tasks on the interactive system to be tested. The test session is recorded on videotape, in order to facilitate detailed step-by-step analysis. The important components of the usability-lab are:

- Test chamber (soundproof) in which the subjects perform the tasks
- Video cameras which record the subjects during the test session
- Control room from where the observers keep an eye on the performance and reactions of the subject

Figure 1 shows the set-up of a typical high-end usability-lab (ergonomie & technologie (e&t) GmbH, Zurich).



Fig.1: Set-up of the usability-lab (ergonomie & technologie GmbH): The test chamber is equipped with two video cameras. A one-way mirror window separates the control room from the test chamber. Thus the subjects can be observed without getting distracted by the observers.

Procedures

Planning:

- Recruitment of the subjects for the test and pre-test who fit the typical user profile(s)
- Definition of realistic scenario (list of tasks) and preparation of the pre- and post-test questionnaires
- Set-up for measuring physiological parameters (optional)
- Installation of the soft- or hardware to be examined and pre-test

Testing:

- • Reception and introduction of the subject to the procedures of the usability-test and the scenario
- • Run the test (incl. pre-test questionnaire, tasks according to the scenario, post-test questionnaire)
- Interview with the subject right after the test (supervisor and subject) and post-test discussion in the control room (all participants) with optional reiteration of single steps and video confrontation.
- Discussion of the preliminary results (experts only)

Reporting:

- Identification of inherent problems and inconsistencies according to post-test questionnaires, interviews and expert discussions
- Analyses of physiological measurements (optional)
- Analysis of the questionnaires and observations; prepare suggestions for improvements
- Conception, drafting and editing of the report and discussion of the results with the client

Responsibilities

The supervision of the usability testing is the sole responsibility of the ergonomie & technologie staff. Typically two staff members of ergonomie & technologie are present during the testing.

The client is responsible for the recruitment and recompense of the subjects who fit the user profile required. In case the recruitment of the subjects is assigned to ergonomie & technologie, additional costs can be charged.

Visitors are welcome but should be announced at least a day in advance (limited space). A maximum of four visitors are allowed in the control room of the usability-lab.

In order to assure smooth procedures during the testing, sufficient time must be allocated per subject. Depending on the complexity of the test, two to three tests can be scheduled per day.

The tests are performed between 08:00 and 17:00 hrs. If necessary, the daily schedule can be expanded or adjusted. Additional costs due to overtime will be charged separately.

The definitive appointed time for the usability-test must be fixed at least four weeks in advance. Reorganization due to short-term changes of the appointment may incur additional costs.

In order to meet the deadlines of the planning, testing and reporting phases, the product must work reliably. If the product tested fails to work properly, any kind of liability will be rejected.