

Advanced Usability Testing Methodology

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1 Objectives

Most usability professionals learned their skills by reading books on usability testing or by watching someone else prepare and conduct tests. But how do we know that the particular way we learned to do usability testing is still the best way? Until the Comparative Usability Evaluation (CUE) project, there was little opportunity for usability professionals to objectively compare their various approaches. As it turns out, there are some striking differences in effectiveness.

This tutorial gives rare insights into the practical doings of usability professionals, normally shrouded behind walls of confidentiality. This tutorial is not based on the personal opinions of one or two instructors but on the practical accumulated experience - both good and bad - of the eleven professional usability labs who participated in the CUE-1 and CUE-2 projects, conducting controlled usability tests in realistic, industrial settings.

In this tutorial participants will learn:

- What constitutes quality in usability testing.
- Options available in planning a usability test, and how the choices may affect the outcome.
- What makes a good usability test scenario, and how test scenarios impact the quality of a usability study.
- What a usability problem is, and how usability problems are identified.
- How many test participants are required to find for example 85% of the usability problems in a product.
- Required characteristics of a usability report to assure its communicative value.
- Novel communication techniques that are vastly superior to traditional usability problem communication through paper reports and video tapes.

Insight from the professional lab studies will enable participants to assess and improve their abilities in usability test planning, scenario design, usability reporting and usability problem communication.

2 Tutor

Rolf Molich owns and manages DialogDesign, a small Danish usability consultancy. Rolf coordinated the comparative usability evaluation studies CUE-1 and CUE-2 where eleven professional usability labs tested the same application. Rolf has worked with usability since 1984; he is the co-inventor of the heuristic inspection method (with Jakob Nielsen).

History

This tutorial has previously been presented at CHI 2000, CHI 2002 and at the Nielsen Norman Group World Tour where it has been highly rated by the participants.

3 Background

In early 1998 four professional usability labs performed independent tests of a Windows calendar management application, Task Timer for Windows. The study is called "Comparative Usability Evaluation 1", CUE-1.

All usability tests were carried out by experienced usability professionals employed by the labs.

The study showed that there were remarkable differences in approach, reporting, and findings between the labs. The most interesting result was perhaps that while a total of 141 usability problems were uncovered by the four labs, only one problem was reported by all four labs, and only one other problem was reported by three labs. Eleven problems were reported by two labs. Each of the remaining 128 problems were reported by only one of the labs.

The CUE-1 study generated considerable interest. Therefore, seven other professional usability labs decided to undertake another, similar study in the fall of 1998. This study is called "Comparative Usability Evaluation 2", CUE-2.

The application used in the CUE-2 usability test was the web-site www.hotmail.com. Hotmail provides free e-mail service to users of the Internet.

The study confirmed the results from CUE-1 that there were remarkable differences in approach, reporting, and findings between the labs.

4 Content

The tutorial lasts one full day. The tutorial is divided into four modules of 90 minutes each. The final module includes the conclusion.

Module 1 - Introduction

- The Comparative Usability Evaluations (CUE-1 and CUE-2)
- Survey of related work
- Exercise 1: Review usability test requirements.
- Methods used in CUE: Inspection, Inquiry and Testing
- The Methodological Effect: How results varied based on methodology used in CUE
- Discount test methods

Module 2 - Tasks and Scenarios

- Exercise 2: Review usability test tasks.
- The Scenario Effect: How usability test scenarios impact the outcome of a usability study
- Common problems in tasks and scenarios
- What makes a good usability test scenario?

Module 3 - Identifying and Describing Usability Problems

- What is a usability problem?
- Exercise 3: Usable usability problem descriptions. Participants will review problem descriptions in the CUE reports and identify desirable and questionable elements of a usability problem description.
- Communicating Results: What is effective usability problem communication?
- The Report Effect: How the usability report can determine the impact that findings have on directing change in the product development cycle
- Checklists: Required characteristics of a usable usability report
- An example of a usable usability report

- The KJ Method: Effective usability problem communication without reports
- The Politics of Usability

Module 4 - Tips and Tricks

Participants will select two of the following topics for an in-depth discussion with other experienced professionals:

- Finding good test participants
- Performing tests
- Testing intermediate and advanced users
- International usability testing
- Assessing the quality of a usability consultancy

Conclusion

- Critical comments on CUE
- Reactions from participating CUE test teams to the comparative evaluation of their work ("The psychology of usability testing")
- General lessons learned from CUE
- Why exhaustive usability testing of non-trivial products is impossible
- Prevention is better than cure
- Quality through humility in usability testing

5 Intended Audience

The primary audience for this tutorial are usability professionals who have conducted a few tests and would like to improve their skills in test planning, scenario design, problem identification and problem communication. Those with more experience may be familiar with some material but will still benefit by learning from other usability professionals. Although this seminar is not intended as an introduction to usability testing, past participants with no testing experience have rated it highly.