

Introduction on Usability Evaluation

I. Purpose of Usability Study

HCI focus on Human Computer Interaction

Programmer, designer creates computer applications.

During and after the design process, they want to find out:

1. Is my application useful with my intended goals?
2. If it is, how satisfactory when people use it.
3. In extreme case, is my original goal correct?

II. Types of Usability Studies

How to answer my questions?

Let's ask two more questions.

1. Time: When do we want to find them out? Before we finish our design or after?
2. Scope: In what scope are we going to find them out? Macro vs. Micro?

We know we want to find out things early, but sometimes we can't, so let's try our best.

The big picture as well as the details is important.

Key concept here again: iteration

For time, the book uses terms like Formative vs. Summative

Formative: Study during the process, before things are done, and look for things improve.

Summative: Study after the process, after things are done, and look for quality of the product.

For scope, the book uses Analytic vs. Empirical

Analytic: look at details.

Empirical: look at the overall facts.

III. Details

A. Analytic Study

When look at details, we break things down into subcomponents.

Claim Analysis: break our system into features or functions and study that

Usability Inspection: break down the study of our system into a set of usability guidelines.

User Models: break down use of our system into specific tasks and their subtasks (use to measure performance, complexity, etc)

B. Empirical Study

How to study the big picture? We observe how people are going use it.

Field study vs. Controlled Experiment (Real vs. Control)

Field study: observe people in real time and real environment.

Controlled Experiment: observe people in the lab.

In the controlled experiment, it's hard to know people's thoughts. Think aloud is introduced as a method to understand people's thoughts.

To make our experiment as real as possible, there are a few rules, and we call them ethics.

We know both studies are important, but how to combine them together to achieve the best effect?

The book suggests mediated evaluation, the concept is to use analytic study to identify possible problem areas in the system, and then do empirical tests focus on these areas.

To measure how well we are doing with our evaluations, we need some metrics.

How do we know we meet our goals? How to test it? We need to divide the goal into usability specifications. (Define usability goals with functional goals)