ACSD Evaluation Methods and Usability Labs
Why Evaluation?

- Finding out problems
- Checking for quality of task support
- Changing design
Three main types of methods

- Testing methods
  Representative users work on typical tasks using the system (or prototype) evaluators check the outcome:
  - How supportive is the interface?
  - Usability problems?
  - Other problems?
Three main types of methods

- Inspection methods
  Usability experts (sometimes other categories) examine the application for usability problems
Three main types of methods

- Methods based on inquiries
  Usability evaluators interview the users for:
  - likes,
  - dislikes,
  - needs,
  - understanding of system.

Also observation studies (of real work)
Usability testing methods

- Teaching Method
- Thinking Aloud Protocol
- Coaching Method
- Co-discovery Learning
- Performance Measurement
- Question-asking Protocol
- Remote Testing
- Retrospective Testing
- Shadowing Method
Usability Inspection Methods

- Cognitive Walkthroughs
- Feature Inspection
- Heuristic Evaluation
- Pluralistic Walkthrough
- Perspective-based Inspection
Usability Inquiry Methods

- Field Observation
- Focus Groups
- Interviews
- Logging Actual Use
- Proactive Field Study
- Questionnaires
Usability Study Process

1. Plan test (tasks, scope, etc.)
2. Prepare materials (user profiles, prototype, instructions, forms, etc.)
3. Prepare location
4. Run a Pilot Test – Test the test
5. Recruit users based on your user profiles (advertise, select, schedule)
6. Conduct Test (briefing, user debriefing, questionnaires)
7. Analyze Results
8. Fix user interface and Retest
Important parts of most tests

- Briefing, debriefing (why did we test?)
- Personal data (even for anonymous tests)
- Background data
  - can be used for categorizing, statistics
While conducting a usability test:

1. Don’t praise the subject.
2. Don’t prompt with ”Like/dislike”.
3. Don’t ask about ”Easy to use”.
4. Don’t ask about expectations.
5. Don’t give instructions.

http://www.usabilitytestingcentral.com/moderation_tips/
Wizard of Oz-testing

- Controlled experiment

- Testing non-existent technology

- Subject believes it is real

- Surprisingly simple method.
Wizard of Oz

- Made big displays through "cheating"

- The experiments cheats – computer intelligence is replaced by human control

- Many uses for simulation of "intelligent" applications
  - We can test concept without prototype
Wizard of Oz studies

- Often performed in Usability labs

- Ghost operator is hidden behind one-way reflecting mirror
  - TV-cameras and audio recordings

- Operator monitors and responds to user activities
- Observer observes
Usability Laboratories

- Artificial setting for conducting usability studies
- Technically advanced environments
- Mostly used for observation studies
  - Simulated or real applications
Sample laboratory layout
Test room
Control room
Advantages

- Controlled environments
- Good data recording facilities
- Large amounts of co-ordinated data
- Repeatable experiments
- Relatively easy to make variations in conditions
Disadvantages

- Dependent on technology
- Expensive
- Artificial environment
- Unnatural conditions for the experiment
- Overkill?
Working scene

- An alternative to Usability Lab

- A complete model of the work space (e.g., a bank office) is built for the testing purpose

- Real customers are enacting their tasks with real bank clerques
  - Environment is a copy of the real implementation
  - Good for testing secondary and tertiary users
A bank office
Working scenes

Supplies

- contextual information
- realistic usage situations
- Real user problems

Requires

- Massive effort
- Detail scenario planning
- Money
Warming up the user

- Chit-chatting
- Joking (has to be from the heart, though)
- Pre-tests
- Informal interview
Turing test

If the computer succeeds in the Turing test, it will be considered intelligent!

But what about a human that fails it?
Purpose?

- It is important to ask the right questions!
- The wrong questions give bad answers.
- "Have you stopped beating your dog?"
  - What is the proper answer here? Yes or No?