

Usability Testing

CS774 Human Computer Interaction
Spring 2004

Icons redux

- Is this better?



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Dialog box redux?

- Advantages to revising existing interfaces - we get to start by working on the margins, making the little choices

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Our Design Activities

- Establish process
 - LUCID process model
 - Ethnographic observation
- Task analysis
 - Scenario development
 - Guideline development
- Interface design
 - Prototyping
 - *Heuristic expert evaluation*
- Evaluation
 - *Usability testing*
 - GOMS KLM analysis

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So, does it work?

- Ask an expert
 - Advantage: experts know the guidelines
 - They can do: Heuristic evaluation, guidelines review, consistency check, cognitive walkthrough
- Ask a user
 - Advantage: users know the task
 - You can: watch them, interact with them, survey them

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General points on testing

- Get to know standards - who would you hire?
 - "We're going to, you know, test the interface"
 - "We're going to test the interface using the Nielsen heuristic guideline set and then the QUIS survey"
- Be careful - use informed user consent
- Randomize - make you you break your biases
- Establish your goals
 - Number of errors? Time? Enjoyment? What measure?

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Three stages for testing

- Prototype testing
 - Helps you make big decisions, focus in on general design
- Usability testing
 - Done with alpha and beta versions
 - Helps you fine tune most decisions, rethink a few
- Acceptance testing
 - Yes or no decision - is it good enough to release?

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Heuristic evaluation

- Nielsen handout
- Establish a list of heuristics to consider
 - Can do your guidelines instead, but more time
- Present interface to experts as you would to users - make the experience realistic
- Experts mark down violations without long discussion, argument or defense
- You collate and prioritize the problems found

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Quick and Dirty Heuristic Evaluation Trial

- Go to web site to be determined (TBD)
- Fill out the Q and D Web Site evaluation form
 - Most serious 1, least serious 4
 - Describe page and location of specific problems
- Collect the problems, set action list

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User Testing

- Establish scenarios and goals
 - I.e. user should be able to find price of book on our web site quickly; user should be happy afterwards
 - Therefore try to measure time and "happiness"
- Set up test properly
 - User, system, observer
 - Appropriate recording devices (audio, video)
- Conduct test
 - How to best measure your "metrics"?

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Testing formats

- Silent observation
 - Watch the user without talking
 - Good to avoid biasing users, or rationalizations by user
- Think-aloud
 - Watch the user and ask them to explain actions
 - Good to understand mental model, goals, intentions
- Constructive interaction
 - Watch two users work together
 - More normal, comfortable than Think-aloud

Quick and Dirty Think-aloud User Test

- Groups sit together
- Assign roles
 - User - duh.
 - Facilitator - works with users, elicits user thoughts
 - Observer - records user activity, errors/confusions, thoughts
- Do test
- After test, administer user survey

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Q and D Survey

- Any screwy questions on survey?
- Surveys are like interfaces
 - Questions must match user language and mental model
 - Only ask respondents questions they can answer
 - Prototype questions before field use
- Prototyping the space survey
- Use validated instruments when possible
 - Do the answers mean anything? Research shows ...

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Shneiderman's implementation rules

- Move from general HCI rules to modern GUI rules
- Chapter 7 - Menus and Dialogs
- Chapter 9 - Keyboards and Mice, Fitts law
- Chapter 11 - Layout and Color, Error messages
- Chapter 13 - Multiple Windows

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