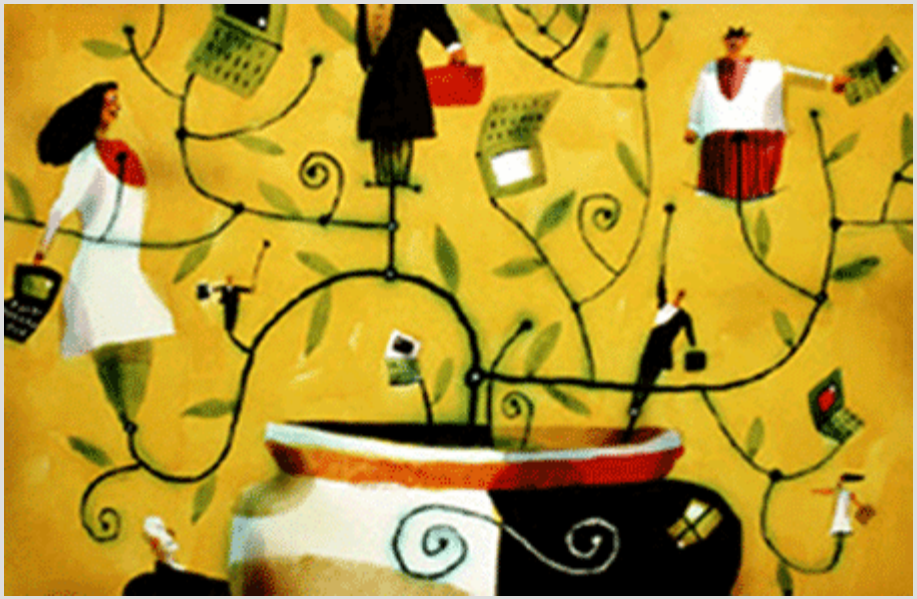
User-Centered Website Development: A Human-Computer Interaction Approach



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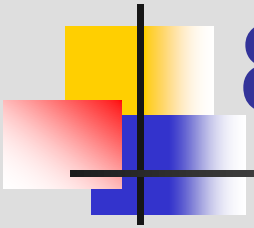
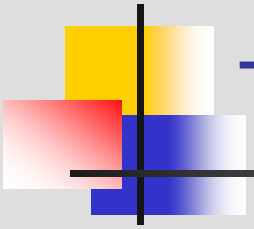
PowerPoint slides by Dan McCracken, with thanks to Rosalee Wolfe and S. Jane Fritz, St. Joseph's College

8. Evaluation



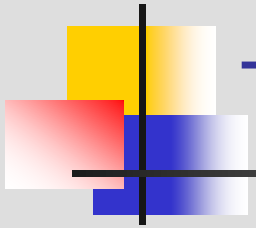
In this chapter you will learn about:

- The benefits of testing
- The differences between expert-based and user-based testing
- The proper technique for conducting a user-based test
- Effective means of communicating test results



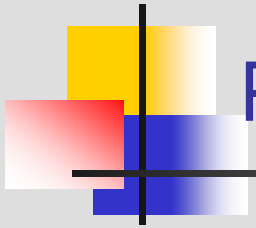
The benefits of testing

- Usability sells, if the user has a choice—which is almost always
- The designer is a poor choice to test her own site, because she knows too much (Doesn't have to search for buttons, because he put them there)
- Parallel with software development: no matter how carefully you planned, would you ship a product that had never been tested?



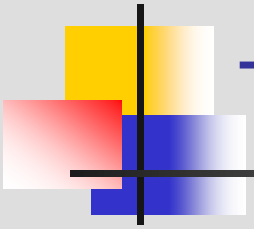
Test early and often

- In traditional software development, users are brought in only at the beta test stage
- But by then most of the budget has been spent
- It is very much more expensive to correct an error than if it had been caught early
- Jared Spool: Bring in two users every week, throughout the development. You uncover lots of errors early. Then do full-scale testing as you near completion.



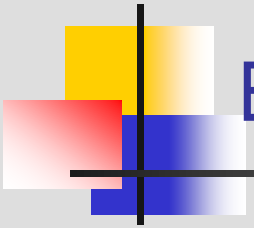
Formative vs. summative evaluation

- Formative: during development
- Summative: at completion
- “When the cook tastes the soup in the kitchen, that’s formative evaluation; when the guests taste the soup at the dinner table, that’s summative evaluation.”



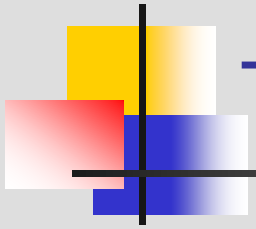
Test early

- You're designing and building a house. Compare the cost of moving a bathroom:
  - When you're looking at the architect's drawing, before anything has been built
  - After concrete floors have been poured
  - When the walls are plastered and painted, and you're ready to move in
- Writing your XHTML, Cascading Style Sheets, and JavaScript (or other) isn't *quite* like pouring concrete, but it's close



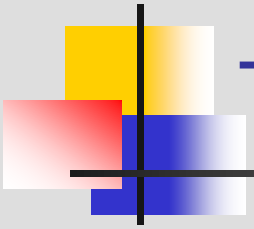
Expert-based evaluation

- Why bother with user testing? Aren't there experts who can look at your site and identify problems?
- To an extent, yes. There are experts, and this is done.
- But usually too late. ("We're going live in two weeks; do you have time to look over our site?")
- And the expert doesn't have the characteristics of your users, whom you studied so carefully before starting



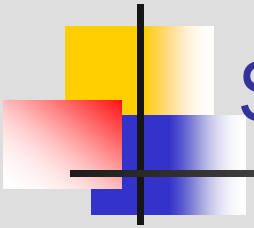
Testing with paper prototypes

- As per Chapter 7
- Need a test scenario



Test scenario should state:

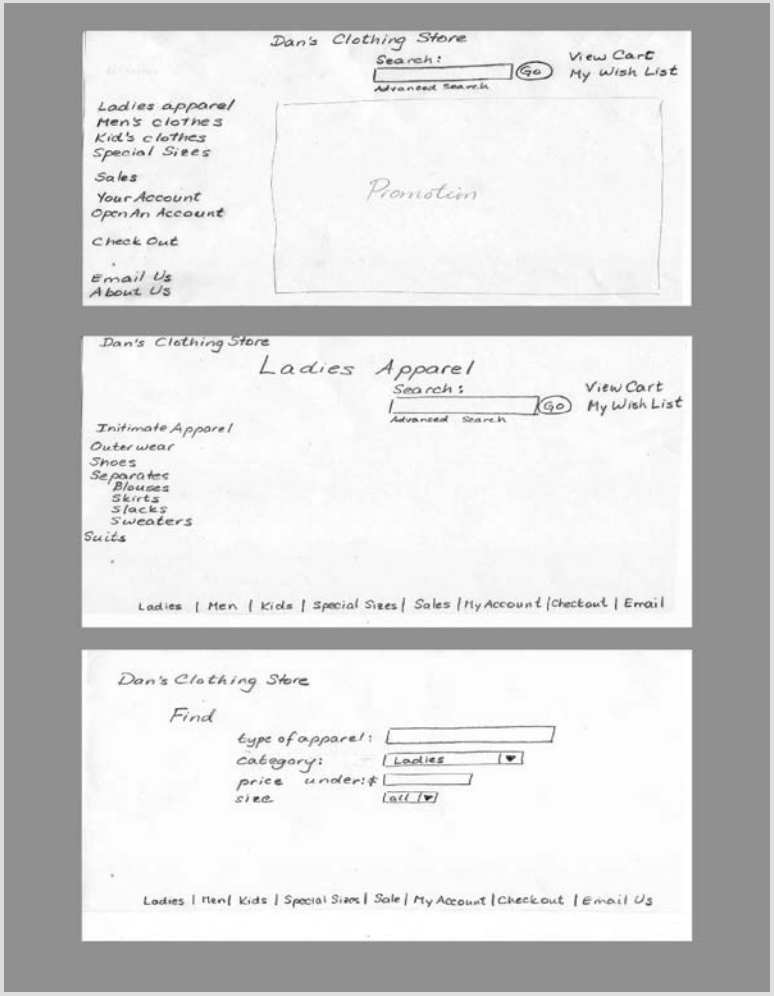
- Motives for performing the work
- What the user will be asked to do (actual data rather than generalities)
- The state of the system when a task is initiated
- Readouts of displays and printouts that the test users will see while performing the task

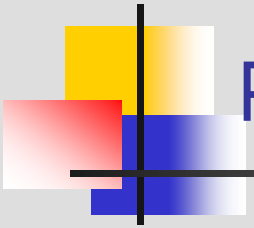


Sample

- Motivation and end results: “Find a woman’s blue V-neck sweater for under $80.”
- State of system: Test user is at the site’s home page. First-time visitor; no data on file. Shopping cart is empty.
- Displays include:
  - Home page
  - Ladies Apparel Department page
  - Sweaters page
  - Search dialog (in case test user decides to search for item rather than clicking on links)
  - List of available sweaters that meet search criteria

Create a prototype, as in Chapter 7

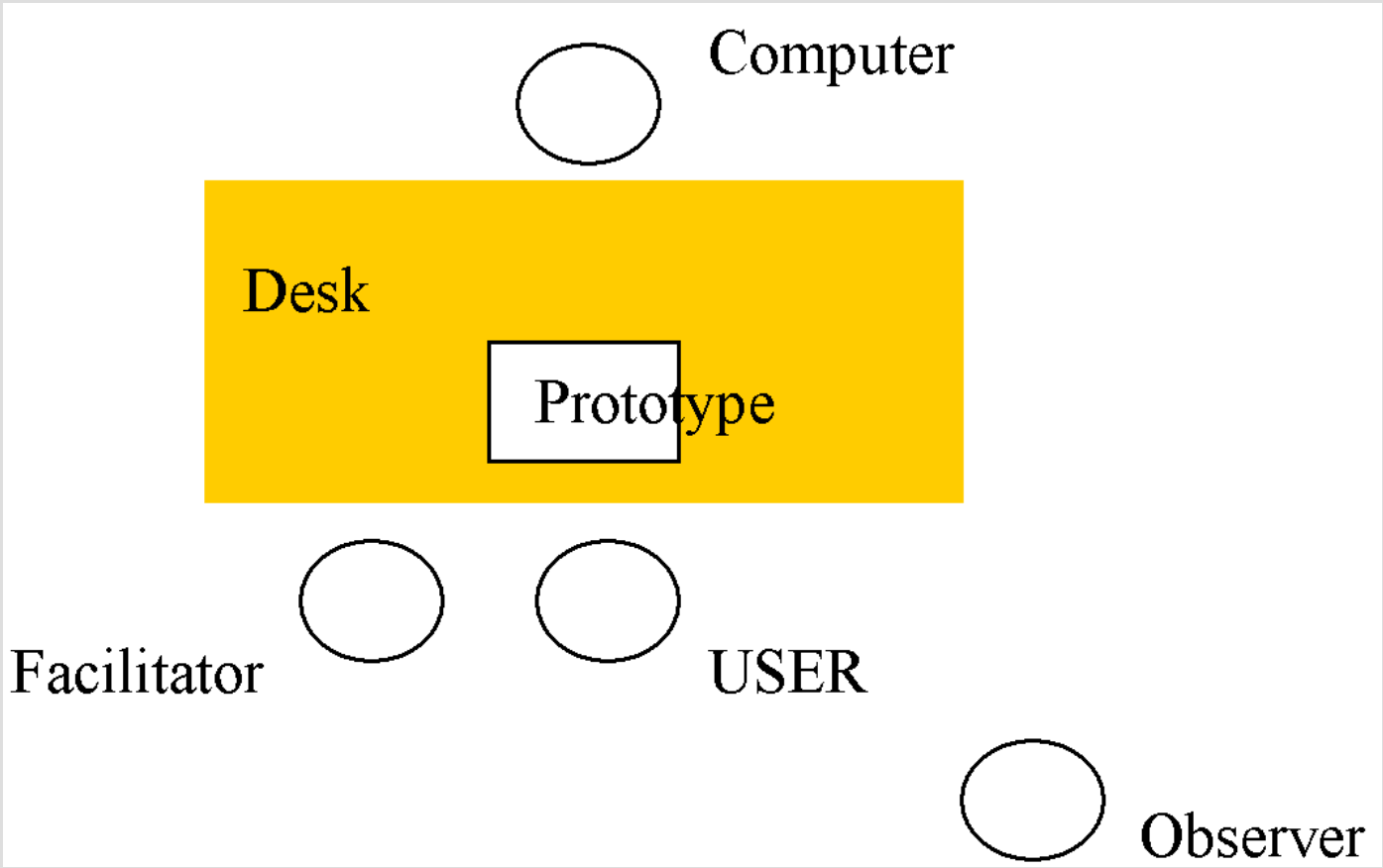


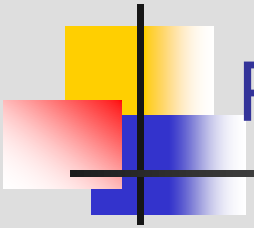


Preliminaries

- Practice with a friend—but don’t include these results as part of the actual testing
- Recruit users
- Preferably not family or friends, because they normally will be trying not to offend you
- If must use family and friend, say something like, “You’ll be doing me a favor by finding mistakes here”

Ideal layout for paper prototype testing



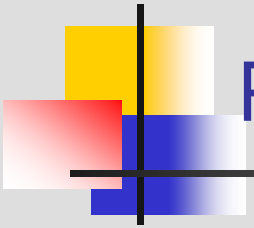


Roles: greeter

- Explains purpose of test
- Makes clear who is present, whether visible to user or not
- Says, “You are not being tested; the product is” (or some equivalent)
- Gets Informed Consent signed
- Offers refreshments
- At end, thanks user, pays ($$, cookies, T shirt)

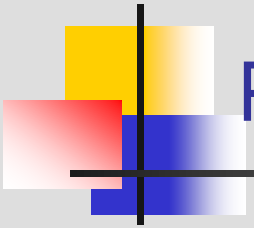
Informed consent

- See text for one possible form
- Your organization may have a prescribed form
- Main points to include:
  - General purpose
  - Participation is voluntary
  - Results will be confidential
  - There is no benefit to you, other than agreed-upon payment
  - There is no risk to you
  - 18 or over
  - Signature and date



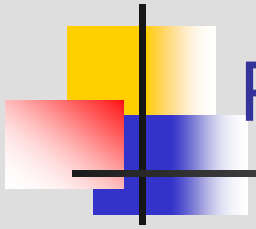
Roles: facilitator

- Only person who speaks to user during test
- Main job is to keep the user talking. This is the “Think Aloud” mode discussed in Chapter 3
- User gets stuck, or stops talking. Don’t give clues, but:
  - What are your options?
  - What are you considering doing?
  - If user asks for help, reflect the question back rather than answering the question
  - At last resort, just say, “That’s fine. Let’s move on.”



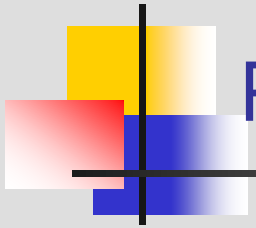
Facilitator, continued

- Neutral demeanor at all times
- No signs of impatience: sighing, tapping pencil
- Never criticize, and think twice before praising
- You want to user's attitude to be, "How can I find that sweater?" not, "What can I do to please the facilitator?"
- Let user struggle until totally stuck
- "Never complain; never explain." If the interface requires explanation, you have learned that it is deficient.



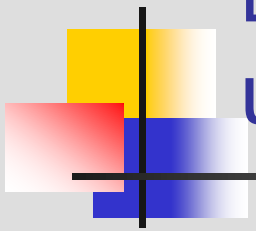
Roles: “computer”

- In paper prototyping, the person who pulls down the menus, puts a new page in place, and so on
- Goes back to the original (1948) meaning of the word “computer,” which is why ACM stands for Association for Computing Machinery (Machinery? Wouldn’t Association for Computing *Machinists* make more sense?)



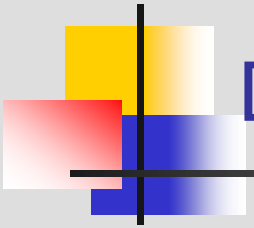
Roles: observer

- Says nothing
- Takes careful notes
- Consider using 3x5 or 5x7 index cards, so they can be sorted in evaluating the test



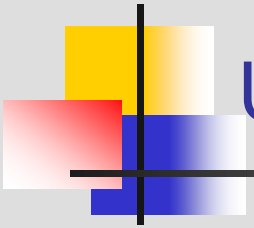
But . . . you can learn a lot with just one user and yourself

- You can be your own greeter
- Not ideal to combine roles of facilitator and observer, but lots of things aren't ideal
- Jared Spool says, "Just do it." Quotes Yogi Berra, "You can learn a lot just by watching."



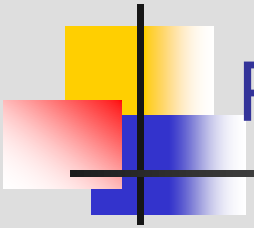
Debriefing user: possible approaches

- Open-ended: “What did you like best/least about the site?” What improvements would you suggest?
- Closed-ended: multiple choice, Likert scale, recall of features
- Most of the useful information comes from the notes taken during testing



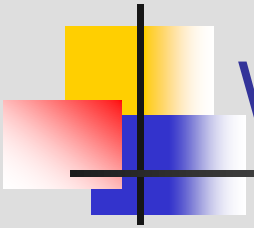
Using results

- Sort note cards into categories, by type of problem encountered
- Correlate problem areas with prototype, especially site and page navigation
- Look at results in terms of your usability specifications



Refining the design

- If no problems encountered, congratulations!
- Problems may call for redesign
- Easier to convince developers that rework is needed if they watched the test
- Or, if you videotaped, picked out a few sections for a summary of main problems

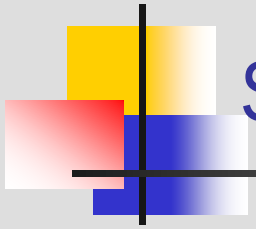


Writing the report

- Start with an executive summary
- Talk in terms of improvements, not criticism
- Don’t state general design principles; give specifics
- Keep it short
- Prioritize recommendations
- Put testing procedures and raw data in an appendix if at all

Optional: use the NIST Common Industry Format for Usability Test Reports

- NIST = National Institute of Standards and Technology, formerly the National Bureau of Standards
- Usability is so important that vendors and users asked the NIST to devise a common format
- A Word document containing a blank customizable form for a report can be downloaded
- http://zing.ncsl.nist.gov/iusr/documents/cifv1.1b.htm
- Change the .htm extension to .doc to download the form



Summary

In this chapter you learned:

- The benefits of testing
- The differences between expert-based and user-based testing
- The proper technique for conducting a user-based test
- Effective means of communicating test results
- Usability sells