Hall of Fame or Shame?
• Password dialog in Eudora Pro for Mac

• Password dialog in Eudora Pro for Mac
• Most passwords are mixed case
  – caps lock often leads to failure to authenticate
• Good idea to inform user that Caps Lock is on
• Flashing and “!” unnecessary

Outline
• Web design patterns
• Low-fi prototyping
• Wizard of Oz technique
• Informal UI prototyping tools
• Hi-fi prototyping
• What prototyping tools lack

Design Patterns Review
• Which patterns do you see?
Why Do We Prototype?

- Experiment with alternative designs
- Get feedback on our design faster
  - fix problems before code is written
  - saves money
- Keep the design centered on the user
  - must test & observe ideas with users

Fidelity in Prototyping

- Fidelity refers to the level of detail
- High fidelity?
  - prototypes look like the final product
- Low fidelity?
  - artists renditions with many details missing

Low-fi Sketches & Storyboards

- Where do storyboards come from?
  - film & animation
- Give you a “script” of important events
  - leave out the details
  - concentrate on the important interactions
Why Use Low-fi Prototypes?

- Traditional methods take too long
  - sketches -> prototype -> evaluate -> iterate
- Can instead simulate the prototype
  - sketches -> evaluate -> iterate
  - sketches act as prototypes
    - designer “plays computer”
    - other design team members observe & record
- Kindergarten implementation skills
  - allows non-programmers to participate

Hi-fi Prototypes Warp

- Perceptions of the tester/reviewer
  - representation communicates “finished”
    - comments focus on color, fonts, & alignment
- Time
  - encourage precision
    - specifying details takes more time
- Creativity
  - lose track of the big picture

The Basic Materials

- Large, heavy, white paper (11 x 17)
- 5x8 in. index cards
- Post-its
- Tape, stick glue, correction tape
- Pens & markers (many colors & sizes)
- Overhead transparencies
- Scissors, X-acto knives, etc.
Constructing the Model

- Set a deadline
  - don’t think too long - build it!
- Draw a window frame on large paper
- Put different screen regions on cards
  - anything that moves, changes, appears/disappears
- Ready response for any user action
  - e.g., have those pull-down menus already made
- Use photocopier to make many versions
Preparing for a Test

- Select your users
  - understand background of intended users
  - use a questionnaire to get the people you need
  - don't use friends or family
  - I think “customers” are OK (Rettig disagrees)
- Prepare scenarios that are
  - typical of the product during actual use
  - make prototype support these (small, yet broad)
- Practice to avoid “bugs”

Conducting a Test

- Four testers (minimum)
  - greeter – puts users at ease & gets data
  - facilitator – only team member who speaks
    - gives instructions & encourages thoughts, opinions
    - computer – knows application logic & controls it
      - always simulates the response, w/o explanation
  - observers – take notes & recommendations
- Typical session is 1 hour
  - preparation, the test, debriefing
- Read the paper we handed out for details on conducting a test

Evaluating Results

- Sort & prioritize observations
  - what was important?
  - lots of problems in the same area?
- Create a written report on findings
  - gives agenda for meeting on design changes
- Make changes & iterate

Advantages of Low-fi Prototyping

- Takes only a few hours
  - no expensive equipment needed
- Can test multiple alternatives
  - fast iterations
    - number of iterations is tied to final quality
- Almost all interaction can be faked
### Wizard of Oz Technique

- Faking the interaction. Comes from?
  - the film “The Wizard of OZ”
  - “the man behind the curtain”
- Long tradition in computer industry
  - e.g., prototype of a PC w/ a VAX behind the curtain
- Much more important for hard to implement features
  - speech & handwriting recognition

### Problems with Low-fi Prototypes

- “Computer” inherently buggy
- Slow compared to real app
  - timings not accurate
- Hard to implement some functionality
  - pulldowns, feedback, drag, viz …
- Won’t look like final product
  - sometimes hard to recognize widgets
- End-users can’t use by themselves
  - not in context of user’s work environment

### Next Time

- Midterm
- Start next project assignment this week

### Further Reading

- **Books**
- **Articles**
  - “Prototyping for Tiny Fingers” by Marc Rettig, in *Communications of the ACM*, 1994
- **Web Sites**
  - Group for User Interface Research, for DENIM & SUEDE downloads, http://guit.unibe.ch/nucci