Early Stage (lo-fi & med-fi) Prototyping

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Interface Hall of Fame or Shame?

Good
- shape indicates function
- so simple that instructions fit in 1 image
- fun!

Bad
- dripping water?
- too much noise
- still takes too long

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Can We Do Better?

Good
- Integrate hand dryer into sinks...

Interface Hall of Fame or Shame?

Dyson AirBlade hand dryer
example courtesy of Maya I.

Interface Hall of Fame!

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Can We Do Better?

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Hall of Shame!

Good
- beautiful alternative to the competition
- visually easier to read
- turn by turn directions are efficient, clear & functions well
- in general

Bad
- despite any aesthetics, the data is wrong & sparse, meaning, it does not
- perform the one task it should do well
- getting from A to B

A clear example of where no matter how good a design may be, without its most important function in this case, correct data, the interface is useless.

Potentially Hall of Fame

Apple crowd sourced data
The UI for problem reporting is well designed
With so many users have potential to fix data rapidly, it has gotten much better!
Outline

- Another Look at Tasks
- Sketching vs. Storyboarding
- Prototyping
- Low-fi prototyping
- Conducting a low-fi test
- Medium-fi prototyping

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Another Look at Tasks

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

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**Sketches & Storyboards in UX Design**

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**Sketches & Storyboards in UX Design**

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**Types of Prototypes**

Prototypes are concrete representations of a design

Prototype dimensions

- representation: form of the prototype
  - of line (paper) or on line (software)
- precision: level of detail (e.g., informal or polished)
- interactivity: watch-only vs. fully interactive
  - fixed prototype (video clips)
  - fixed-path prototype (each step triggered by specified actions)
  - open prototype (tests with limited error handling or performance)
- evolution: expected life cycle of prototype
  - e.g., throw away or iterative

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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

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

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”, others observe & record
- Kindergarten building skills
  - allows non-programmers to participate
Who is Zuki?

Cookable

Administrivia

- Assignment #5 – Low-fi Prototype & Pilot Usability Test
  - 15-20 rough sketches of different design realizations
  - Everyone on team contributes
  - Use different modalities (visual, speech, watch) or different visual input techniques (gestures, taps, etc.)
  - Will do some of this in studio this week
  - Pick top 2 realizations & storyboard more
  - Pick best realization & add details to storyboard
  - Build low-fi prototype of the best & test it with at least 3 target (non-Stanford) participants

- Web sites directories will be created for each team by Thursday
  - 11 teams have not yet filled in team name survey (we need it now)
  - Start to get sites up there!
  - Should have all your work – thought not graded until end
  - TAs will send you your directory path/name on web.stanford.edu
Grading on First Two Assignments

Needfinding Assignment #1
A1 Group Presentation: ✓ - 8% ✓ : 81% ✓ +: 11%
A1 Individual Presentation: ✓ - 0% ✓ : 35% ✓ +: 65%

POV, HMW, EP Assignment #2
A2 Group Report: ✓ - 0% ✓ : 53% ✓ +: 47%
A2 Group Presentation: ✓ - 0% ✓ : 31% ✓ +: 69%
A2 Individual Presentation: ✓ - 0% ✓ : 25% ✓ +: 75%

TEAM MEETINGS

Administrivia

1st ever STANFORD HCI SOCIAL & CAREER PANEL! (Thur at 6:30 PM)
Ever wondered what you can do with that HCI track degree (e.g., CS/HCI, SymSys/HCI)? Curious what a career in computer science looks like other than software development? Struggling to see what needs to happen to be ready for the job market? Come ask us for advice and an amazing panel of alumni and friends of the department who have established fabulous careers in the HCI / user experience industry. Friends & gawkers welcome — you don’t need to be declared HCI.

Who’s on the panel?
UX designers
User researchers
Product managers
Front-end Developers

When: Thursday, Oct. 17
Where: Gates Computer Science, 3rd floor common space in the HCI wing (near 392)
RSVP: tinyurl.com/hcipanel

Administrivia: Video Hints

• Under 2 minutes (90 seconds better)
• Add credits at end
  - Team/project name
  - Your names (first name & last initial)
  - “CS 147 – Autumn 2019”
  - Won’t count in your time limit

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/printer to make many versions
Preparing for a Test

- Select your “customers”
  - understand background of intended users
  - use a questionnaire to get the people you need
  - don’t use friends or family

- 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 roles
  - greeter – puts users at ease & gets data
  - facilitator – only team member who speaks
  - greeter – puts users at ease & gets data
  - facilitator – only team member who speaks
  - computer – knows application logic & controls it
  - always simulates the response, w/o explanation
  - observers – take notes & recommendations
Evaluating Results

- High level questions about your design
  - does it **address the problem** you want to solve?
  - is this the **right realization** of your solution?

- Sort & prioritize observations
  - what was important?
  - lots of problems in the same area?

- Make changes & iterate
  - even iterate between tests

Summary

- Prototypes are a concrete representation of a design or final product

- Low-fi testing allows us to quickly iterate
  - get feedback from users & change right away
Further Reading

Prototyping

- **Books**

- **Articles**

Next Time

- **Lecture**
  - Watch, Critique, & Vote on Concept Videos (CS 147 Film Festival)
  - Special guest Jess Holbrook (Google)
  - Designing Human-Centered AI Products (do the reading)

- **Reading**
  - "AI Outside In: Confidence Everywhere!" by David Weinberger

- **Project**
  - 15-20 sketches of 3-5 design realizations in studio...
  - Pick the top 2 & storyboard those
  - Pick the top 1 & build/test low-fi prototypes using 3 key tasks for next week’s studio presentation
  - Recruit representative participants now!