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

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

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

Dyson AirBlade hand dryer example courtesy of Maya I.

Good
- beautiful alternative to the competition
- generally 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
Google Maps Data vs iOS6 Maps Data

Hall of Shame!

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!

Tasks According To Trijeet

Outline

• Sketching vs. Storyboarding
• Low-fi prototyping
• Conducting a low-fi test
• Medium-fi prototyping

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
Sketches & Storyboards in UX Design

Starts to tell a story, but still describes the design.
What is a Prototype?

"A prototype is an early sample or model built to test a concept or process or to act as a thing to be replicated or learned from."

– Wikipedia

Types of Prototypes

Prototypes are concrete representations of a design

Prototype dimensions

- representation: form of the prototype
  - off-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)
  - at extreme could be 1 path or possibly more open (e.g., Denim)
- open prototype (real, but limited error handling or performance)
- evolution: expected life cycle of prototype
  - e.g., throw away or iterative

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
Prototyping for Tiny Fingers

Cookable

Cookable
Administrivia

- Assignment #5 – Low-fi Prototype & Pilot Usability Test
  - 15-30 rough sketches of different design realizations
  - everyone on team contributes
  - use different modalities (e.g., visual, speech, watch) or
different modal UI input techniques (gesture, tap, 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 w/ at least 3 target participants (non Stanford)

- Web sites directories will be created for each team by Thursday
  - 10 teams have completed in team name survey (we need 3 more)
  - Start to get sites up there! Should have all your work – though not graded until end
  - TAs will send you your directory path/name on web.stanford.edu

- Special Guest next Wed
  - Prof. Ge Wang (Music) on Artful Design (make sure to do the reading)

Grading on First Two Assignments

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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
    - gives instructions & encourages thoughts, opinions
  - 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

Quiz


Fidelity in Prototyping:

Instagator

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
  - “Prototyping for Tiny Fingers” by Marc Rettig, in Communications of the ACM, 1994

Next Time

- Lecture
  - Watch, Critique, & Vote on Concept Videos
  - Mid-term studio evaluation

- No Reading

- Project
  - 15-20 sketches of 3-5 design realizations in studio...
  - Pick the top two & 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!