

Questions?

Prototypes

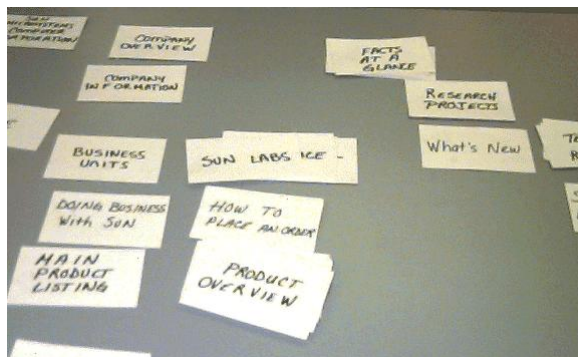
- Why prototypes?
 - Design
 - Communication
 - Usability testing
- Prototypetypes
 - Low-tech prototypes are inexpensive, so you can do more of them
 - Pay less now or more later
 - More ideas => better ideas
- Technique depends on phase of the project (& task)
- “LoFi” prototypes help find as many usability issues as “HiFi” ones. [Virzi et al., 1996]

Tasks (Arnowitzreading)

- Organize information (i.e., menu options)
=> **Card sorting**
- Design page structure
=> **Sketch**
- Structure workflow (i.e., screens and order)
=> **Wireframe**
- Align thinking around product
=> **Storyboard**
- Learn about how human reacts to a technology
=> **Wizard of Oz**
- Test usability
=> **Prototype**

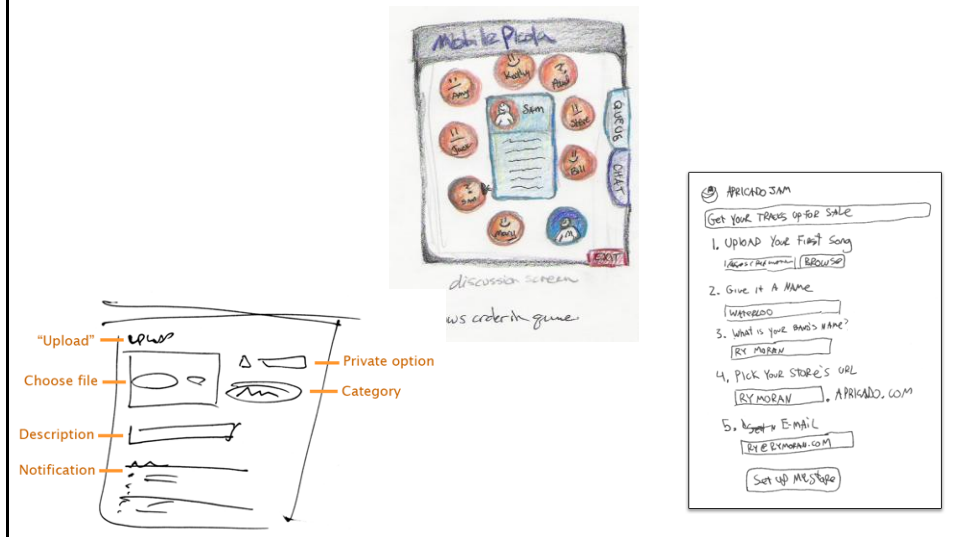
Card Sorting

- Concepts written on individual cards
- Users sort cards into piles with similar concepts
- Users name piles
- => Decide how to organize information



Sketching Interfaces

- Design page structure

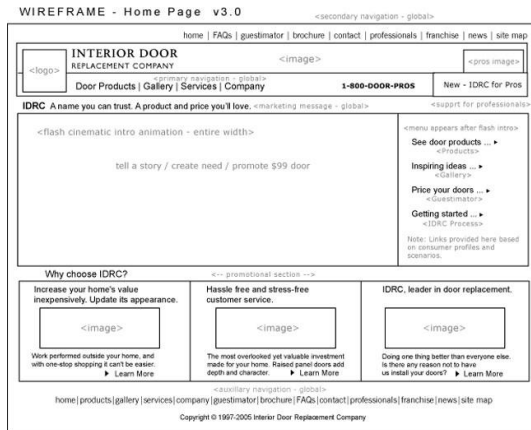


Value of Paper for Communication

- www.commoncraft.com/twitter

Wireframe

- Consider page layout
- Structure workflow – envision links and relationship among pages

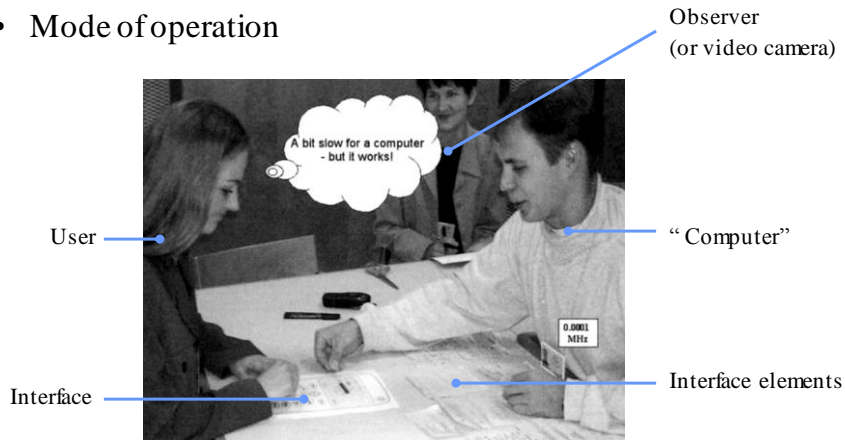


Storyboard

- Communicate ideas
- Align team on strategy
- http://www.youtube.com/watch?v=rDu2A3WzQpo&feature=player_embedded

Low fidelity prototypes

- Paper/plastic based interface simulation
 - Using sketches, foamcore, transparency, and PICTIVE*
- Mode of operation



Paper prototyping (Carolyn Snyder)

*Plastic Interface for Collaborative Technology Initiatives through Video Exploration" Muller, CHI 91

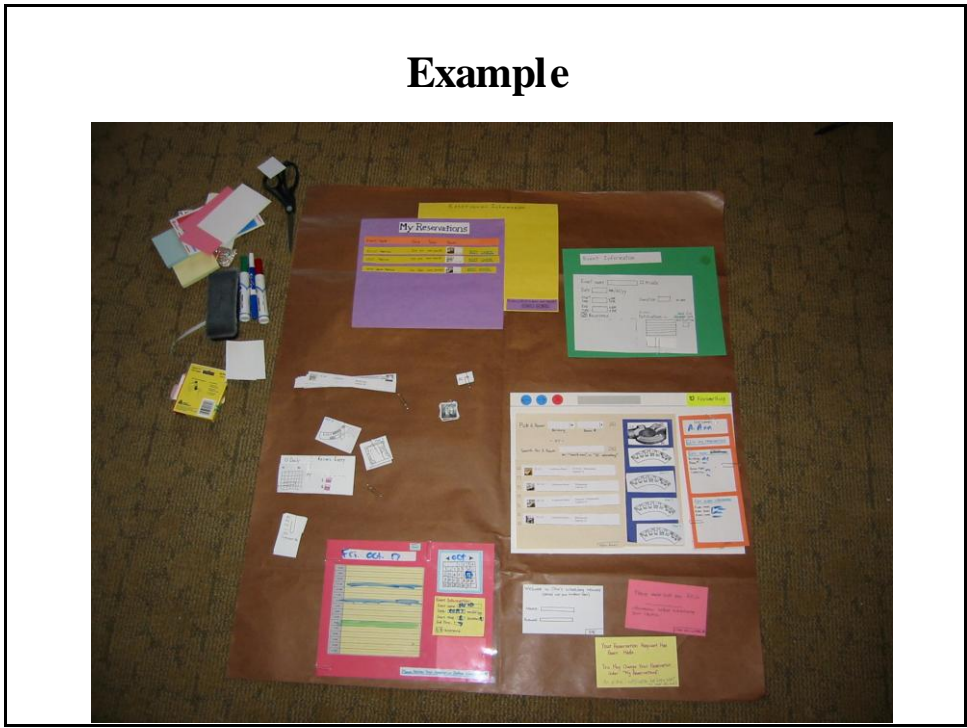
Low fidelity tools



Low fidelity interface elements



Example



Low fidelity prototypes (summary)

- Inexpensive
- High level feedback about the dynamic of the interface
- Trigger users reactions
 - Debrief users
- Might be inaccurate
 - Speed, human-human interferences...

=> Tells you the smallest bit of information that gets a user past a stumbling back.

=> Ideally gets incorporated into the app, so no help is needed

Wizard of Oz

- Testing a system that does not exist
 - Voice recognition, face identification, handwriting recognition
- Mode of operation
 - Users use the interface as intended
 - A wizard (sometimes hidden) responds to users behavior
 - *Follow an algorithm*
 - *Reproduce the expected capability of the system*
 - Example:
 - *shopping cart assistant*
 - *Mobile text entry prediction*

Using a Paper Prototype – Example 1

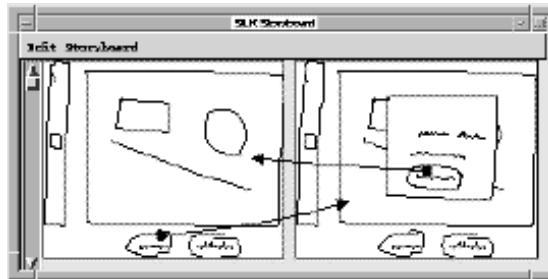


Using a Paper Prototype – Example 2



Low-Tech Prototype Problems

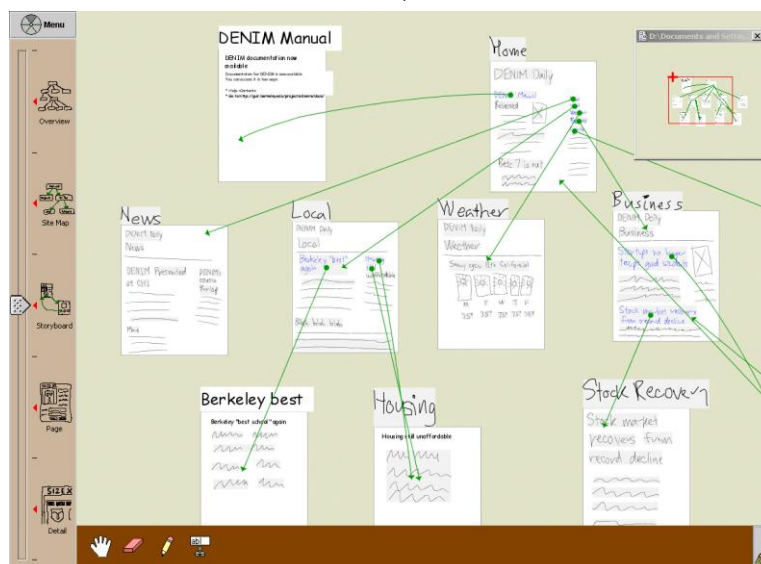
- Design changes cumbersome
- Wizard-of-Oz studies requires high cognitive load



[SILK – Landay, 1995]

=> Automated tools to assist prototyping

DENIM



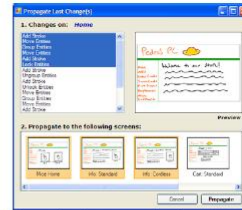
[Lin et al., 2001]

WOZ

Tabs at bottom of interface allow user to switch between three modes: *Design Screens*, *Edit Screen Transitions*, and *Run Screens*

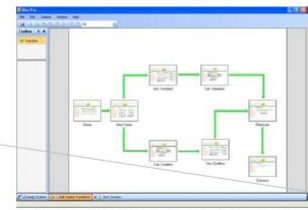


(a) WOZ Pro interface

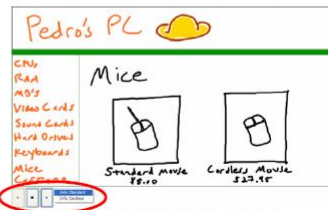


(b) Interface for propagating last change(s)

Pop-up menu constrains possibilities to only valid next screens, thus reducing cognitive load on human wizard



(c) Interface for defining state transition network



(d) Interface for executing prototype

Figure 1. Screen Shots of the WOZ Pro Interface

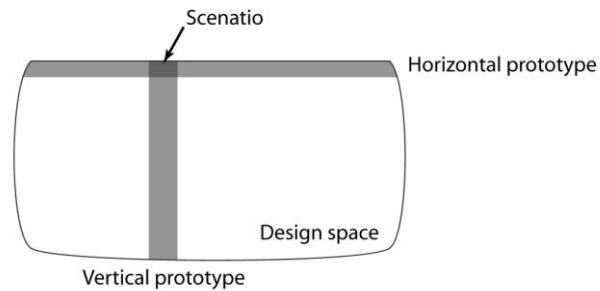
[Hundhausen at al., 2007]

More common solutions

- Powerpoint, Photoshop, Illustrator, Excel
- www.balsamiq.com

Medium fidelity prototypes

- Using prototyping tools (Flash, Director, JavaScript,...)
 - Vertical prototype: Provide answer about a specific question
 - *Is dialog box design A faster than dialog box design B?*
 - Horizontal prototype: the full interface without the functionality
 - *Is the command structure OK?*
 - Scenario



Medium fidelity prototypes (Summary)

- Time consuming
- Be careful about user expectations
 - Developer might resist change
 - Management might think it is real
- Users can get distracted by small details
 - Color, font,...

High fidelity prototypes

- Best for very large and expensive products
 - Prototype can be significantly expensive
 - Difficult to change
 - Just like “real” software...

People like to help others. Design a website that features people in need and a mechanism for donors to learn about those people and donate STUFF to them.

- Target persona: Adriana, 35 y.o., professional designer
 - Loves beautiful new gadgets
 - Avid mountain climber
 - Appreciates beauty
- Group size: 3-4
- What to do:
 - 10 minutes: brainstorm on how to serve these goals
 - 15 minutes: create the initial low fidelity prototype
 - ~~– 15 minutes: debug the interface with a user from another group~~
- Presentation to the class
 - 10 minutes: Several groups will present their solution to the class