Paper prototyping & Wizard of Oz

Chandrayee Basu
Department of Mechanical Engineering
University of California Berkeley

2/13/2013
What we do?

• “Enabling Technology” design for smart grid

• **co-design** sensing and information visualization platform for enabling sustainable community development: *display actionable information*

https://www.youtube.com/watch?v=JHtfu1-Ov1w

Courtesy of Chandrayee Basu
Net zero energy houses in Pinoleville Pomo Nation: We are co-designing sensing and collaborative data visualization platforms for the native American tribes aspiring to be a sustainable community.

- **Smart grid challenge: information flow across Stake holders**
- **How could we design a fast decision support system for different stakeholders in smart grid?**

Courtesy of Chandrayee Basu
Contents

• Introduction to paper prototyping
• Introduction to Wizard of Oz
• Four Exercises
• Q&A
Paper Prototyping

- Low fidelity
- Disposability
- Speed
- Ideal for simple user interface design

Team Name: Splitter
Class: Designing Mobile Experience 2012
Instructor: Suzanne Ginsburg

Courtesy of Chan Kim
Paper Prototyping: challenges

• Interaction design in critical situations

• Real-time calculation

• Lag between decision and end result

• New forms of interaction:
  face recognition,
  context awareness,
  voice and other auditory feedback

Examples: Hospital search, Personal safety
Paper Prototyping: tools


Shading / highlighting / line weight
Creative use of office supplies like correction tape and overhead transparency, markers

 Courtesy of Rachel Glaves
Paper Prototyping: methods

• Graphic design:
  Attraction
  Distraction

• Depth of display

• Breadth of features

• Feel:
  Input method (e.g. keyboard, mouse versus pointing or writing)
  Personalization
  A person simulates computer operation

http://k4rl.com/shopwell/

Courtesy of Chandrayee Basu
Paper Prototyping: methods

Story telling

Team Name: Splitter
Class: Designing Mobile Experience 2012
Teacher: Suzanne Ginsburg

Courtesy of Chan Kim
Paper Prototyping: digital paper

- **Pidoco**
  https://pidoco.com/

- Prototype mobile app in mobile phone

- Real-time collaboration can allow remote usability test

- Hybrid prototypes

Courtesy of Chandrayee Basu
Paper Prototyping: testing

Roles for design team

Computer
- Simulates prototype
- Doesn’t give any feedback that the computer wouldn’t

Facilitator
- Presents interface and tasks to the user
- Encourages user to think aloud by asking questions
- Keeps user test from getting off track

Observer
- Keeps mouth shut, sits on hands if necessary
- Takes copious notes

Paper Prototyping: what should the observer note

- Do the users understand the interface and the functionality?
- Is the purpose of the application served?
- Can users navigate properly?
- Do users understand the labels?
Wizard of Oz

- Wizard of Oz is the “man behind the curtain”.
  Wizard is the backend, computer presents the front end.

- Wizard simulates the computer’s reaction usually from a hidden location.
  A wizard can perform a mathematical operation in response to the user’s input and prepare the next page of the application with the result.

- Used to simulate future technology like speech recognition, learning etc.
  Most of the social media apps will require this method of prototyping! Try it out.

Courtesy of Chandrayee Basu
Wizard of Oz: tools


Courtesy of Chandrayee Basu
Exercises

• Exercise #1 (15 minutes)

• Exercise #2: (10 minutes)

• Exercise #3: Paper Prototyping (20 minutes)

• Exercise #4: Wizard of Oz (30 minutes)
Exercise #1  Give examples

(15 minutes)

Describe *how will you paper prototype and Wizard of OZ for the three scenarios.

1. Mobile application for emergency access to security service for women’s protection.
2. Healthcare application for Africa
3. Personal newspaper

Write about three example applications where Wizard of Oz would be a good prototyping technique. (You can use cases from your own project)

*Make it the lowest fidelity prototype with comments or tags.
Exercise #2  Critique a mobile app

(10 minutes)

Look at a phone app page and create a paper prototype for it and critique
Exercise #3  Paper prototyping
(20 minutes)

Scenarios:
1. New art archival method by popular opinion
2. I have 6 power consuming devices in house (refrigerator, microwave, light, washing machine, room heater, oven), each has 2 power states, in 2 minutes I want to decide which one of turn off and which one on, I know the power consumption of each device from the application, and the required load shed at the moment.
3. From your own project

Group formation:
5 members, will design a Paper prototype for one of the above scenarios. Each team will have 1 designer, 1 facilitator, 1-2 users and rest observers. The observers and users can take turns.
Exercise #4 Wizard of Oz
(30 minutes)

Scenarios:
1. Personal travel entertainment guide
2. Emergency friend search anywhere
3. Your own project

Group formation:
5 members, will design a Paper prototype for one of the above scenarios
Each team will have 1 designer, 1 facilitator, 1 wizard, 1 user and 1 observer. The observers and users can take turns.
Chandrayee Basu

chandrayee.basu@berkeley.edu
BEST Lab (Berkeley Energy and Sustainable Technologies)
230 Hesse Hall, UC Berkeley