

1 ☐ Hands-On Rapid Interface Design

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2 ☐ Agenda

- ◆ Presentation
- ◆ Card Sorting exercise
- ◆ Design session – Round One
- ◆ Testing session – Round One
- ◆ Design session – Round Two
- ◆ Testing session – Round Two
- ◆ Discussion and close

Goal: Practice in Rapid Interface Design

3 ☐ Primary HCI Techniques

- ◆ **Goal setting** – clear and concise understanding of why an organization is developing software or a web site
- ◆ **Contextual Inquiry** – best means for understanding the existing work practice and identifying opportunities to enhance it via technology
- ◆ **Card sorting** – contributes to organization and navigation design of a web site
- ◆ **Paper prototyping** – iteratively design and test with rapid progress towards successful design
- ◆ **Usability testing** – identifies need for improvement based on real customers, real software or web site

4 ☐ Fighting for Success

- ◆ According to Standish Group's CHAOS survey
 - Only 16% of projects completed on-time, within budget
 - 31% of projects cancelled
- ◆ Early HCI a drumbeat for simplicity and clarity
 - Business goals, clear definitions of project success
 - Critical, common, “dead or alive” tasks to be supported
- ◆ Minimize abstraction
- ◆ Bring the future vision to the present
 - Simulate, confirm, and validate the user experience early and often

5 ☐ Card Sorting

- ◆ Uncovers how people organize the kinds of topics, facts, or material
- ◆ Create a shuffled stack of cards
 - Just an example or two of each kind of item
- ◆ Ask targeted user to layout each card into groups, then groups of groups
- ◆ User may talk, but “think-aloud” protocol not pursued as with paper prototyping
- ◆ Also useful for designing menus of complex applications

Illustration

6 ☐ Paper Prototyping – MVP of HCI

- ♦ Single most effective technique to design any user interface
- ♦ Quickly create rough designs, get user feedback, change design, test again
- ♦ Best done on paper with pencil
- ♦ Accent on: speed, action, frequent user feedback, significant progress
- ♦ Best done as collaborative effort between HCI, technical, business, and creative personnel

7 ☐ Paper Prototyping Overview

- ♦ Similar to usability testing
 - Much less concern about controlled conditions
 - More informal, results-oriented
- ♦ Avoid
 - Debate and lengthy discussion
 - Fretting about details of appearance
- ♦ Once developers “get it,” won’t do it any other way

8 ☐ Paper Prototyping Design Process

- ♦ Neatness doesn’t count and can work against you
- ♦ Avoid long debates. Agree on a way to stop “rat hole” discussions.
- ♦ Sometimes work altogether, sometimes divide and conquer
- ♦ Good leadership and teamwork help greatly
- ♦ Speed, action, user feedback, iteration

9 ☐ Paper Prototyping Design Resources

- ♦ First -- task scenarios
 - ♦ Materials
 - Paper
 - Pencils
 - Post-it correction tape – thick and thin
 - Scissors
 - Highlighters and transparencies
 - ♦ Dedicated room
 - ♦ Dedicated team
- [Illustration - SimpleClock](#)

10 ☐ Paper Prototyping Test Roles

- ♦ User – performs tasks, identifies design issues via simulated context of use
- ♦ Computer - puts the appropriate pieces of paper in front of user
- ♦ Facilitator – ensures smooth proceedings
- ♦ Observers – watch, listen, and take notes
 - Hard to do when done well
- ♦ Superhelp (optional) – responds to permissible user questions

11 ☐ Roles - Computer

- ♦ Key role in a successful simulation
- ♦ Responsible for placing the appropriate prototype pieces in front of the user
- ♦ Responds only to "mouse-clicks " and "typing," not to voice recognition
- ♦ Typically cannot also do observation

- ♦ Might need a “co-processor,” or helping hand that is also an Observer or Facilitator

12 ☐ Roles – Facilitator

- ♦ Keeps the user comfortable, maintains objective environment
- ♦ Encourages “thinking aloud” Carefully prompts users to clarify their thoughts and actions
 - Mostly open, non-leading questions
- ♦ Keeps everyone’s focus on action, not conversation
- ♦ Avoids the “bubble bursting” of simulated computer use
- ♦ During design sessions, moves team forward

13 ☐ Responding to Prototyping Test Results

- ♦ Focus first on user experience
 - Difficulties, hesitations
 - Outcome – successful?
- ♦ As a group, quickly write observations
- ♦ Identify issues – biggest ones will incorporate several observations

14 ☐ Responding to Prototyping Test Results – (continued)

- ♦ Decide which issues to attack for next test
 - Not necessarily the biggest issues, especially if limited in addressing it practically
- ♦ Per issue, agree on how to approach modifying the design, decide who makes the changes.
 - Sometimes the project team makes a design choice that will teach them more in the next test
 - Sometimes they choose whatever is easier to do
 - Might need to revise, drop, or add scenarios

15 ☐ Why Paper?

- ♦ Always faster than HTML, Visual Basic, Photoshop, or anything else
- ♦ Prototyping not just building the initial UI
 - Changes should be made in as little as a half day
 - Data may need to be created “on the fly”
 - Quick screens with “greeking” or “squiggles” needed “on the fly”
- ♦ Flexible enough to simulate checkboxes, radio buttons, dialog boxes, menus, spreadsheets... almost anything
 - Limited with respect to animation, interaction with graphical tools

16 ☐ Time for Work! – Card Sorting Exercise

- ♦ Whatever Apparel Intranet
- ♦ Roughly 12 minutes for Card Sorting
- ♦ Don’t worry if can’t complete all cards
- ♦ Observe, note groupings

User from A → Team B

User from B → Team C

User from C → Team D

User from D → Team A

17 ☐ Paper Prototyping Design and Testing -- Round One

- ♦ Roughly 20 minutes for design
- ♦ Work primarily from scenarios

- ♦ Use card sorting data as a reference, but don't strictly adhere to its results
 - ♦ Roughly 20 minutes for test
 - ♦ Designate computer, facilitator, observer
 - ♦ Someone different should serve as a "user"
- User from A → Team C
 User from B → Team D
 User from C → Team A
 User from D → Team B

18 ☐ Prototyping Design and Testing -- Round Two

- ♦ Roughly 20 minutes for design
 - ♦ Roughly 10 minutes for test
 - ♦ Different computer, facilitator, observer
- User from A → Team D
 User from B → Team A
 User from C → Team B
 User from D → Team C

19 ☐ The Value of Iterations

- ♦ Many projects with large requirements and specification phases never see the light of day, or end up drastically reduced in scope.
- ♦ More project gurus are touting a sequence of smaller releases.
 - Ivar Jacobsen, RUP
 - An implicit acknowledgement that you learn something very valuable by actually having a product for people to use
- ♦ Paper prototyping allows extremely rapid iterations
 - Always results in much better UI
 - Far less cost, less effort, less elapsed time

20 ☐ The Value of Collaboration

- ♦ Prototyping involves full-time collaboration between IA, creative, HCI, systems
- ♦ Not "heads-down", but fully collaborative
 - All disciplines work together via whiteboards to design
 - Deliver together via paper
 - All disciplines retain their strengths and contributions
- ♦ User feedback accepted as driving force
 - Validate design
 - Identify need to change
 - Sometimes show a few contentious issues to be unimportant

21 ☐ Better Design and Project Control

- ♦ Design control more readily retained by project team
 - Project and design more driven by users and designers
 - Less subject to client "preferences", detailed "futzing"
 - Less subject to scope creep
- ♦ Early warning of need to change or pare down basic project goals

22 ☐ What is Design?

To create or contrive for a particular purpose or effect.

To create or execute in an artistic or highly skilled manner.

The American Heritage Dictionary of the English Language

- ♦ Both are important, but most "design" efforts today drastically lack feedback on the first

- ♦ Usability testing, card-sorting, and rapid interface design are certainly design activities. The best design advice to give is to do them