











Outline

- Mid-quarter Evaluation Summary/Response
- Review
- Design of Everyday Things
- Conceptual models
- Team Break
- Interface metaphors
- UI Consistency

Mid-quarter Evaluation Summary/Response

Features you like

- 1) Hall of fame/hall of shame
- 2) Interactive lectures
- 3) Overall concept of the class & what is being learned about design/iteration
- 4) Hands-on assignments that are relevant

... and lots more! Thanks, we will try to keep those things

Mid-quarter Evaluation Summary/Response

Things to improve

- 1) Assignments very fast paced, course load heavy (unlike prior quarters), & feedback not coming back quickly enough
- 2) Lectures could be shorter given the content
- 3) Students are struggling to get group work done in such a compressed timeline
- 4) Assignment instructions / grading unclear or inconsistent
- 5) Students want more control over projects

Mid-quarter Evaluation Summary/Response

Things to improve

 Assignments very fast paced, course load heavy (unlike prior quarters), & feedback not coming back quickly enough

The course IS fast paced & really *doing* this process is the only way to learn the material.

- DUT we can make it loss poinful
 - feedback will come every Friday from CA
 - reduced writing on written assignments
 - get at least 2 project assignments online ahead

Mid-quarter Evaluation Summary/Response

Things to improve

- 2) Lectures could be shorter given the content
- Students are struggling to get group work done in such a compressed timeline We will start building in 25-30 minutes of group project time in the lecture break

Will try to move up some of the "work on project" lectures (now 11/11, 11/20, 12/4).

Mid-quarter Evaluation Summary/Response

Things to improve

- 4) Assignment instructions / grading unclear or inconsistent
 - Some felt instructions too long & others liked (try to make them as explicit as possible – will keep trying to improve)
 CAs go over example assignments in group meeting to encourage consistency & also align grades after grading to make sure some aren't harsher or easier than the group

 BUT, this material is inherently subjective. There is NO right answer and grading will have ambiguity. So will your real world work!

Mid-quarter Evaluation Summary/Response

Things to improve

- 5) Students want more control over projects (e.g., picking teams, changing topics, kicking off people not doing their share...) (folks were split on how teams were created)
 - authentic "working on a team" experience (course goal)
 - but could have been more transparent about the process
 - communicating performance to teammates (exercise today) & contacting us if it doesn't work–grades will reflect

Review of Early Stage Prototyping

- Prototypes are a ?
 - concrete representation of a design or final product
- High-fi prototypes may cause viewers to?
 focus on low-level details (e.g., colors, fonts, & alignment) rather than high-level structure
- High-fi prototypes may cause designers to?
 1) spend too much time on details
- 2) be less creative in exploring other ideasLow-fi testing allows us to quickly iterate
- Low-fittesting allows us to quickly iterat
 get user feedback & change right away



 Informal UI prototyping tools combine advantages of paper w/ electronic tools

Design of Everyday Things

- By Don Norman (UCSD, Apple, HP, NN Group, NU)
- Design of everyday objects illustrates problems faced by designers of systems
- Explains conceptual models

 doors, washing machines, digital watches, telephones, ...
- Resulting design guides
- → Highly recommended



Conceptual Models

- Mental representation of how an artifact works & how interface controls affect it
- People may have preconceived models that are hard to change
 - -(4+5) vs. $(\bar{4}5+)$
 - dragging to trash?deletes file but ejects disk
- Interface must communicate model
 - visually (& possibly physically or using sound)
 online help and documentation can help,
 - but shouldn't be necessary

Affordances as Perceptual Clues

- Well-designed objects have affordances
 - clues to their operation
 - often visual, but not always (e.g., speech)

















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	(NATURAL LAW)	13->	8 -		directions on the long stub of your ballot card.	



Design Guides

- Provide good conceptual model

 customer wants to understand how UI controls impact object
- Make things visible
 - if object has function, interface should show it
- Map interface controls to customer's model

 infix vs. postfix calculator whose model is that?
- Provide feedback
 - what you see is what you get! (WYSIWYG)

Make Things Visible

• Refrigerator (?)

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- make the A..E dial something about percentage of cooling between the two compartments?
- Controls available on watch w/ 3 buttons?
 too many and they are not visible!
- Compare to controls on simple car radio

 #controls = #functions
 - controls are labeled (?) and grouped together



Map Interface Controls to Customer's Model

- Which is better for car dashboard speaker front / back control?
- Control should mirror real-world



Map Interface Controls to Customer's Model

- Which is better for car dashboard speaker front / back control?
- Control should mirror real-world









- What are your goals/deliverables?
- Are you on track to meet your team goals/deliverables?
- If no, why not? What can you change?

- Definition ?
 - "The transference of the relation between one set of objects to another set for the purpose of brief explanation."
- Lakoff & Johnson, Metaphors We Live By - "...the way we think, what we experience, and what we do every day is very much a matter of metaphor." – in our language & thinking – "argument is war"
 - .. he attacked every weak point .. criticisms right on target
 - . if you use that strategy
- We can use metaphor in interface design to leverage existing conceptual models



Suggests a conceptual model

- not really an attempt to simulate a real desktop
- a way to explain why some windows seemed blocked
- leverages existing knowledge about files, folders, & trash

• Global metaphors - personal assistant, wallet, clothing, pens, cards, telephone, eyeglasses Data & function Maja Daley rolodex, to-do list, calendar, 0 applications documents, find, assist Sec. Collections P - drawers, files, books, newspapers, photo albums

Square Card Case

- Develop interface metaphor tied to conceptual model
- Communicate that metaphor to the user
- Provide high-level task-oriented operations, not low-level implementation commands











- Design of Everyday Things, Donald Norman
- Design as Practiced, Donald Norman - Talks about failure to make changes to Macintosh
 - http://www.jnd.org/dn.mss/Design as Practiced.html
- Computing the Case Against User Interface Consistency, Jonathan Grudin
 - Talks about why interfaces should not always be consistent
 - http://www1.ics.uci.edu/~grudin/Papers/CACM89/CACM89.html

- Visual Information Design
- "Readings"
 - Watch Scott Klemmer's HCIOnline lectures
 - <u>6.1 Visual Design (7:37)</u>
 <u>6.2 Typography (</u>10:47)

 - <u>6.3 Grids & Alignment (</u>17:33)
- Next team assignment

 - Medium-fidelity Prototype start to think about how idea fits on target platform (doesn't have to be exact yet)
 - use a prototyping tool – Marvel

 Marvel

 - InVision
 - Let's go over it now so it is clear





