



CS5340
HUMAN-COMPUTER INTERACTION

February 14, 2013

www.id-book.com, johnkolko.com,
www.hcibook.com/e3

TODAY'S CLASS

- Administrivia
- Design recap
- Design (part 2)
- Paper Presentations

ADMINISTRIVIA

SCHEDULE UPDATES

- On website
 - Check schedule
 - Assignment directions updated by class introduced in
- T3 due 2/21
 - Up to 15 pages
 - 1 or 2 over ok, but goal is to be succinct
- Other deadlines pushed back

PRESENTATIONS

- Bring copy to class
 - On your laptop
 - On memory stick
- Post your slides to your webpage or email me
 - Final version – will be used in grading
 - By class time

TECHNOLOGY IN CLASS

- Laptops/Tablets OK
 - If being used for class-related purposes
 - This is clearly being abused
- No cell phones
- If seen using devices for unrelated purposes, will be asked not to use them in class

ETIQUETTE

- During class, presentations, discussions
 - Do not
 - talk to your neighbors
 - stare at your laptop
 - be disrespectful to presenters

ASSIGNMENT POSTINGS

- By 6pm
- New submission method
 - Blackboard for all assignments

LATE ASSIGNMENTS

- All assignments due by 6pm on date posted (unless otherwise noted)
- 10% deduction for each day late
- Extensions requested prior to the deadline will be considered on a case-by-case basis

WHAT IS PLAGIARISM?

- Northeastern University definition: “intentionally representing the words, ideas, or data of another as one’s own in any academic exercise without providing proper citation.”
- You must use a citation when
 - Using, word-for-word, text found in other sources (online, in books, etc.)
 - You **must also use** quotations here
 - Paraphrasing (summarizing) others’ ideas, information found online/books/etc.

<http://www.northeastern.edu/osccr/academicintegrity>

<http://www.princeton.edu/pr/pub/integrity/pages/cite>

WHAT IS PLAGIARISM?

- You must use a citation when
 - Describing facts that are not widely known/recognized
 - “We live on planet earth.”
 - No citation needed, common knowledge
 - <http://www.princeton.edu/pr/pub/integrity/pages/notcommon/>
 - “25% of preschoolers are obese/overweight in the United States [1]”
 - [1] Ogden, C.L., Flegal, K.M., Carroll, M.D. and Johnson, C.L., "Prevalence and trends in overweight among us children and adolescents, 1999-2000," *JAMA* 288, 14 (2002), 1728-1732
- When in doubt, cite!
- Your problem statements require citations

WHAT IS PLAGIARISM?

- Essay websites are not acceptable sources
- For help: Writing Center
www.northeastern.edu/english/writing-center
- No tolerance
 - first instance: 0%
 - second instance: F in this course
- Report to OSCCR
 - Potential expulsion

<http://www.northeastern.edu/osccr>

CHEATING

- Coding Assignments
 - Must acknowledge:
 - graphics
 - sound
 - code
 - People you have had significant discussions with about the assignment
 - For team assignments: anyone outside of your team
 - For individual assignments: anyone

GRADING

- Work that needs more effort (D, F)
- Work that is adequate but that would benefit from increased effort or preparation (C)
- Good work demonstrating a capacity to use the subject matter, with adequate preparation and clear presentation (B)

GRADING

- Superior, striking, or unexpected pieces of work with excellent effort demonstrating a mastery of the subject matter and a thoughtful use of concepts discussed in class; work that shows imagination, clarity of presentation, originality, creativity, effort, and attention to detail (A)
 - Demonstrating (clearly) knowledge gained from class – make very explicit

DESIGN PROCESS

continued

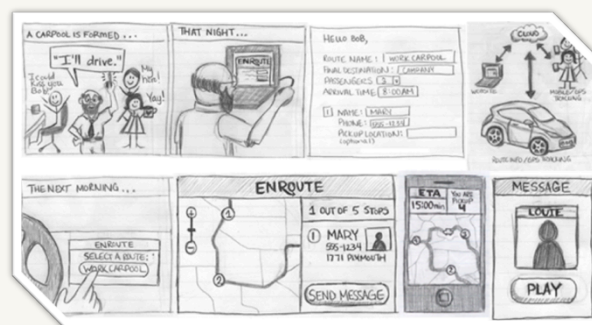
RECAP

- Design is ...
 - achieving goals within constraints
 - Balancing trade-offs
- Design *interactions*
 - Not simply interface
 - System \leftrightarrow user. What do we call this?
 - Look *and* feel
- Design *interventions*
 - Changing the way people do things, interact
- Golden rule of design
 - Understand your materials



RECAP

- Tools to support design
 - Scenarios
 - Storyboards
 - Personas
 - Interaction Metaphors



WHAT IS A PROTOTYPE?

- “A representation of the product” (Kolko)
- Fidelity
 - Low (not functional, sketches)
 - Medium (semi-functional software)
 - High (functional software)
 - Level of “doneness” / closeness to final product
- Type
 - Throw-away
 - Incremental
 - Evolutionary

WHAT IS A PROTOTYPE?

- Screen sketches
- Interactive paper representations
- Storyboards
- Physical (e.g., small box for phone)
- PowerPoint slides
- Software

WHY PROTOTYPE?

- Evaluation & feedback from users
- Identify problems early on
- Team members
 - Support more detailed communication
- Designer / developer
 - Test out ideas for yourself & reflect

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PAPER PROTOTYPING

- Low-fidelity
- Simulation of software **interactivity**
- Sketches of screen elements
- Easy to edit & annotate
 - During team meetings, user evaluations
- Focus is on high-level concepts & navigation, **not details**
- Set time limits
 - Enough time to build something that will yield useful feedback

PAPER PROTOTYPING

- Your tools: school & art supplies
 - Heavy paper (will be manipulating a lot)
 - Index cards
 - Post-it notes
 - Adhesives
 - Pencils, pens, markers
 - Acetate sheets (overheads)

PAPER PROTOTYPING

- Interactive, not static
 - Create generic window frames on heavy stock
 - Movable/changeable pieces
 - Own piece of stock
 - Screen changes
 - Dialog pop-ups
 - Menu drill-downs
 - Etc.

PAPER PROTOTYPING

- Develop Scenarios
 - Based on your initial requirements gathering
 - What will users do with your prototype?
 - Limit to a few important functions
 - Determine if prototype is meeting your requirements
 - And opportunities for improvement

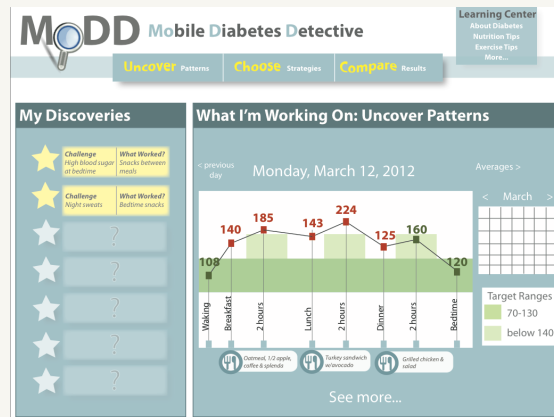
PAPER PROTOTYPING

- Develop Scenarios
 - Make test feel realistic
 - **Set the scene:**
“This tool supports... Pretend you have been tracking your blood sugar...”
 - **Use realistic data** (e.g., real diabetes glucose levels)



PAPER PROTOTYPING

- Develop Scenarios
 - Determine & write down user tasks
 - “If you wanted to find trends over a longer time period, how would you do that?”



PAPER PROTOTYPING

- Develop Scenarios
 - Don't say "Click the See more button"
 - Goal is to encourage exploration, understand their choices



PAPER PROTOTYPING

- Team Roles
 - determine what teammates are good at
 - High-level design
 - Translating interactive widgets to low-fi
 - Creating artistic illustrations
 - ...

PAPER PROTOTYPING

- Preparing for the user test
 - Identify users (**start early!!**)
 - Practice, practice, practice!
 - have someone else review
 - navigability
 - data realism
 - get comfortable with roles

PAPER PROTOTYPING

- Roles
 - Rotate!
 - Ward off weariness
 - Greeter (rapport, forms)
 - Facilitator
 - Computer
 - Observers

PAPER PROTOTYPING

- Roles (cont.)
 - Facilitator
 - Takes the lead: **only** team member allowed to speak freely during test
 - Provide instructions
 - Encouraging user to give feedback, speak thoughts aloud
 - Asks prompting questions based on what team hopes to evaluate (e.g., requirements). **AVOID BIASED ?s**

PAPER PROTOTYPING

- Roles (cont.)
 - Computer
 - Knows how prototype kit works **thoroughly**
 - Translates user verbalizations
 - “I type *restaurants* into the search box”
 - Acts on user interactions
 - Control presses → present relevant screen change
 - **Does not explain** what’s happening
 - Goal is to observe users’ interpretation of interface

PAPER PROTOTYPING

- Roles (cont.)
 - Observers
 - Take notes, quietly
 - Index cards (5x8) – 1 observation per card
 - Observed behavior
 - Quotes
 - Potential solutions to issues (be careful, need to focus!)

PAPER PROTOTYPING

- Session procedure
 - Greeting, introductions, overview (what will happen)
 - State high-level goals, not too much detail
 - User Test
 - Describe scenario
 - Show users the written tasks, and read aloud
 - Allow them to explore (avoid helping)
 - Encourage thinking aloud
 - Reassure

PAPER PROTOTYPING

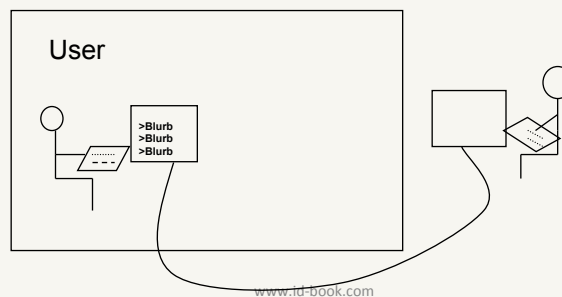
- Session procedure (cont.)
 - Debriefing
 - “Any other thoughts? Overall feedback? Anything that was particularly challenging?”

PAPER PROTOTYPING

- Making sense of the data – process (Rettig)?
 - Gather note cards
 - Cluster next to relevant interface components
 - Summarize & prioritize
 - Things to change
 - What's working well
 - Affinity diagramming

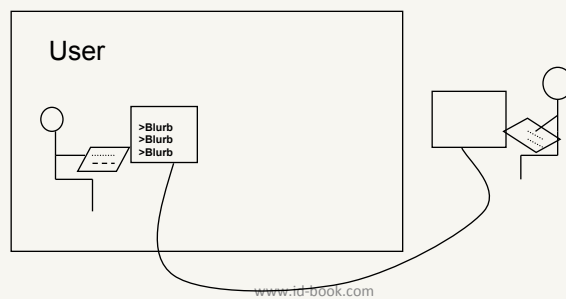
'WIZARD-OF-OZ' PROTOTYPING

- Medium fidelity approach
- User thinks they are interacting with a computer, but a [developer is responding to output](#)
- Which tool supported this in the research paper readings from this week?



‘WIZARD-OF-OZ’ PROTOTYPING

- Done early to understand users’ expectations
- May be useful in your projects



MEDIUM FIDELITY PROTOTYPES



HIGH-FIDELITY PROTOTYPING

- Materials you expect to be in the final product
- Looks much more like the final system than a low-fidelity version
- Evaluate realistic interaction with tool
- Caveats?
 - Comments on “finish”, “aesthetics
 - Developers resist changes

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