Lecture 7: Implementing a Prototype: Overview of Using PowerPoint, Adobe Illustrator, Adobe Fireworks, Balsamiq, OmniGraffle, html, etc.

Brad Myers

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Housekeeping

- Propose change to TA office hour:
  - No one shows up for Anthony’s on Wed 1:30-2:30
  - Lots of people at Preethi’s on Sunday 3:00pm-4:00pm
    - Move both to Sunday?
    - Have one on Saturday?

- Third TA
  - Brian Yee byee@cmu.edu
  - Office hours on Friday 3-4 in NSH 2507?
From my Email

- Homeworks on the wall outside my office, NSH 3517, in the black folders.
- The average of the grades on HW #1 was 86%. The main reason people lost points was because of not following the directions.
- Reminder of late policy: 10 points per class period.
- Option for revised HW #2.
- Note updated HW #3 description.
Implementing your Prototype

- How “complete” an implementation for HW4?
  - Screen transitions must work
  - All buttons should do something, even if go to a “not implemented yet” page
  - Search, other computation does *not* have to work

- “Click-through” level of behaviors

- Level of complexity required:
  - (Same as listed on homework0 page)
  - At least 30 “controls” (widgets: buttons, text fields)
  - About 10 different screens/pages/windows/modes
  - Must be done in one (1) week – no extensions!
“Wireframe” Level Prototype

- Outlines of the buttons and controls
- No need for final graphics
- Our requirement: sufficient functionality to support your tasks
- Labels should be the real ones
- So can test that users understand what they do
Or, Produce Final-Looking Graphics

- Alternatively, could use Photoshop, Illustrator, etc. and produce final graphics
- Designers want to show what real UI will look like
- Details of the “look”

- Web pages often use final graphics
  - E.g., Toffem Medicines

- Add “click-through” behaviors
  - Usually limited mostly to screen transitions
Implementation Options for HW4

- Pretty much any way you want
  - Must “work” – not just paintings
  - “Click-through prototypes ”
  - Note: TAs and prof. will probably not be able to help you with your code
- We recommend you do not use Java, C++, Objective C (iPhone) or other “professional” language
- Note: you must be able to create software that is easy for others to run
  - Output a set of web pages, or a Windows .exe file
Recommended Options

- These are easiest to use:
  - PowerPoint – Brad demo
  - Mockingbird web app (gomockingbird.com) – Brad demo
  - Adobe Illustrator / Adobe Fireworks – Preethi demo
    - Free 30 day trials
  - Balsamiq – Anthony demo
  - OmniGraffle (Macintosh only) – Anthony demo
  - Html + Imagemaps
    - Using editor like Dreamweaver – Brad demo
    - Dreamweaver has a free 30-day trial
  - Html + Javascript (more programming)
  - Adobe Flash – free trial
Many other choices

- Axure is a popular commercial tool
  - www.axure.com
- Visio for wireframes
- Microsoft Expression Blend / Sketchflow
  - Free for students from www.dreamspark.com
- Microsoft Visual Basic
- Processing (www.processing.org)
- Python, tcl/tk, … or other desktop programming tool
- Ruby on Rails, or any other web scripting system
- http://mockupscreens.com/
Lots of Lists of Tools

- Search for “Prototyping tools” or “Wireframing Tools”
  - [http://www.uie.com/articles/prototyping_tools/?link=tips100318_6](http://www.uie.com/articles/prototyping_tools/?link=tips100318_6)
What Are People Using?

- [http://www.uie.com/articles/prototyping_tools/?link=tips100318_6](http://www.uie.com/articles/prototyping_tools/?link=tips100318_6)
- Mar 18, 2010
- My survey results are similar (2007)

![Bar chart showing tool usage percentages]
Using PowerPoint to Prototype

- Add a shape, with a label
- Add a hyperlink:
  - Select “Place in this document”
- Create a slide for each mode of the application
- Can add nice animations
Adding Controls in PowerPoint

- Turn on “Developer Toolbar”
- Can add buttons, text entry, etc.
- Script with VB
PowerPoint examples

- Great training in using PowerPoint:
  - [http://www.boxesandarrows.com/view/interactive](http://www.boxesandarrows.com/view/interactive)
  - by Maureen Kelly on 2007/08/06
Html editing

● Can use web editors to prototype any kind of interface
  ● Tricky for detailed layout

● Can edit html using
  ● Microsoft Word (not recommended)
  ● Microsoft Expression Web (Blend)
    ● free for students: www.dreamspark.com
  ● Adobe Dreamweaver
    ● free trial: https://www.adobe.com/cfusion/tdrc/index.cfm?product=dreamweaver
    ● Dreamweaver CS5 (Adobe) in Clusters
  ● Many others
Example: Movie Kiosk

- Dreamweaver works a lot like Word
- Hint: use tables a lot for layout
- Hint: Controls are in “forms”
- Make use of the web for “how-to’s”
  - E.g., “html button link”
Adobe Flash

- Free trial: http://www.adobe.com/products/flash/
- Originally an animation tool
  - Interactive editor with timeline
- Also scripting in “ActionScript” (= JavaScript)
  - Hint: ActionScript v.2 much easier to use than v.3
- De-emphasized in future
Adobe Flash Catalyst

- Brand new tool in CS5
  - (I consulted a little during its early design)
  - De-emphasized 😞
- Allows some of the behavior to be specified without scripting
  - States & animations
- Currently, no “round tripping”
TA-Run Demos

- Adobe Illustrator / Adobe Fireworks – Preethi demo
  - Free 30 day trials
- Balsamiq – Anthony demo
- OmniGraffle (Macintosh only) – Anthony demo
OmniGraffle

- Generally used for diagramming and modeling
- Allows clickable prototypes by linking canvases and export *each page* to HTML
- Download:
- Konigi Stencils:
- Yahoo Design Stencil Kit:
  - [http://developer.yahoo.com/ypatterns/about/stencils/](http://developer.yahoo.com/ypatterns/about/stencils/)
Adobe Fireworks

- Preferred by HCI professionals
- Allows clickable and interactive prototypes
  - Create pages and link pages via hot spots assigned to sections of the page.
  - Export each page to HTML for an interactive prototype.
- Download:
- Download Stencils to Commons Library:
  - [http://developer.yahoo.com/ypatterns/about/stencils/fireworks.html](http://developer.yahoo.com/ypatterns/about/stencils/fireworks.html)
PROTOTYPING TOOLS
Balsamiq & Adobe Illustrator
Balsamiq is a quick drag & drop prototyping tool.

- Many common UI components (input components, links, breadcrumbs, tables, grids, tabs, iOS, the list goes on!)

Paid Version ($79)

- Importing images, work with multiple mockups simultaneously, linking mockups together, master pages / reusable components

Balsamiq : Basics
Pros:
- Really fast, intuitive to use
- Great for low fidelity prototypes that look better than paper sketches / if you’re really bad at drawing
- Variety of helpful functions: aligning, grouping, locking

Cons:
- Very limited control over style (black & white)
- If it doesn’t have the widget you want, or the aesthetic you need, you’re out of luck
- Limitations of the free software
Youtube: http://www.youtube.com/watch?feature=player_embedded&v=70hfU7_95Gw
Real Deal: http://www.balsamiq.com/

Balsamiq : Demo
Adobe Illustrator is a vector-based drawing software part of the Adobe Creative Suite.

- Huge flexibility in the work you can do. Fantastic tool for creating things from scratch, but our focus will be on the publicly available UI templates online.
Pros:

• Infinite amount of resources, how-tos and many public libraries of UI components available online.
• It’s vector drawing! So everything stretches and even public libraries can be edited.
• Great for all levels of fidelities, particularly useful for making high fidelity mockups.

Cons:

• Significant learning curve for some things.
• Takes a bit longer to get stuff done.
• Costs $200 to buy / install.

Illustrator: Pros / Cons

Illustrator : Demo