CSE 403

Design, Part II

Startups...Seattle...You?

October 22, 2012
7:00PM
Room: EEB125

Ever consider working for startup?
Find out what it's like.
Come for the food and drink.

Everything you wanted to know but were afraid to ask.

Hear first hand from successful leaders of the startup world.

Questions? Contact yamamoto@cs.washington.edu

Announcements

- Wikis

- Project observations, questions, grading

- ~~Midterm~~ Quiz on 10/26

- Architecture doc(s) due on 10/15 11:59pm

- Presentations on10/24, 11/07, 11/21, 12/05

- Deployment platforms?

What is "design?"

Vision/Requirements
Fonts
Logos/Iconography
User interface
User experience
(Photoshop) Mockups
HTML/CSS/JavaScript(?)

We're blowing off a lot

Vision/Requirements
~~Fonts~~
~~Logos/Iconography~~
User interface
User experience
~~(Photoshop) Mockups~~
HTML/CSS/JavaScript(?)

- We're going to side step most graphic design "stuff"
- Important but no necessarily "engineering"
- How are you going to get this aspect done?

We're focusing on

- User interface

- User experience

- Information architecture

8 golden rules for UI/UX (Schneiderman)

1. Strive for consistency.
2. Give shortcuts to the user.
3. Offer informative feedback.
4. Make each interaction with the user yield a result.
5. Offer simple error handling.
6. Permit easy undo of actions.
7. Let the user be in control.
8. Reduce short-term memory load on the user.

YOUR USER REQUIRE-MENTS INCLUDE FOUR HUNDRED FEATURES.

DO YOU REALIZE THAT NO HUMAN WOULD BE ABLE TO USE A PRODUCT WITH THAT LEVEL OF COMPLEXITY?

GOOD POINT. I'D BETTER ADD "EASY TO USE" TO THE LIST.

(from Designing the User Interface, by Ben Schneiderman of UMD, noted HCI and UI design expert)

UI elements: examples

Text box
Allows you to input text

Text field (or paragraph)
Bigger than a text box

Dialog Box
Pop up, with an action. Maybe error message

Add by URL   ☒

URL: [   ]

If you know the address to a calendar (in iCal format), you can type in the address here.

☐ Make the calendar publicly accessible?

[Add Calendar] [Cancel]

Radio buttons or multiple ch
You can only select 1

○ A

○ B

○ C

○ D

☐ E

☐ F

☐ G

☐ H

lider
t a value

|||||||||||

Button
Do the action

[Submit]

More

Lists
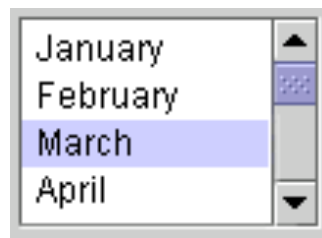
Toolbars
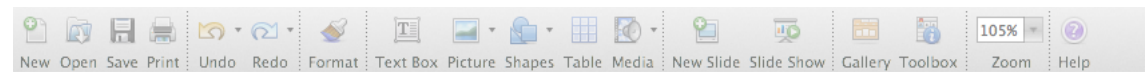
Combo boxes
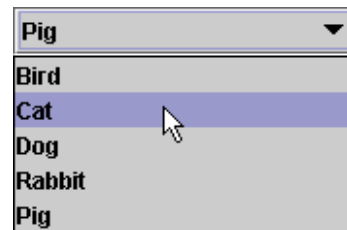
Menus
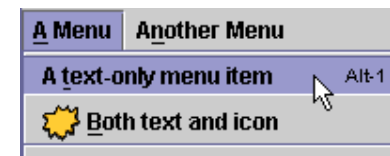
Requirements drive design

Requirements

- Actors
- Use cases
- Functional specification

→
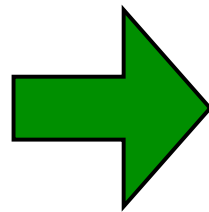
Design

- Data model (schema)
- Class hierarchies
- Classes
- User Experience flows
- User Interface

Questions you want to answer

- What is the data schema/representation for your system? What are the "deep semantics" (IA)

- What are the screens in your UI?

- How do you get from one screen to the next? (UX)

Mechanics of getting started

- There are software tools that can help, but starting out they might be too cumbersome

- Think, sketch, experiment, iterate first

- Quick and dirty representation that you can quickly evolve is very helpful

- In parallel, you should be thinking about colors, fonts, iconography, language, etc.

Prototyping is your friend

- Early representations of your UI/UX

- Low fidelity

- Pens (of multiple colors), paper, tape, glue, scissors, "sticky notes," a large table, a large wall surface at first?
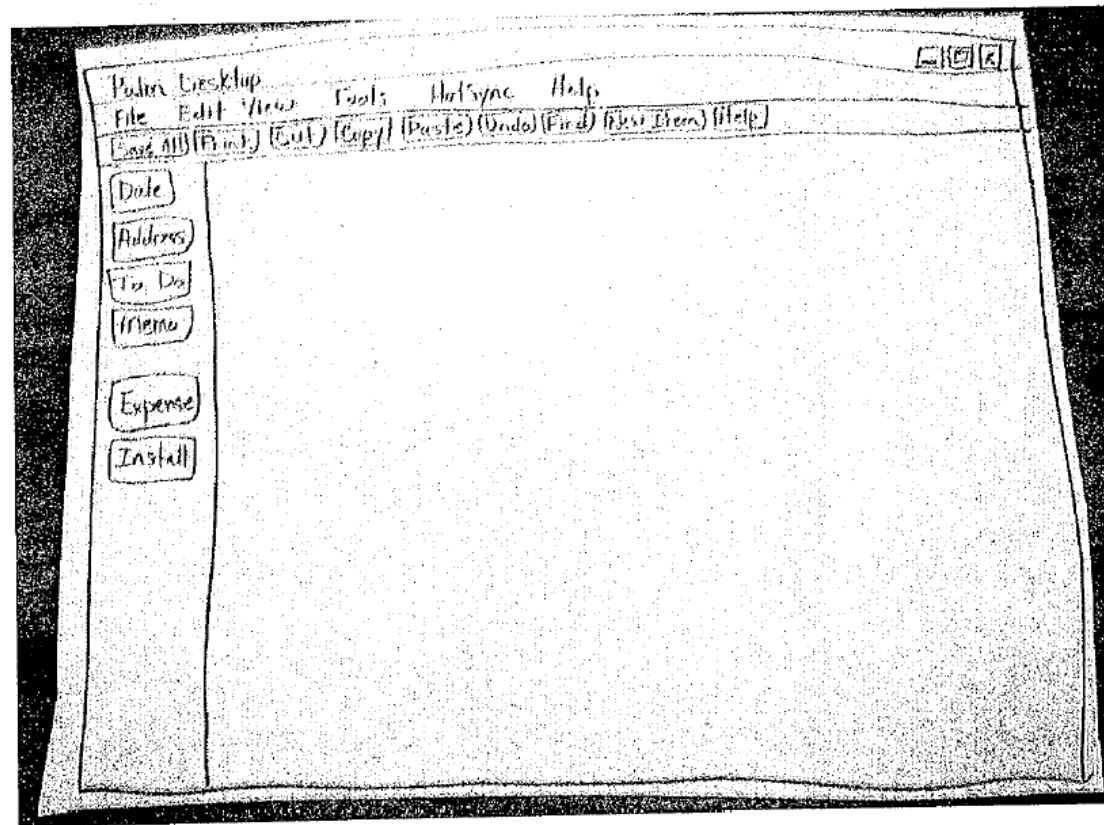
- Software tools next?

Paper prototyping
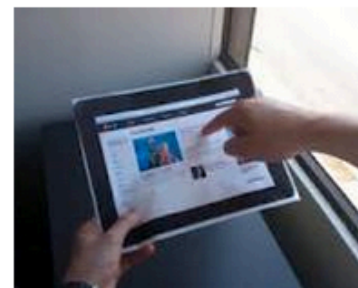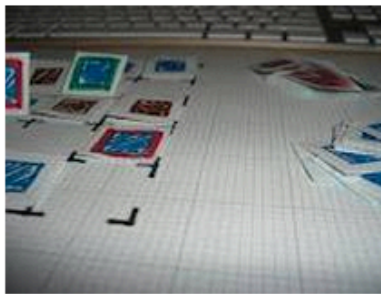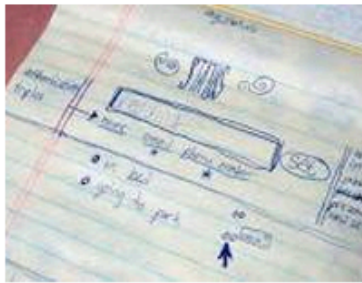
Prototype process

- Quickly iterate on a lot of ideas

- Sketch and draw

- Checks to ensure they match the requirements

- Get feedback from potential users?
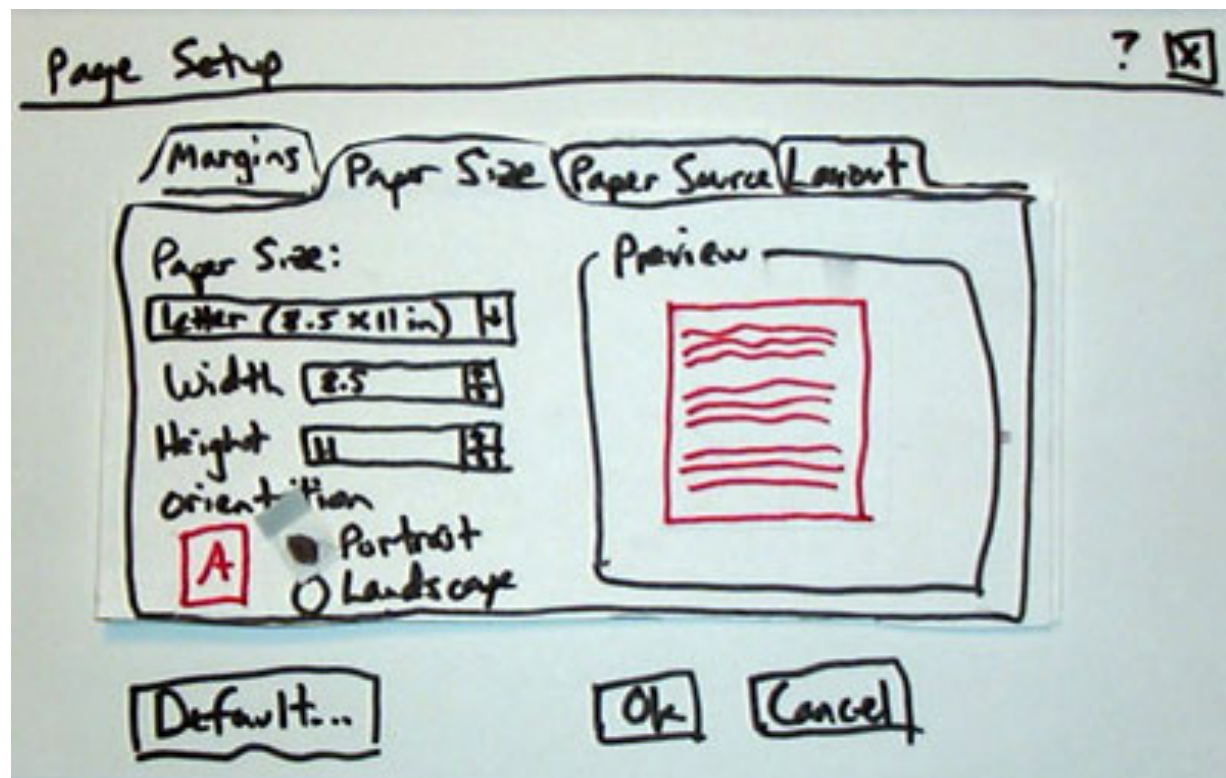
- No implementation behind the "pictures" (or maybe you do a simulation)
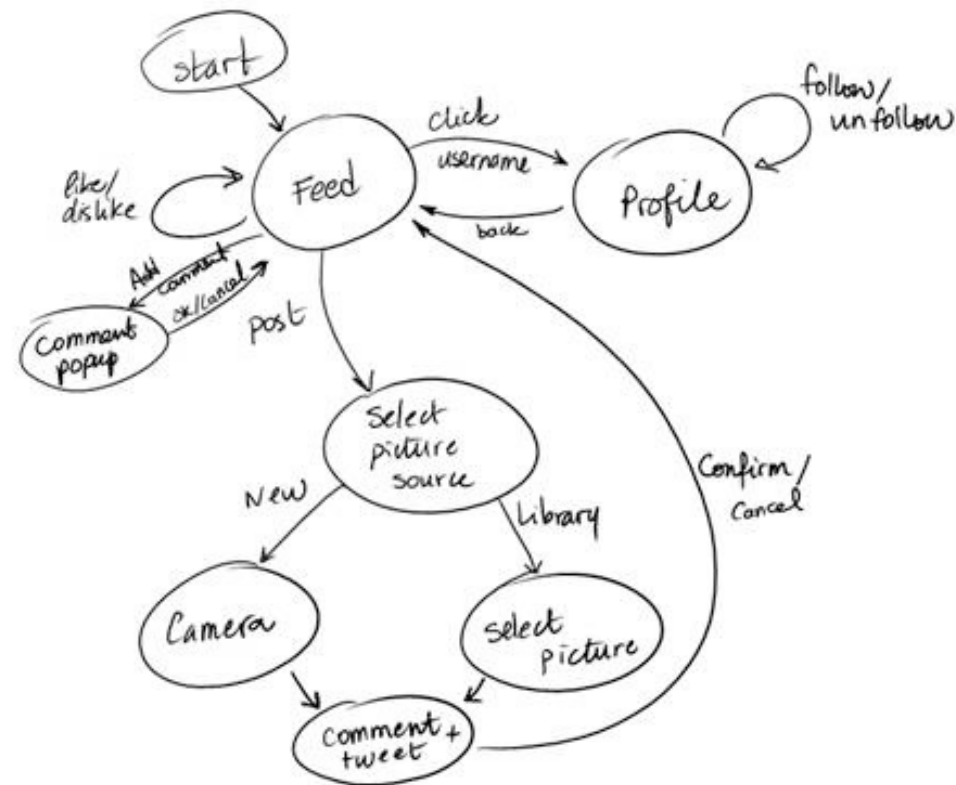
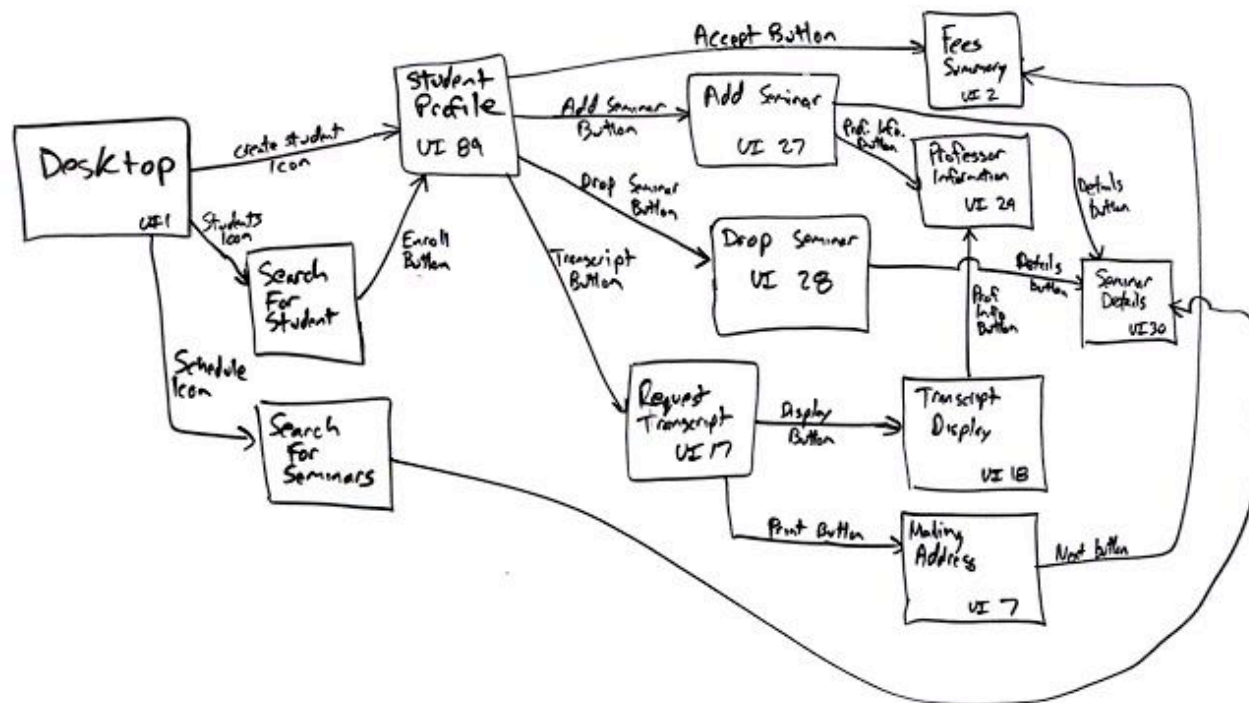# Paper prototype: screens, ui components
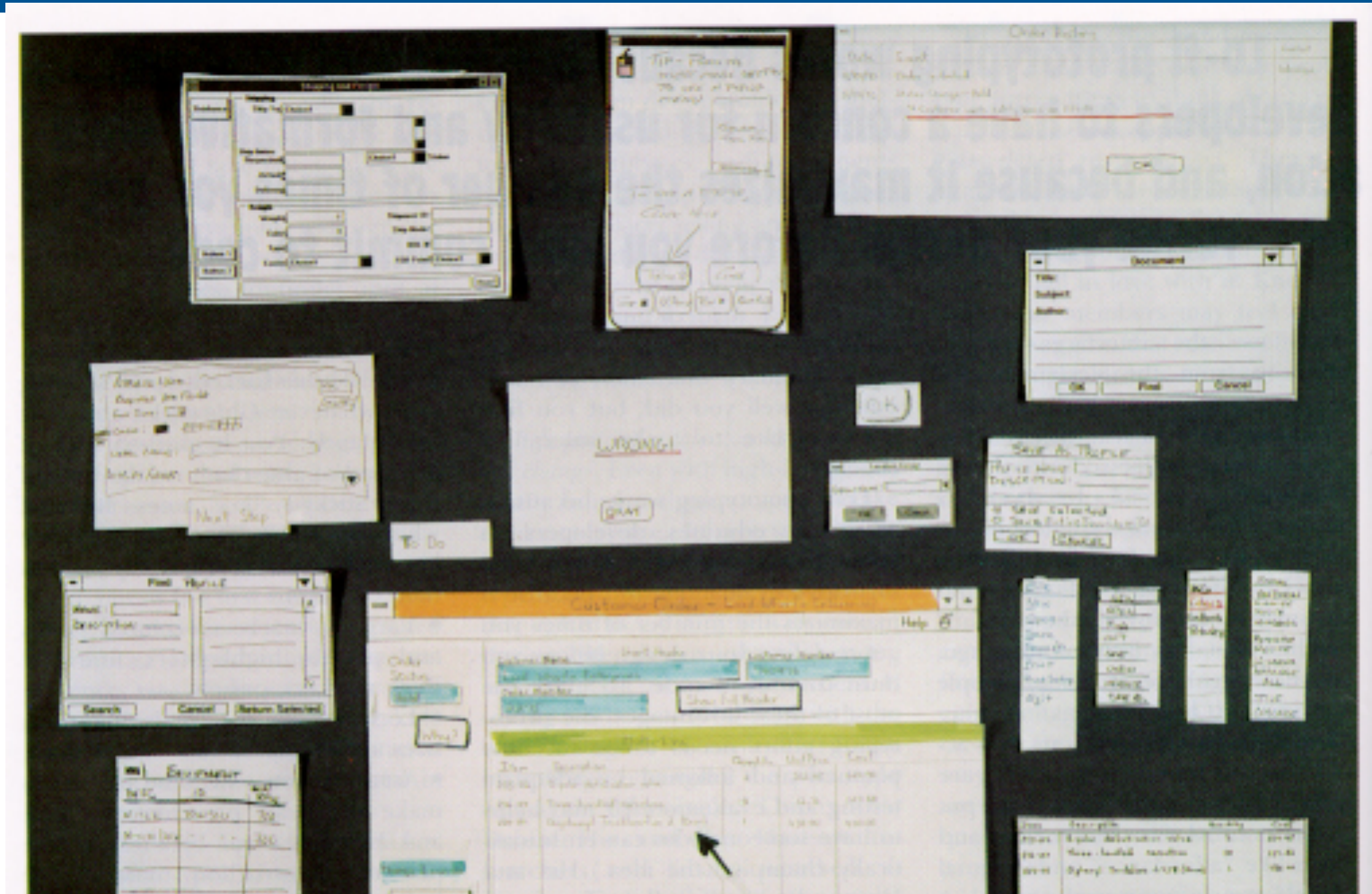
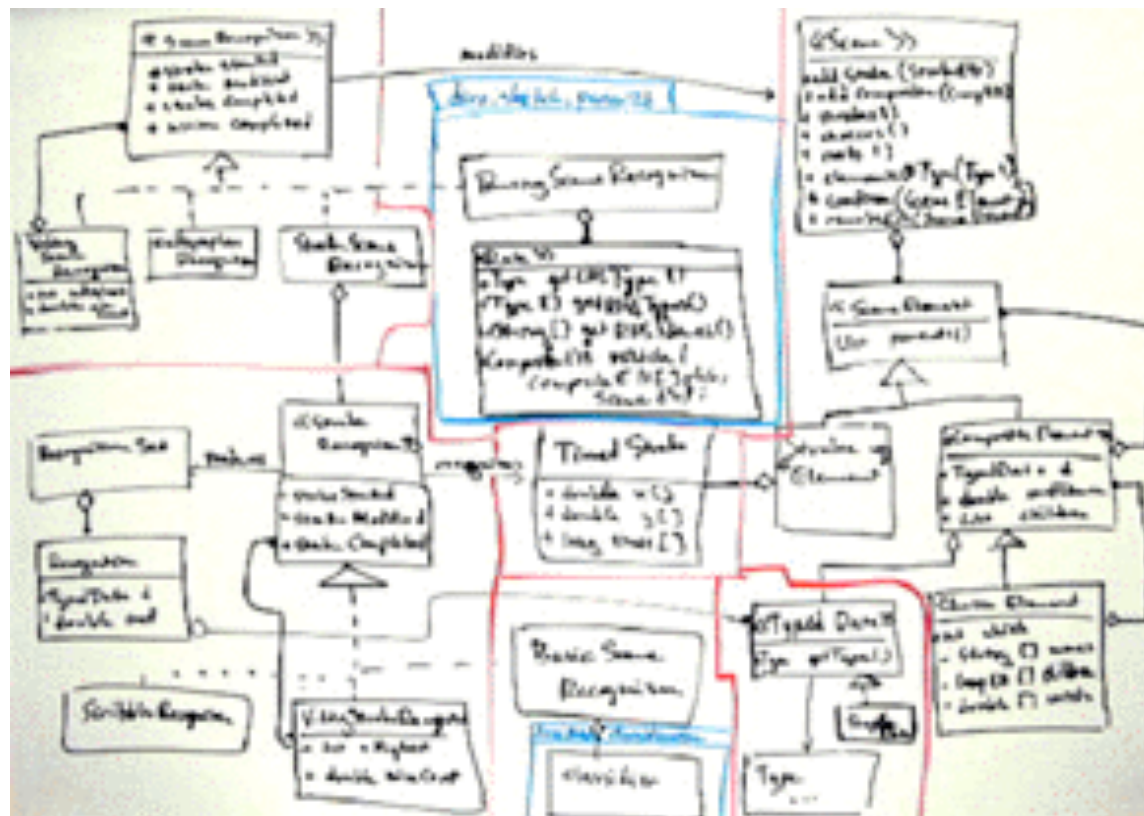# User interface sketch

Another UI sketch

State transitions

Page transition diagrams

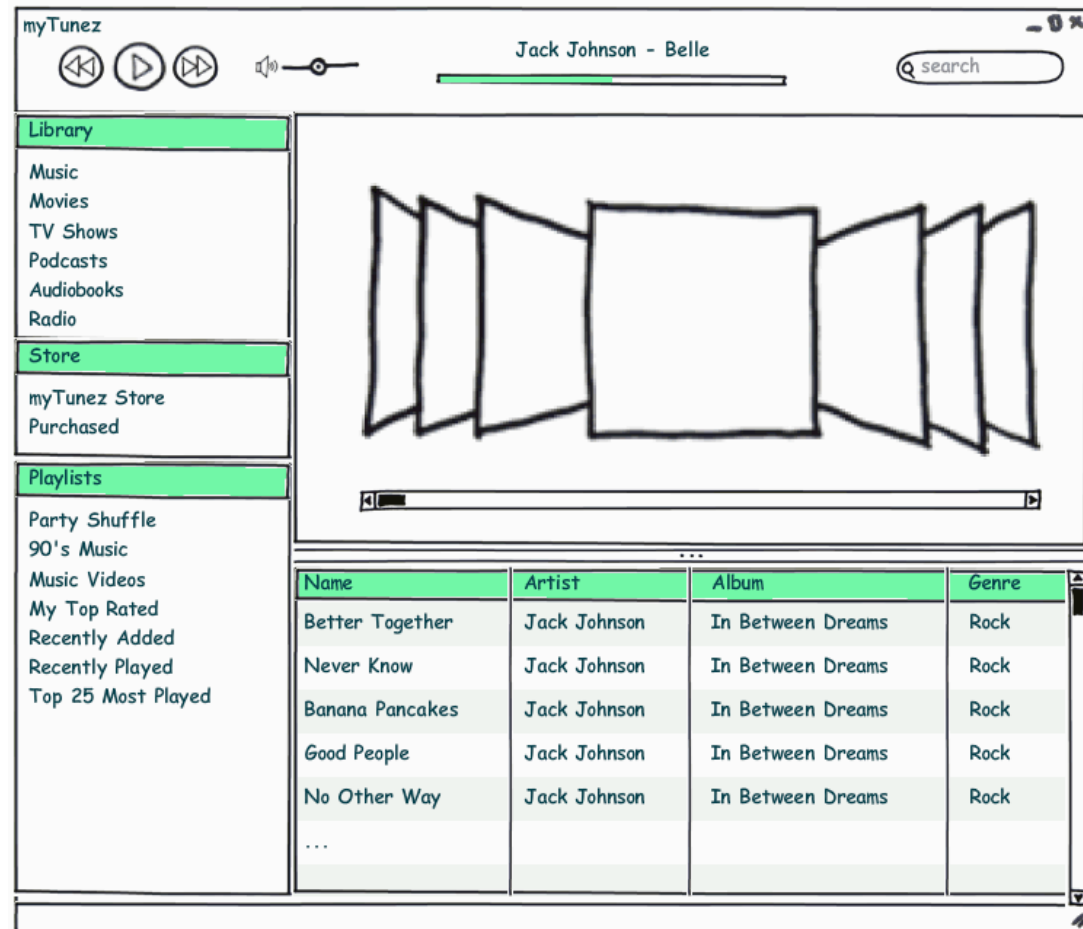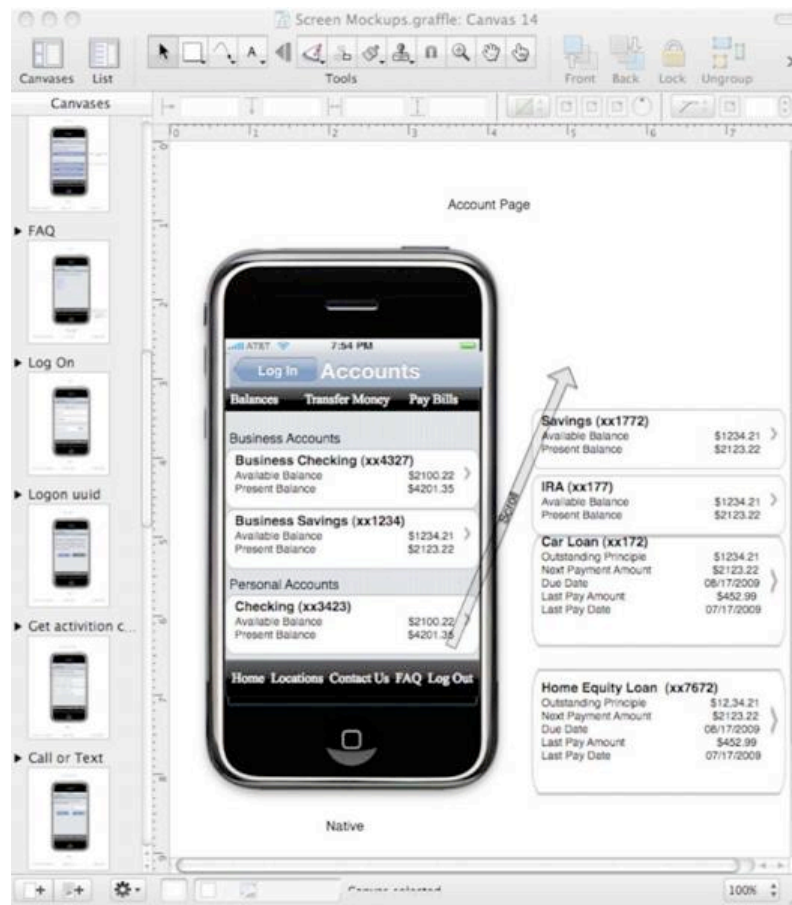# Data schema on white board (pseudo UML?)

Low fidelity mockups

Low fidelity mockups

- Hard and time consuming to draw/modify by hand, so software tools come in handy

- Balsamiq, Omnigraffle

- Powerpoint, Keynote

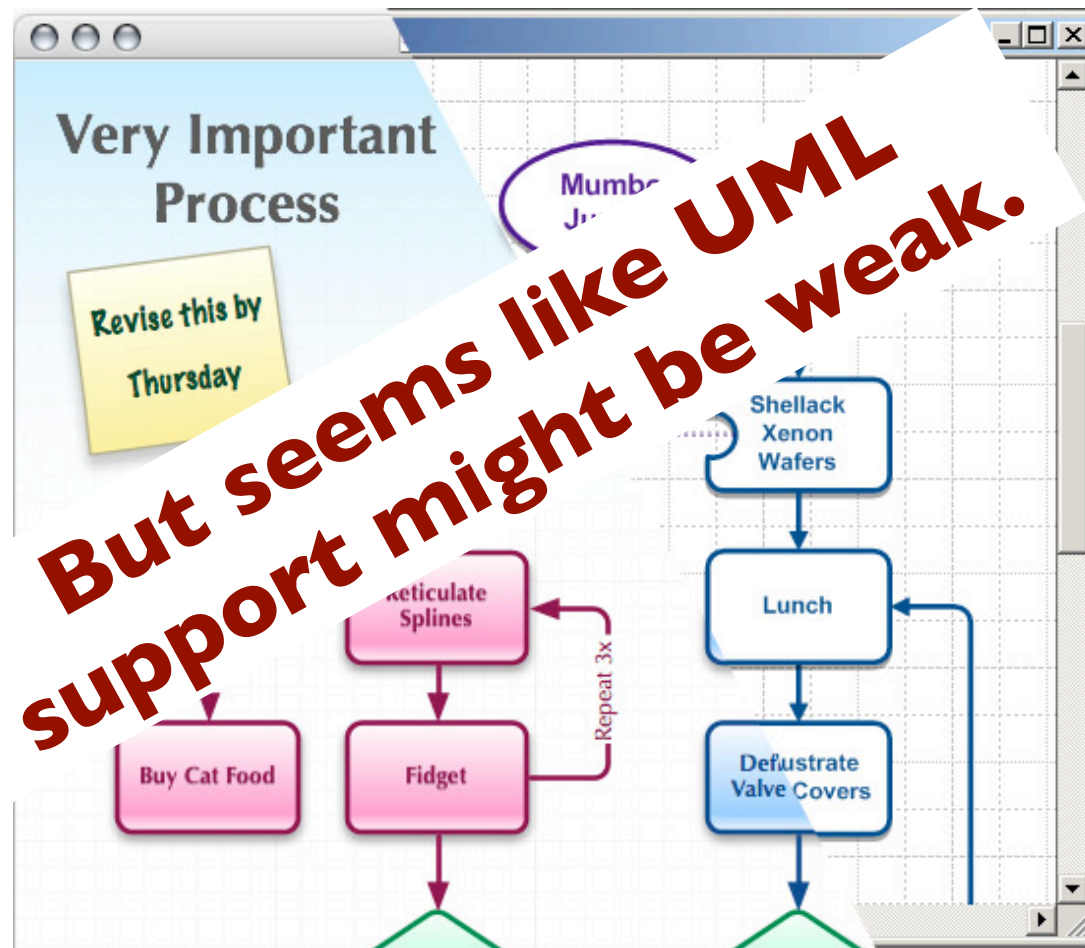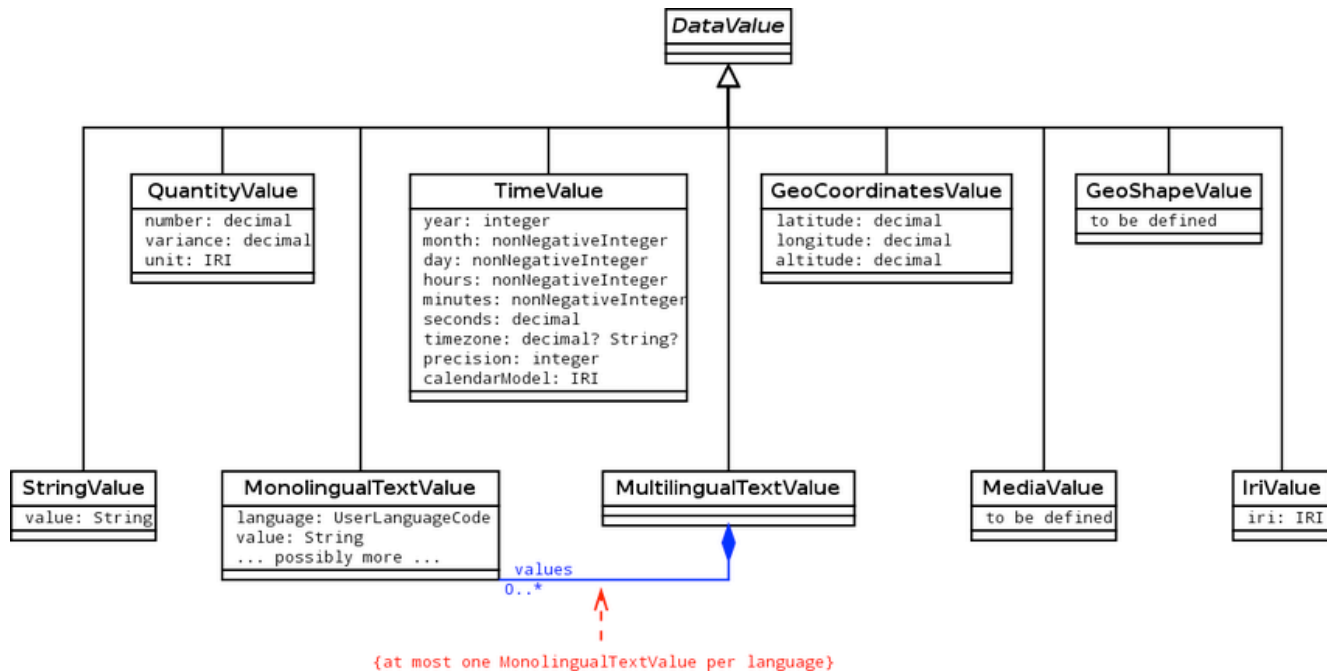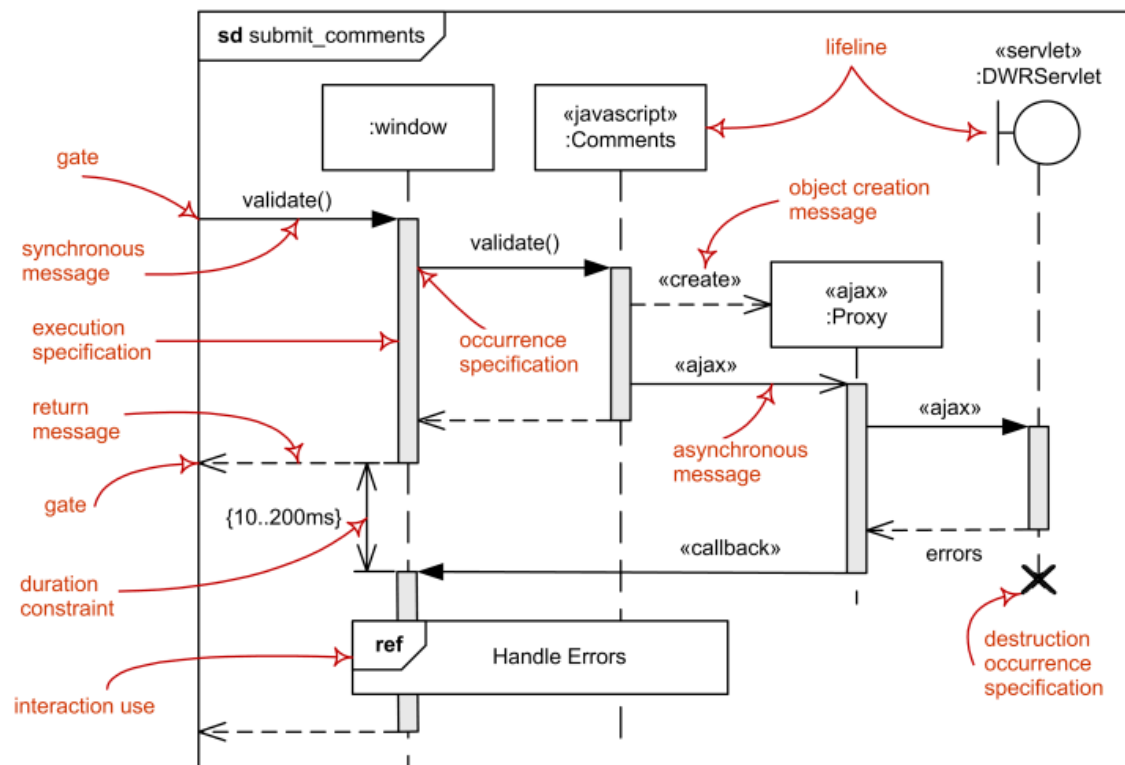- UML to draw pretty diagrams? (or emacs/vi/textmate)

Balsamiq

Omnigraffle

Omnigraffle

What about UML tools?

UML sequence diagrams

UML: Should you use it?

- Gives precision and clarity

- Time consuming to learn and use?

- Doesn't capture everything?

- Looks great

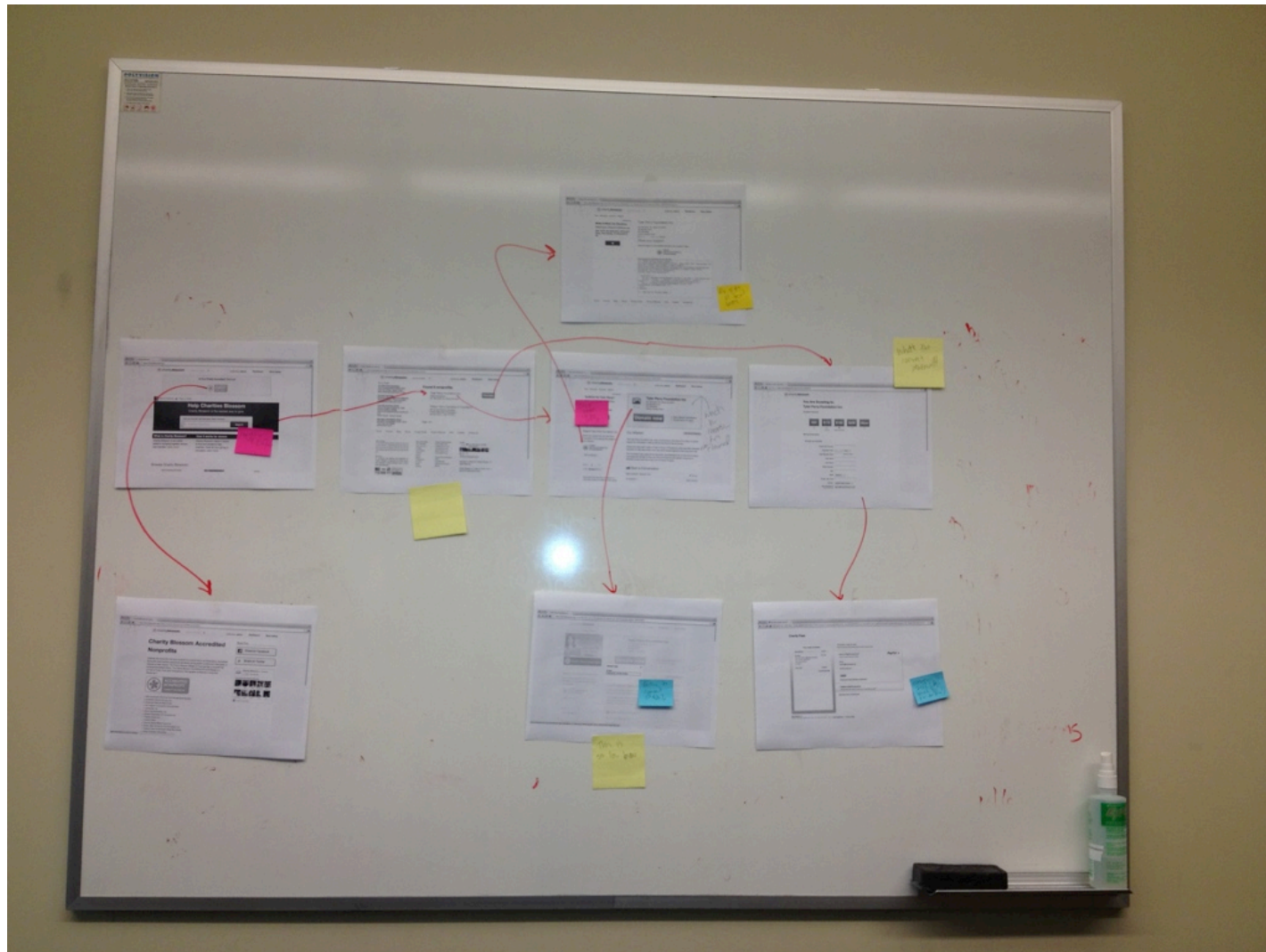- Easy to store and update

- Make your boss happy?

High fidelity mockups

- Pixel perfect representation is the goal

- Need to have all the design elements figured up

- Ready to implement

- ...but can you implement what you draw?

- Are they necessary?

Photoshop

Live screens, but "storyboarding" still helps

Takeaways

- Design: Is it engineering?

- User experience, user interface, information architecture might be

- Graphic design: fonts, logos, iconography, etc. might not be -- but you still need to get the work done

- The discipline is wide and deep

- More than just a drill down from architecture

- Close to corporate/product strategy/marketing

Questions you want to answer

- What is the data schema/representation for your system?

- What are the screens in your UI?

- How do you get from one screen to the next?

Questions?

- Too theoretical?

- Not enough "nuts and bolts," "how-to?"

- Ask away...