Design Sketching

* slides marked Buxton are courtesy of Bill Buxton, from his talk "Why I Love the iPod, iPhone, Wii and Google", remix uk, 18-19 Sept. 2008, Brighton

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Interface Hall of Shame or Fame?

• From IBM's RealCD
  – prompt
  – button

Click here to put book away

Misused Metaphors

• Direct translations
  – software telephony solution that requires the user to dial a number by clicking on a simulated keypad
  – software CD player that requires turning volume knob with the mouse
  – airline web site that simulates a ticket counter!

Outline

• Review task analysis
• Teams vs. Groups
• Sketching user experiences
• Informal UI prototyping tools
**Task Analysis Review**

- **Task Analysis questions:**
  - Who is going to use the system?
  - What tasks do they now perform?
  - What tasks are desired?
  - How are the tasks learned?
  - Where are the tasks performed?
  - What’s the relationship between customer & data?
  - What other tools does the customer have?
  - How do users communicate with each other?
  - How often are the tasks performed?
  - What are the time constraints on the tasks?
  - What happens when things go wrong?

- **Selecting tasks:**
  - real tasks with reasonable functionality coverage
  - complete, specific tasks of what customer wants to do

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**Teams vs. Groups**

- **Teams & good performance are inseparable**
  - a team is more than the sum of its parts

- **Groups**
  - strong leader
  - individual accountability
  - organizational purpose
  - individual work
  - products
  - efficient meetings
  - measures performance by influence on others
  - delegates work

- **Teams**
  - shared leadership
  - individual & mutual accountability
  - specific team purpose
  - collective work products
  - open-ended meetings
  - measures performance from work products
  - does real work together

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**Keys to Team Success**

- **Common commitment**
  - requires a purpose in which team members believe
  - "prove that all children can learn", "revolutionizing X..."

- **Specific performance goals**
  - comes directly from the common purpose
  - "increasing the scores of graduates from 40% to 95%"
  - helps maintain focus – start w/ something achievable

- **A right mix of skills**
  - technical/functional expertise (programming/design/writing)
  - problem-solving & decision-making skills
  - interpersonal skills

- **Agreement**
  - who will do particular jobs, when to meet & work, schedules

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**Team Action Items**

- **Keep meeting & get used to each other**
- **Figure out strengths of team members**
- **Assign each person a role**
  - responsible for seeing work is organized & done
  - not responsible for doing it themselves
- **Names/roles listed on next assign. turned in**

- **Roles**
  - group manager (coordinate - big picture)
  - documentation (writing)
  - design (visual/interaction)
  - user testing

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**The Problem with the SW Industry**

*Courtesy Bill Buxton*
Adding Design...

OMA - Seattle Public Library

The Anatomy of Sketching

Sketching in Interaction Design
Tactics

- Design as choice
- Two openings for creativity
  1. Palette of choices
  2. Heuristics used to choose

Design as Choice

Elaboration

Reduction

Laseau (1980)

The Converging Path

Exploration of Alternatives

... a designer that pitched three ideas would probably be fired. I’d say 5 is an entry point for an early formal review (distilled from 100’s). ... if you are pushing one you will be found out, and also fired. ... it is about open-mindedness, humility, discovery, and learning. If you aren’t authentically dedicated to that approach you are just doing it wrong!

Alistair Hamilton
VP Design
Symbol Technologies
Experience Design

- Draw my phone
- Draw my phone’s interface
- Draw the experience of using my phone
  
  • Which is the true object of design?

Sketches & Storyboards

• Where do storyboards come from?
  – film & animation
• Give you a “script” of important events
  – leave out the details
  – concentrate on the important interactions
Picturing Time

Informal UI Prototyping Tools

How Would a Teacher Create This?

K-Sketch: Rough Animation for Novices

- Create an animation in 1-2 minutes
- properties of paper
  - Fast: Express ideas quickly
  - Simple: Learn fast, focus on high-level task
  - Powerful: Handle most rough jobs
Informal UI Prototyping Tools

- Support advantages of low-fi paper prototypes
  - brainstorming
  - consider different ideas rapidly
  - do not require specification of details
  - incomplete designs
    - need not cover all cases, just illustrate important examples
- Add advantages of electronic tools
  - evolve easily
  - support for “design memory”
  - transition to other electronic tools
  - allow end-user interaction

Designers’ Outpost:
A Tangible Interface for Designing Information Architectures

- Combines physical & virtual
  - physical post-its, virtual feedback
- Supports existing practice
  - affordances of paper
  - collaboration
  - large, persistent representation
- Adds advantages of e-media
  - editing, reuse, distribution
  - hand-off later to other tools

DENIM:
Designing Web Sites by Sketching

- Early-phase navigation & interaction design
- Integrates multiple views
  - site map – storyboard – page sketch
Low-fi Prototyping & Testing

**Travelshare**

**SUEDE:**
Informal Prototyping for Speech-based UIs

- Support design practice
  - example scripts
  - Wizard of Oz (WoZ)
  - built-in iterative design
    - design – test – analysis
- Fast & fluid design
  - no speech recognition or synthesis
  - need not be programmer

**TOPIARY:**
Informal Prototyping for Location-enhanced UIs

- Create location-based scenarios
  - place people, places, & things on map
- Use scenarios as conditions on storyboard transitions
- Iterative design
  - Wizard of Oz (WoZ)
  - Place Lab Wi-fi location sensor
- Fast & fluid design
  - no GPS or other special hardware required
  - need not be programmer

**SketchWizard:**
Informal Prototyping for Pen-based UIs

- Create pen-based UIs without needing recognizers in place
- Iterative design
  - Wizard of Oz (WoZ)
- Fast & fluid design
  - tools to support quick replacement of objects/results

**Topiary**
A Tool for Prototyping Location-Enhanced Applications

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**Summary**

- Sketching allows exploration of many concepts in the very early stages of design
- As investment goes up, need to use more and more formal criteria for evaluation
- Informal prototyping tools bridge the gap between paper & high-fi tools

**Next Time**

- **Video Prototyping**
- **Reading**
  - Beaudouin-Lafon & MacKay, pp. 1-22