Design Exploration

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Outline

- Review task analysis
- Teams vs. Groups
- Sketching user experiences
- In class exercise
- Storyboarding
- 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 is 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
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

Keys to Team Success

- Common commitment
  - requires a purpose in which team members believe
  - “prove that all children can learn”, “revolutionizing how we use energy in the home”,...
- Specific performance goals
  - comes directly from the common purpose
  - “increasing the scores of graduates form 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

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
  - team manager (coordinate - big picture)
  - documentation (writing)
  - design (visual/interaction)
  - user testing
  - development

Design Process: Exploration

- Expand Design Space
- Brainstorming
- Sketching
- Storyboarding
- Prototyping

Iteration

At every stage!

Sketching: A Quintessential Activity of Design

* Courtesy Bill Buxton
The Problem with the SW Industry

Adding Design...
From Sketch to Prototype

<table>
<thead>
<tr>
<th>SKETCH</th>
<th>PROTOTYPE</th>
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<tbody>
<tr>
<td>EVOCATIVE</td>
<td>DIDACTIC</td>
</tr>
<tr>
<td>SUGGEST</td>
<td>DESCRIBE</td>
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<td>EXPLORE</td>
<td>REFINE</td>
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<td>QUESTION</td>
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<td>PEOPLE</td>
<td>TEST</td>
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<td>PROVOKE</td>
<td>RESOLVE</td>
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<tr>
<td>TENTATIVE</td>
<td>SPECIFIC</td>
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<td>NONCOMMITAL</td>
<td>DEPICTION</td>
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The Anatomy of Sketching

- Quick / Timely
- Inexpensive / Disposable
- Plentiful
- Clear vocabulary. You know that it is a sketch (lines extend through endpoints, …)
- No higher resolution than required to communicate the intended purpose/concept
- Resolution of the rendering does not suggest a degree of refinement of the concept that exceeds its actual state
- Ambiguous

Sketching in Interaction Design

- Analogous to traditional sketching
- Shares all of the same key attributes
- More feel than look
- Must accommodate time & dynamics
- Phrasing

If you want to get the most out of a sketch, you need to leave big enough holes. There has to be enough room for the imagination.
Design as Choice

<table>
<thead>
<tr>
<th>Elaboration</th>
<th>Reduction</th>
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… 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 100s). … 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?

Minimal Detail

- Include only what is required to render the intended purpose or concept

People think focusing is about saying “yes.” But…
“Focusing is about saying no.” – Steve Jobs
IN CLASS EXERCISE

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

Ron Bird
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

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

- Lecture
  - Prototyping
- Watch Video in advance
  - Beaudouin-Lafon & MacKay
- Readings
  - Beaudouin-Lafon & MacKay, pp. 1-22
  - Video Prototyping Examples
  - Snyder, Paper Prototyping, Ch. 4