Use cases in the Fluid Project

Erin Yu, Interaction Designer, The Fluid Project
Allison Bloodworth, Interaction Designer, The Fluid project
Our Context - The Fluid Project

- Very large scope - content management
  - Trying to design general components which will work across projects instead of for a specific context
- Multiple teams in different locations with different levels of experience doing the work
- Created our models in a distributed fashion
User-centered design at Berkeley

- User research
- Modeling
- Requirements definition
- UI framework definition
- UI design
- Development support
How do we define use cases?

- High-level descriptions of how users:
  - Currently use the system
  - Need/want to use the system
  - Their goals
  - The context
  - Gathered during user research
Other definitions

• "Use cases, stated simply, allow description of sequences of events that, taken together, lead to a system doing something useful."
  - Bittner and Spence

• “A sequence of actions that takes place in a problem domain between a user and the system.”
  - Menlo Institute
Step 1: Research - Contextual Inquiries

- Interviewed & observed users in the context of their work
- Used focus structure document to guide each user visit
- Took detailed notes & photos
- Processed ‘raw’ notes into a more categorized & synthesized format
Step 2: Deriving use cases

- Part of the Modeling phase
- Levels: Motivation, Goal, Need, Task
- Reviewed processed notes to find high-level activities users are performing
  - A use case is usually made up of smaller tasks
  - Described each use case in a simple sentence (the “title”)
Use case lessons learned

- Finding the appropriate granularity is hard
- Try not to define solutions
- Make them specific enough that you and the rest of the team can understand them later
- Tie them to user goals
- e.g. “Read course announcements,” “Collaboratively create a lab report with other students”
Use case example

- Use case title: Grade student assignments
- Goal: Assess student’s understanding of course material and provide feedback
  1. Collect student assignments
  2. Review and mark up each assignment
  3. Enter grades in Gradebook
Step 3: Creating post-it notes

- Use case ‘title’ in big letters
- Different color post-it notes represented current vs. future use cases
- Colored dots represented the user role
- Users’ initials in small letters
Step 4: Affinity diagramming

- Grouped use cases based on similarity or relatedness
  - Similar to card sorting
- Because we had so many use cases, we came up with categories as an initial organizing scheme
  - e.g. Authoring, Presentation, File Organization, Communication
- Placed post-it notes onto category sheets
Step 5: Affinity diagramming

- Placed duplicates on top of each other
- Found patterns
  - *Within* each category, we organized post-it notes into groups
- Named the groups
## Step 6: Use-case frequency matrix

<table>
<thead>
<tr>
<th>Instructors</th>
<th>Undergrad</th>
<th>Grad</th>
<th>Tas/GSIs</th>
<th>Instructional Support Staff</th>
<th>Use cases</th>
</tr>
</thead>
<tbody>
<tr>
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<td><strong>Presentation &amp; Access</strong></td>
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<td><strong>Share</strong></td>
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<td>Share articles w/ friends (RSS feed)</td>
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<td>Share teaching materials with other</td>
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<td>Share notes with friends</td>
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<td>Share powerpoint slides</td>
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<td>Share current even articles with students</td>
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<td><strong>Allow students to see other students</strong></td>
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<td><strong>Read/View</strong></td>
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<td>Read manual with instructions for</td>
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<td>Read course articles &amp; reading online</td>
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<td>View video lectures sync’d with slides</td>
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<td>Review webcast of class</td>
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<td>Read course books &amp; readings (offline)</td>
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<td>Subscribe to RSS feeds</td>
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<td>Get general course information</td>
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<td>Refer to syllabus</td>
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<td>Sort announcements</td>
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Step 7: Priority matrix
Step 8: Activity Diagrams
Step 9: Requirements Definition

- Use matrices to prioritize use cases
- Are there frequent/important use cases that can be addressed by Fluid components?
- Is there overlap between frequent/important use cases & pain points found in an earlier analysis?
- Validate choice of some upcoming Fluid components
- Fill in roadmap for future Fluid components
Next steps

- User research
- Modeling
- Requirements definition
- UI framework definition
- UI design
- Development support