Using Rapid Prototyping for Design Iteration

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UX and Agile: The promise

Agile says development in steps – and iterate
UX says work with users to create value – and iterate

Phase 0
sets direction (requirements)

User Iteration
refines the interface and function

Waterfall development

The “ideal” product

What users really need
Base principle for real user feedback

Real user feedback – Doesn’t come from:

- Product owners
- Stakeholders
- User surrogates
- Purchasers
- People who used to be users
- Demos
- Focus groups

And…

- You can’t put the user on the team
- Users can’t give you a design
- Users can’t tell you what they want
Validate product concepts, process changes, and user experience while testing user reception

Or bring out concept boards to validate direction before detailed design
Testing a design:
Paper prototyping
Using paper prototypes

Test design concepts with users
- Structure, function, and flow
- You are not testing a final, perfect design

Use hand-drawn paper prototypes
- Rough paper reveals structure better
- Paper lets the user engage and co-design
  - Use the language of the user
  - Pieces need to be easily moveable and changeable
- Paper allows for real work, not just demo
- Find what works for users instead of just validating

Iterative prototyping process
- A new iteration every 10 days
- Move to running prototype as parts stabilize
- Test low-level UI after the structure is stable
A paper prototype
A paper prototype
Principles for paper prototype interviewing

Context – grounded in real experience
- Walk through the user’s real work in the paper prototype
- Make sure users interact with it

Partnership – co-design
- Modify the prototype as you go
- Suggest changes based on your knowledge of the whole system

Interpretation – understand the issues
- Look for underlying issues related to structure and interaction patterns
- Watch emotional reaction to the system

Focus – validate the structure
- Focus on the work practice the prototype was designed to address
- Ignore visual design issues
Structure of a paper prototype interview

**Introduction**
- Introduce prototype and interview situation
- Get an overview of their work

**Transition**
- Move to prototype after you find a few hooks
- Orient user in the prototype

**During the Interview**
- Replace sample data with real data
- Have the user interact with the prototype to do real work
  - Do NOT fall into demo mode
- Modify prototype with user’s suggestions
- Take notes

**Wrap-Up**
- Restate key findings
- Walk through any remaining parts of system
- Check sales point
Record the data

- Separate the conversations
  - Work practice
  - Structural
  - Function
  - UI detail
  - Validation

**Interpretation roles**

- Interviewer recounts from prototype
- Notetaker reads their notes
- Participants listen for different types of issues
- Recorder captures issues and labels
Resolving issues and iterating the prototype

Organize issues according to structure
- Print issues on Post-its and attach to relevant area on interaction sketches

Resolve large structural issues as a team
- Complex issues at the level of the overall system or UI components
- Record decisions and new issues

Work out details and lower-level issues in sub-teams
- Address all remaining
- Record decisions and new issues

Create new interaction sketch
- If changes are minor, modify old sketch

Build new paper prototype
- Increase amount of detail after each round
Rapid Iteration within Sprints
Phase 0 steps

- Field Research
  - Contextual Inquiry
  - Work models

- Visioning

- Concept Validation
  - Low-fidelity prototyping

- Determines who the customer is and what to build
- Necessary precursor to Agile Development
- Result: Tested and validated product structure and features

Need not take longer than 4-8 weeks
Contextual Design enables Agile development

- Sprint planning – Detailed planning session to define tasks for the sprint
- Sprint development – The coding and UX work of the sprint
- Sprint review – End of sprint reflection
### Example schedule of CD Agile Phase 0

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<th>Sprint</th>
<th>Activities</th>
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<td>Week 1</td>
<td>Gather data from 8-10 users</td>
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<td>Week 2</td>
<td>Consolidate data</td>
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<td>Week 3</td>
<td>Vision and storyboard</td>
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<td>UED and UI</td>
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<td>Week 5</td>
<td>Release planning &amp; validation (2-4 users)</td>
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<td>Week 6</td>
<td>Validation &amp; redesign</td>
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**User-centered Agile**

- Compressed into a short Phase 0
- For constrained project focus only!

Phase 0 sprints using Scrum as a process framework
### Example schedule of an Agile Sprint

| Week 1             | M-W: Collaborate with developer; Work up detailed designs  
|                   | Th: 4 users + interpretation  
|                   | F: Revise detailed design  
| Week 2             | M: Collaborate on new/detailed design  
|                   | W/Th: Check design implementation  

### User-centered Agile
- Prototype testing for detailed UI
- Testing of initial implementations for rapid feedback
Put the customer at the center of the design