

Topic: Prototyping

Goals: By the end of this topic, we will discuss...

- Paper Prototyping: thinking about the project

Acknowledgements: These class notes build on the content of my previous courses as well as the work of R. Jordan Crouser, and Jeffrey S. Castrucci.

Creating programs without an assignment description....

You want to build X!

What is X? What is the primary goal / objective?

Who will use X (who are potential users)?

X will help < some user > be able to < complete some task >.

Facebook will help friend be able to attend each others events.

ATM will help clients be able to get cash on the go.

User-Centered Design Framework

1. Discovery
 - 1.1. Learning about your users
 - 1.2. Modeling your users
 - 1.3. Analyzing your users' tasks
 - 1.4. Eliciting and defining clear product requirements
2. Conceptual Phase
 - 2.1. Developing conceptual models
 - 2.2. Solving design problems through ideation
 - 2.3. Detailed design activities
3. Prototyping + User Testing
 - 3.1. Delivery of a high-quality product that meets users' needs and is easy to learn and use



[<http://www.uxmatters.com/mt/archives/2010/07/design-is-a-process-not-a-methodology.php>]

We will use a modified order...

Defining your audience

- Learning about their problem: Semi-structured interview
- Analyzing their tasks: Hierarchical task analysis
- Modeling users: Personas

Personas

Why?

- mechanism for reasoning about user needs
- model behavioral characteristics of target users
- doesn't require access to ACTUAL users

How?

- fictionalization
- narrative, goals, needs, "pain points"
- attributes specific to the problem space
- data-driven method* using info from interviews
- mapping persona to software features



Activity: Personas

Come up with 3 personas that characterize people who might be interested in your project.

Semi-structured interviews

Why?

- gather qualitative data about users to understand the problem
- can help identify key differences between designer and target user

How?

- ask open-ended questions
- bring along a "cheat sheet" to
- ensure that you gather all the
- information you need

Some tips:

- establish trust at the beginning
- participant engagement will vary
- be flexible, but make sure you get what you came for
- consider recording or note-taking to help with recall

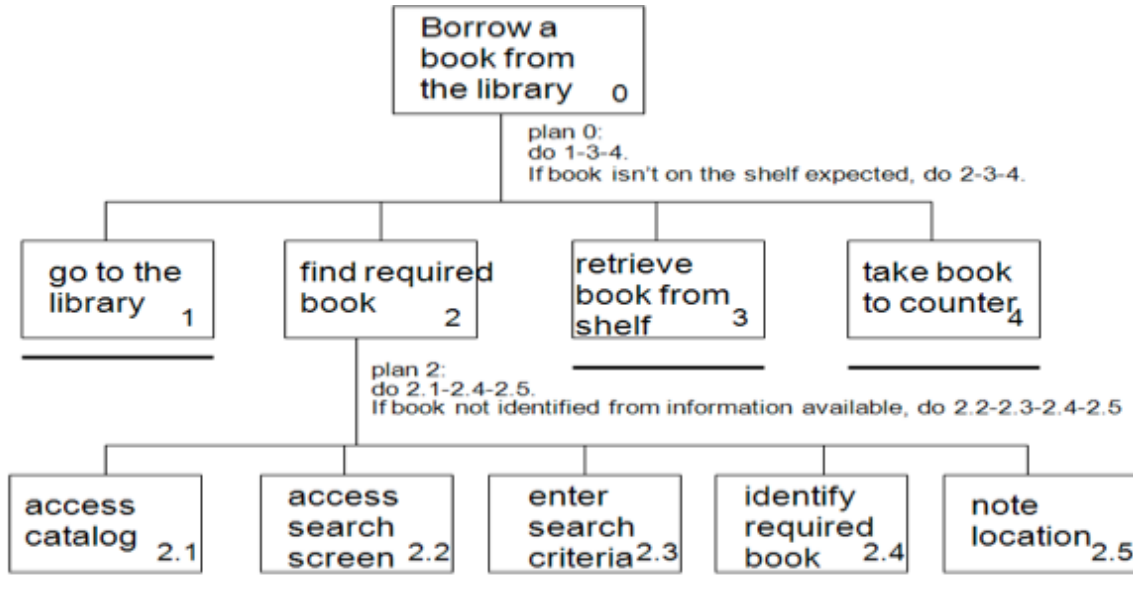
Hierarchical task analysis

Why?

- Understand user workflow
- Identify pain points and areas for optimization

How?

- Decompose tasks into 4-8 sequential steps
- Identify patterns, sequences and skips in the tasks



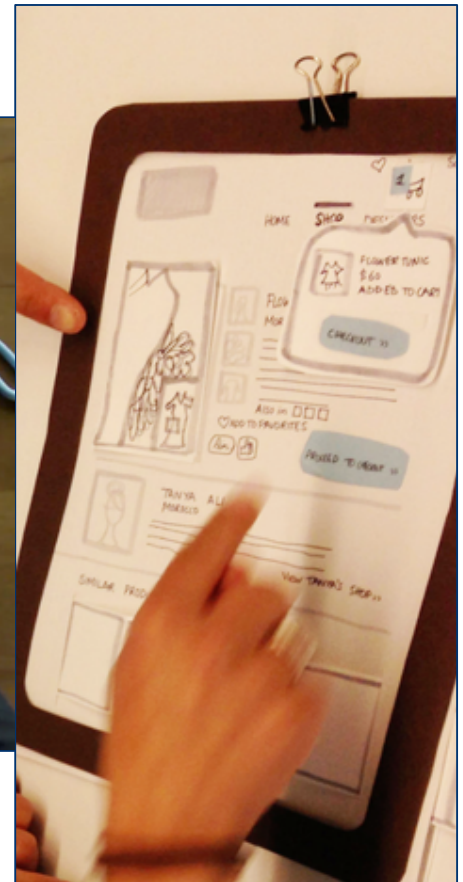
Paper Prototype

Making a paper version of an interface is a lot faster and easier than coding a working prototype – start there!

- Generate **lots of ideas**
- Engage **other people** in the design process
- Identify **potential problems** before you waste time coding
- Get **feedback** quickly, from lots of different people
- Some tips:
 - Focus on the **big picture**, don't worry about the details
 - **Think about what you want it to do**, rather than what you know how to implement (we'll worry about that later)
 - Not so into arts and crafts? It doesn't have to be **actual paper**... Whiteboard / PowerPoint / Keynote will also do the trick!

Activity: Paper Prototype

Create a paper prototype of your project.



Competitive Review

Compare your proposal to the competition.

Why?

- If you look at what already exists, you might be able to identify potential issues in advance
- Also helps establish your unique contribution

How?

- Literature or product review
- Analysis
 - What are the existing tools?
 - What is their purpose?
 - What audience are they aiming for?
 - What kinds of strategies are they using?
 - What functionality do they contain?
 - What are their strengths and shortcomings?
- Identify opportunities and design constraints