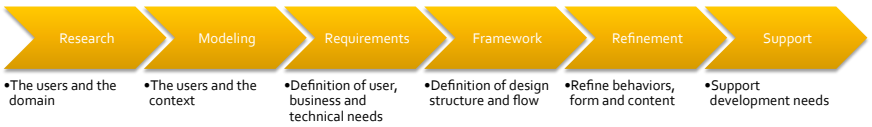
Sketching and Storyboarding

Lecture 5

Outline

- Developing an Interaction Framework
- Storyboarding
  - Key path scenarios

Goal Directed Design Process



- Framework and Refinement

Framework and Refinement Stages of Goal Directed Design

- Framework
  - Elements – information and functionality
  - Framework – overall structure of user experience
  - Key Path & Validation Scenarios
- Refinement
  - Detailed Design – bit level expression, high-fidelity prototype
  - Formative Testing – to improve, refine, create the high-fidelity prototype

Developing an Interaction Framework

1. Define form factor, posture, and input methods
2. Define functional and data elements
3. Determine functional groups and hierarchy
4. Sketch the interaction framework
5. Construct key path scenarios
6. Check designs with validation scenarios

Define Form Factor, Posture, and Input Methods

- Form Factor
  - What kind of product is this?
    - Web product, desktop application, handheld/mobile, kiosk, public use or private
- Posture
  - How much attention a user pays to the product
  - How does the product respond to that attention
- Input Method
  - How will the users interact with the product?
  - Keyboard, mouse, game controller, voice, remote controller

Define Functional and Data Elements

- Data Elements
  - Messages, photos, customer records, order records, status, roles
  - What are key attributes of these data elements?
    - Price, sender, subject, title, number in stock,
- Functional Elements
  - Operations allowed on data elements and their attributes
    - View, inspect, edit, modify, delete, promote, print

Determine Functional Groups and Hierarchy (1)

- Organizing functionality and data
  - Screens, frames, panes
  - What data belongs with what controls?
  - What elements are containers of other elements?
  - Is there a sequence of element use?
  - How does the persona's mental model influence the design?

Determine Functional Groups and Hierarchy (2)

- Explore existing Principles and Patterns
  - Windows
  - Menus
  - Toolbars
  - Other controls
  - Other interaction patterns

Sketch Interaction Framework

- Sketch, draw
- What are possible juxtapositions
- Explore different layouts for different views

- Don't get too invested in details of one sample, treatment

Construct Key Path Scenarios

- Key Path Scenario
  - How a persona interacts with the product
  - Derive from the context scenario
  - Task oriented view of how the persona interacts with the system
- Storyboarding
  - Low-fidelity sketching with exacting details of the interaction

Check Designs with Validation Scenarios

- Validation Scenarios
  - Lighter weight, less detail than Key Path scenarios
  - Ask "What if …?" questions about the interaction
  - Three types
    - Key path variant – exceptions, less frequent views and tools, …
    - Necessary use – rarely used, but required, like 'setup' steps
    - Edge case – rare, but possible, like system failures

Apply Other Design Elements

- Develop Visual Design
  - Visual language
    - How is color used?
    - What styles characterize the visual look?
- Develop Industrial Design
  - What are the input forms?
  - Rough physical prototypes

Refinement

- Move from a 'rough' but stable vision to a pixel level presentation
  - Explore and validate
- Implement key paths
  - Validate interactions and dialogs with the user
- Basically, development of a high-fidelity prototype

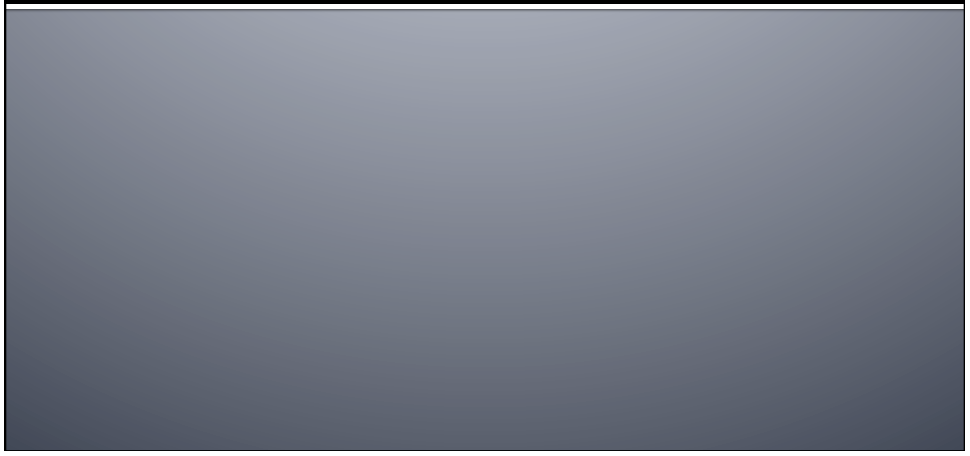
Refinement

- Formative Testing
  - During the refinement stage you can begin formative testing
    - Formative testing vs Summative testing

Formative Testing

- Test late enough to have something reasonable to test, early enough to make changes
- Test tasks that are relevant or most likely to be used
- Recruit participants from the target population
- Allow participants to interact with the prototype (paper prototype)
- Think aloud method to understand their actions, behaviors and rationale

Storyboarding



Interaction Design Scenarios

- Brainstorm the interaction design space
  - Explore possible metaphors and technology
- Transform context scenarios into key path scenarios
- Step through key paths and validation scenarios

Storyboarding for Interaction

- Interaction cannot be conveyed in a single picture - need a sequence
- Storyboard is
  - an instantiation of a user <-> system conversation
  - an event by event enactment of a key sequence of user <-> system interactions

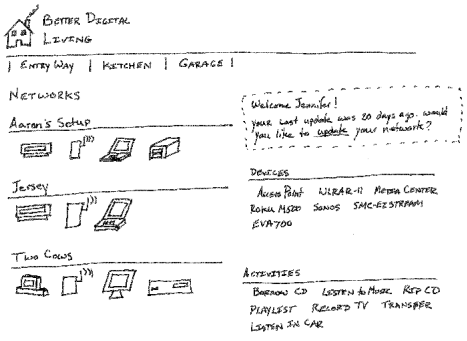
DLEOU
Key Path Scenario

- Jennifer identifies and buys a media adapter that can both stream pictures and music. Jennifer adds the device to her network and attaches it to her TV and stereo. Soon she has photos streaming to the TV, but unfortunately she has trouble getting music to play with the photos. Is the problem the wireless router, her PC, some settings, audio formats, or the wrong software?
- Jennifer launches her favorite web browser and navigates to the "Better Digital Living" portal. She logs in and is shown a list of users who have digital home networks similar to her own. She clicks on a network to explore another user's setup. She sees that this user has had a network problem similar to hers. She clicks on a link to a discussion list to try and find the solution to her problem.

DLEOU
Key Path Scenario

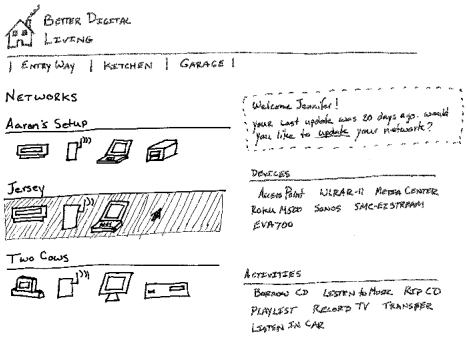
- At the "Better Digital Living" portal, Jennifer sees an ordered list of user's networks. The list is ordered according to similarity to her own network; most similar first. For each network she can see a characteristic set of devices that are part of the network - access point, printer, laptop, media adapter - but she cannot see the details for each device. At the main page of the portal Jennifer can see other things that she might do, read FAQs, participate in a forum, enter or update her own "Digital Home Inventory".
- Jennifer enters and is presented with a list of similar networks. As Jennifer moves her mouse over the list of networks, each network is highlighted. Jennifer clicks on a network which changes the list of networks to reveal a detailed collection of the items in the selected network.

Storyboard



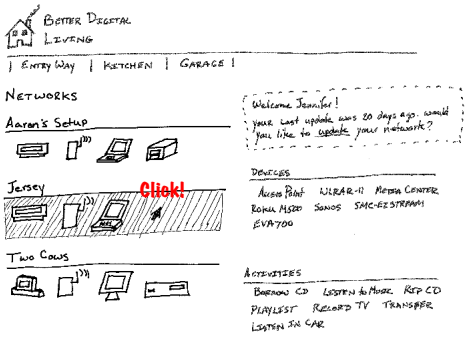
Jennifer enters and is presented with a list of networks similar to hers

Storyboard



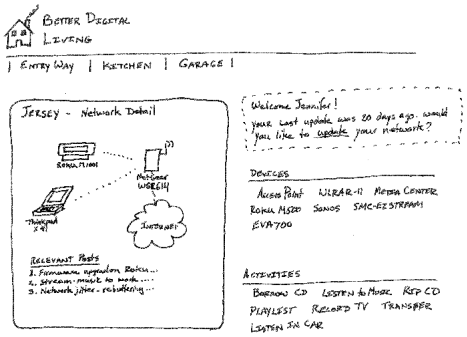
As she mouses over the items in the network list they highlight to indicate that she can do something more with each network

Storyboard



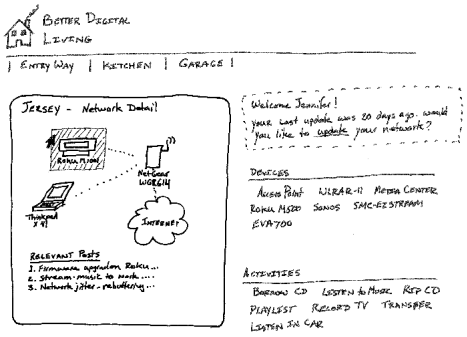
When Jennifer clicks on a network the network detail is displayed

Storyboard



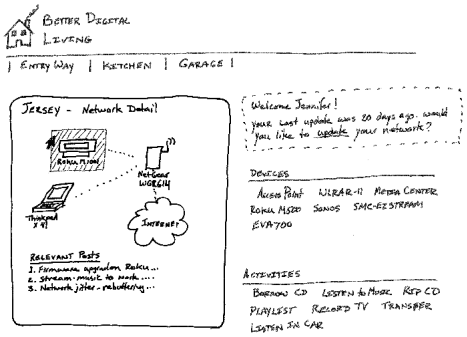
The network detail shows more about the specific network, how it is set up and a list of relevant posts

Storyboard



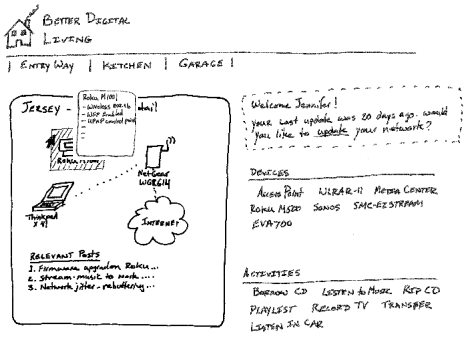
Jennifer is interested in the media adapter. When she mouses over the adapter it is highlighted to indicate it can be selected.

Storyboard



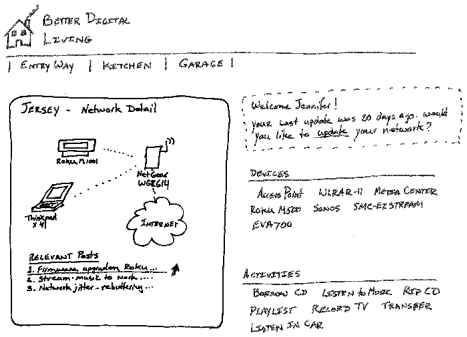
As Jennifer hovers over the media adapter, a pop-up shows more details of the device.

Storyboard



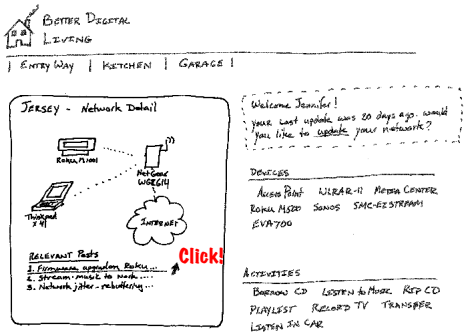
The pop-up describes capabilities and settings for this device that have been shared by the user of this network.

Storyboard



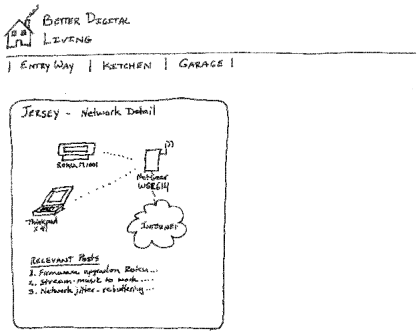
Jennifer moves the mouse over one of the items in the list of relevant posts. The item shows an underline to indicate that this is a link to the post.

Storyboard



She clicks the link to access the information in the post.

Storyboard



What happens then??

Storyboarding

- Lots of details
- Takes time to do it well
- Aim for low fidelity because you'll never get it "right" the first time.