

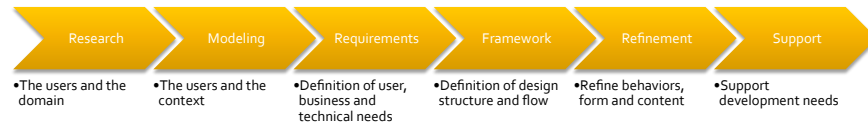
# Sketching and Storyboarding

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

- **Initial Problem 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?
- **Key Path Scenario – Option 1**  
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 sees a user with a similar network who has had a problem much like the one she is experiencing. She clicks on a link to a discussion list to try and find the solution to her problem.

## DLEOU

### Key Path Scenario

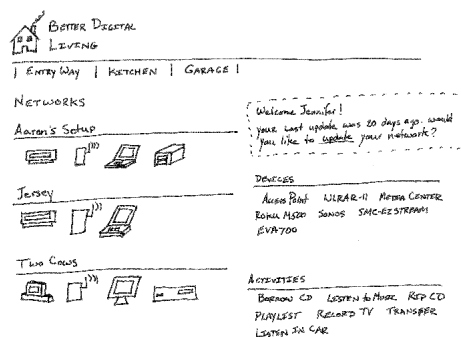
#### ■ Key Path Scenario – Option 2

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”.

#### ■ Key Path Scenario – Option 3

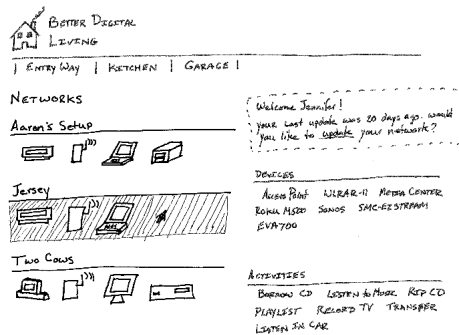
Jennifer enters the “Better Digital Living” portal and is presented with a list of similar networks. As Jennifer moves her mouse over the list of networks, each network is highlighted. Jennifer clicks on a network which changes the list of networks to reveal a detailed collection of the items in the selected network.

## Storyboard



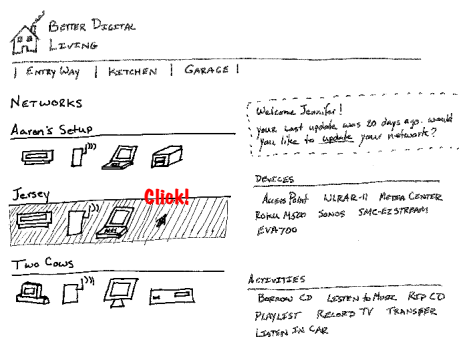
Jennifer enters and is presented with a list of networks similar to hers

# Storyboard



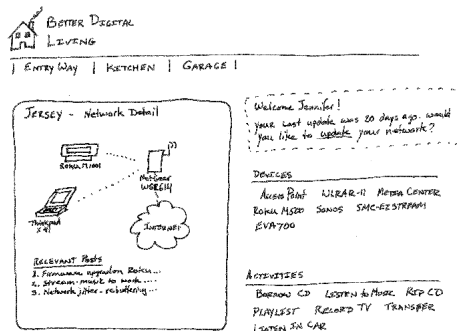
As she mouses over the items in the network list they highlight to indicate that she can do something more with each network

# Storyboard



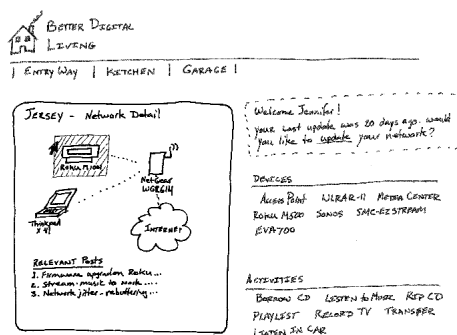
When Jennifer clicks on a network the network detail is displayed

# Storyboard



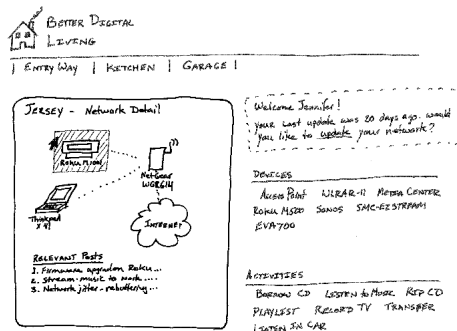
The network detail shows more about the specific network, how it is set up and a list of message board posts that are relevant to the network equipment configuration

# Storyboard



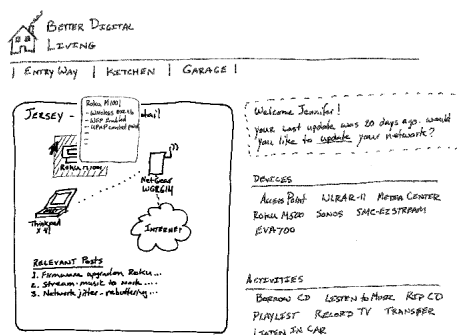
Jennifer is interested in the media adapter. When she mouses over the adapter it is highlighted to indicate it can be selected.

# Storyboard



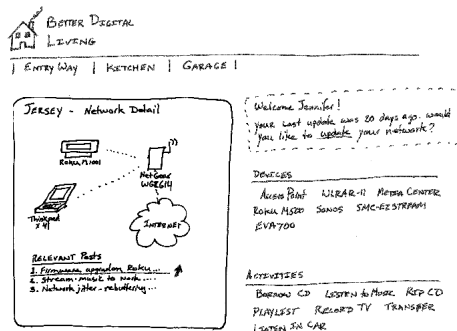
As Jennifer hovers over the media adapter, a pop-up shows details about the device.

# Storyboard



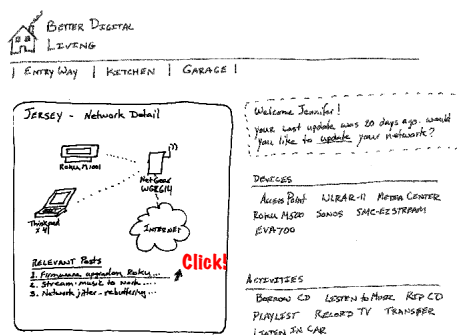
The pop-up describes capabilities and settings for this device that have been shared by the user of this network.

# 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



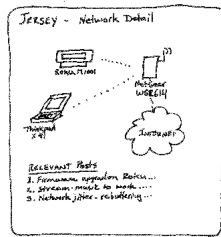
She clicks the link to access the information in the post.

# Storyboard

BETTER DIGITAL  
LIVING

| ENTRY WAY | KITCHEN | GARAGE |

What happens next??



# Storyboarding

- Lots of detail
- Takes time to do it well
- Rough sketching is good
  - Aim for low fidelity because you'll never get it "right" the first time.
- Pair image with narrative (text)