Today’s Agenda

• Evaluation methods
  • Personas & Cognitive Walkthrough
  • Card Sorting
Recall: What is Evaluation?

Evaluation, in general...

- Gather data about the usability of a design for a particular activity by a specified group of users

  - Goals
    - Assess extent of system’s functionality
    - Assess effect of interface on user
    - Identify specific problems with system
## Evaluation Methods

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Personas & Cognitive Walkthrough
Cognitive Walkthrough

• Who are the evaluators?
  • The HCI evaluators (more than one is better)

• Assess usability through simulation of way users explore with interactive system
  • “Thought Experiment”

• Try to predict what user will do

• Great for the early stages of development
What do You Need for a Cognitive Walkthrough?

1. An indication of who the users are (personas)

2. Fairly detailed prototype of the system.

3. A complete, written list of the actions needed to complete tasks with the given prototype
Cognitive Walkthrough: Example of Persona

**Sasha**
- **SMART SHOPPER**
- **GOAL**: Shopping smart to get more for her money
- **SATISFACTION**: Getting great deals on essentials
- **PERCENTAGE OF CUSTOMER BASE**: 26%
- **WEIGHTED ONLINE SPEND**: £64.57
- **ANNUAL HOUSEHOLD INCOME**: £28.98

Sasha is 34, married, and has a two-year-old child. She currently works as a part-time office manager and lives in the suburbs of Bristol.

**Isobel**
- **IMPULSE SHOPPER**
- **GOAL**: Getting a good deal on everything
- **SATISFACTION**: Getting great deals on essentials
- **PERCENTAGE OF CUSTOMER BASE**: 30%
- **WEIGHTED ONLINE SPEND**: £69.98
- **ANNUAL HOUSEHOLD INCOME**: £32.90

Isobel is 36 and lives with her partner and 6 month old child in the suburbs of Newcastle. She works as a shop assistant.

**Julia**
- **CAREFULLY CONSIDERED SHOPPER**
- **GOAL**: Being careful with the monthly budget
- **SATISFACTION**: Having money left over at the end of the month
- **PERCENTAGE OF CUSTOMER BASE**: 18%
- **WEIGHTED ONLINE SPEND**: £77.88
- **ANNUAL HOUSEHOLD INCOME**: £30.67

Julia is 47. She’s married with three children and lives in the suburbs of Leamington Spa, where she works as a nurse at the local maternity hospital.

**Rob**
- **COMFORTABLE CLASSIC SHOPPER**
- **GOAL**: Shopping quickly at trusted brands
- **SATISFACTION**: Shopping and saving quickly - not too much hassle
- **PERCENTAGE OF CUSTOMER BASE**: 14%
- **WEIGHTED ONLINE SPEND**: £65.58
- **ANNUAL HOUSEHOLD INCOME**: £28.67

Rob is 44. He’s married with two young children and lives in a large village on the outskirts of Basingstoke. He works as a primary school deputy head teacher.

Cog Walkthrough: Example of Persona

- **Name:** Henry Wester
- **Age:** 67
- **Location:** Indiana
- **Education:** High School
- **Job:** Family farm owner and operator
- **Crop:** Corn
- **Gross annual sales:** <$100,000
- **Equipment budget:** $120,000
- **Acreage:** 110 acres
- **Family:** Widowed, 4 adult children, 9 grandchildren
- **Tasks:** Planting corn, maintaining the fields (irrigation, fertilization), harvesting, transporting, and storing corn

Like his father before him, Henry owns and operates his corn farm. It is small acreage (compared to his competitors, and low gross annual sales. Henry is proud of his work, and is a long-time Deere customer. Henry’s youngest son will take over the farm when Henry decides to retire or can no longer work. When purchasing John Deere equipment, Henry is concerned about affordability, warranty, and durability. Henry believes the simpler the machine, the more reliable it is. Henry has been saving to purchase a sprayer. He would like to trade in an old 4600 series for a new 4600 or 4700 series. However, he is not sure how much his old 4600 is worth.
Cog Walkthrough: Process

• Okay…. Now that you have personas created...
• Assign persona to evaluators
• Step through action or task sequence
  • Action 1
  • Response
  • Action 2
  • Response
  • ...
• For each one, ask FOUR QUESTIONS and try to construct a usability assessment
Cognitive Walkthrough – What do You Ask?

1. Does the user understand what subtasks are needed to reach the user's goal?
   - E.g., does the user know how to change the display?

2. Will the user notice that the correct action is available?
   - E.g. is the button visible?

3. Once found, will they know it is the right action for the desired effect?
   - E.g. the right button is visible but the user does not understand the text and will therefore not click on it.

4. Does the user get feedback?
   - Will the user know that they have done the right thing after performing the action?
Example

• [https://www.youtube.com/watch?v=bzvQY68lm8c](https://www.youtube.com/watch?v=bzvQY68lm8c)

• What persona was this usability expert probably provided with?

• See if you can follow him addressing those four questions?
  • He will “thinking aloud” answers to those questions (does the user understand, notice, take right action, and get feedback?)
Why (or Why Not) Use Cognitive Walkthroughs

• Strengths?
  • No need for untrained users
  • Fast results

• Weaknesses?
  • Need a group of experts – practice makes perfect
  • Need to make assumptions about what user will do
Sorting Things Out: Card Sorting Methodology
What is Card Sorting?

• Card sorting is a user-centered design method for increasing a system’s “findability”.
• The process involves sorting a series of cards, each labeled with a piece of content or functionality, into groups that make sense to the users.
What is Card Sorting?

• Card sorting is a link between
  • how people think/organize → Website structure

• Why use it?
  • Quick
  • Inexpensive
  • Reliable

• There are different ways users may think about and sort content...
A Simple Non-Technical Example
Why is It Useful?

• What do you think?
• What it gives you
  • The structure for website/app interface
  • Suggestions of what you put
  • Labeled categories
• You learn..
  • How different people think about, organize, and expect to access your content
  • A bit about the language/terminology used by a particular group
Issues with Card Sorting

• Card Sorting is “Deceptively Simple”
  • You probably think you know how to sort things in a way that will make sense to your users... But you probably don’t!
• Conflicted results
  • Consensus conclusion
Open Sort vs. Closed Sort

As usual, when it comes to methodology you have to ask “What is my goal?”

Two types:
- Open Sort
  - “Discover”
- Closed Sort
  - “Validate”
Open Sort vs. Closed Sort

**Open Sort**
- Participants are asked to organize topics from content within your website into groups **that make sense to them**
- Then **they name each group** they created in a way that they feel accurately describes the content
- Use an open card sort to learn how users group content and the **terms or labels they give each category**

**Closed Sort**
- Participants are asked to sort topics from content within your website into **pre-defined categories**
- A closed card sort works best when you are working an already fixed navigation/menu, and you want to **learn how users sort content items into each category**
Open Sort vs. Closed Sort

Example:
The content includes: “about us”, “forum”, “rating system”, “map of restaurants”, etc.

Open Sort
• Please organize this content into groups (no limit on # of groups)

Closed Sort
• The menu options are: “home”, “research”, “locations”, “contact us”, etc.
• Please organize content into these predefined groups
Example of Open Sort vs. Closed Sort

**Open Card Sort**
1. Participant gets a stack of cards
2. Participant sorts cards into groups
3. Participant labels his/her groups

**Closed Card Sort**
1. Participant gets a stack of cards
2. Participant sorts cards into groups the researchers have created
Preparing for Card Sorting

• Select content
  • Current content areas
  • Planned/future areas
  • “Blank cards” for users to create content (optional)

• Select your participants
  • Who are your users?

• Prepare the cards
What Goes on a Card?

“movie review of Dark Knight” vs “comments on a movie review”

One is a page, the other is a page element.
What Goes on a Card?

“page listing of all smartphone”

VS

“Nokia N95”

One of these has already enforced a category...
Card Sorting Tips

1. Don’t expect the same results – discrepancies are good
2. Look for more information in the conversations than in the results (can ask participants to “think aloud”)
3. Be clear on your intentions – are validating (closed) or discovering (open)
4. Don’t equate your final card sort as your site structure - -- look at the data as “input” because translation is still required
5. Run with actual users, but you can also use internally within your design team!
6. Can be conducted individually or in groups of people
More Card Sorting Tips

Detailed instructions of card sorting by Usability.gov

Video Example

• https://youtu.be/TNvdgXCqEvM
Online Card Sorting Tools

Many online card sorting tools are available
  • Free trial
  • Enable both open and close card sort
  • Report and analysis available

For example,
  • OptimalSort
    • https://www.optimalworkshop.com/optimalsort
  • UXtweak
    • https://www.uxtweak.com/card-sort-tool
  • usabiliTest
    • https://www.usabilitetest.com/card-sorting
Team Activity

• Continue working on prototype/testing
• Come up with your plan for usability testing
  • You’ve learned about several evaluation methods thus far, what evaluation methods might you use?
Reading Assignment

- ID Chapters 11, 14, and 15
- UYU Chapters 12 and 13
Quiz #4

• Starts from 3:20pm,
• Due at 3:35pm
• Open book and open notes