MOBIUS 2015
User-Centered Design Training Workshop

Host: The Information Experience Lab, University of Missouri

June 3, 2015
Introduction to Usability

Presenter: Kodjo Atiso
Usability

• Usability is the ease of use of human made objects.
• ...*how well* can users learn and use a product
• ...*how satisfied* are they with that process.
Usability and design

Teapot A

Teapot B
Is this Usable?
User centered design

- **Specify the context of use:** Identify the *people* who will use the product, what they will use it for.
- **Specify requirements:** Identify any business requirements or *user goals* that must be met for the product to be successful eg EHR, LMS?
- **Create design solutions:** This part of the process may be done in stages, building from a rough concept to a complete design.
- **Evaluate designs:** Usability testing with using participants reinforces UCD.
Design goals

- useful
- usable
- valuable
- findable
- desirable
- accessible
- credible
Why usability matters...

- Studies show users have *low tolerance* for difficult designs and have not time to wait.
- Consequence...loss of patrons.
Study

• In a recent usability study of e-commerce sites found average user success rate at just 56%.

• Consequence....waste of time....
Nielson’s usability heuristics

- Jacob Nielson came up with 10 general principles for interaction design.

- They are called “heuristics” or standards because they offer a broad rule of thumb rather than specific guidelines.
10 usability heuristics

- Visibility of the system
- Match between the system and the real world
- User control and freedom
- Consistency and standards
- Error prevention
- Recognition rather than recall
- Flexibility and efficiency of use
- Aesthetics and minimalist design
- Help users recover from errors
- Help and documentation
Visibility of the system

• A website site should inform users as to what is going on using ‘appropriate feedback within reasonable time.

• Users should not be left wondering.
User control and freedom

• The system must support certain basic freedom and control.

• **Examples:** “Go back” button, “Undo” “redo” “Add to cart” “Close Window” “delete”
Consistency and standards
Match between system and real world

• The system must speak the user’s language.

• For example: children’s library website -vs- Electronic Health Record
Error prevention

- There must be error messages that prevents problems from occurring in the first place e.g. “Are you sure”, “remove” etc.
Recognition rather than recall

- All relevant information must be on the same screen, place so users don’t have to go back and forth.

- The aim is to prevent users getting frustrated and leave.
Flexibility and efficiency of use.

- The system must cater to all, novices and professionals.
- Quick links, saved searches “save query for later” or “recently viewed” add efficiency to the system
Aesthetics and minimalist design

• Should be simple, clean and sparse

• Great design should not obstruct the function .....

...
Help users recover

Please ensure all fields highlighted in red are filled.

Email: *

Telephone:

D.O.B: DD  MM  YYYY

Select the nature of your request:
Help and documentation.

• Help in the form of video tutorials, Help page, advanced search, FAQ

• ‘Hover overs’ are a very common help tool
Heuristic Design Review Activity

Presenter: Neeley Current
Divide up into small groups.


In your group, walk through the 10 heuristics to evaluate the site
Methods in Usability

Presenter: Kenneth Haggerty
Iterative Design Process

- **Strategy**
  - PERSONAS
  - FOCUS GROUPS

- **Design**
  - HEURISTIC METHODS
  - WIREFRAME
  - CARD SORTING

- **Release and Measure**
  - METRIC ANALYSIS
  - INTERVIEWS

- **Develop**
  - USER TEST
  - SURVEY
  - EYETRACKING
Strategy
- Snapshot of Target Audience
- Highlights demographics, needs, motivations, behaviors of fictional character
- Make it easier for designers to create empathy with consumers throughout the design process
Focus Groups

- Moderated Discussion Among 8-12 users
- Covers a Range of Topics
- Will learn about user’s attitudes, beliefs, desires, and their reactions to ideas or to prototypes
- Individuals express diverse views on the topics and participants can learn from each other
Drawbacks of Focus Groups

- Needs constant intervention for quieter members to share their inputs
- Can be biased based on the group discussion
- 1-2 people tend to dominate discussion
Design
Heuristic Evaluation

- Usability Specialist judge whether elements of an interface follow usability heuristics.
- Involves 2-3 experts who independently evaluate the system by noting observations.
- Communication with one another once the evaluation is complete.
- Communication involves collating problem lists.
Wireframe

- Visual guide
- Represents page structure as well as key elements
- Purpose of arranging elements to best accomplish a particular purpose
Card sorting helps you build the structure for your web site, what to put on the homepage, and label the categories.
Card Sorting

- Participants asked to organize the content from your website in a way that makes sense to them.
- Help you label these groups
- Types: open and closed card sorting
Develop
User Test

• User is asked to perform certain number of tasks on the computer and speak out their thoughts when performing the tasks

• Subject sits in front of the computer screen, interviewer sits besides the subject

• Interviewer prompts or guides the subject as and when required

• Mid or Final stages of website design
Morae recording features

- Captures every nuance of user experience
- Screen video
- Screen text
- Audio
- Mouse clicks
- Webpage changes
- Camera video
- Keyboard activity
Morae Recorder

- Video and Audio Sources:
  - Main: Screen (Primary Monitor)
  - PiP: Logitech QuickCam Pro 5000 (320 x 240)
  - Audio: Microphone (Logitech Mic Pro 5)

- Use the dropdown lists to select the Main video, PiP video, and audio sources.

- Preview Window:
  - View the selected Main and PiP video sources.

- Audio Monitor:
  - Keep the maximum level in the blue area.

- Click to open the Screen Video or Camera Settings dialog box.

- Move slider to adjust audio level.
Survey

- [x] Very Satisfied
- Satisfied
- Neutral
- Unsatisfied
- Very Unsatisfied
Online Surveys

• Structured interviews with users
• Record users’ responses
• Can learn many types of information such as who the users are of a site, how they use the site and their opinions about your site
• Allows users to rate or rank features of a website
Online Survey Components

• What is the purpose?
• When is the survey being conducted, i.e. before or after re-design
• Can occur at any stage during the development process
• Time factor
• Mix up open-ended and closed questions
Welcome to a usability survey of the Digital Public Library of America website. The purpose of this survey is to see how people use the DPLA application. This is not a test and your name will in no way be associated with your answers. Thank you for your participation.

Go to DPLA visual search page found at "http://dp.la/apps/23" and search the catalog for To Kill A Mockingbird.

How do you feel about the search option on the DPLA homepage?

In what ways could the search option be improved?

Please take a look at the results of your search. How do you feel about the results provided and the information given such as format, description and the provided graphics?

Which of the following regions do you find most useful (click the dot in the general area of most useful region)?

Gregory Peck
Everett Raymond Kinstler, born 5 Aug 1925

Born La Jolla, California. One of the great stars of postwar Hollywood, Gregory Peck is best known for his Oscar-winning role as Atticus Finch in To Kill a Mockingbird (1962). He began his acting career on Broadway in The Morning Star (1942) but soon turned to Hollywood and became a major star in such films as Days of Glory, The Keys of the Kingdom, Spellbound, The Yearling, Duel in the Sun, Gentlemen’s Agreement, and The Gunfighter. Peck's ta...
Eye Tracking
Why eye tracking?

• With an Eye Tracker we know exactly where a person is looking
• Primarily used for research, design testing and diagnostics etc.
• Get clear additional insights into behaviour
• Measurable reactions
• Objective results
Release and Measure
Interviews

• Talking to one user at a time
• Interview Protocol
  • Questions and probes to use during the interview
• Can give a deep understanding of the users opinions
• Don’t have to worry about group dynamics
Performance Metrics

- Task Success
  - Measured through binary success (pass/fail)
- Time on Task
- Errors
  - Measuring Error Rate
- Measuring Efficiency
  - Cognitive and Physical Effort
Standard System Usability Scale

- Set of 10 questions
- Scale of 1 (Strongly Disagree) to 5 (Strongly Agree)
- Allows researcher to collect usability success scores
Questions?
15 minute break!

“Libraries will get you through times of no money better than money will get you through times of no libraries”

- Anne Herbert
Cardsorting Game – Part I

Presenter: Neeley Current
Library Case Studies

Presenter: Nathan Lowrance
The Library Page Identity Crisis

Am I search tool? Am I an events page? Am I a home page? Am I a resource guide? Am I a blog? Am I a place to connect?
Mental Model

• Make a wire frame of a library web page
State Library

State Library

The Missouri State Library promotes the development and improvement of library services throughout the state, provides direct library and information service in support of the executive and legislative branches of Missouri state government and strives to ensure all Missourians have equal access to library services.

Quick Links

- Wolfer Library Individual Application
- Missouri Digital Heritage
- Education for Librarians
- Missouri Public Library Standards

Featured Items

- Wolfer Public Access Catalog (WolfPAC)
- Keeping Up Online
- Missouri State Publications Online
Library News

Are eBooks Taking Over?
May 19, 2015

Everywhere you look, people are intently staring at cell phones or tablets. According to a 2104 report from Pew Research Center, 90% of us own a cell phone and half of us own either a tablet or an e-reader. With so many of us focused on our devices, you might surmise that the majority of readers have forsaken traditional books in favor of their digital cousins. But is this true? Read more.
Additional Challenges

• Basic Design Issues
• Library Language
  – Collections
  – Circulation
  – Reference
  – Catalog
• Information Architecture
• When everything is important, nothing is important.
Research University

- Card Sorting method to establish information architecture
  Id labels and use patron language
- Tree Testing to Verify Information Architecture
  10-15 Tasks
- Prototype Testing
  Users: Faculty, Graduate Students, Undergraduate Students, and Distance Learners
- User Study of active site prototype
Community College

- Needs Assessment Interviews and Survey taken from user groups
- Card Sorting
- Design Evaluations – comparative element approach
- Prototype Evaluation User test
- Prototype Expert Review
State Library

- Comparative Analysis
- Google Analytics
- User Test with user groups
Tree Testing Game

Presenter: Neeley Current
Lunch!

“The truth is libraries are raucous clubhouses for free speech, controversy and community.”

–Paula Poundstone
Comparative Review Drill

pick top three favorite designs from home page print outs
Usability on a Budget

Presenter Nathan Lowrance
What have you done?
Personas
Stakeholder Mapping
Focus Groups
Comparative Review
Heuristic Evaluation
Wireframe
Card Sorting
Surveys
User Testing
Metrics (SUS)
“The most important asset of any library goes home at night – the library staff”

– Timothy Healy
Details of a User Study

Presenter: Neeley Current
Study Setup

• Decide Scope of Work
• Assign team roles and responsibilities
• Identify user groups
• Design Tasks
• Other things to consider:
  • Testing location
  • Participant Incentives
How to design tasks?

• Understand the basic needs of your users
• Most commonly performed tasks
• Depending on complexity, assign 5-10 tasks
• Conduct pilot study
Recruiting

• Be Polite
• Be Persistent
• Offer Incentives
• Plan for no shows
• Have a back-up plan
Consent Forms

- Purpose of the study
- Not testing the participant
- Video Recorded
- Name not included in the report
- Signature Acknowledgement
Moderated Script

- The script is used throughout the testing session- whenever the moderator interacts with the participant- to ensure that the moderator says the same things to each participant
- Don’t read word by word
  - Welcome
  - Purpose of Study
  - Provide forms required for participation
  - Explain the testing process
  - Describe think aloud
  - Ask the participants to share any questions or concerns
  - Start the study
  - Thank the participant for their time and input
Interviewing Techniques

• Conduct an initial pilot study
• Start with an easy task
• Finding the balance between helping and letting the participant complete the task on their own
• Keep an interview to less than one hour
Qualitative Interviewing

Experience and Behavior Questions
Questions about what person does to elicit behaviors, experiences, actions, and activities. Example: “If I had been with you, what would I see you doing?”

Opinion and Values Questions
Questions about opinions and judgments as opposed to actions and behaviors. Example: “What do you think about that?”

Feeling Questions***(Most commonly used in usability testing)
Questions aimed at eliciting emotions – feeling responses to their experiences and thoughts. Example: “How do you feel about that?”

Knowledge Questions
Questions that inquire about the respondent’s factual information – what the respondent knows? Example: “What do you know about...?”
Recording Analysis

- Transcriptions
- Facial Expressions
- Qualitative Analysis
- Quantitative Scores
Break!

“The library card is a passport to wonders and miracles, glimpses into other lives, religions, experiences, the hopes and dreams and strivings of ALL human beings, and it is this passport that opens our eyes and hearts to the world beyond our front doors, that is one of our best hopes against tyranny, xenophobia, hopelessness, despair, anarchy, and ignorance.”

—Libba Bray
Mock User Test

Presenter: Kenneth Haggerty
“A library is not a luxury but one of the necessities of life.”

–Henry Ward Beecher
Designing a Usability Test for your own library
Wrap-up, Q & A
Thank You!

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