

The Science and Art of Web and Application Design

Course Outline

1 Design is Science and Art

- › Scientific models in user-centered design (UCD)
- › Definition of UCD

Exercise: Designing for functional requirements

- › Characteristics of usable designs
- › UCD Benefits

Exercise: Conduct a design heuristic evaluation

2 Navigation

- › Characteristics of usable navigation
- › Primary navigation systems
 - Hierarchical models
 - Persistent design systems
 - Sequential navigation
 - Search
- › Supplemental navigation
 - Index
 - Breadcrumbs
 - Quick links
- › Multiple systems navigation design *Exercise: Select appropriate navigation models*

3 Presentation

- › Visual-cognitive processing
 - Eye movement and eye tracking
 - Gestalt principles of visual design
- › Layout

Exercise: Evaluate and redesign a cluttered screen

- › Color
- › Graphics
- › Text

4 Content

- › Printed vs. digital content
- › Writing for clarity
 - Writing style
 - Word choice
 - Mechanics
- › Methods that facilitate scanning
 - Writers' pyramid
 - Headings, bulleted and numbered lists *Exercise: Sharpen writing skills*

5 Interaction

- › Factors that influence interaction design
- › User interface controls
 - Data entry and selection
 - Navigation and action
 - Multi-function controls

Exercise: Selecting appropriate UI Controls

- › Error handling and prevention
- › Feedback

Exercise: Design an effective feedback message

6 Screen Elements and Wireframing

- › Screen elements
- › Wireframing
 - Low fidelity
 - High-fidelity

Effective prototyping strategies *Exercise: Build a paper wireframe*

7 Accessibility

- › Why design for accessibility
- › Types of disabilities
 - Vision
 - Hearing
 - Motor
 - Cognitive
- › Assistive technologies
- › Accessibility laws
- › Accessibility guidelines
 - Section 508 Guidelines
 - Accessibility Guidelines (WCAG 2.0)
 - Web Accessibility Initiative (WAI)
- › Evaluating for accessibility

Exercise: Conduct a site review for accessibility

8 Internationalization

- › Internationalization and Localization
- › Multicultural considerations
- › Internationalization design process and usability testing

9 Beyond Design Knowledge

- › Barriers to implementing UCD practices
 - › UCD practitioners' knowledge, skills, and abilities
 - › Academic training and HFI certification
- UCD and HCI professional organizations