Web Mapping Application Interface Design: Best Practices and Tools

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Team

User Experience Designer

Research

Design

User Interface Developer

Front-End

Back-End

Application Developer

Human focused

Tech focused
Design Influencers

- User Needs
- Context
- Culture
- Cost
- Sponsor
- Compliance
- Lifespan
- Business Needs
- Technology
- Market Opportunities
Evaluation & Validation

- Review
  - Expert Review
  - Heuristic Evaluation
  - Usability Testing

- Wireframes

- Prototype
UI State Diagram

- Navigational model from user’s perspective
- Major interface elements and how they relate
- Map user stories to desired workflow
- Can be informal (white board or paper drawing)

- Whiteboard, MS Powerpoint, MS Visio
UI State Diagram - Example
UI State Diagram - Example

**SELECT LAYERS SCREEN**
- click “Continue”
- click “Move marker”
- click “Show issues…”
- select a layer from list
- click “Cancel”

**SHOW FEEDBACK FORM**
- click “Report problem”
- show AGOL panel
UI State Diagram - Example
Wireframes

• Sketch & communicate ideas and workflows
• Identify missing requirements (gaps & holes)
• Validate design assumptions
• Focus on scope and functionality
• Ask WHY & WHAT!

• Paper, Balsamiq & myBalsamiq
Wireframes - Example
Wireframes Demo

Balsamiq
GUI Design

- **Look**: Colors, shapes, layout, typefaces
- **Feel**: Behavior/states of buttons, boxes, menus
- From static image to interactive controls
- HTML & CSS, ActionScript, XAML
- Photoshop & Illustrator
GUI Design - Example
Prototypes

- Combine visual appearance with interactivity
- Medium or high visual fidelity
- Navigation, content, mock functionality
- Deliver: HTML, CSS, JavaScript, Images

- jQuery, Twitter, Bootstrap, Telerik KendoUI
Prototypes - Example

Prototype Demo

Usability Testing

- “Design Validation”
- Usability lab setting: Participant, facilitator, observers
- Pre-determined scenarios of most common tasks
- Find design inconsistencies & usability problems
- Identify navigation & presentation errors

- Morae, Adobe Connect
Usability Testing - Example
Usability Testing - Results

Old version
Usability Testing - Results

Old version

Map Review

Description:
low

Got solution?

Mark as exception: or Add comment

show table
Front-End Development

• **Boilerplate Code**

• **Esri is on GitHub**
  - JS map: [https://github.com/Esri/quickstart-map-js](https://github.com/Esri/quickstart-map-js)

• **Dojo**
  - Dojo toolkit: [https://dojotoolkit.org/](https://dojotoolkit.org/)

• **Use CSS Preprocessor**
Tools & Resources

- jQuery  http://jquery.com/
- jQuery UI  http://jqueryui.com/
- jQuery Mobile  http://jquerymobile.com/
- Dojo  https://dojotoolkit.org/
- Telerik KendoUI  http://demos.kendoui.com/
- Twitter Bootstrap  http://twitter.github.com/bootstrap/
- Techsmith Morae  http://www.techsmith.com/morae.html
When & How much?

Strategy
- UX Storyboard: 4 hours
- Surveys: 4 hours
- Focus Groups: 16+ hours

Concept
- UI State Diagram: 8 hours
- Workshops: 16+ hours

Design
- Wireframe: 8+ hours
- Usability Testing: 32+ hours

Graphics
- GUI Design: 16 hours
- Custom Skins: 32 hours
- Logos & Icons: 8 hours

Develop
- Prototypes: 16+ hours
- Demos: 16+ hours
- Front-End: 40+ hours

Proposals → Requirements → Design → Implementation
Benefits: Save Money & Useful Product

- Focus on the user (early) saves money
  - Emphasis on important functionality
  - Identify unforeseen or missing requirements
  - Avoid unnecessary rework

- Improved client relationship
  - Both sides actively involved in the process
  - Opportunity for change order in a “natural setting”
  - Useful and usable product
Key Takeaways

• Happy Users = Continued Business = Happy Client
• UX & UI cannot be after-thoughts
• Sketch, Sketch, Sketch
• Expert Review + Wireframes is a popular package
• Make the user a stakeholder!
Stay connected

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Please fill out your Session Surveys

- Offering ID
  - Wednesday: # 387
  - Thursday: # 395
questions & answers