What is a Web Application?

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Maps on the Web

- Evolution from non-interactive maps on the web... to GIS on the web... to purpose-built applications utilizing rich GIS databases
Web Application

- Application accessed via a browser over a network
- Contains an interactive map component
- Consumes one or more Web services
- Solves specific business problems
Why Web Applications are useful

• Use GIS without knowing GIS
  - Simple applications access powerful functionality
  - Gain spatial insight into business problems

• Use GIS without installing GIS
  - GIS functionality accessed in a Web browser
  - GIS functions reside on multiple Web servers
What makes a Web Application effective?

- Visually pleasing, use-specific cartography
- Delivers information a user needs
- Simple to use for intended audience
  - Often designed for people with no GIS experience
- Performs within expectation
Examples of effective Web Application

• Startribune

• Canterbury Earthquake Incident Map
  - http://www.eqviewer.co.nz/
Common implementation patterns

- Shared by many effective Web Applications:
  - Basemaps
  - Operational map layers
  - Focused tasks and tools
  - Well-designed Web application interface
Basemaps

• Visualization framework for Web Applications
• Multiscale
• Examples:
  - Street map
  - Topographic map
  - Hydrographic map
• Sources:
  - Your own GIS layers
  - ArcGIS Online basemaps
  - Third-party services
Operational map layers

- Also known as live maps
- Information overlays that users interact with
  - Displayed on top of a basemap
  - Associated with tools and operators to investigate these layers
- Typically dynamic content
  - Editing and data access layers
  - Sensors, incidents, feeds, observations
  - Query or geoprocessing results
- Web applications can have more than one operational map layer
  - Each layer supports a specific task
Tasks and tools

- Functions used to answer focused questions
- Used in conjunction with operational map layers
- Common GIS tasks in a Web application
Web Application interface

• Functional user interface
  - Commonly used navigation tools
  - Designed for end-user requirement

• Choose environment based on application goals and developer experience
  - Many ready-to-deploy and custom options available
    - JavaScript
    - Adobe Flex
    - Microsoft Silverlight
Steps for designing Web Applications

• Determine the type of audience
  - Executives or general public?
  - GIS professionals or casual users?

• Determine the focus
  - What problem is the application designed to address?

• Determine sources of data
  - Internal databases?
  - External Web services?

• Design Web Application interface
  - For specified audience's ease of use
Where do I start?

- **ArcGIS Resource Center**
  - Ready to use Web Applications
    - [http://resources.arcgis.com/content/web/web-apps](http://resources.arcgis.com/content/web/web-apps)
  - Build Custom Web Applications using the Web API’s
    - [http://resources.arcgis.com/content/web/web-apis](http://resources.arcgis.com/content/web/web-apis)

- **Esri Instructor-Led Training**
  - Creating Effective Web Applications Using ArcGIS Server
  - Building Web Applications Using the ArcGIS API for JavaScript
  - Building Web Applications Using the ArcGIS API for Flex
  - Building Web Applications Using the ArcGIS API for Microsoft Silverlight/WPF
Feedback

http://www.esri.com/sessionevals