



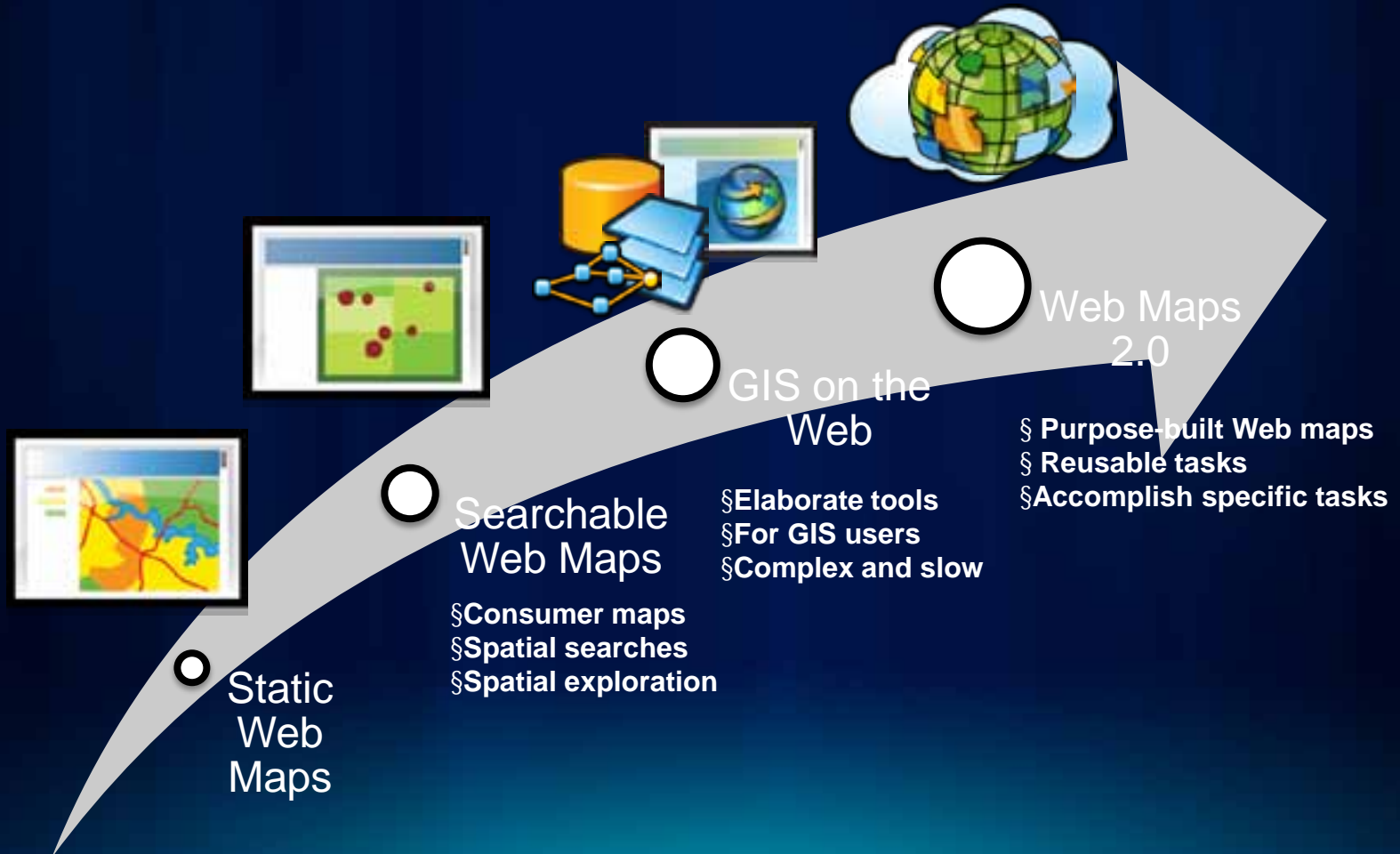
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# **What is a Web Application?**

Ben Ramseth

# 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



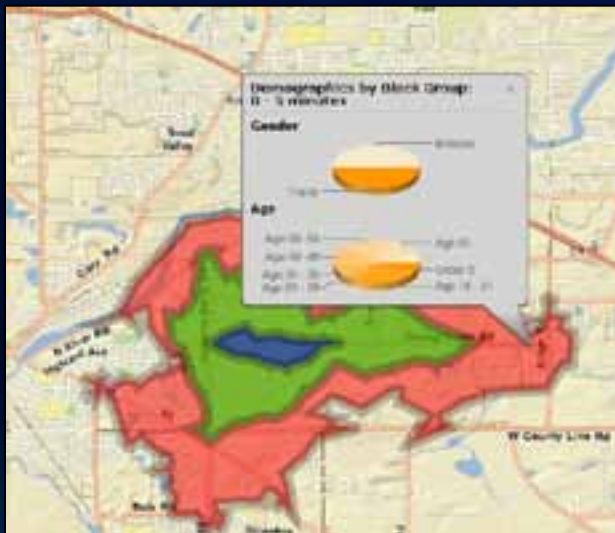
# Web Application

- 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**
  - <http://www.startribune.com/local/119259504.html>
- **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
    - u JavaScript
    - u Adobe Flex
    - u 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
    - u <http://resources.arcgis.com/content/web/web-apps>
  - Build Custom Web Applications using the Web API's
    - u <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**

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