Leveraging the ArcGIS Application Framework

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Members of the ArcGIS Software Products Team
Effective ways to leverage the ArcGIS platform

1. Author effective maps and globes for use in ArcGIS and externally in applications such as Google Earth.

2. Use geoprocessing to create tasks that can be used in ArcGIS Engine and served as web services to ArcGIS web clients.

3. Leverage the geodatabase for data management.

4. Open editing using simple features interchange.
What is ArcGIS?

- **ArcGIS Desktop** - A suite of desktop applications (Explorer, ArcGIS Engine, ArcView, ArcEditor, ArcInfo, and extensions)

- **ArcGIS Server** - An enterprise GIS data management and application server

- **ArcGIS Mobile** – Out-of-the-box applications and developer tools for mobile GIS

- **ArcGIS Online** - Online services that support the desktop and enterprise server applications with data and functionality
The ArcGIS Framework

Key Patterns for GIS

- Geodata management
- Mapping and visualization
- Geoprocessing
  - Spatial analysis
  - Automation
- Applications
  - ArcGIS Desktop
  - Custom Engine applications
  - Explorer applications
  - Web applications
  - Web services
  - Mobile applications
A GIS is an Information System
Determine which information products and applications

- An information system is a tool for providing useful information through management and analysis of data.

- The purpose of an information system is to support real “line of business” activities.

Determine
Audience – Application – Information – Tools
GIS Maps

- Interactive
- Scale dependencies
- Tools / Tasks / Functions
- Visualization, understanding, context

Choosing the appropriate application
Leverage the ArcGIS application framework
A platform for building and deploying GIS solutions

Access ArcWeb Services & others via SOA
Add in operational layers
Layer in your key basemap information
ArcGIS Online Framework

Start with a 2D or 3D basemap

Automate tasks and perform analysis using geoprocessing
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Geoprocessing
Programming with a series of GIS operators

- Workflow automation
  - ETL
- Cartography
- Data management
- Modeling and analysis

- Geoprocessing services
Leveraging the geodatabase

- Manage geographic information
- Work with rich data models that go beyond simple features, rasters, and attributes
- Openly manage transactions, archives, and replicas across organizations
- Openly edit in any application using simple features interchange
The Geodatabase

*ArcGIS framework for geospatial information modeling, storage, management and use*

- An rich information model for geographic information
- A transaction framework for managing, editing, update, and replication
- Stores geographic information in files on disk, in relational databases, and in XML schemas.

*Modeling and managing all types of geospatial data*
Open spatial data management
Integrate external information into the geodatabase

Use ETL for interchange and data conversion

Use Geoprocessing to automate geodatabase integrity rules and logic
Demonstration 1: Anne Reuland and Corey Tucker

- Using maps and geoprocessing tools in ArcGIS Server
- Building a browser-based editor for ArcGIS
- Non-versioned editing

To deploy maps broadly
  - Think about the anatomy of your GIS map
    - Choose your application
    - Choose your basemap layers and properties
    - Identify your operational layers
    - Identify the operations, tools, and tasks
Demonstration 2: Doug Morgenthaler and Phil Sanchez

- A custom editing application to edit the geodatabase

- Geodatabase editing using AutoCAD

- To use any editing client
  - Use ETL replication
  - Use geoprocessing for geodatabase validation and business rules
Demonstration 3: Jeff Shaner

- Deploying ArcGIS Mobile
- Building a custom application for ArcGIS Mobile
- Understand the ArcGIS Mobile Deployment workflow
  - Design for purpose -- Author maps for the device
  - Build your custom app
  - Build your mobile map cache
  - Deploy to the field
  - Synchronize updates
The ArcGIS 9.2 Platform

A framework for developers

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Thanks

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