A Developer’s Guide to ArcGIS Server

Eric Bader
Schedule

- Today we will cover
  - An overview of developer opportunities with ArcGIS Server
  - The Developer’s view:
    - Services
    - Web SDKs

- We will answer questions at the end of the session

Please complete the session survey!
Developer opportunities are EVERYWHERE
Developers have many opportunities... and choices
This session will guide you through most of these options

- Understand when to use what
- Guide you through other sessions in this conference
"The Desktop Effect"

Do not try to build ArcMAP for the Web

JUST SAY NO
Applications
Developer’s View on Applications

Goal: Build the user experience for ArcGIS Server services
ADFs and APIs

A word about the Web ADFs vs Web Mapping APIs....
The Web APIs: “Which one is right for me?”

- Javascript ?
- Silverlight ?
- Flex ?

Considerations:
- Your skills and passion
- Level of complexity
- Your constrains (corporate standard, legacy application…)

A closer look at the Javascript API

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Sessions to attend for Javascript API....

• **Advanced Development with ArcGIS API for JavaScript**
  - (64 / 131) Wednesday, 10:30, Pasadena/Ventura/Sierra
  - (64 / 171) Thursday, 1:30, Primrose B
ArcGIS API’s for Flex and Silverlight

Rich Internet Application development

• Similar in functionality to JavaScript
• Applications run with plug-ins
  - Silverlight
  - Flash
• Strong IDE’s and Web Design environments
• Cross-browser, cross-platform
• Powerful graphic layers and ‘component model’

• Configurable OOTB apps…
  - Flex Viewer
  - Silverlight Viewer – in Beta
A closer look at the Flex API

Julie Powell
- **What's New in ArcGIS API for Flex**
  - Wed 1:00pm Catalina/Madera (Renaissance Hotel)

- **Advanced Development with the ArcGIS API for Flex**
  - Wed 2:45pm Catalina/Madera (Renaissance Hotel)
  - Thu 1:30pm Catalina/Madera (Renaissance Hotel)

- **Design Driven Testing for ArcGIS Server Development - A Java/Flex Example**
  - Wed 4:30pm Smoketree A - E (Palm Springs Convention Center)

- **Configuring and Customizing the ArcGIS Viewer for Flex**
  - Tue 2:45pm Primrose C/D (Palm Springs Convention Center)

- **Building Site Selection & Market Analysis Apps with the Business Analyst Flex API – Demo Theater**
  - Wed 3:00 PM
Sessions: ArcGIS API for MS Silverlight and WPF

• **Introduction to ArcGIS API for Microsoft Silverlight/WPF**
  - Wed 1:00pm Pasadena/Ventura/Sierra (Renaissance Hotel)

• **What's New in ArcGIS API for Microsoft Silverlight/WPF**
  - Wed 4:30pm Pasadena/Ventura/Sierra (Renaissance Hotel)

• **Advanced Development with ArcGIS API for Microsoft Silverlight/WPF**
  - Thu 8:30am Pasadena/Ventura/Sierra (Renaissance Hotel)
  - Thu 1:30pm Pasadena/Ventura/Sierra (Renaissance Hotel)

• **Building Site Selection & Market Analysis Apps with the Business Analyst Silverlight API – Demo Theater 2**
  - Wed 5:00
Mobile SDKs

- **iOS** - Objective C
  - iPhone, iPad, iPod

- **Android** - Java / XML
  - 2.1, 2.2 devices

- **Windows Phone** - Silverlight

Capabilities…

- View
- Collect / Update
- Analyze
- Track
ArcGIS API for Android

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Sessions: Mobile SDKs

- **Introduction to ArcGIS API for Windows Phone**
  - Wed 2:45pm Pasadena/Ventura/Sierra (Renaissance Hotel)

- **Advanced Development with ArcGIS API for Android**
  - Thu 8:30am Primrose A (Palm Springs Convention Center)
  - Thu 1:30pm Primrose A (Palm Springs Convention Center)

- **Advanced Development with the ArcGIS API for iOS**
  - Thu 8:30am Primrose C/D (Palm Springs Convention Center)
  - Thu 1:30pm Primrose C/D (Palm Springs Convention Center)

- **Advanced Development with ArcGIS API for Windows Phone**
  - Thu 10:15am Pasadena/Ventura/Sierra (Renaissance Hotel)

- **Developing Applications with the ArcGIS Mobile API**
  - Wed 10:30am Mesquite GH (Palm Springs Convention Center)
Services
Developer’s view on Services

• **Goal:**
  - *Get Server to do what you want*

• **How:**
  - *Understand ‘out of the box services’*
  - *Create new ones if you need to, but KNOW what it is that comes out of the box!*

![Diagram of various services including Geodata Services, Geocode Services, Network Services, Feature Services, Globe Services, Map Services, Analysis & Modeling Services, Image Services, and Geometry.]

YOUR Services!!
Map Services

- Building-blocks of web maps
- Support mapping capabilities
  - Cached and Dynamic maps,
  - Features
  - Network Analysis
  - WCS, WFS, WMS
  - …more…
- Powerful Query Capabilities
- Advanced Caching Topics
- API Sessions
- Best Practices for designing great Services and Web Maps
Learning more…Map Services

• **Best Practices for Designing Effective Map Services**
  - Wed 10:30am Catalina/Madera (Renaissance Hotel)

• **Advanced Map Caching Topics**
  - Wed 4:30pm Primrose C/D (Palm Springs Convention Center)
A detailed view on Geoprocessing Services

- Provide advanced GIS functionality through web services
- Hundreds of out of the box tools
- Combine them into workflows (models)
- Execute
  - Synchronously
  - Asynchronously
- Use from Desktop, OOTB Viewers, custom apps

Vehicle Routing Problem
Extending Geoprocessing with custom tools

- With Python, C#, VB.Net and Java

DEMO
Learning more…

• **Designing and Building Geoprocessing Tools from the Ground Up**
  - Tue 4:30pm Primrose A (Palm Springs Convention Center)

• **Python for Working with ArcGIS**
  - Wed 10:30am Primrose A (Palm Springs Convention Center)

• **Latest innovations from the Esri Applications Prototype Lab**
  - Wed 1:00pm Smoketree A - E (Palm Springs Convention Center)

• **Using Python to Glue it all Together**
  - Wed 1:00pm Primrose A (Palm Springs Convention Center)

• **Using Geoprocessing Services in Web Applications**
  - Wed 4:30pm Primrose A (Palm Springs Convention Center)

• **Python for Working with ArcGIS**
  - Thu 1:30pm Smoketree A - E (Palm Springs Convention Center)
Creating custom ArcGIS Server Services

Server Object Extensions
- Desktop
- Web
- Mobile
- Other

REST or SOAP

ArcGIS Server

Server Object Extension
Learning more…Extending ArcGIS Services

- **Extending ArcGIS Server Services using .NET**
  - Tue 4:30pm …Mesquite GH (Palm Springs Convention Center)

- **Extending ArcGIS Server Services using Java**
  - Thu 10:15am …Mesquite GH (Palm Springs Convention Center)
At the end of the day… Common challenges

- Design and develop for your audience
  - Keep it simple and to the point
- Take a holistic approach
  - Focus on the business problem and the user experience
  - Get your services right, it's not just about code
- And Enjoy…
Questions?

Eric Bader, Dan O’Neill, Julie Powell