ArcGIS for Windows Mobile - An Introduction

Justin Colville
What we will cover today

- ArcGIS
- What is ArcGIS for Windows Mobile
- How does it work
- Demos
- Road ahead
ArcGIS Platform

• ArcGIS Online / Portal
  - Maps, services, content and Organization branding

• ArcGIS for Server
  - Services

• ArcGIS for Desktop
  - Packages
ArcGIS Runtime

- Family of SDKs for multiple platforms
  - Consistent capabilities
- Native to the platform
  - For building great apps
- Lightweight and fast
- Powerful
- Easy
Runtime platforms

- Desktop
  - OS X
  - WPF
  - Qt
- Phone and tablets
  - Windows Store
  - Windows Mobile
  - iOS
  - Android
  - Windows Phone
- Embedded
  - Java SE

The Windows Mobile platform
A strategic platform

• Customers are purchasing new devices with Windows Mobile OS today
• Vendors still releasing new devices
• Rugged devices offer advantages
  - Truly rugged (IP rated)
  - Battery life
  - Positional accuracy
  - Sensor integration
What is mobile GIS?
Extends the reach of ArcGIS from the office to the field

- Carry your maps to the field
- Collect and update geographic information
- Track and geo-collaborate
- Replaces paper based workflows
- Easier access to dynamic information
- Multiple users seamlessly using the same map
What are the key benefits of mobile GIS?
Leverage your investment in ArcGIS

- Improve efficiency and accuracy of field operations
- Rapid data collection and seamless data integration
- Enable free flow of information between devices/desktops
- Help to make informed and timely decisions
What is ArcGIS for Windows Mobile
ArcGIS for Windows Mobile

• Rapid deployment of maps, apps and project
• Task-based, workflow driven user experience
• Disconnected
• Synchronization of data between field and office
• Focused mobile applications
• High accuracy data collection
• Users have little GIS training
• Scalable to large field workforce
ArcGIS for Windows Mobile

- ArcGIS Runtime SDK for Windows Mobile
  - Coarse-grained .NET API
  - Extend COTS application
  - Create focused Mobile GIS applications
  - Embed ArcGIS into existing line of business applications
  - Included in Setup
  - Help and Samples location at the Mobile Resource Center
ArcGIS Runtime SDK for Windows Mobile

Core API
- Builds new field applications from scratch
- Embed GIS into existing Line-of-business applications
- Connected or occasionally connected filed operations

Application API
- Extends ready-to-deploy applications
- Creates new tasks or customizing existing functions
- Available for Windows and Windows Mobile

Conceptual Documentation, API Reference, VS components & templates

Sample Code
Bavarian State Forest Administration

- Replace paper-based workflow with task-driven Mobile GIS process
- In 2012 completed twice as many surveys (12,000)
- 1500 seat deployment to Foresters
- Centralized deployment w/ offline support
- Solution via INTEND using Windows Mobile SDK
Mobile Project Center

- Create projects for Field Applications
- Configure workflows and data
- Project packaging
- Project verification
- Publish and share projects
  - Local
  - On-Premise Server
  - Cloud (ArcGIS.com)
Field Applications

- View and identify features
- Measure distance, areas, features
- Adhoc and pre-defined queries
- GPS/GNSS data collection
- High accuracy collection
- Forms centric editing
- Intelligent field types driven by data model
- Field validation
- GPS logging
Windows Mobile Field Application
How does it work?
Author Maps

Leverage the ArcGIS System

• Design your data model for field use
  - Coordinate system for spatial data
  - Field definition for information to be captured
  - Define transaction model (single/multi-user)

• Author Maps and map layers
  - Define and build base map content (orthophotos, landbase, etc)
  - Author map layers to define “data dictionary” for collection
Deployment & Field Workflow - Desktop

- Create Mobile Map
- Copy To Device
- Download Maps
- Upload Changes
- Mobile Map
  - Client Map Cache
  - Mobile Project
- Mobile Cache
  - Field edits
- Collection/Inspection
  - View Maps
  - Create/Edit Data

ArcGIS Desktop
- Author maps
- Build data models

ArcGIS for Windows Mobile - An Introduction
Deployment & Field Workflow - Server

ArcGIS Desktop
- Author maps
- Build data models

Identify Base Maps
- Build Raster/Vector caches

Create Mobile Projects
- Author Map
- Configure Tasks

ArcGIS Online

Publish Operational Map
- Enable Mobile Access

Download Maps
Upload Changes

Collection/Inspection
- View Maps
- Create/Edit Data
- Track/Collaborate

ArcGIS Server
Create Mobile Projects
Using Mobile Project Center

• Create projects for Field Applications
• Publish and share maps & content
  - Local
  - On-Premise Server
  - Cloud (ArcGIS.com)
• Provision Applications and data to field devices.
Mobile Project Center
Windows Field Application
Licensing
Licensing

• **ArcGIS Server Advanced Enterprise**
  - Unlimited deployments

• **ArcGIS Desktop**
  - Includes one deployment

• **Deployment packs of 5 or 50 are available**
  - ArcGIS Server Advanced Workgroup and Standard Enterprise
  - Desktop
Roadmap
Roadmap

• 10.2 release
  - More control over layer collect and update settings
  - Project validation
  - User defined search
  - Add routing stops by addresses, POIs or Intersections (Windows devices)
  - GP tool improvements
  - Performance improvements
  - Bug fixes
What's coming in Runtime
Runtime platforms

- Desktop:
  - OS X
  - WPF
  - .NET
- Embedded:
  - Qt
  - JavaSE
- Phones and tablets:
  - Windows Phone
  - Windows Mobile
  - iOS
  - Android
  - Windows Store
SDK Platforms

Android 10.1.1
Java
Android

JavaSE 10.1.1
Java
Win/Linux

iOS 10.1.1
Objective-C
Cocoa Touch

OS X 10.2 BETA
Objective-C
Cocoa

Qt 10.2 BETA
C++
Win/Linux

WPF 10.1.1
.NET/XAML

Windows Phone 10.1.1
.NET/XAML

Windows Store 10.2 BETA
.NET/XAML

Core Runtime
What are we working on?

• Map, layer & graphics performance
• Developer experience
  - API Simplification
  - New developer site
  - Application frameworks
• Geotriggers
• Security (OAuth, SAML)
• 3D
• New platforms
• Map 2.0
  - Offline map use
Offline ArcGIS

- Disconnected use of the ArcGIS platform
  - Viewing/interacting with maps
  - Querying data
  - Editing features
    - Synchronization
  - Spatial intelligence
    - Find places and locations
    - Get directions
- **All** Runtime SDKs
- Licensing - “Standard” level functionality
From ArcGIS Online and Portal

[Diagram showing the process of managing maps in ArcGIS Online and Portal, with steps including Author, Map, Prepare, Synchronize, Download, View, Query, Analyze, and Edit.]
From Desktop

- Author Map
- Prepare
- Deploy

Check In

View
Query
Analyze
Edit

ArcGIS for Windows Mobile - An Introduction
<table>
<thead>
<tr>
<th>Day</th>
<th>Session</th>
<th>Location</th>
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<tbody>
<tr>
<td>Tuesday</td>
<td>ArcGIS for Mobile Overview</td>
<td>07 A/B</td>
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<tr>
<td>8:30 – 9:45</td>
<td>ArcGIS for Windows Mobile - Intro</td>
<td>17 B</td>
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<tr>
<td>Tuesday</td>
<td>Road Ahead – Apps</td>
<td>7 A/B</td>
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<td>10:15 – 11:30</td>
<td>Collector for ArcGIS – Intro</td>
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<td>Wednesday</td>
<td>Road Ahead – Apps</td>
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<td>Operations Dashboard – Intro</td>
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# Developer Workshops

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<td>Tuesday</td>
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<td>Wednesday</td>
<td>Road Ahead – Runtime</td>
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## Special Meetings

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<tr>
<td>Wednesday</td>
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<td>12:00 – 1:00</td>
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<td>Wednesday</td>
<td>ArcPad User Group Meeting</td>
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<td>5:30 – 7:00</td>
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## Esri Product Showcase

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<th>Times</th>
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<tbody>
<tr>
<td>Tuesday</td>
<td>9:00 – 6:00</td>
<td>Halls B, C, D</td>
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<tr>
<td>Wednesday</td>
<td>9:00 – 6:00</td>
<td>Halls B, C, D</td>
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<td>* Family Night from 4:00 – 6:00</td>
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<tr>
<td>Thursday</td>
<td>9:00 – 1:30</td>
<td>Halls B, C, D</td>
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*Demo Theatre Presentations all day long, every day…*
Thank you…

Please fill out the session evaluation

Offering ID:  1237

Online – www.esri.com/ucsessionssurveys
Paper – pick up and put in drop box