Mobile GIS for Geoscience Fieldwork-Current and Coming Options on the Esri Platform

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Mobile GIS

- Positioning our work
- Where we are now…
  - Configurable Apps
  - Offline Functionality
  - 3D Capabilities
  - New Platforms and APIs
- Release strategy
Mobile Technology for the Knowledge Worker

ArcGIS

Field Operations
Planning and Logistics
Public Engagement
Where Are We Now?
Device Platforms

Windows Mobile
- Apps: ArcGIS, ArcPad
- Runtime SDK: .NET CF

Windows
- Apps: ArcGIS, Ops Dashboard
- Runtime SDKs: WPF, Java

Windows Phone 7/8
- Apps: ArcGIS
- Runtime SDK: Silverlight

iOS
- Apps: ArcGIS, Collector
- Runtime SDK: Objective C

Android
- Apps: ArcGIS, Collector
- Runtime SDK: Java

Linux
- Runtime SDK: Java

Apps
- ArcGIS, ArcPad
- ArcGIS
- ArcGIS, Ops Dashboard
- ArcGIS
- Collector
- Collector
- Collector
- Java
- Objective C
ArcPad

- Full Featured Mobile GIS App
- Ad-hoc data collection projects
- High accuracy GPS
- Configurable
- Custom forms
- Fully Disconnected
- Users typically need GIS Training

Windows 7/8 Laptops
Windows Mobile handhelds
ArcGIS for Windows Mobile

- Configurable workflows
- High accuracy GPS
- Custom forms
- Fully disconnected
- ArcGIS Online/ArcGIS Server

Packaging and Deployment
- Users typically need little training
  - .NET/CF API for Windows Tablet/Mobile
  - Applications are extensible!

Windows 7/8 Laptops

Windows Mobile handhelds
ArcGIS App
Map viewing and display

- Role-based access
- View and Share Maps
- ArcGIS Online/ArcGIS Server access
- Popups
- Search
- Redlining
- Online access only
Operations Dashboard
Monitor day to day operations or events

- **Role-based access, configurable**
- **Widgets**
  - Bar Charts
  - Gauges
  - Histograms
  - Indicators
  - Lists
  - Details
- **Monitor operations in a control center**
- **Provide executive view on laptops, touch screen devices**
Collector

- Collect new GIS features using map or GPS
- Complete intelligent data entry forms
- Attach photos and video
- Find places and points of interest
- Get driving directions to places and features
- Measure distance and area
- Location tracking
ArcGIS for Windows 8
Preview Application

- Designed for Windows 8 tablets
- Browse collection of maps
- Popups
- Measure
- Search

Preview of things to come…
ArcGIS Runtime SDKs

- **Runtime Core**
  - C++
  - Small
  - High performance
- **Client APIs Expose Functionality to Developers**
  - DotNet
    - C#, VB.NET
  - Java
    - Android, Java SE
  - Objective C
    - Cocoa, Cocoa Touch
  - C++
    - Qt
Device Platforms
Built from a common GIS Runtime

Configurable Apps
- ArcGIS for iOS, Android, Windows Phone
- Collector for ArcGIS
- Operations Dashboard
- Your Apps

ArcGIS Runtime SDKs
- Mac OS X (Objective C)
- iOS (Objective C)
- Android (Java)
- Linux (C++, Java)
- Windows Phone (Silverlight)
- Windows (WinRT)
- Windows (WPF)
- Windows (Java SE)

Core ArcGIS Runtime Components
- Geometry
- Sync Framework
- Feature Cache
- Graphics
- Messaging
- Symbols
- Tiles
- 3D
- Map Display
- Map Grids
- More…
Where Are We Heading?
What Are We Working On?
More than just a runtime…

- Apps
  - Deliver functionality to end users across platforms
- APIs and SDKs
  - Deliver capabilities to developers native to the platform
- The Runtime
  - Enabling technology
- Release Strategy

ArcGIS 10.2 Release- Consistent across Platform
Rugged Device Apps
Windows and Windows Mobile Platforms

- **ArcPad**
  - Support Data Synchronization using Feature Services
  - Project Hub
  - Quick Fields
- **ArcGIS for Windows Mobile**
  - Stability and Performance
Smartphone and Tablet Apps

- **ArcGIS**
  - Full support for Windows Phone 8
  - Expanded support for scale dependency on layers
  - Support for overriding editing on web maps
  - Support for layer filters on web maps
  - New Layer Support: KML
  - Federated Security

- **Collector**
  - New Sign in experience
  - Sample maps experience, trial and resource information
  - Offline use
  - More advanced collection capabilities

- **Dashboard**
  - Video integration
  - Dispatching and Management
  - Enhanced layer support
  - Analysis widgets
Disconnected GIS Capabilities

- Support Disconnected and Partially Connected Workflows across platforms
- Disconnected Functionality Supported
  - Map Viewing, Data Editing, Feature Query, Routing, Geocoding
  - Feature Data storage using SQL Lite
  - Replica of a Feature Service (will require 10.2 of ArcGIS Server or ArcGIS Online Hosted Feature Service)

- Release in phases
  - Map Viewing, Data Editing, Feature Query
    - Includes stand-alone and related table support
    - “Cache on Device” sync model
  - Routing…
    - Along with client navigation capabilities
    - Provision to device model…
Routing and Navigation

- Connected and disconnected routing and navigation solutions

- Capabilities include:
  - Point to point routing
  - Multi-stop routes
  - Navigation with turn-by-turn and voice directions
3D on Devices

- Driving Use Cases
  - Desktop Users - Better performance
  - Mobile Customers – site selection

- 3D Data Viewing
  - Map Services
  - Elevation Services
  - Feature Services
  - KML
New Platforms

- Mac OS
- Windows 8 “Metro”
- Windows Phone 8
Release Strategy

• Applications team release strategy for 2013:
  - Similar functionality across SDKs
  - Synchronized releases between SDKs
  - Synchronized releases across apps
Demo

Download ArcPad
http://www.esri.com/software/arcgis/arcpad/evaluate

Download ArcGIS & Collector Apps
Visit Google Play, the Apple App Store, Amazon Appstore, and Windows Phone Marketplace

Download ArcGIS for Windows Mobile
Download from Esri Customer Care Portal (https://customers.esri.com/)

Mobile Solutions That Fit Your Enterprise
A variety of mapping applications are available to help you improve field operations and make more informed business decisions.

Apps for Smartphones and Tablets

- **Apps for Smartphones and Tablets** extends the reach of your enterprise GIS to a wider audience.
  - Leverage the Collector app and ArcGIS app on a variety of devices.
  - Navigate maps, collect and report data, and perform GIS analysis.
  - Access and share your enterprise GIS via ArcGIS Online or ArcGIS for Server.
  - Includes a developer SDK to build custom mapping applications that meet your specific needs.

ArcGIS for Windows Mobile

- **ArcGIS for Windows Mobile** provides an accurate, reliable, common operating picture for staff.
  - Task-driven mobile GIS application for Windows Mobile and Windows Tablet devices.
  - Central management, configuration, and deployment of apps and projects.
  - Synchronizes GIS information from server and desktop clients.
  - Includes a .NET SDK for building custom applications.

ArcPad

- **ArcPad** increases data accuracy and improves field productivity.
  - Mobile GIS and database management for Windows Mobile devices.
  - Advanced GIS capabilities which support ad-hoc data collection.
  - GPS integration to facilitate post-processing.
  - Supports related tables.
Questions?