ArcGIS for iOS
Jeff Shaner and Russ Roberts
What is mobile GIS?

*Extends the reach of ArcGIS from the office to the field*

- With a mobile GIS solution you can
  - Carry your maps to the field
  - Collect and Update Geographic Information
  - Track and Geo-collaborate
What are the benefits of mobile GIS?

*Leverages the investment of your enterprise GIS*

- Improve Efficiency and Accuracy of Field Operations
- Rapid Data Collection and Seamless Data Integration
- Replaces paper based work flows
- Helps to Make Informed and Timely Decisions
The ArcGIS System

ArcGIS Online

Server
Applications
- ArcGIS Viewers
ArcGIS APIs
- Javascript, Flex, Silverlight...

Desktop
Applications
- ArcGIS Desktop, ArcGIS Explorer
ArcGIS SDKs
- WPF, Java, C++

Mobile
Applications
- ArcGIS
ArcGIS SDKs
- iOS, Android, Windows Phone, Windows Mobile

Pervasive across computing platforms...
## Lightweight Applications and Runtime SDKs

### Configurable COTS applications and Native ArcGIS Runtime SDKs

<table>
<thead>
<tr>
<th>Platform</th>
<th>Applications</th>
<th>Runtime SDK</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>iOS</strong></td>
<td>ArcGIS</td>
<td>Objective C</td>
</tr>
<tr>
<td><strong>Android</strong></td>
<td>ArcGIS</td>
<td>Java</td>
</tr>
<tr>
<td><strong>Windows Phone</strong></td>
<td>ArcGIS</td>
<td>Silverlight</td>
</tr>
<tr>
<td><strong>Windows Mobile</strong></td>
<td>ArcGIS</td>
<td>.NET</td>
</tr>
<tr>
<td><strong>Windows</strong></td>
<td>ArcGIS Explorer*</td>
<td>WPF, Java</td>
</tr>
<tr>
<td><strong>Linux</strong></td>
<td>None</td>
<td>Qt, Java</td>
</tr>
</tbody>
</table>

*ArcGIS Explorer is supported on WPF, Java.*
Esri Mobile Technologies

Mobile capabilities of the ArcGIS system

Apps and APIs

Form Factors

Platforms
- iOS
- Windows Phone
- Linux
- Windows Mobile
- Android
- Windows 7

Functionality
Esri Mobile Products

*ArcGIS running on ...*

ArcGIS for Windows Mobile

ArcPad

iOS

Microsoft Windows Phone

Android

Rugged Devices

Smartphones and Tablets
ArcGIS on Rugged Devices

Windows and Windows Mobile Devices

- Designed for harsh field conditions
- One handed/vehicle-mounted use
- Occasionally connected workflows
- High accuracy data collection
  - GPS integration
  - Laser integration
- Replace Paper Surveys
  - Intelligent forms
  - Barcode integration

Water Facilities Mapping
Asset Maintenance/Inspection
First Responders
Land Management
ArcGIS Products for Rugged Devices

Windows and Windows Mobile Devices

ArcGIS for Windows Mobile
- Focused Mobile Applications
- Task-based, defined workflow
- High Accuracy Data Collection
- Users have little GIS training
- Scalable to large field workforce

ArcPad
- Ad-hoc Mobile Application
- High Accuracy GPS Workflow
- Targets small/mid-size org
- Users typically have GIS Training
ArcGIS on Smartphones and Tablets

iOS, Windows Phone and Android Devices

• Designed for touch-screen phones
• One handed use
• Connected Workflows (Wifi, 3G)
• Assisted-GPS Integration
• Replace Paper Surveys
  - Intelligent forms
  - Field Validation
  - Media Integration

Service Requests
VGI
Parcel Valuation
Campus Maps
Emergency Operations
Who is ArcGIS for iOS for?

Existing ArcGIS Customers with iOS devices
- Customers of Enterprise GIS
- Consumers of Community Maps
- GIS developers
- ESRI partners

iOS Community
- Consumers of Community Maps
- iOS Developers
ArcGIS on Smartphones and Tablets

**iOS, Windows Phone and Android Devices**

**ArcGIS Application**
- Maps shared across devices
- Display, Query, Edit intelligent maps on all devices
- Available Free in stores and marketplaces

**SDK**
- Embed ArcGIS into existing applications
- Native APIs for building focused applications
- Common conceptual framework across platforms
- Available Free for development via EDN
ArcGIS Application

- ESRI’s first iOS application
- Universal Application:
  - iPad
  - iPhone
  - iPod Touch
- Works with maps:
  - ArcGIS Online
  - On Premise Content Server
ArcGIS Application – How is it doing?

- **31,528** downloads after 1 week (Mon July 5th – Sun Jul 11th)
  - #1 Free Productivity App
  - #12 Featured New App
- Over 190,000 downloads
- Supported in 10 languages

Downloads in over 79 countries!
What can the ArcGIS Applications do?

Powerful application functionality driven by configurable maps

- Display maps
- Find and share maps by email, SMS, facebook, twitter
- Switch between base maps and dynamically display a legend
- Find addresses and places
- Identify locations and features from services, csv, shp, gpx, notes
- Query map layers
- Measure distances and areas
- Collect new data and edit GIS features including attachment of media
Who is Using ArcGIS for iOS?

City of Amherst, MA

- ArcGIS online group devoted to sharing various maps to city employees:
  - Open Work Orders
  - Water Distribution Network
- Public
  - Trails and Land Conservation
How it works...
Author Maps

Leverage the ArcGIS System

Design your information 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

Publish Maps

- Use ArcGIS Server to publish services
- Use Desktop Tools to create mobile caches
Using ArcGIS Online

- **Create maps using**
  - ArcGIS.com Viewer
  - ArcGIS Explorer Online

- **Manage and share maps**
  - Using your account
  - Using groups
  - With everyone

- **Add local content**
  - Shapefiles, csv, gpx files

- **Create pre-defined queries**
ArcGIS Application and ArcGIS System

1. Services are authored and published using ArcGIS (Desktop/Server)
2. ArcGIS Online/On Premise Server Mashup of Services into web maps
3. Find, Use and Share Web Maps using ArcGIS for iOS
How it works DEMO
ArcGIS API for iOS

- Native objective C API targeting iPhone developers
- Build focused mapping applications
- Embed GIS into an existing applications

Available from ArcGIS for iOS Resource Center
ArcGIS API Developer Experience

Download ArcGIS API for iOS

Develop iOS Application

Submit App Store

Deploy iTunes/Web

Manage App Store/iTunes

Download, Develop, Submit/Deploy, Manage
iOS Application Deployment

- App Store deployment or Internal Enterprise Deployment
- Application management via Apple Developer Portal or iTunes Connect
Mobile Resource Management Solutions

• **Apple Enterprise Solutions**
  - iPhone Configuration Utility
  - iTunes Deployment
  - Web deployment

• **3rd Party Solutions**
  • SOTI MobiController (supports iOS, Android and Windows Mobile devices)
  • Sybase Afaria
  • Odyssey “Athena” Software
Custom Applications in the App Store

- Quake Map
- University of Oregon
- Where To?
- City Sourced
How are they licensed?

**ArcGIS Application**
- Free and available via App Store

**Runtime SDKs**
- Free for Enterprise and Store** Deployments
- Attribution is Required for all Apps!
  - Esri Attribution for ArcGIS Online map layers
  - Bing Attribution for Bing map layers
  - About Box Attribution
- Cost with Esri if:
  - App generates revenue and is in a store
  - Not licensed for server (commercial)
- Cost Basis:
  - Percentage of sales, yearly subscription
ArcGIS for iOS Roadmap

**Summer Update**
- Quick bug fix release, support for FindPlaces

**Fall Release**
- Routing and driving directions in ArcGIS app
- GPS improvements (Tracks, GPS display, Compass Navigation)
- Open layer support (KML, WMS, WMTS)
- Offline tile cache support for API

**Winter Release**
- Complete Offline support (feature caching, tile package)
- Improved Graphics display
- Messaging and GeoCollaboration
Technical Workshops To Attend

Tuesday July 12th

8:30am – 9:45am – ArcGIS for Windows Mobile – An Introduction (31b)
10:15am – 11:30am – Esri Mobile Solutions Overview (31b)
1:30pm – 2:45pm - ArcGIS for Windows Phone (31b)
1:30pm – 2:45pm – ArcPad – Introduction to Customizing ArcPad Solutions (30d)
3:15pm – 4:30pm – ArcPad – An Introduction (31b)

Wednesday July 13th

8:30am – 9:45am - Choosing a Mobile Solution (6f)
8:30am – 9:45am – ArcGIS for iOS (8)
8:30am – 9:45am – Windows Phone – Developing Applications (31b)
1:30pm – 2:45pm – ArcGIS for Android (31b)
1:30pm – 2:45pm – iOS – Developing Applications (15a)
3:15pm – 4:30pm – ArcGIS for iOS (31b)
Technical Workshops To Attend

**Thursday July 14th**

8:30am – 9:45am - ArcGIS for Android (31b)
8:30am – 9:45am – Deploying Esri’s Mobile Technology across… (3)
1:30pm – 2:45pm - Esri Mobile Solutions Overview (15a)
1:30pm – 2:45pm – Android – Deploying Applications (6c)
1:30pm – 2:45pm – ArcPad Advanced Customization (31b)
3:15pm – 4:30pm – ArcGIS for Windows Mobile – Developing Apps (31b)

**Friday July 15th**

9:00am – 10:15am – Esri Mobile Solutions Overview (4)
9:00am – 10:15am – ArcGIS for iOS (10)
9:00am – 10:15am – ArcGIS for Android (11a)
20 minute Tech Workshops

Wednesday July 13th
8:30am – 8:50am–Using GIS Technology on Smartphones (6a)

Thursday July 14th
8:30am – 8:50am–Using GIS Technology on Smartphones (23b)
8:30am – 8:50am – Road Ahead – ArcGIS for Windows Mobile (24a)
8:55am – 9:15am – Publishing your data for Smartphones and… (23b)
9:20am – 9:40am – Authoring Web Maps for Smartphones and… (23b)
10:15am – 10:35am – Road Ahead – ArcGIS for Android (6b)
10:40am – 11:00am – Road Ahead – ArcGIS for iOS (6b)
11:05am – 11:25am – Road Ahead – ArcGIS for Windows Phone (6b)
12:00pm – 12:30pm – ArcPad – Building great Apps (30a)
3:15pm – 3:35pm – ArcPad/GeoCollector (6b)
Additional Activities to Consider

**Mobile Product Island @ Esri Showcase**
Meet the development team at the exhibit hall!
Tuesday 9am – 6pm
Wednesday 9am – 6pm
Thursday 9am – 1:30pm

**Try ArcGIS Mobile Live!**
Tuesday/Wednesday (2:00pm – 4:00pm)
Thursday (10:00am – 12:00pm)

**Mobile Special Interest Group Meeting**
Tuesday 12:00pm – 1:00pm 23b
Thank You

http://www.esri.com/sessionevals