Mobile Geographic Information Systems

Tim Lo
Content – GIS for mobility

• Introducing Mobile GIS
• ArcGIS Apps for iphone and ipad
• ArcGIS Mobile Project Center
• ArcPad 10 New and enhanced features
• Summary
ArcGIS Family

- **Desktop**
  - ArcReader
  - ArcView
  - ArcEditor
  - ArcInfo
  - ArcGIS Engine

- **Server**
  - Workgroup
  - Enterprise

- **Mobile**
  - ArcGIS Mobile
  - ArcPad
  - Iphone & ipad

- **Online**
  - Content
  - Resource Centers
  - APIs

*For authoring, publishing, and using geographic knowledge*
Growing demand for Mobile GIS

Mobile GIS

Wireless

ArcGIS Server

USB

ArcGIS Desktop

Web GIS

ArcGIS Explorer

Desktop GIS

Mobile GIS

Your framework for publishing geographic content
Examples of Mobile GIS Applications

Environmental Assessment

Asset Management

Maintenance

Mapping
When Choosing your Mobile GIS Device…

Capabilities
- GPS
- Camera
- Range Finder
- Bluetooth

Connectivity
- Always connected
- Sometimes connected
- Offline

Form Factor
- Phone
- Handheld
- Tablet
- Laptop

Platforms
- Windows
- Windows Mobile
- Apple iOS
- Android

Addressing many use cases, across many domains…
Selecting Esri Mobile GIS Products

Workflow Management

ArcGIS Mobile

Data Collection

ArcPad 10

Everyone

ArcGIS for iPhone

Functions & Capabilities
ArcGIS App for iphone

• Available for Download in Apple App Store
• Free!
• ArcGIS Online, Imagery, Feature Thematic Maps
• For iphone and ipad
• GPS

Go to Demo
ArcGIS Mobile
Workflow Management
ArcGIS Mobile (with ArcGIS Server)

Your framework for publishing geographic content
ArcGIS Mobile (with ArcGIS Server)

• View and navigate mobile maps
• Collect, edit, and update GIS data in real time
• Enhance line-of-business application
  Search and manage
• Rapidly deploy mobile GIS
• ArcGIS Mobile SDK
ArcGIS Mobile Project Center – Work Flow

**Input Record**
- Tap textual data
- Draw Point, Polygon
- Take Photo
- Use GPS
- Upload

**Query and Search**
- Use Keywords
- Buffer Search
- Create Report

**Inspect**
- Maintenance job
  - Locate record
  - Run Checklist
  - Take photo

**View**
- Works Record
  - Search
  - Buffer Search
  - View Map

**Office Staff**
- ArcGIS Server

**Worker**
- ArcGIS Mobile

**Inspection**
- ArcGIS Mobile

**ArcGIS for iphone**
ArcGIS Mobile Project Center – Data Flow

1. Collect New Data
2. ArcGIS Mobile
3. ArcGIS Server Advance Enterprise

- BaseMap, B1000
- Point, Line

ArcGIS Mobile
ArcGIS for iphone (iOS API)
ArcGIS Mobile Project Centre – Road Maintenance demo

Go to Demo
ArcGIS API for iOS

- API to build Customize Interface and Functions
- ArcGIS Server Advance / Standard Enterprise
- Configure Map Service
- Access ArcGIS Online
- Requires Apple iOS version 3.1.2 or later
- Intel-based Macintosh running Leopard (OS X 10.5) or Snow Leopard (OS X 10.6)
Summary
ArcGIS Mobile Project Centre

- Retrieve data online
- Capture points, lines, GPS, photos
- Real-time data Transfer to/from ArcGIS Server
- Self-defined input interface and tools
- iOS API (iPhone & iPad Apps)
ArcPad 10
Data Collection
What is new in **ArcPad 10**

- Quick Project
- Quick Capture Toolbar
- Improved Camera tools
- Laser Range Finder
- GPS, Camera module
Quick Project

- Start adding point, line, polygon on ArcPad
- Customize e-forms will use ArcPad Studio

Templates included:
- Tree Register
- Sign Survey
- Fire Perimeter
- Short Shoreline Assessment
Quick Capture Toolbar

- Dynamic toolbar Map Legend Driven
- Configure in Table of Contents
- Quick Photo capture
- One-Click Capture GPS point
Improved Photo-Taking Tools

• New camera module
• Assign capture button
• Capture photo in photo layer
• Photos page supported in related table
Laser Range Finder

- Connect through Bluetooth
- Auto Shoot-to-record
- One Point/ Two Point Offset
- Horizontal distance
- Vertical distance
- Bearing
TruPulse360B Laser Range Finder

Specifications:
Max range: 1000 meters without a reflector
Weight: 220 grams
Range Accuracy: +/- 0.3 meters
Inclination Accuracy: +/- 0.25 degree
Compass Accuracy: +/- 1.0 degree
Data Output: RS232 or Bluetooth

Combines a laser rangefinder, electronic compass, and inclinometer into one handheld device
ONE single shot records Distance, Compass Angle, and Tilt

Go to Demo
Mobile GIS – Summary

• Connectivity, Form Factor, Capabilities, OS
• ArcGIS - Create, Consolidate, Publish, View

• **ArcGIS for iphone/ ipad**
  - View Map and Search

• **ArcGIS Mobile**
  - Advance workflow – with ArcGIS Server Advance Enterprise
  - Real-Time Data Synchronization

• **ArcPad 10**
  - Out-of-Box, Standalone
  - Integration with other equipment
Try ’em Now!

**ArcGIS for iPhone and iPad** - Free on Apple App Store

**ArcGIS Mobile** - Visit our Demo Booth Outside!

**ArcPad 10** - Free Evaluation (All Functions!) on esri.com

Thank you.
For more information:
[http://www.esrichina-hk.com/]