



Esri International User Conference | San Diego, CA
Technical Workshops | 13th July 2011

ArcGIS for Android

Will Crick

Archana Agarwal

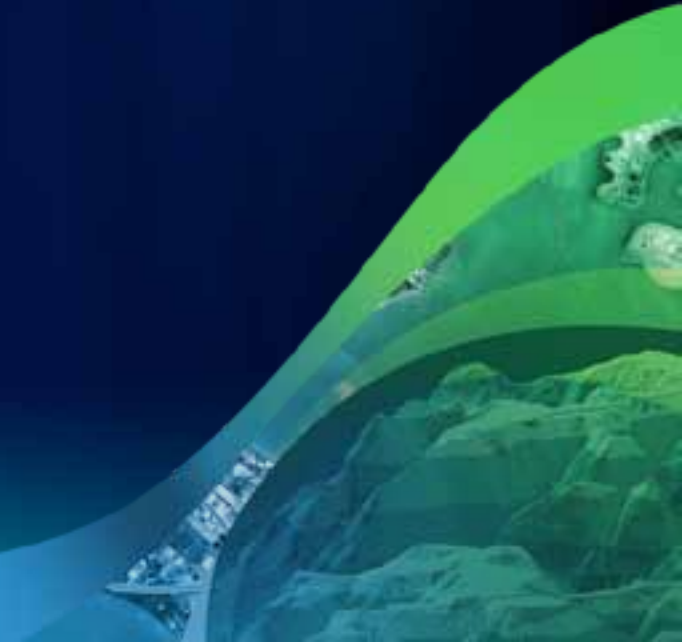
What we will cover today

- **The ArcGIS system and mobile products**
- **What is ArcGIS for Android?**
- **ArcGIS for Android application**
 - **Concept**
 - **Usage scenarios**
 - **Supported workflows**
 - **Tips and tricks**
- **ArcGIS Runtime SDK for Android**
 - **What do you get?**
 - **What do you need?**
 - **What can you do?**

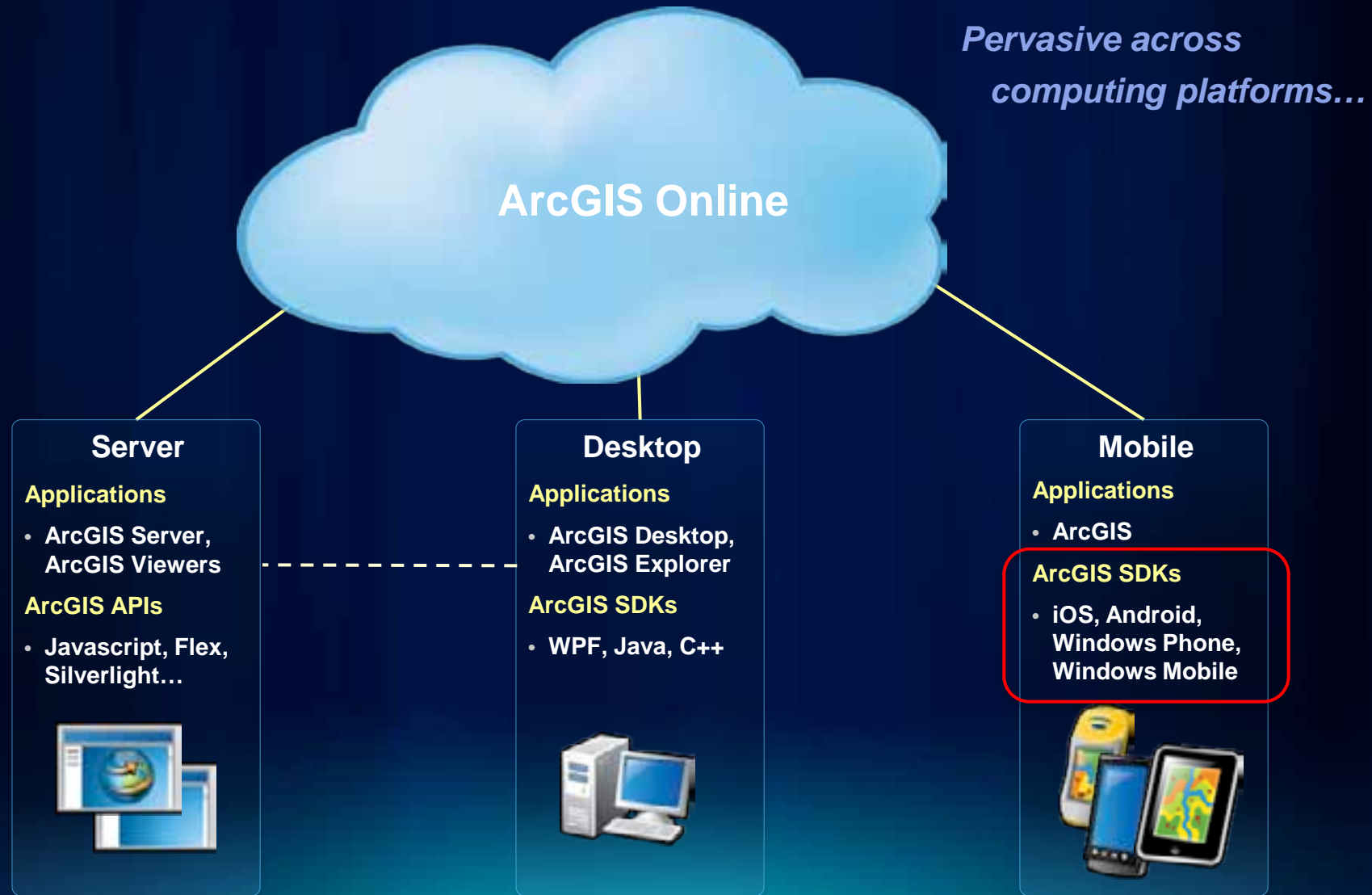
About me, you and this session

- **Me...**
- **Session aims**
 - Platform focus
 - What you get with ArcGIS for Android
- **You...**

ArcGIS



The ArcGIS System



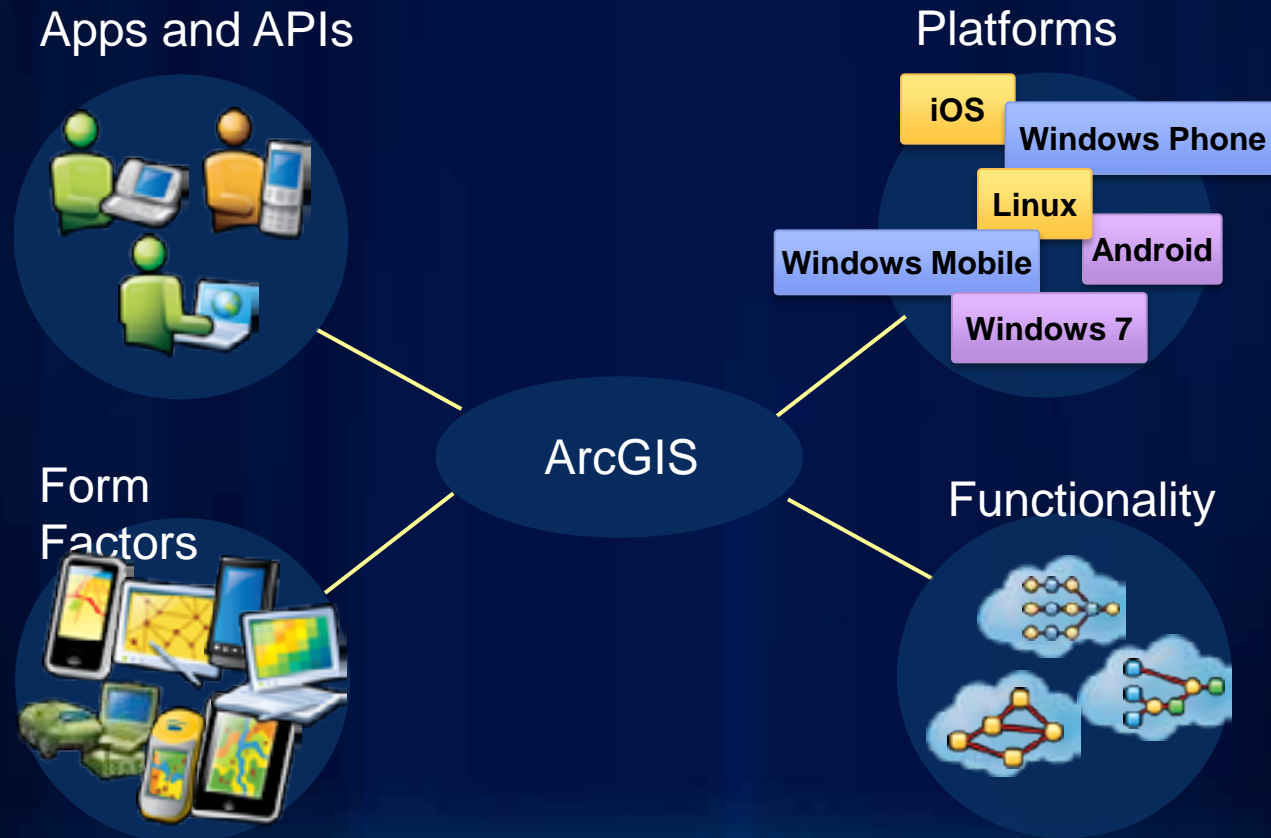
Lightweight Applications and Runtime SDKs

Configurable COTS applications and Native ArcGIS Runtime SDKs

iOS	Android	Windows Phone	Windows Mobile	Windows	Linux
Applications <ul style="list-style-type: none">• ArcGIS	Applications <ul style="list-style-type: none">• ArcGIS	Applications <ul style="list-style-type: none">• ArcGIS	Applications <ul style="list-style-type: none">• ArcGIS	Applications <ul style="list-style-type: none">• ArcGIS Explorer*	Applications <ul style="list-style-type: none">• None
Runtime SDK <ul style="list-style-type: none">• Objective C	Runtime SDK <ul style="list-style-type: none">• Java	Runtime SDK <ul style="list-style-type: none">• Silverlight	Runtime SDK <ul style="list-style-type: none">• .NET	Runtime SDK <ul style="list-style-type: none">• WPF, Java	Runtime SDK <ul style="list-style-type: none">• Qt, Java
					

Esri Mobile Technologies

Mobile capabilities of the ArcGIS system



Esri Mobile Products

ArcGIS running on ...

Windows / Windows Mobile



Rugged Devices

iOS



Smartphones and Tablets

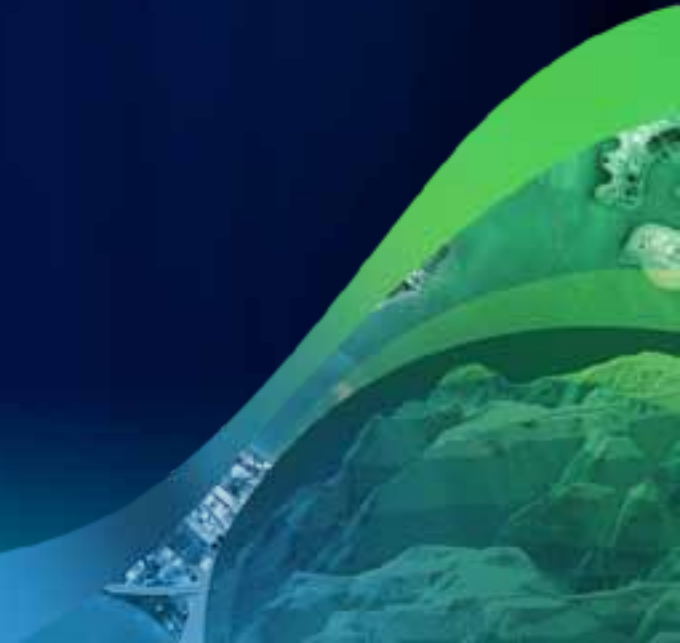
Microsoft
Windows Phone



Android



What is ArcGIS for Android?



ArcGIS for Android overview

- **SDK & Application**



- **Mapping**

- Layers: Tiled, Dynamic, Graphic, Feature



- **Tasks**

- Identify, Query, Locator, Geoprocessor



- **Editing**

- Template-based, similar to other web APIs
- Connected, through feature layer



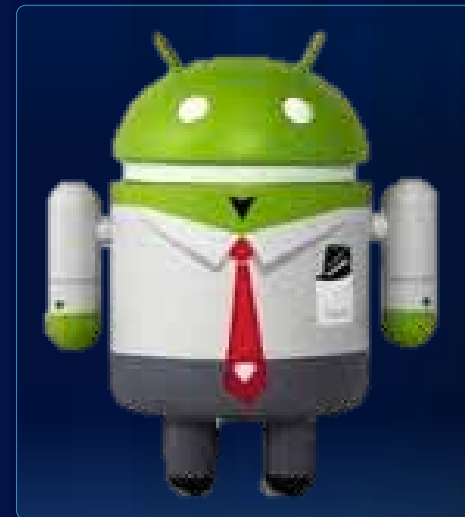
Why ArcGIS for Android?

- Native app or web app?
- **Esri supports both**
- It depends on...
 - Your users & their devices
 - Required features/functions
 - Your technology constraints
 - Your skills



Android in the Enterprise

- **Why Android?**
 - Open
 - Almost any device
 - Good default behaviors
 - Appears to work J
- **Challenges**
 - Security / Privacy
 - Push Cloud-to-device
 - Private deployment



ArcGIS for Android application



The Concept



End user application



Connected



Connected

- **Maps**
 - ArcGIS Online
 - ArcGIS Server Mobile Content Servers
- **Map services**
 - ArcGIS Server
 - Tiled, dynamic, feature, image
 - Bing
- **Location services**
 - GPS

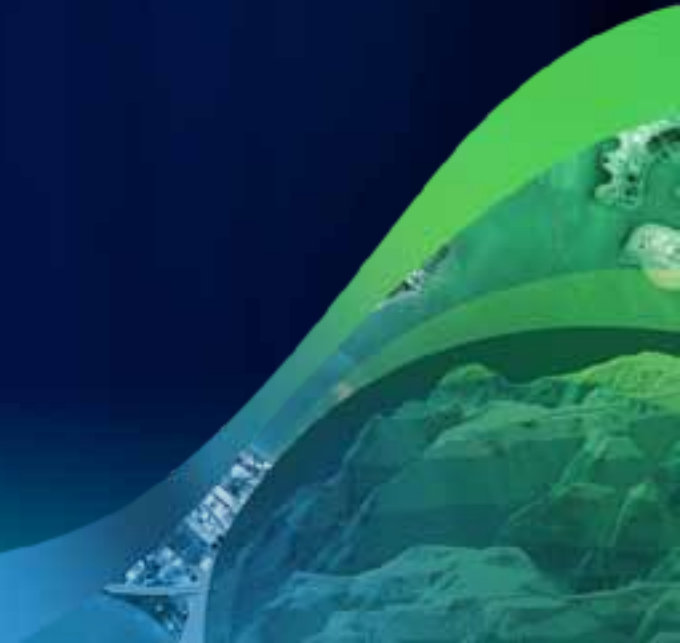


Localized

- 9 languages
 - English (american)
 - Chinese
 - Japanese
 - Russian
 - Italian
 - Spanish
 - Portuguese
 - German
 - Korean



Supported Workflows



Workflow overview

- Mapping
- Map Tools
- Data Collection



Mapping workflows

- **Viewing Maps**
 - Authored intelligent maps
 - ArcGIS Online / Mobile Content Servers
- **Sharing maps**
 - Groups, favourites
- **Search**



Finding maps demo

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Map tools workflows

- **Queries**
 - **Popups/identify**
 - **Reverse geocoding**
 - **Location searches**
- **Tools**
 - **GPS**
 - **Measure tools**



Map Tools demo

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Data collection workflows

- **Authored maps**
 - ArcGIS Server Feature layers
- **Attributes**
 - Types / Domains
 - Attachments
 - Date fields
- **Features**
 - Template based
- **Updates server**



Fulton County Dept. of Health and Wellness/District 3, Unit 2, 04

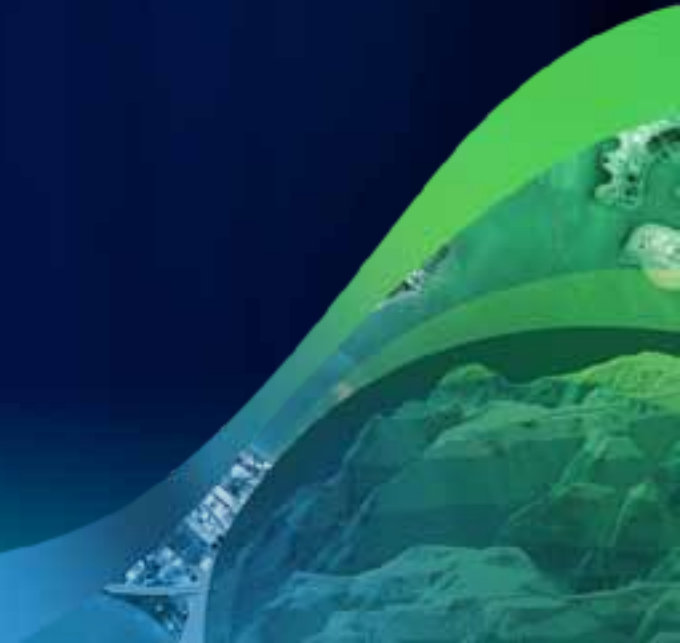
DeKalb County Board of Health

Editing demo

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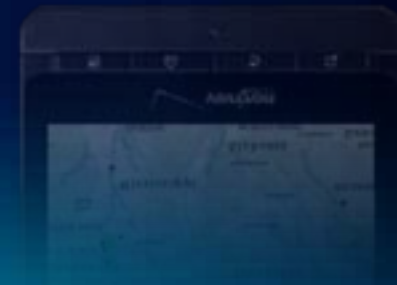


Usage Scenarios



Usage Scenarios

- **Information awareness**
 - Recent earthquakes/floods
 - Diners/drive ins and dives
- **Volunteered Geographic Information**
 - Local incidents
- **Asset inspection**
 - Asset inspection
- **Field survey**
 - On screen feature collection
 - GPS point collection



Tips and Tricks



Tips and Tricks

- **Screen navigation & exiting**
 - Map is first screen
 - Exit from find maps page
- **Using mobile content servers**
 - Not individual services
 - No images in the Android list
 - Use instance name
 - <http://help.arcgis.com/en/arcgismobile/10.0/apis/iphone/AppGuide/Maps.pdf>
- **Memory issues**
 - Memory limited, be careful
 - Number of layers, features, scale thresholds

Roadmap



Drivers....



Future features

- **Tablet support**
- **Map information**
 - Scale bar
 - Legend
- **Collaboration**
 - Bookmarks
 - Sharing maps
- **Routing / Navigation**

ArcGIS Online features

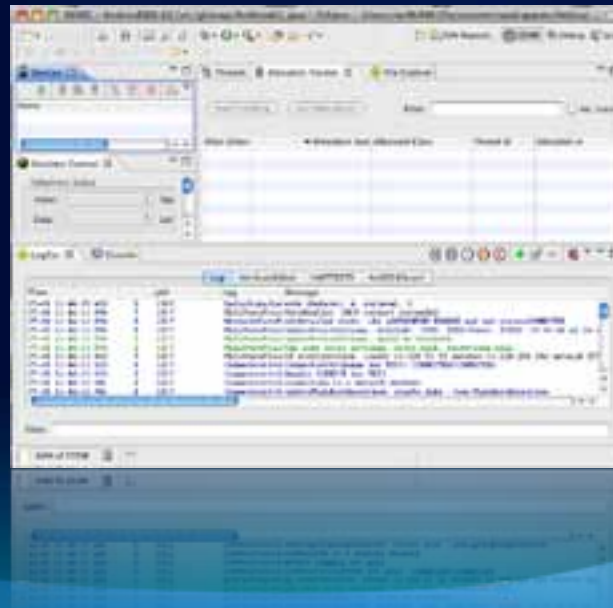
- **More open**
OSM, WMS, CSV, GPX, KML
- **For organizations**
 - Portal support

Disconnected use...



Replacing paper based workflows in disconnected scenarios...

ArcGIS for Android Runtime SDK



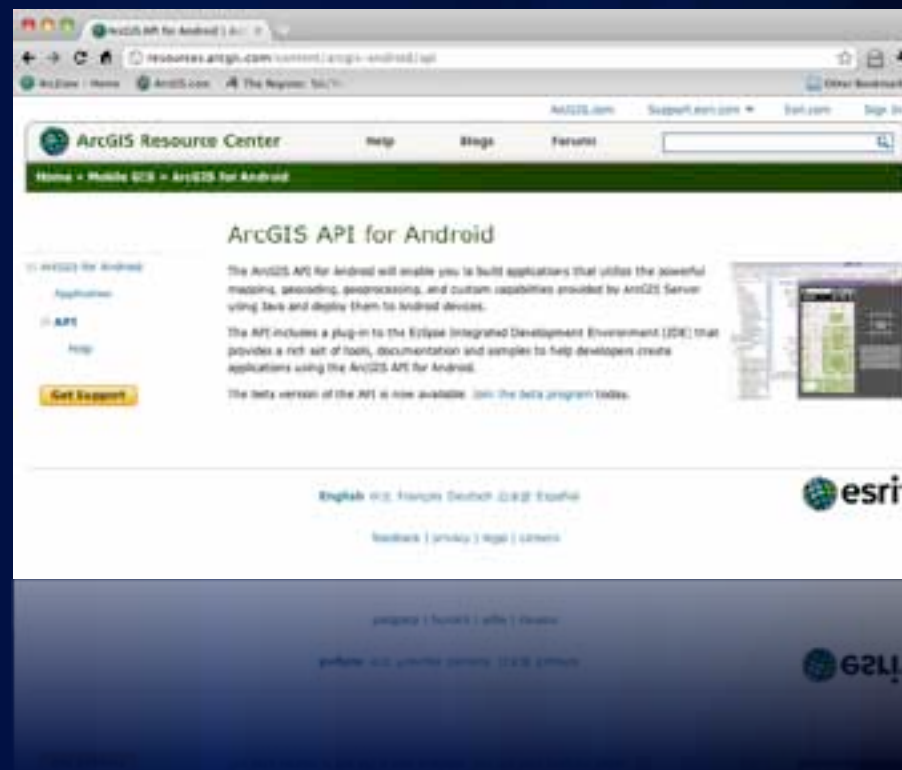
What is it?

- **Developer SDK for native Android development**
- **Basis for ArcGIS for Android Application**
 - (eat, dog, food)
- **Java based API**
- **Build native applications**
 - For consumer markets (Google, Amazon, etc)
 - For enterprise deployment (Custom)
 - For local deployment



What do you get?

- **ArcGIS for Android Runtime SDK**
 - API
 - Eclipse plugin
 - Samples
 - Doc



What do you need?

- Eclipse – 3.5 or 3.6
- Android SDK – 2.2+
- Android device



What is in the SDK demo

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What can you do now?

- **Maps**
 - ArcGIS Online, Mobile Content Servers, ArcGIS Server (inc. Secure Services), Bing,
- **Tasks**
 - Query, Identify, Geocode, Geoprocessor
- **Analysis**
 - Geometry Engine, Geoprocessing
- **Location**
 - GPS

What's in the final release?

- **Performance/scalability enhancements**
- **Popups**
- **Map Notes**
- **Compact Cache support**
- **2525 Military symbology support**

How are they licensed?



Android
Marketplaces*

ArcGIS Application

- Free and available via online marketplaces

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



Eclipse

Further information

- <http://resources.arcgis.com/content/arcgis-android/api>
- arcgis4android@esri.com
- **Web Courses to be available in 2011**
 - Getting Started with the ArcGIS API for Android
 - Creating Data Collection Applications using the ArcGIS API
- **Please fill out the online session review form!**
- www.esri.com/sessionevals

Questions...

- Over to you...



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