

DevSummit DC

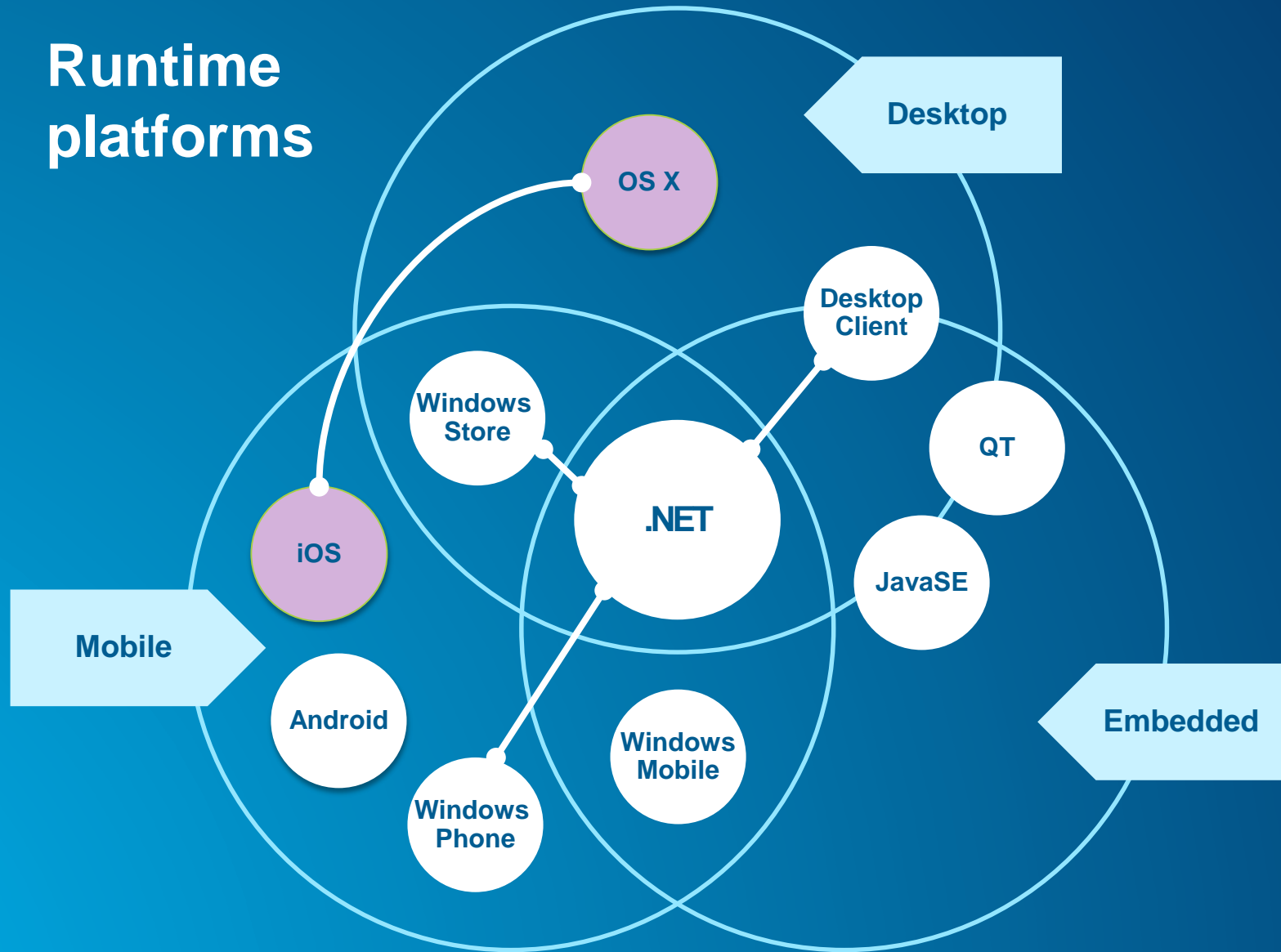
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ArcGIS Runtime SDKs: Building Apple Apps

Nick Furness & Ben Ramseth

Runtime platforms



Agenda

- **Developer Environment**
- **Showing a Map**
- **Geocoding**
- **Routing**
- **GPS**

Developer Environment

- You will need...

- Intel-based Mac (OS X 10.8.4 or newer)
- Xcode 5 or 6 (iOS 6.1/7/8)
- Apple Developer Account



The screenshot shows the Xcode app page on the Mac App Store. At the top, there are navigation tabs: Featured, Top Charts, Categories, Purchases, and Updates. The main header features the Xcode logo (a hammer on a blueprint) and the text "Xcode Create great apps for Mac, iPhone, and iPad." Below this is an "Open" button. The app is categorized as "Xcode 4+" with an "Essentials" badge. A description states: "Xcode provides everything developers need to create great applications for Mac, iPhone, and iPad. Xcode brings user interface design, coding, testing, and debugging all into a unified workflow. The Xcode IDE combined with the Cocoa and Cocoa Touch frameworks, and the Swift programming language make developing apps easier and more fun than ever before." Below the description is a "What's New in Version 6.1.1" section, which includes SDKs for OS X 10.10 Yosemite, OS X 10.9 Mavericks, and iOS 8.1. On the right side, there are links for "Apple Web Site", "Xcode Support", "App License Agreement", and "Privacy Policy". Below these are "Information" details: Category: Developer Tools, Updated: Dec 02, 2014, Version: 6.1.1, Price: Free, Size: 2.49 GB, Family Sharing: Yes, Language: English, Seller: Apple Inc., © 1999-2014 Apple Inc., Rated 4+, Compatibility: OS X 10.9.4 or later. At the bottom, there is a "More by Apple" section listing other apps like OS X Yosemite Utilities, iPhoto Photography, iMovie Video, and Keynote Productivity. The main content area features a large image of the Xcode IDE interface, showing a project named "Shutterbugs" with a central preview of a flower app, a code editor on the right, and a "Add New Constraints" dialog box in the foreground.

Apple Developer Account

developer.apple.com

- \$99 (or Enterprise) from developer.apple.com
- Real World Testing
 - Bandwidth
 - Latency

Shake
Gestures
Multitouch
Camera GPS Pedometer
Barometer
Accelerometer

... ArcGIS Runtime SDK for iOS/OS X

developers.arcgis.com/ios

The screenshot shows the ArcGIS for Developers website for the iOS/OS X SDK. The navigation bar includes 'ArcGIS for Developers', 'FEATURES', 'PLANS', 'DOCUMENTATION', 'COMMUNITY', a search bar, and a user profile for 'Nicholas'. The main heading is 'ArcGIS Runtime SDK for iOS' with sub-navigation for 'Home', 'Guide', 'API Reference', 'Sample Code', and 'Forum'. The 'Download' section highlights the current version 10.2.4 (October 2014) and provides a 'DOWNLOAD' button. Below this are links for 'Release Notes', 'System Requirements', 'Deploy and license', and 'All Downloads'. The 'Install and set up' section includes a 'GET STARTED' button. On the right, three feature highlights are listed: 'iOS 8 and Swift Supported', 'Two for one', and 'Fast and furious', each with a brief description of the benefits.


ArcGIS for Developers ▾ FEATURES PLANS DOCUMENTATION COMMUNITY 🔍 SEARCH [Grid] [Database] [Bar Chart] [Download] 👤 Nicholas ▾

ArcGIS Runtime SDK for iOS

Home Guide API Reference Sample Code Forum

Download Current version 10.2.4 (October 2014)

Get the SDK that lets you build mapping apps for Apple iPhone, iPod touch, and iPad devices! Integrate a wide range of mapping and GIS tasks online or offline, including editing, geocoding, routing, mapping, and data visualization.

 **DOWNLOAD**

[Release Notes](#) | [System Requirements](#) | [Deploy and license](#) | [All Downloads](#)

Install and set up

Instructions are provided to help you install the SDK and set up your development environment.

GET STARTED

iOS 8 and Swift Supported

Leverage Swift, the new language from Apple and all the power that iOS 8 brings to your applications. We already have samples to get you started quickly.

Two for one

Application logic you write in OS X can be reused in iOS, and vice versa. Just change the UI to target the device.

Fast and furious

Leverage modern Objective-C patterns such as Blocks, KVO, Notifications. Directly access device resources. Build for 64-bit architecture. Keep running in the background.

Set up your project

⟨COCOPODS⟩

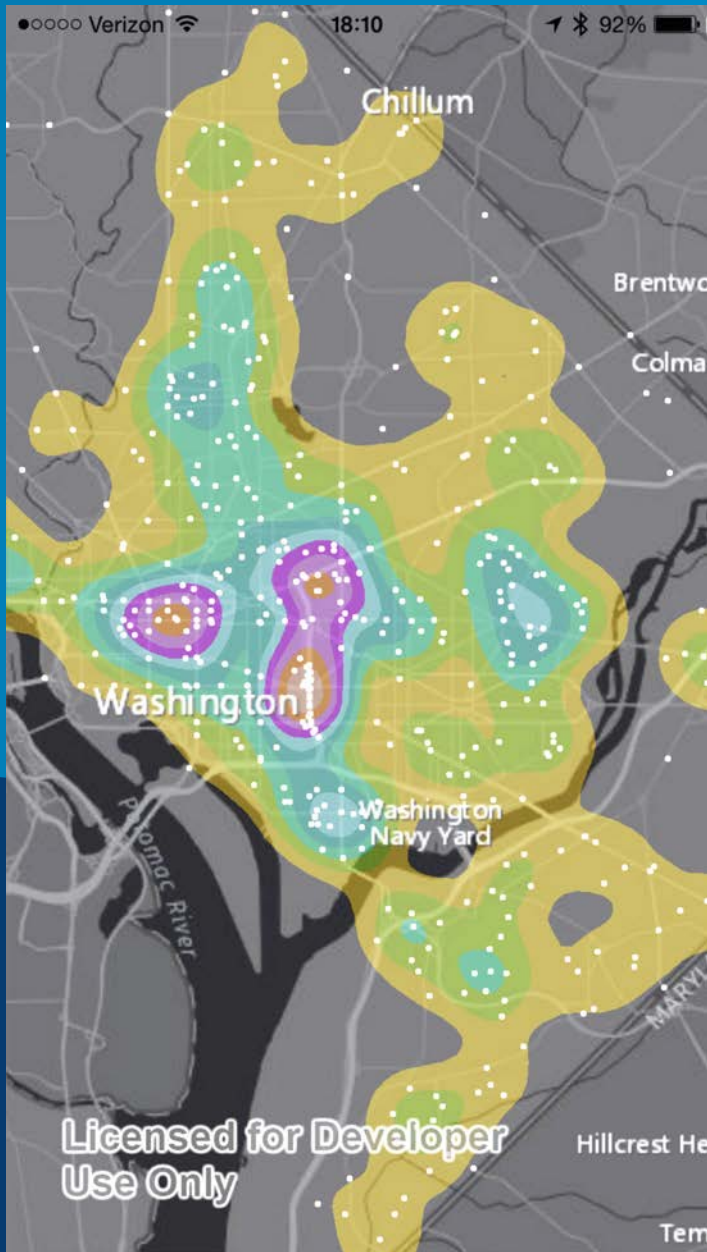
```
source 'https://github.com/CocoaPods/Specs.git'
```

```
pod 'ArcGIS-Runtime-SDK-OSX'
```

- Create a PodFile in the project folder
 - pod install

Or... manual install...

- esriurl.com/iosinstall



Hello World

Nick

Hello World - Review

- Add basemap layer
 - Zoom
 - Add feature layer
 - Symbolize
 - Show Popup
 - Open Map
-
- And CocoaPods...

Tasks

Ben

Task Pattern

- AGSTask... (Route, Locator, Geoprocessor, Query, ServiceArea, etc..)

1. **Create**

2. **Send**

3. **Handle**

Geocoding

- **AGSLocator**
 1. **Create** with URL
 2. **Send** parameters
 3. **Handle** result



Search / Geocoding

Ben

Geocoding

- AGSLocator

1. **Create** with URL

```
let locator = AGSLocator(URL: NSURL(string: ...))
```

2. **Send** parameters

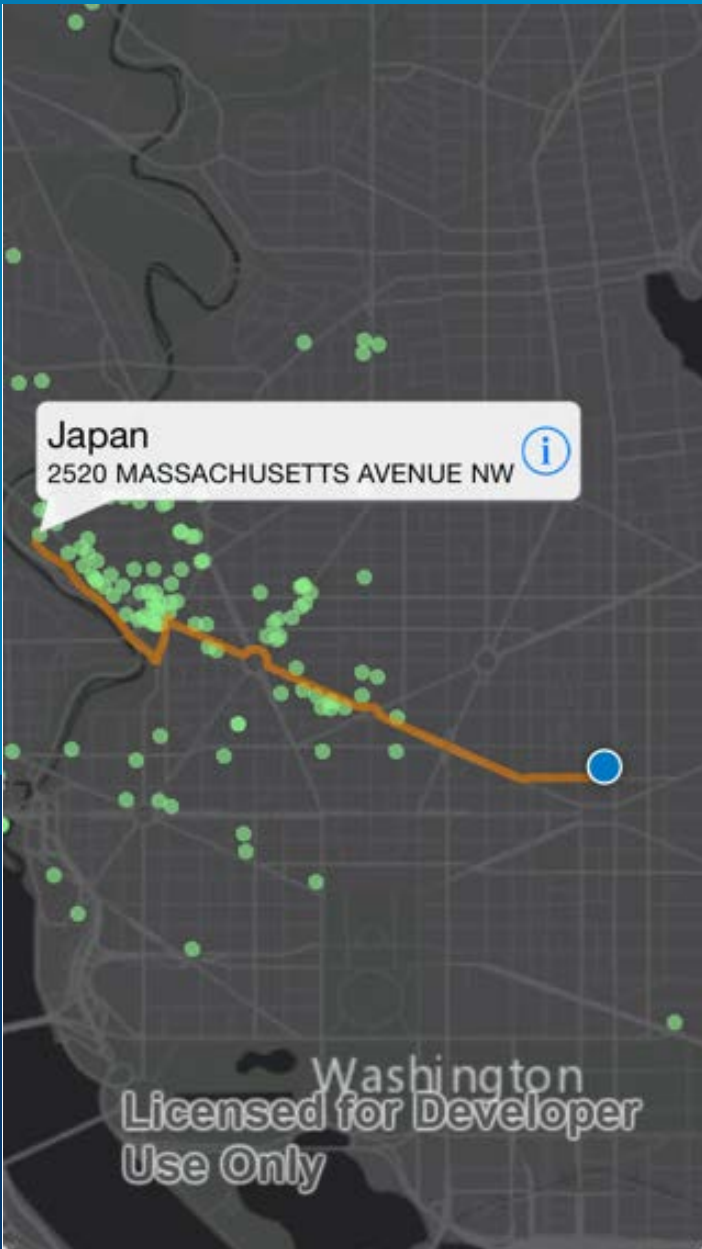
```
let params = AGSLocatorFindParameters()  
params.text = ...  
locator.findWithParameters(params)
```

3. **Handle** result

```
func locator(locator: AGSLocator!, operation op: NSOperation!, didFind results: [AnyObject]!) {  
    if results.count > 0 {  
        if let location = results[0] as? AGSLocatorFindResult {  
            self.mapView.zoomToEnvelope(location.extent, animated: true)  
        }  
    }  
}
```

Hints/Reminders: Task Pattern

- **Set up a delegate**
- **Hold on to the Task Object**
 - **Must stay alive to receive the response!**
- **Output Spatial Reference?**



Routing

Ben

Task Pattern

- AGSTask... (Route, Locator, Geoprocessor, Query, ServiceArea, etc..)

1. **Create**

2. **Send**

3. **Handle**

Routing / Directions

- **AGSRouteTask**
 1. **Create** with URL
 2. **Send** parameters (AGSRouteTaskParameters)
 3. **Handle** result (AGSRouteResult – Graphic and turn-by-turn directions)

GPS

- AGSMapView → AGSLocationDisplay
- Abstracted by the Map View
- Modes for Driving, Walking, simple auto-panning

Resources



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- esri.github.io/#iOS
- CocoaPods.org
- Alcatraz.io (Xcode Plugin Manager)
- developers.arcgis.com
- NSHipster.com
- Cocoaheads
- CocoaConf
- developer.apple.com