



ArcGIS Runtime SDK for iOS and macOS Building Apps

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**GIS
INSPIRING
WHAT'S
NEXT**

Agenda

- Getting Started
- Core Workflows
 - Map and MapView
 - Display data
 - Interact with the MapView
 - Geocoding & Routing
 - GPS
 - Lots more...



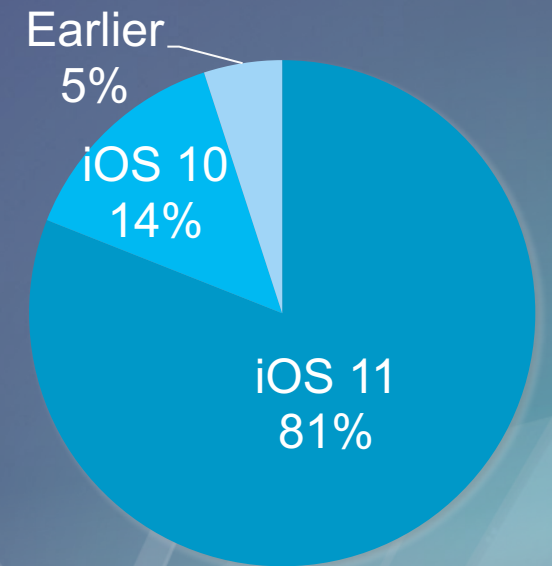


Getting Started

Tools and resources

You'll need...

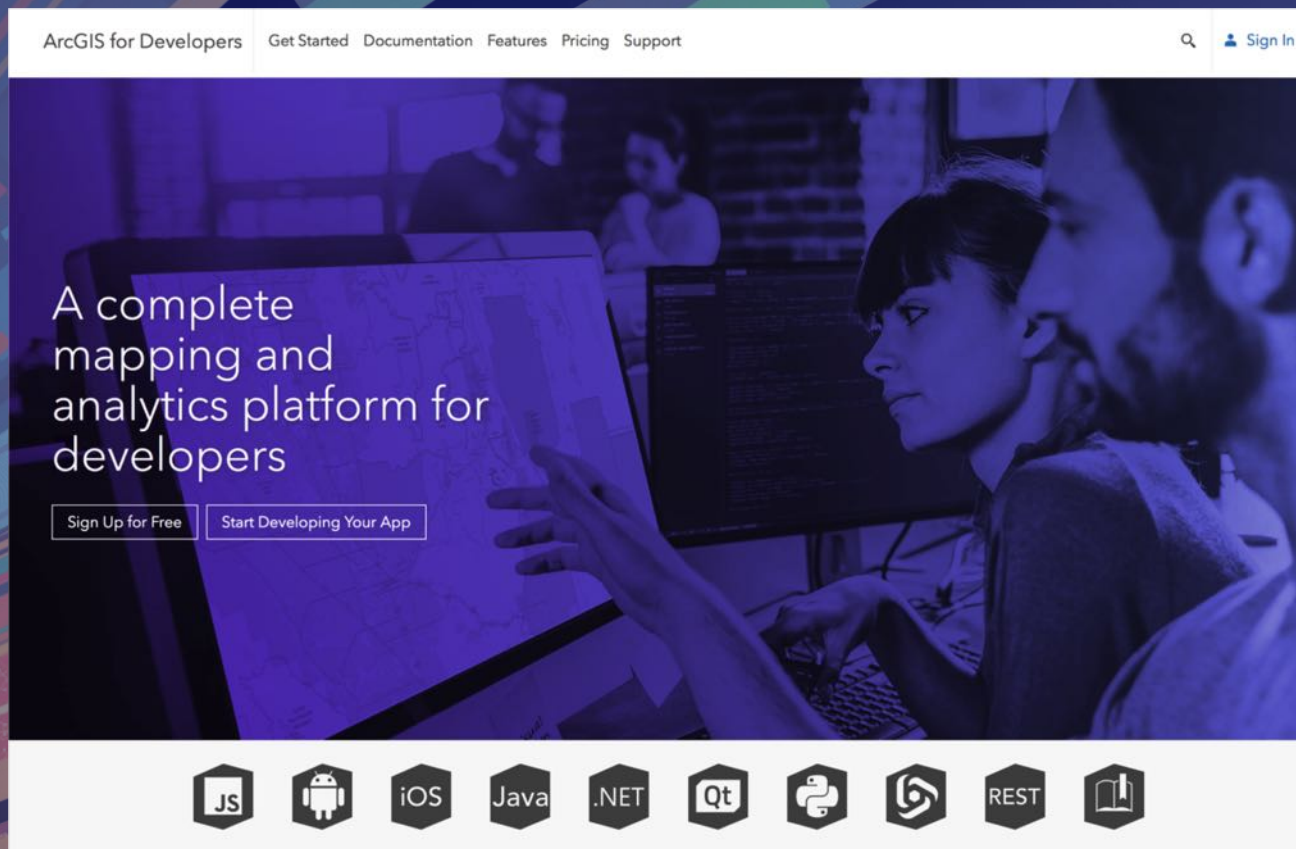
- A Mac
- Xcode 9 (free from the Mac App Store)
- Apple Developer Account (free)
- Esri Developer Account (free)
 - (or an ArcGIS Online account)
- ArcGIS Runtime:
 - iOS 10 and iOS 11
 - macOS Sierra (10.12) and High Sierra (10.13)
 - Swift and Objective-C



Installation

- Download install package
 - Dynamic and static frameworks
 - Xcode integration
 - Basic starter samples
 - Legal material
- CocoaPods





Developers Site

developers.arcgis.com

Key Concepts

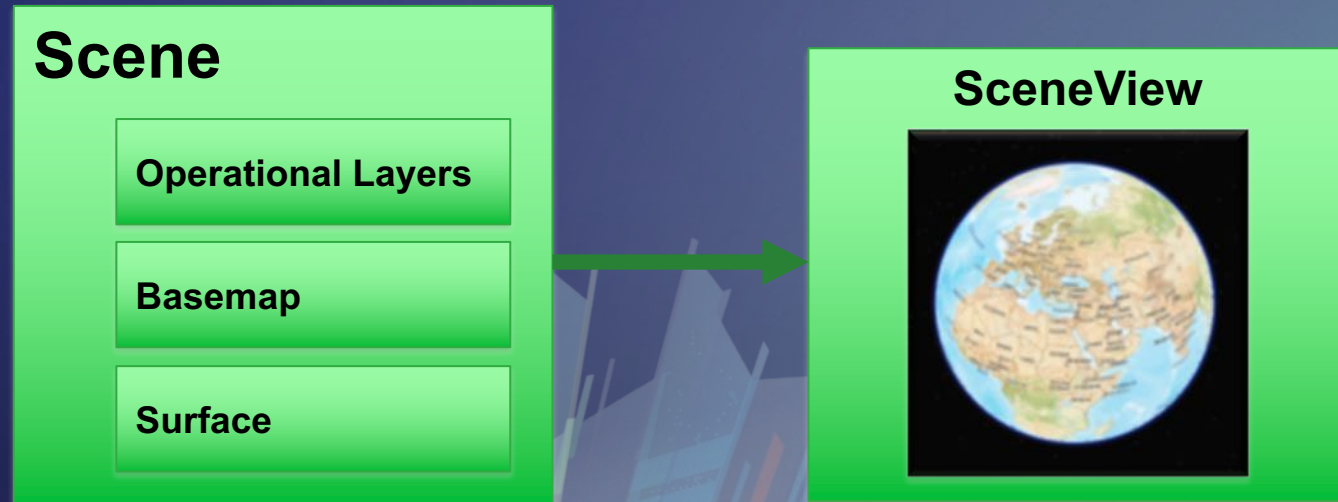
The background is a solid dark blue. On the left side, there is a white line-art map of Europe. Diagonal stripes in shades of blue, orange, and green run from the top-left towards the bottom-right. In the bottom-right corner, there are several overlapping geometric shapes, including a large red rectangle with a white grid pattern, and other shapes in orange, green, and dark blue.

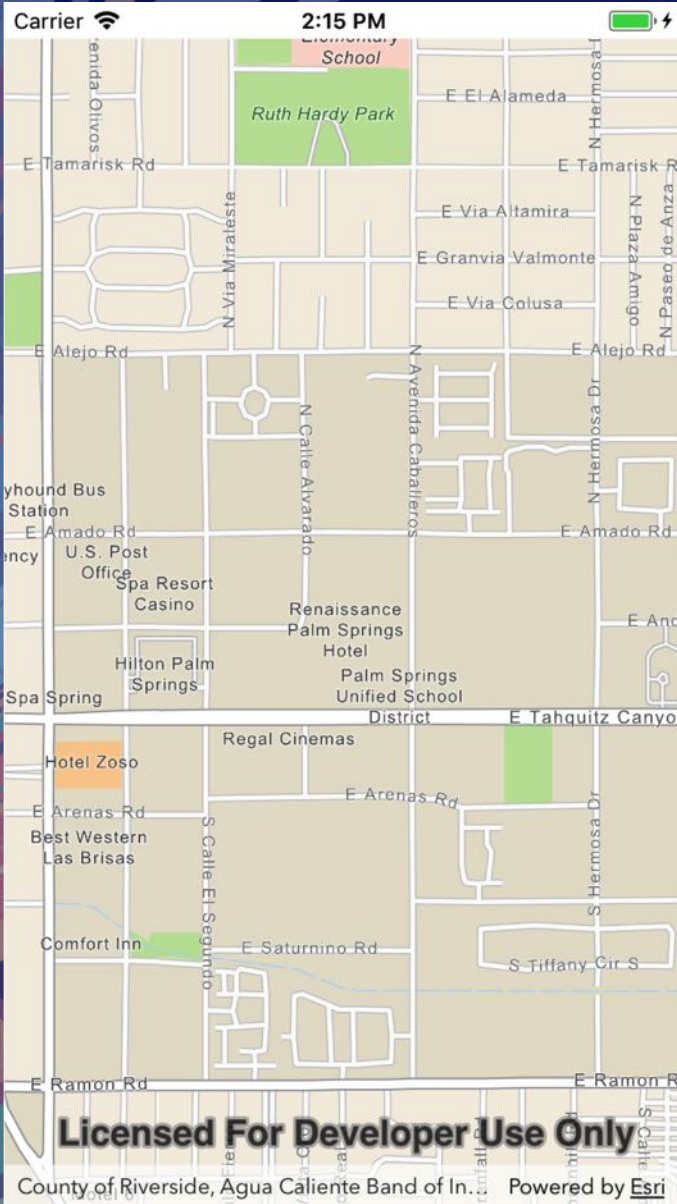
View Maps and Scenes

- 2D Maps



- 3D Scenes





Hello World

Add a map, and geocode

Hello World review...

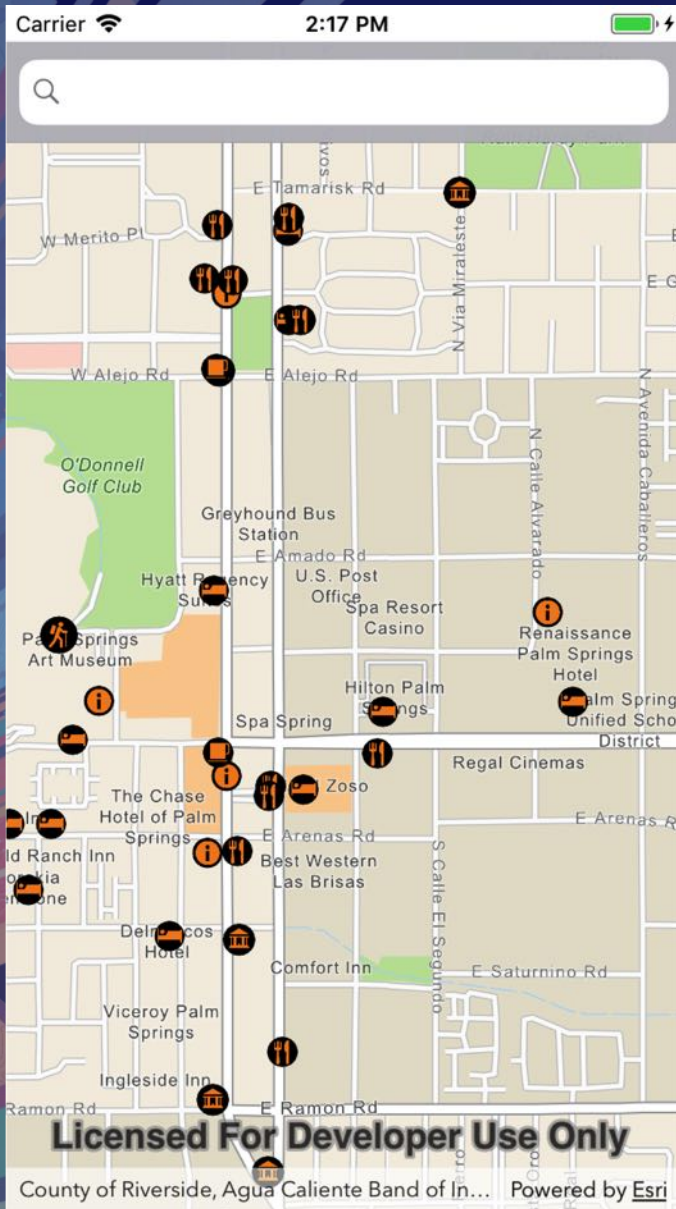
- AGSMap + AGSMapView
- Working with Xcode
 - Storyboards
- Geocoding (AGSLocator)
- Viewpoints
- Graphics Overlays and Graphics
- Symbols

Task Pattern

- Create with URL
 - geocoder, route solver, etc.
- Action with params
 - callback block
- Inspect for errors
- Work with results

```
locator.geocode(withSearchText: searchText) { (results, error) in
    guard error == nil else {
        print("Error geocoding! \(error!.localizedDescription)")
        return
    }


    if let result = results?.first {
```

Hello World++

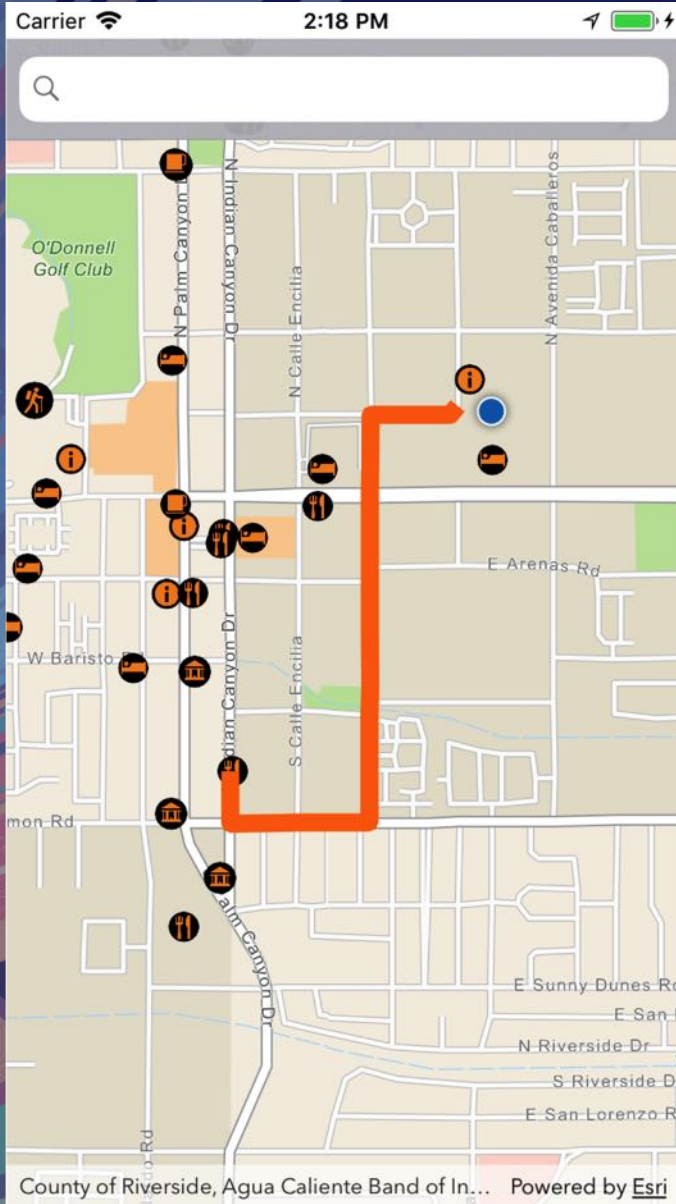
Add some data to your map

Hello World++ review...

- Add feature layer
 - Table to data source
 - Layer
 - Map interaction (geoViewTouchDelegate)
 - Read feature details
 - Callouts
- 
- An abstract graphic in the bottom right corner consisting of numerous overlapping, semi-transparent geometric shapes like rectangles and parallelograms. These shapes are oriented at various angles, creating a sense of depth and movement. The color palette is primarily cool, featuring shades of blue, teal, and light green, with some darker blue and grey tones interspersed.

More patterns...

- Task Pattern
- Job Pattern
- Loadable
- See the *Fundamentals* section of the Guide docs



Getting there

You CAN get there from here

Routing review...

- Routes & Directions (AGSRouteTask)
 - Credentials (also OAuth)
- Geometry builders
- Viewpoint with animation
- Renderers





4 more things...

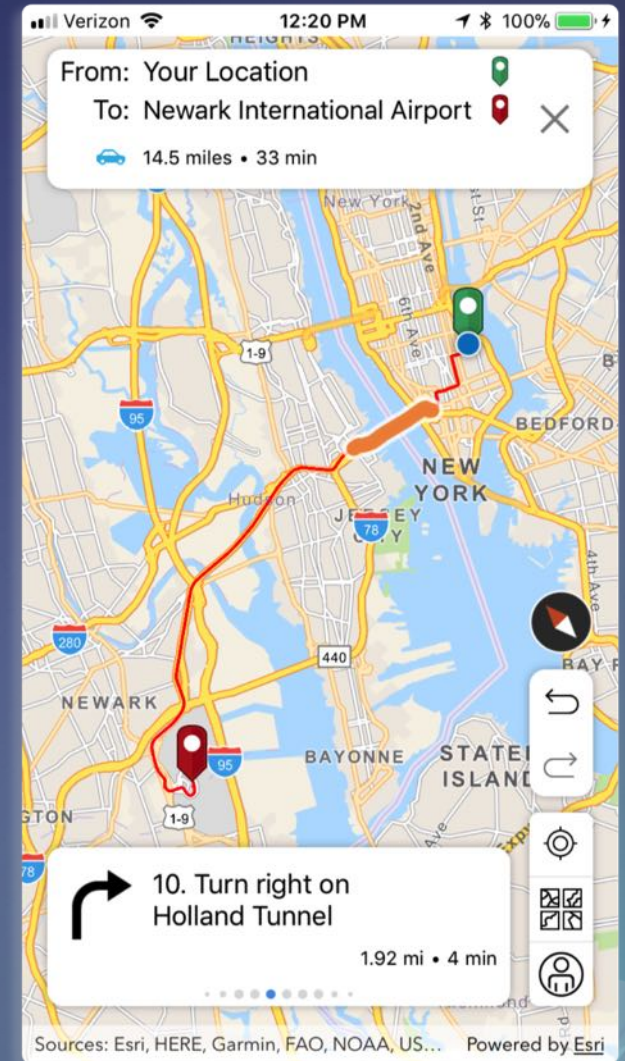
#1: 3D scenes and analysis

- iOS and macOS have strong 3D support
- Check out the sample apps
- 3D Analysis
 - Line of sight
 - Viewshed
 - GPU-based – very slick
 - Using GeoElements or specified locations



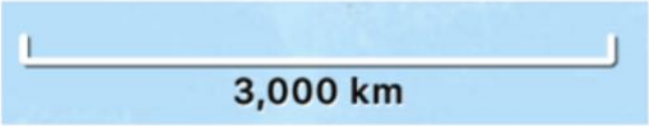
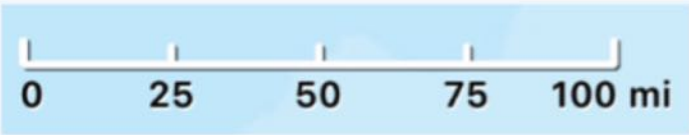

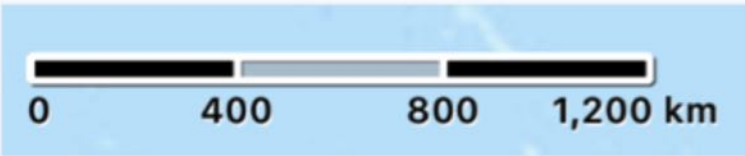
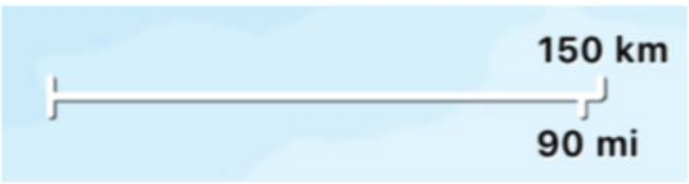
#2: Example Apps

- More than just samples
- Best practices for building real-world apps
- Use as the foundation for your app
- Or just steal what you want



#3: Toolkit

- Open Source components
 - Scale Bar
 - North Arrow
 - Job Manager
 - Time Slider
 - Legend View Controller
 - Etc.
- More coming all the time

| Style | Example |
|----------------|---|
| line |  |
| graduated line |  |
| bar |  |
| alternatingBar |  |
| dualUnitLine |  |

#4: Test in the real world

- Test on actual devices
- Test in the field with real network conditions
- iOS simulator on Mac is great, but very bad for 3D OpenGL
 - 3D apps in the simulator are not good – use a device
 - Perhaps prototype using ArcGIS Runtime SDK for macOS

Recap

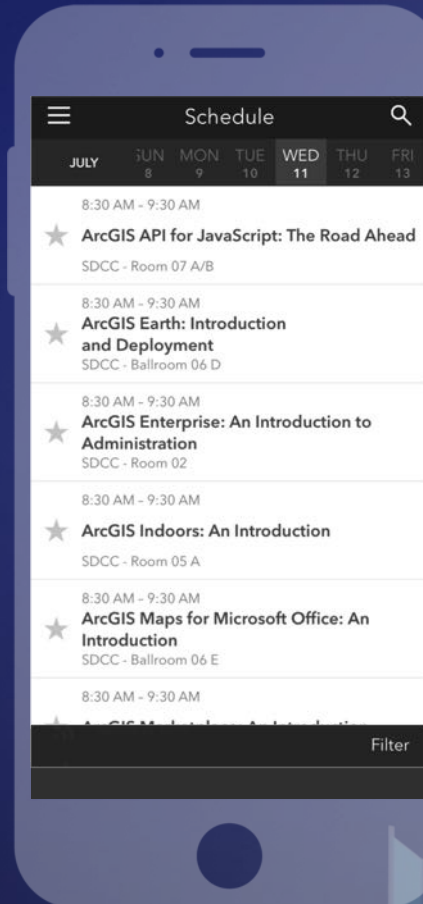
- Resources at developers.arcgis.com
- Core Workflows
 - Map and MapView
 - Display features and graphics
 - Geocoding & Routing (Task Pattern)
 - Location Display
 - MapView interaction
 - Geometry Builders
 - Callouts

Please Take Our Survey on the App

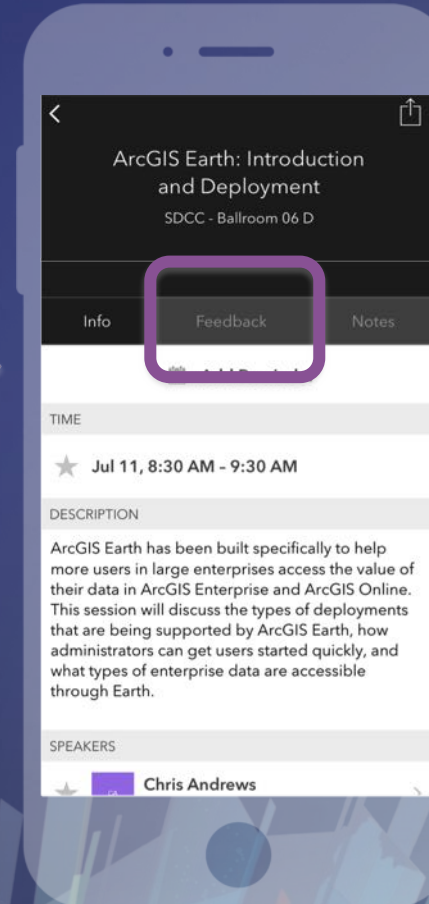
Download the Esri Events app and find your event



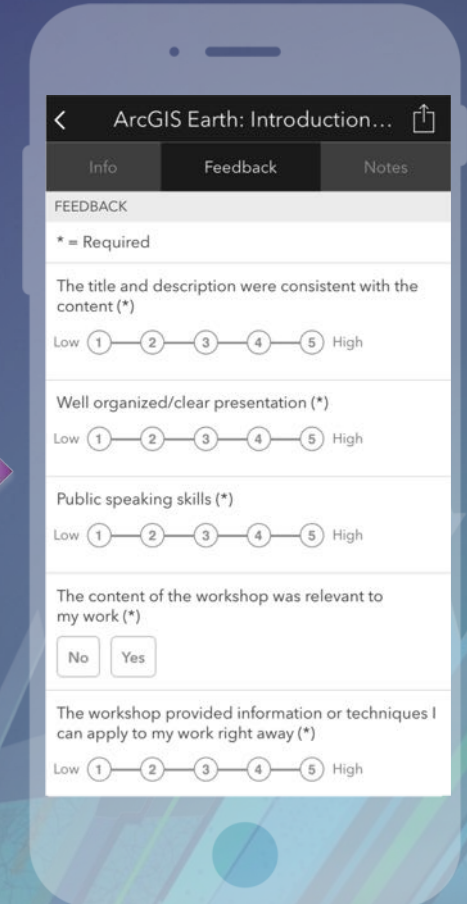
Select the session you attended



Scroll down to find the feedback section



Complete answers and select "Submit"





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