

A professional portrait of Adrian Stevens, a man with short brown hair, wearing a dark suit, white shirt, and tie, smiling at the camera.

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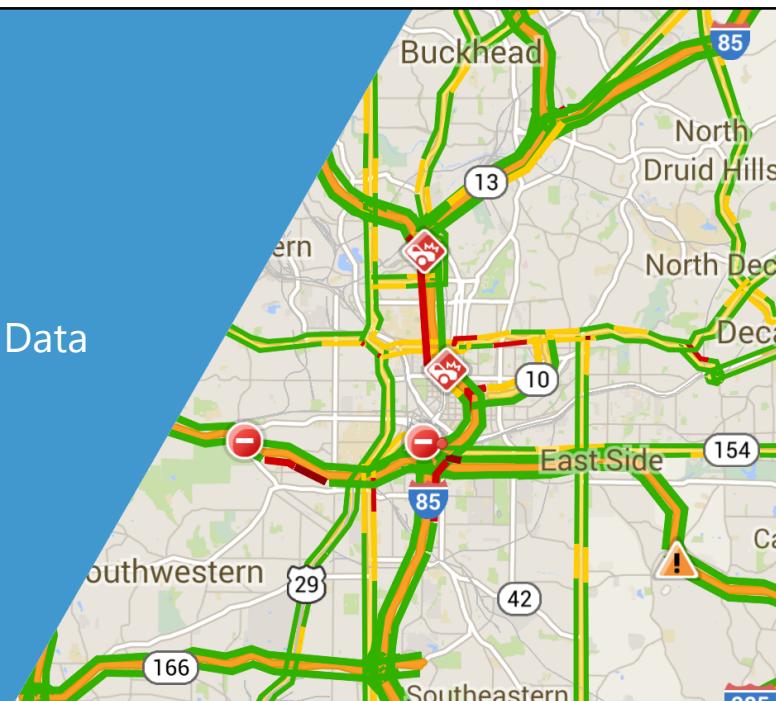
# Maps and Location in Android

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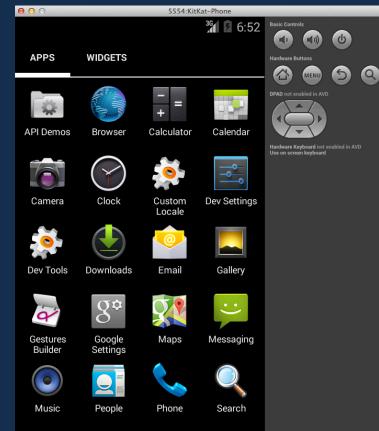
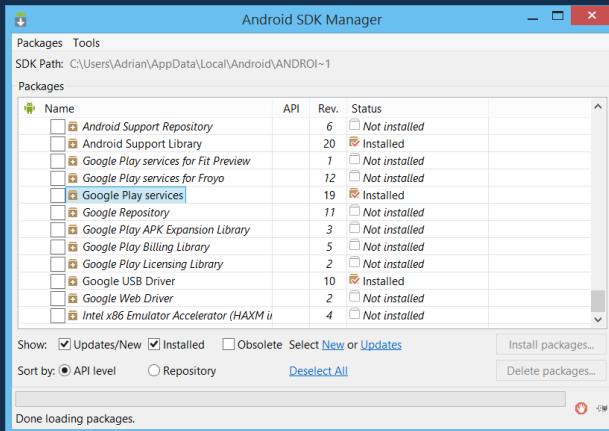
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## Agenda

- Device Setup
- Accessing Mapping Data
- Mapping Basics
- Location Services

A map of the Atlanta area showing traffic conditions on major highways like I-85, I-285, and I-75. The map highlights塞点 (traffic jams) with red circles and speed limit changes with yellow diamond signs.

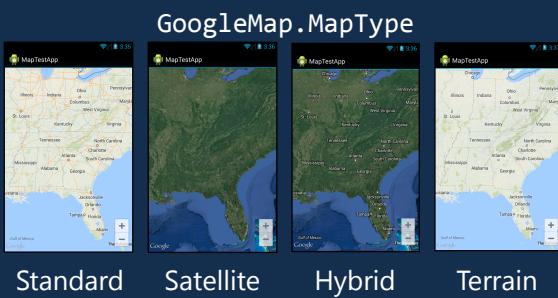
## Device Setup



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## Google Maps Basics

GoogleMap and MapFragment are the main classes you will work with for Android



GoogleMap.MyLocationEnabled

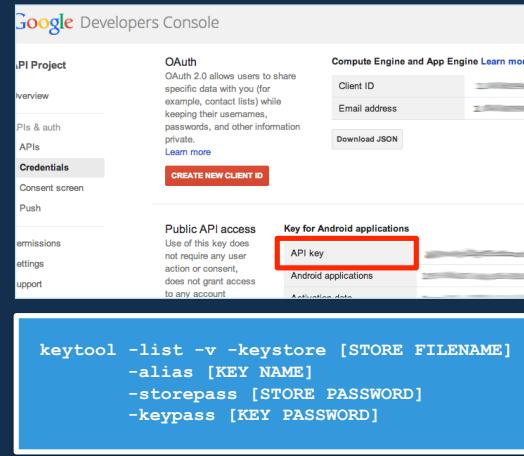


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## Accessing Google Map Data

### Getting a Google Maps API Key

- Retrieve the SHA1 fingerprint of your applications signing KeyStore
- Create a project in the Google APIs console
- Obtains the API key for Google Maps V2

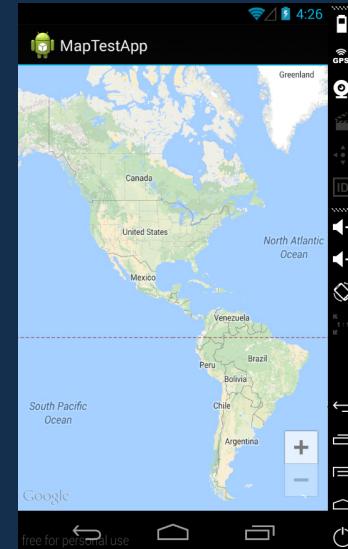


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## Demo 1 Objectives

The following demo will cover:

- Add support for Maps API
- Add a Map using MapFragment
- GoogleMap.MapType
- GoogleMap.UiSettings.ZoomGestures Enabled and other interaction settings
- Show current location



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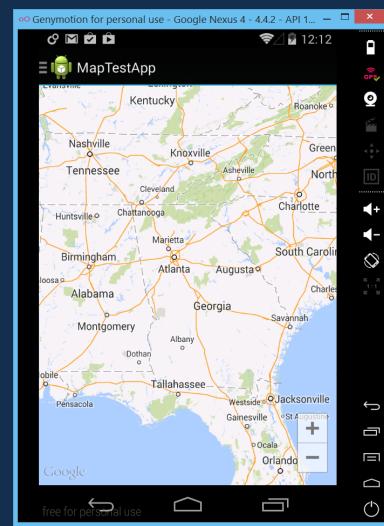
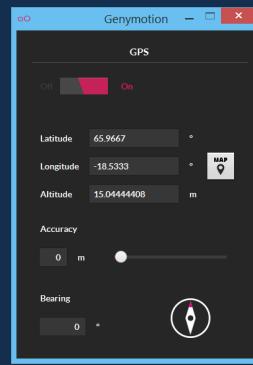
# Demo

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## Demo 2 Objectives

The following demo will cover:

- Enabling location change support
- Using the `LocationManager` and implementing `ILocationListener`
- Supporting non-GPS devices



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# Demo

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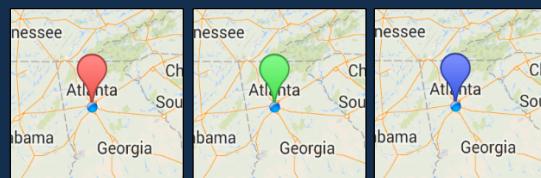
## Google Maps Markers

- Adding markers to your Google Map is done with the `AddMarker()` method
- `MarkerOptions` define how your marker appears

MarkerOptions with custom image



MarkerOptions with DefaultMarker

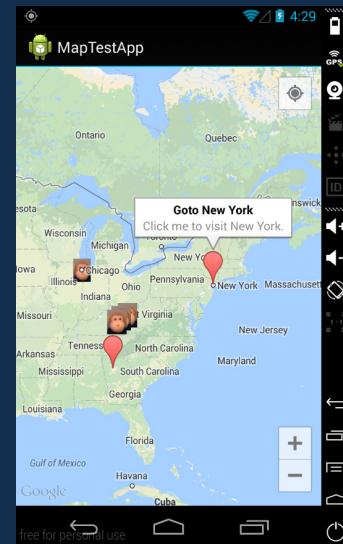


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## Demo 3 Objectives

The following demo will cover:

- Adding default and custom markers to a map
- Displaying marker details
- Adding overlays to the map



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# Demo

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## Handling Marker Events

Handling events on a Google Map on Android requires listening to a few events:

`GoogleMap.MarkerClick` += ....

`GoogleMap.InfoWindowClick` += ...

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## Drawing Shapes on the Map

Drawing shapes on the map is done by calling a few specific methods on the `GoogleMaps` class:

- `GoogleMap.AddCircle()` - add a circle overlay
- `GoogleMap.AddPolygon()` - add a polygon overlay
- `GoogleMap.AddPolyline()` - draw a line between points for a route
- `GoogleMap.AddTileOverlay()` - overlay tiles with custom tiles

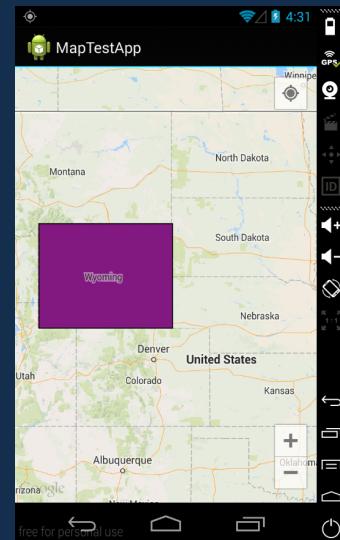


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## Demo 4 Objectives

The following demo will cover:

- Handling map touch interactions
- Adding shape overlays to the map
- Changing the position and zoom level programmatically



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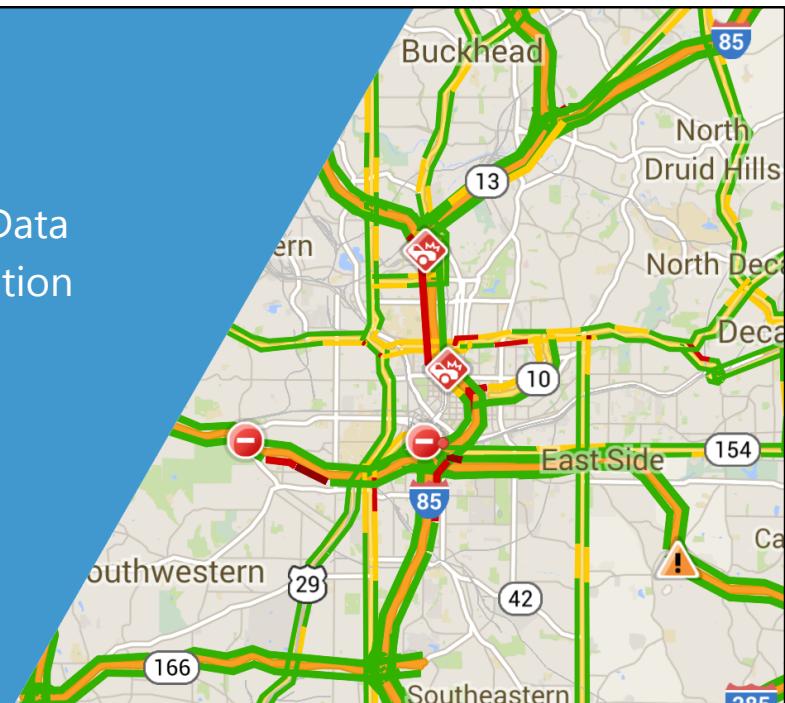
Demo

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## Summary

- Accessing Mapping Data
- Showing current location
- Adding Markers
- Adding Overlays

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