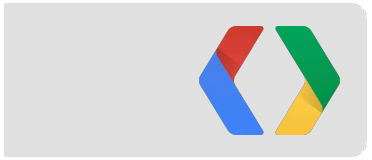
Google
Developers



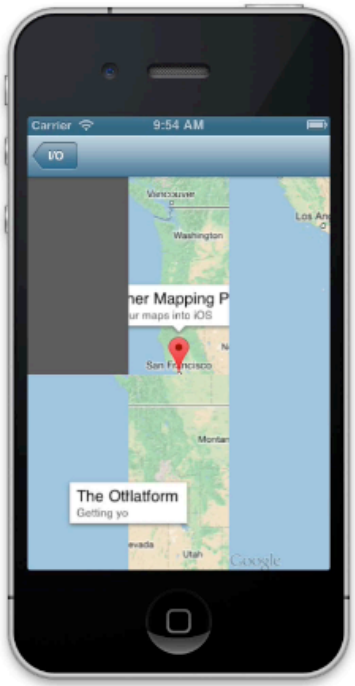
The Other Mapping Platform

Getting your Maps into iOS

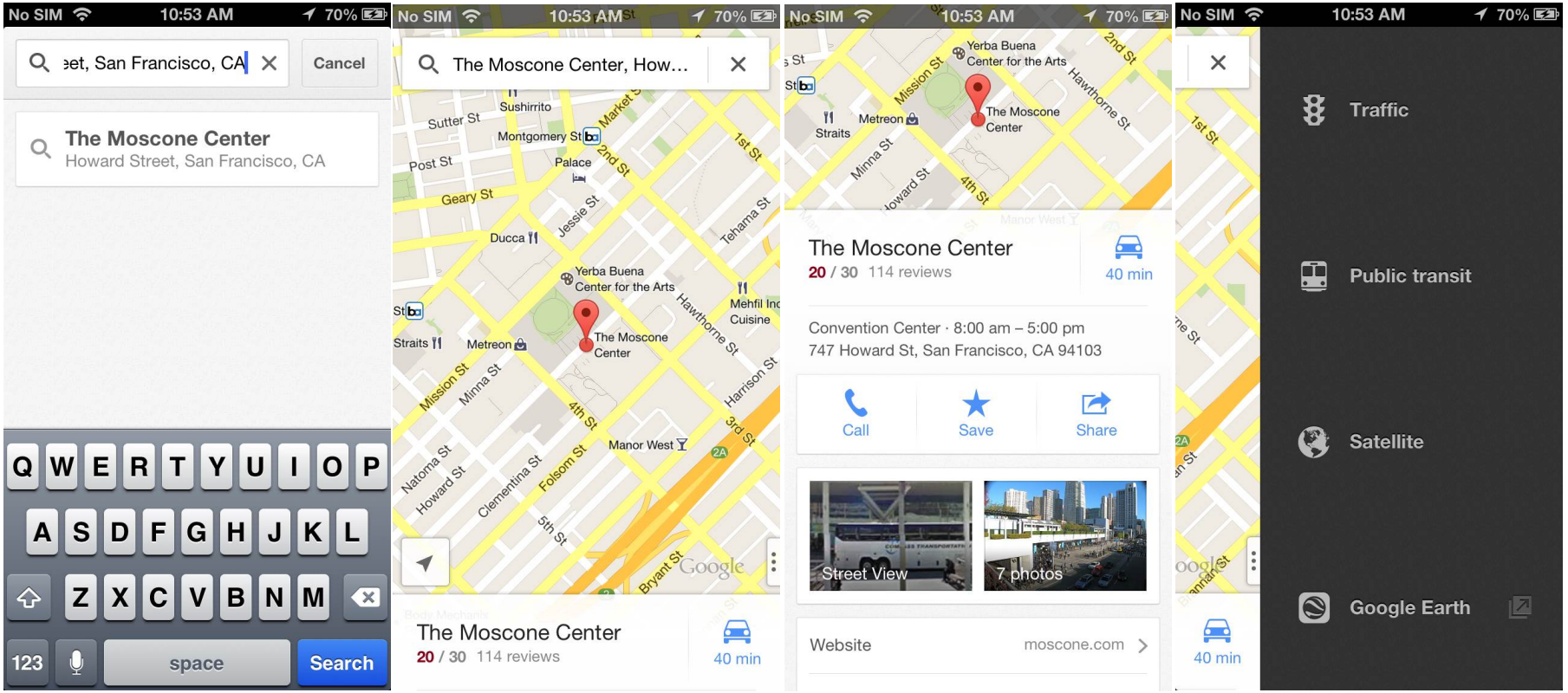
Luke Mahe
Maps Developer Relations

Mano Marks
Maps Developer Relations

Google I/O 13

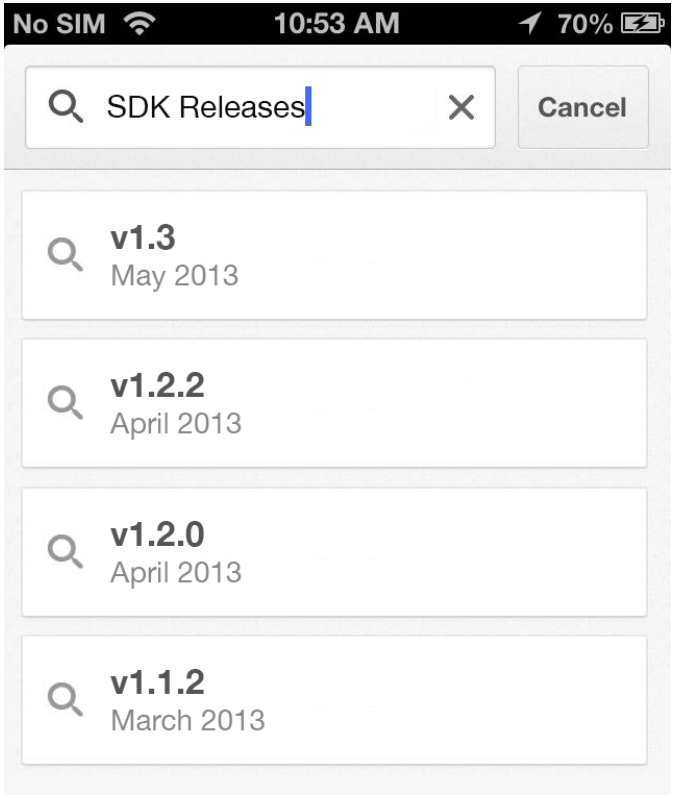

Carrier
9:54 AM
I/O
Washington
San Francisco
The Otllatform
Getting yo
Utah

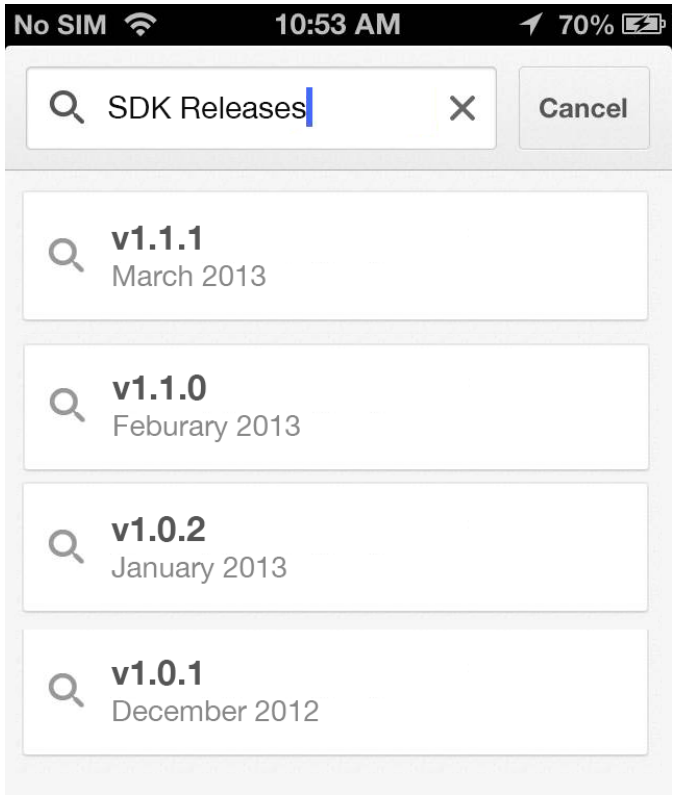
Google Maps for iPhone



The SDK

Release History

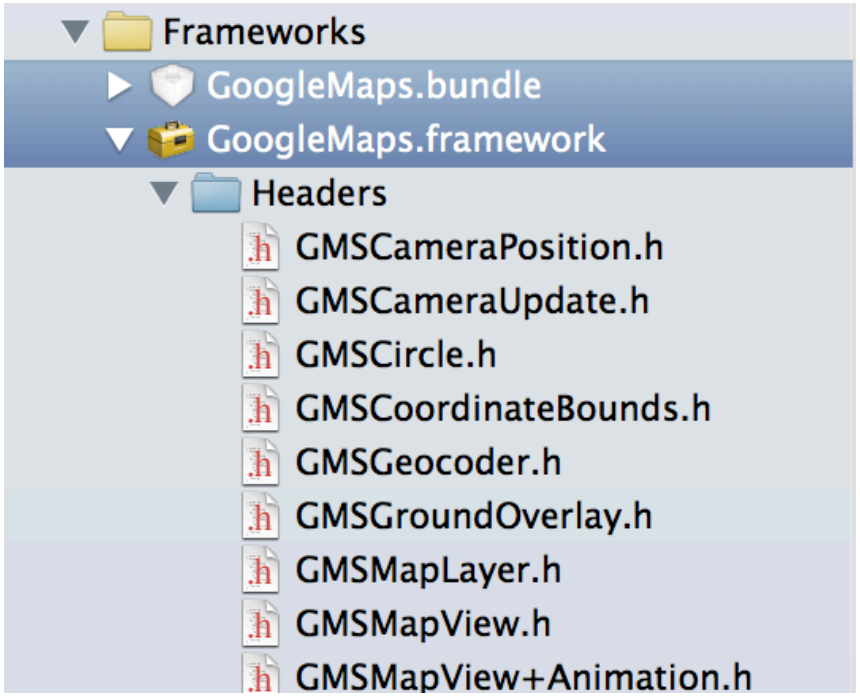




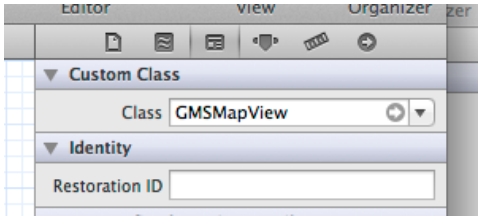
Getting started

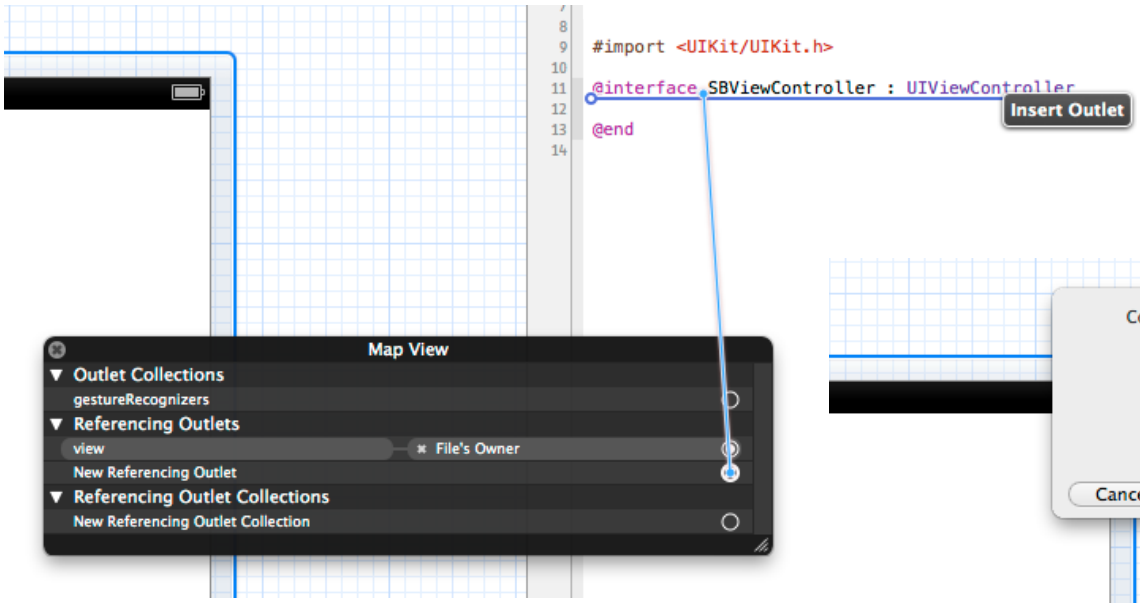
developers.google.com/maps

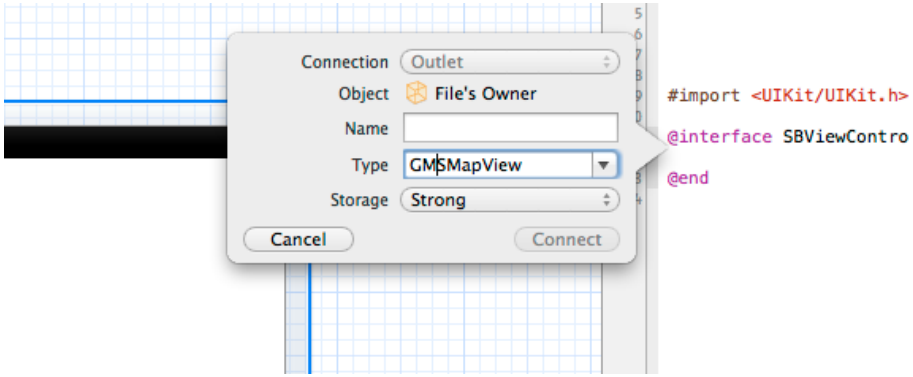
Static Library



Storyboards





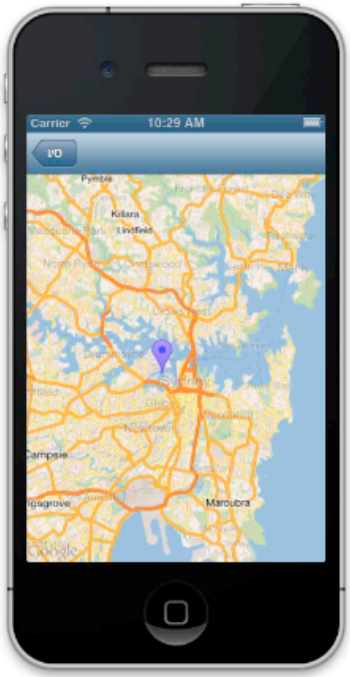


Super Simple Code

ObjC

```
#import "YourViewController.h"
#import <GoogleMaps/GoogleMaps.h>

- (void)viewDidLoad {
  [super viewDidLoad];
  GMSCameraPosition *camera = [GMSCameraPosition cameraWithLatitude:-33.868
                                                          longitude:151.2086
                                                               zoom:12];
  mapView_ = [GMSMapView mapWithFrame:CGRectZero camera:camera];
  self.view = mapView_;
  GMSMarker *marker = [[GMSMarker alloc] init];
  marker.position = CLLocationCoordinate2DMake(-33.8683, 151.2086);
  marker.title = @"Sydney";
  marker.map = mapView_;
}
```

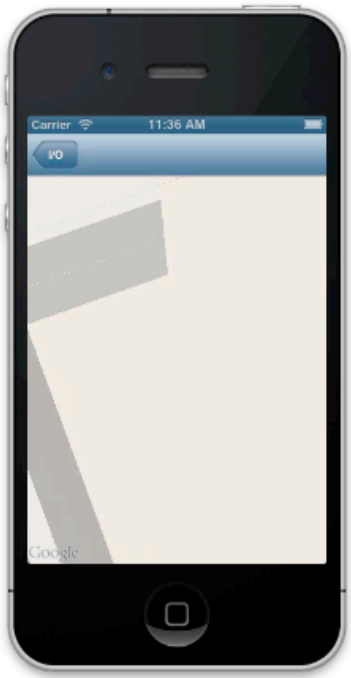
SDK Features



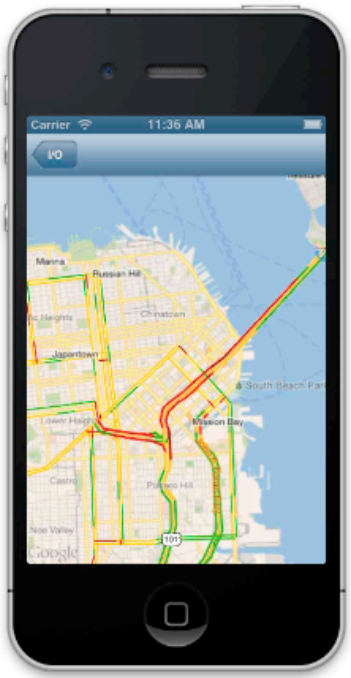
Markers

Polylines

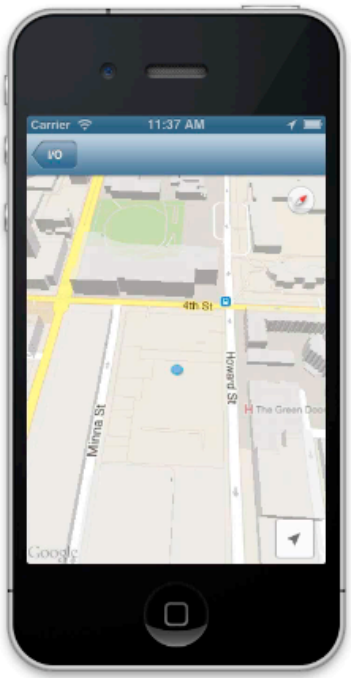
Polygons



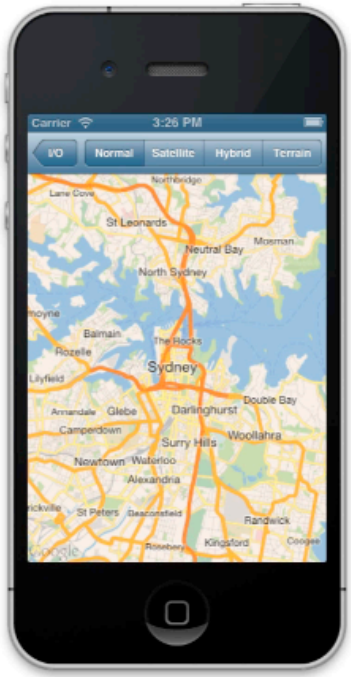
Camera



Traffic



Compass & My Location


Carrier
3:26 PM
I/O
Normal
Satellite
Hybrid
Terrain
St Leonards
Neutral Bay
Mosman
North Sydney
Balmain
The Rocks
Rozelle
Sydney
Double Bay
Glebe
Darlinghurst
Woollahra
Surry Hills
Newtown
Waterloo
Alexandria
Randwick
Kingsford

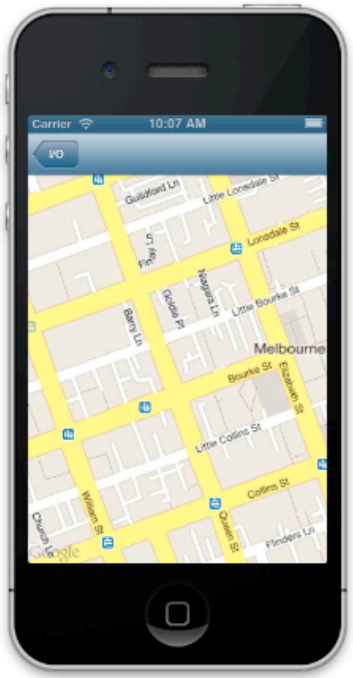
Map Types

URL Scheme

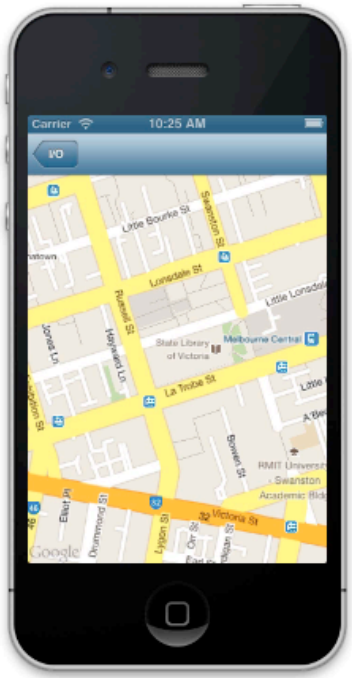
ObjC

```
[[UIApplication sharedApplication]
    canOpenURL:[NSURL URLWithString:@"comgooglemaps://"]];
```

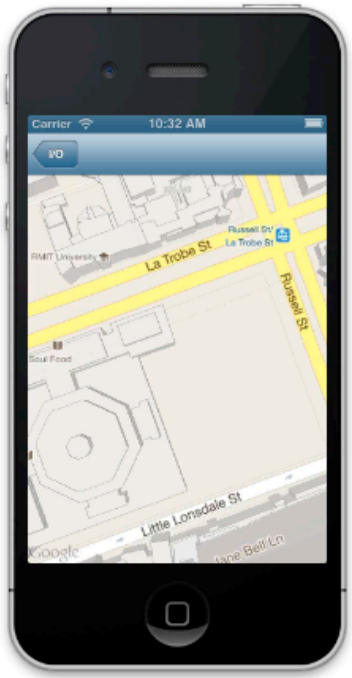
The Camera


Carrier
10:07 AM
I/O
Guildford Ln
Little Lonsdale St
Lonsdale St
Niagara Ln
Little Bourke St
Barry Ln
Melbourne
Bourke St
Elizabeth St
Little Collins St
Collins St
William St
Queen St
Flinders Ln
Church St

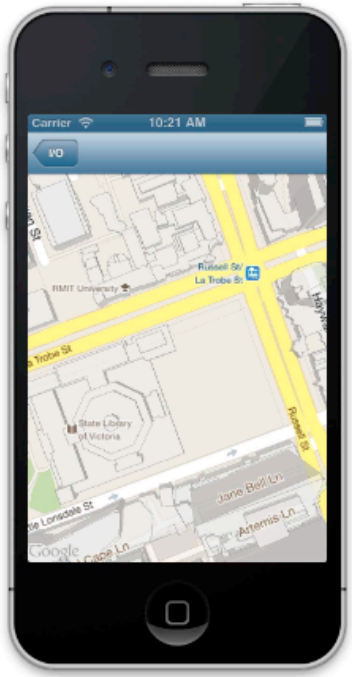
Target


Carrier
10:25 AM
I/O
Little Bourke St
Lonsdale St
Russell St
Hayward Ln
State Library of Victoria
Melbourne Central
La Trobe St
Swanston St
Victoria St
Elizabeth St
Drummond St
Lygon St
Google

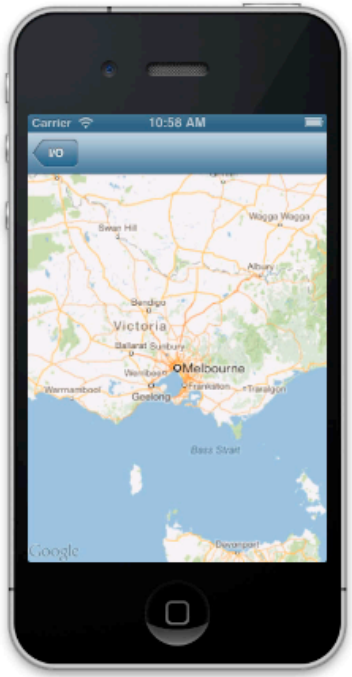
Bearing



Viewing Angle

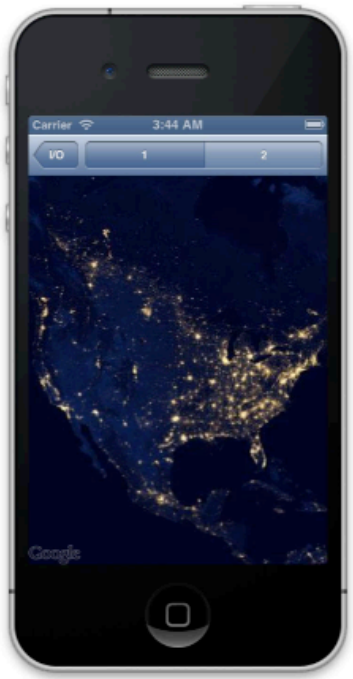

Carrier
10:21 AM
I/O
RMIT University
Russell St
La Trobe St
La Trobe St
State Library of Victoria
Russell St
Jane Bell Ln
Artemis Ln
Lonsdale St
Google
Cape Ln

Zoom


Carrier
10:58 AM
I/O
Wagga Wagga
Swan Hill
Albury
Bendigo
Victoria
Ballarat
Sunbury
Melbourne
Werribee
Frankston
Warrnambool
Geelong
Bass Strait
Google

Camera

Something new!

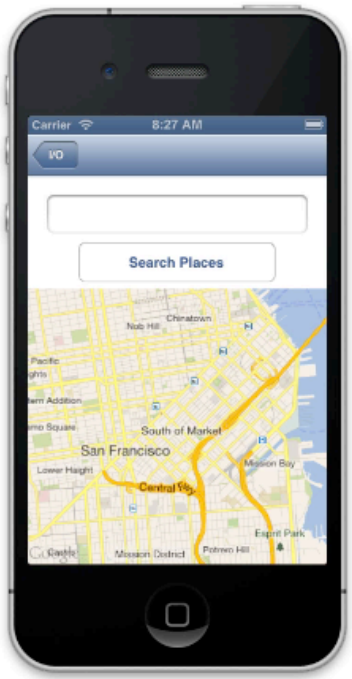


Tile Overlay

Tile Overlay

```
GMSTileURLConstructor urls = ^(NSUInteger x, NSUInteger y, NSUInteger zoom) {
  NSString *url =
      [NSString stringWithFormat:@"https://www.gstatic.com/io2010maps/tiles/9/L1_%d_%d_%d.png",
       zoom, x, y];
  return [NSURL URLWithString:url];
};
GMSTileLayer tileLayer = [GMSURLTileLayer tileLayerWithURLConstructor:urls];
tileLayer.map = mapView_;
```

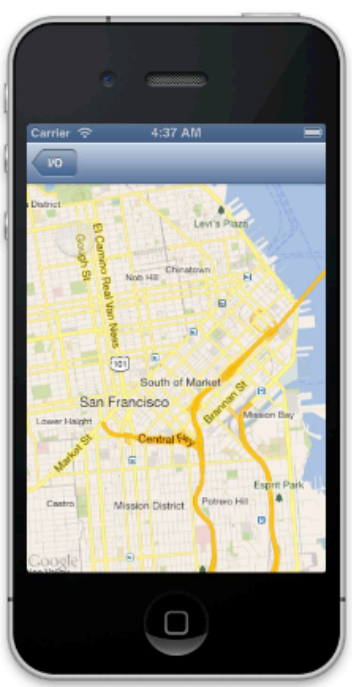
Extending the platform


Carrier
8:27 AM
I/O
Search Places
Nob Hill
Chinatown
South of Market
San Francisco
Lower Haight
Mission Bay
Mission District
Potrero Hill

Places

Places

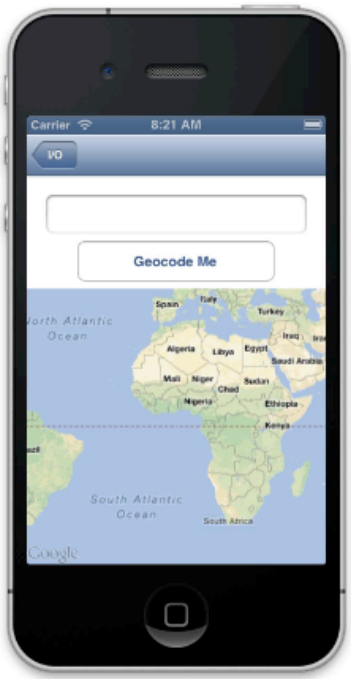
```
dispatch_async(dispatch_get_main_queue(), ^{
  NSURL *url = [NSURL URLWithString:@"https://maps.googleapis.com/maps/api/place/nearbysearch/
                    json?language=en&sensor=false&key=YOUR_KEY_HERE&radius=2000
                    &keyword=mexican&location=37.778376,-122.409853"];
  NSData *responseData = [NSData dataWithContentsOfURL:url];
  NSError *error;
  NSDictionary *json = [NSJSONSerialization JSONObjectWithData:responseData
                                                       options:kNilOptions
                                                         error:&error];
  NSArray *results = json[@"results"];
  for (int i = 0; i < [results count]; i++) {
    NSDictionary *place = [results objectAtIndex:i];
    double lat = [place[@"geometry"][@"location"][@"lat"] doubleValue];
    double lng = [place[@"geometry"][@"location"][@"lng"] doubleValue];
    GMSMarker *marker = [[GMSMarker alloc] init];
    marker.position = CLLocationCoordinate2DMake(lat, lng);
    marker.map = mapView;
  }
});
```


Carrier
4:37 AM
I/O
Levi's Plaza
Chinatown
Nob Hill
South of Market
San Francisco
Mission Bay
Mission District
Potrero Hill
Esprit Park
Castro
Lower Haight
Google

Directions

Directions

```
NSDictionary *routes = json[@"routes"][0];
NSDictionary *route = routes[@"overview_polyline"];
NSString *encodedPath = route[@"points"];

// ksteFzafjV}BVe@yH`Gu@pDc@dGy@zD_@vG}@vGw@lM{AlDc@
GMSPath *path = [GMSPath pathFromEncodedPath:encodedPath];

GMSPolyline *polyline = [GMSPolyline polylineWithPath:path];
polyline.strokeWidth = 4;
polyline.strokeColor = [UIColor colorWithRed:0 green:0 blue:1.0 alpha:0.7];
polyline.map = mapView_;
```

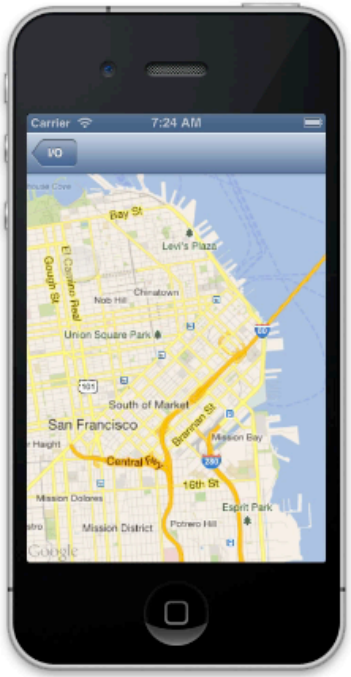

Carrier
8:21 AM
I/O
Geocode Me
North Atlantic Ocean
Spain
Italy
Turkey
Algeria
Libya
Egypt
Mali
Niger
Chad
Sudan
Nigeria
Ethiopia
Kenya
South Atlantic Ocean
South Africa
Google

Geocoding

Geocoding

```
- (void)mapView:(GMSMapView *)mapView
  didLongPressAtCoordinate:(CLLocationCoordinate2D)coordinate {
  GMSReverseGeocodeCallback handler = ^(GMSReverseGeocodeResponse *response,
                                        NSError *error) {
    if (response && response.firstResult) {
      GMSMarker.*marker = [[GMSMarker alloc] init];
      marker.position = coordinate;
      marker.title = response.firstResult.addressLine1;
      marker.snippet = response.firstResult.addressLine2;
      marker.map = mapView_;
    } else {
      NSLog(@"Could not reverse geocode point (%f,%f): %@",
            coordinate.latitude, coordinate.longitude, error);
    }
  };
  GMSGeocoder *geocoder_ = [[GMSGeocoder alloc] init];
  [geocoder_ reverseGeocodeCoordinate:coordinate completionHandler:handler];
}
```

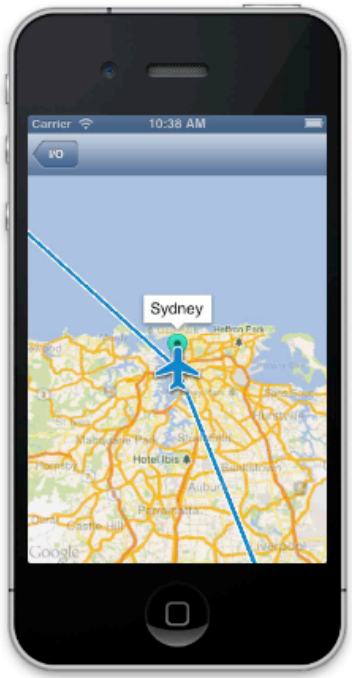
Making it your own



Marker Animations

Marker Animations

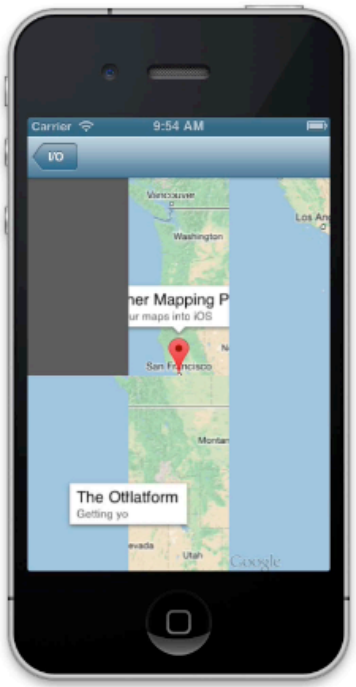
```
-(void)mapView:(GMSMapView *)mapView didTapAtCoordinate:(CLLocationCoordinate2D)coordinate {
  UIColor *color = [UIColor colorWithHue:randf() saturation:1.f brightness:1.f alpha:1.0f];

  GMSMarker.*marker = [[GMSMarker alloc] init];
  marker.position = coordinate;
  marker.icon = [GMSMarker markerImageWithColor:color];
  marker.animated = YES;
  marker.map = mapView_;
}
```



Core Animation

Core Animation

```
CAMediaTimingFunction *curve =
    [CAMediaTimingFunction functionWithName:kCAMediaTimingFunctionEaseInEaseOut];
CABasicAnimation *animation =
    [CABasicAnimation animationWithKeyPath:kGMSLayerCameraLatitudeKey];
animation.duration = 5.0;
animation.timingFunction = curve;
animation.toValue = @(32.564);
[mapView_.layer addAnimation:animation forKey:kGMSLayerCameraLatitudeKey];
CAKeyframeAnimation *keyFrameAnimation =
    [CAKeyframeAnimation animationWithKeyPath:kGMSLayerCameraZoomLevelKey];
keyFrameAnimation.duration = 7.0;
keyFrameAnimation.values = @[@(11.0), @(5.0), @(11.0)];
[mapView_.layer addAnimation:keyFrameAnimation forKey:kGMSLayerCameraZoomLevelKey];
// kGMSLayerCameraLongitudeKey
// kGMSLayerCameraBearingKey
// kGMSLayerCameraViewingAngleKey
```


Carrier
9:54 AM
I/O
Washington
San Francisco
The Ottlatform
Getting yo
Utah
Google

Render in context

```
- (UIImage *)mapImage {
  UIGraphicsBeginImageContextWithOptions(mapView_.frame.size, mapView_.opaque, 0.0);
  [mapView_.layer renderInContext:UIGraphicsGetCurrentContext()];
  UIImage *image = UIGraphicsGetImageFromCurrentImageContext();
  UIGraphicsEndImageContext();
  return image;
}
```

developers.google.com/maps

developers.google.com/live/maps

<Thank You!>

+ManoMarks
+LukeMahe

Google
Developers

Color Palette

Flat Color

67
135
253

244
74
63

255
209
77

13
168
97

Secondary

Gradient

Grays

Graphic Element Styles and Arrows

Rounded Box

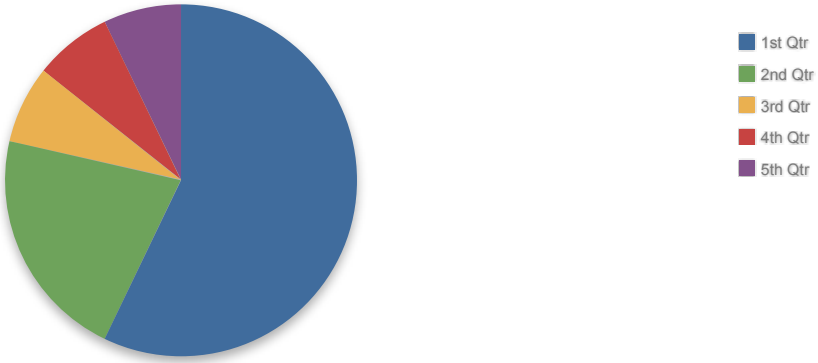
Code Boxes

Arrows

Content Container Boxes

Pie Chart Example

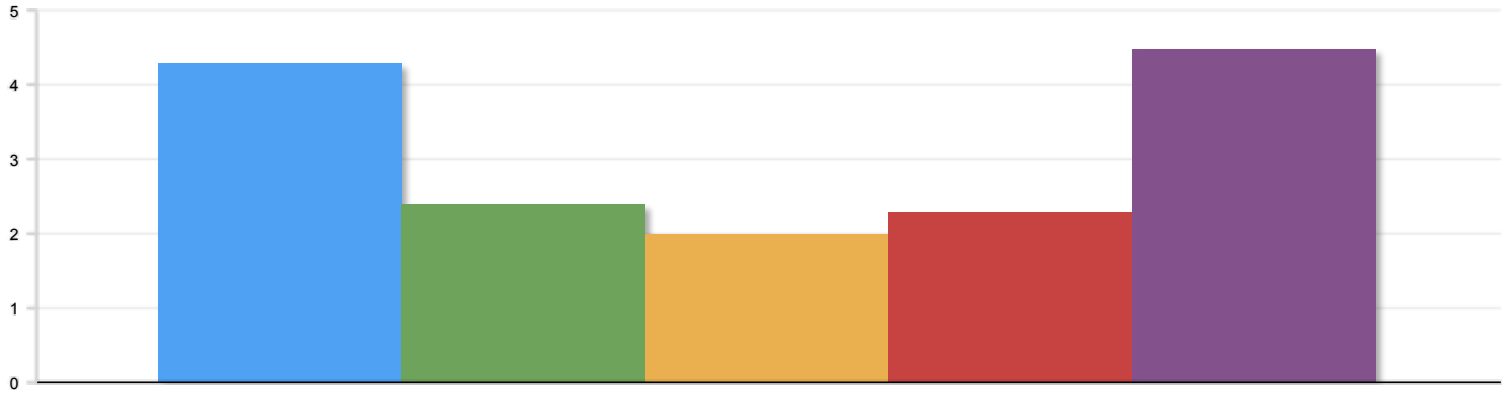
Subtitle Placeholder



source: place source info here

Column Chart Example

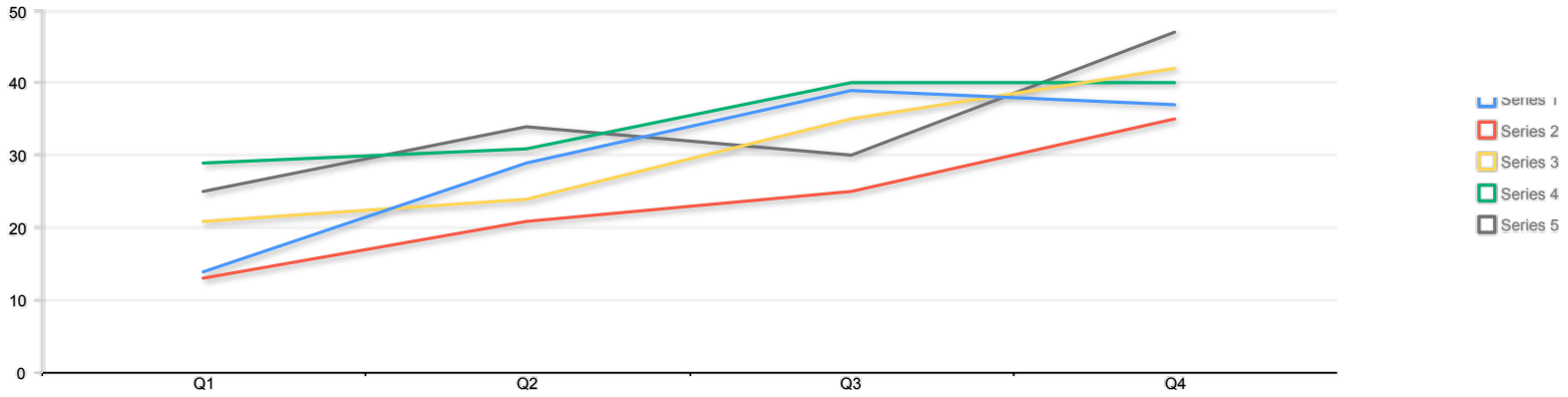
Subtitle Placeholder



source: place source info here

Line Chart Example

Subtitle Placeholder



source: place source info here

Table Option A

Subtitle Placeholder

	Column 1	Column 2	Column 3	Column 4
Row 1	placeholder	placeholder	placeholder	placeholder
Row 2	placeholder	placeholder	placeholder	placeholder
Row 3	placeholder	placeholder	placeholder	placeholder
Row 4	placeholder	placeholder	placeholder	placeholder
Row 5	placeholder	placeholder	placeholder	placeholder
Row 6	placeholder	placeholder	placeholder	placeholder
Row 7	placeholder	placeholder	placeholder	placeholder

Table Option B

Subtitle Placeholder

Header 1	placeholder	placeholder	placeholder
Header 2	placeholder	placeholder	placeholder
Header 3	placeholder	placeholder	placeholder
Header 4	placeholder	placeholder	placeholder
Header 5	placeholder	placeholder	placeholder

Segue Slide

Subtitle Placeholder

“ This is an example of quote text.”

Name

Company

Code Slide With Subtitle Placeholder

Subtitle Placeholder

ObjC

```
<script type='text/javascript'>
 // Say hello world until the user starts questioning
 // the meaningfulness of their existence.
 function helloWorld(world) {
   for (var i = 42;--i >= 0;) {
     alert ('Hello' + String(world));
 }
}
</script>
<style>
p { color: pink }
p { color: blue }
u { color: 'umber' }
</style>
```