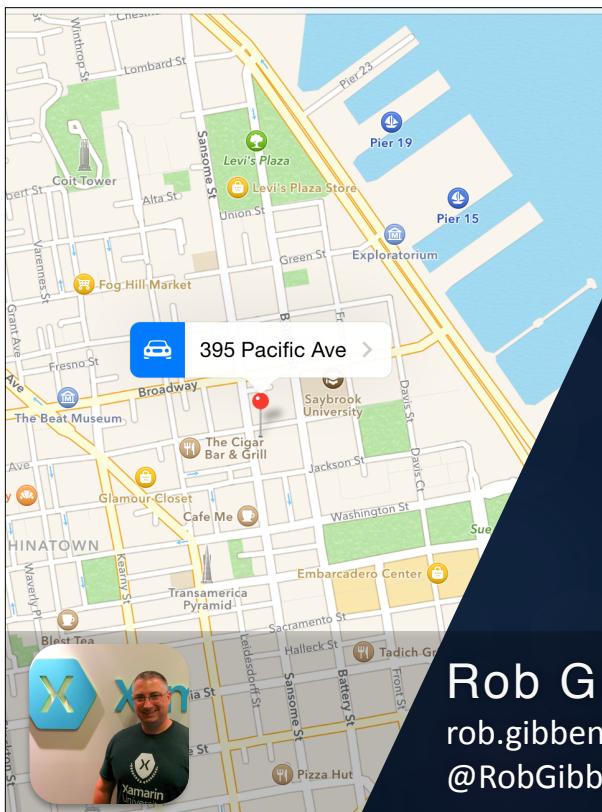
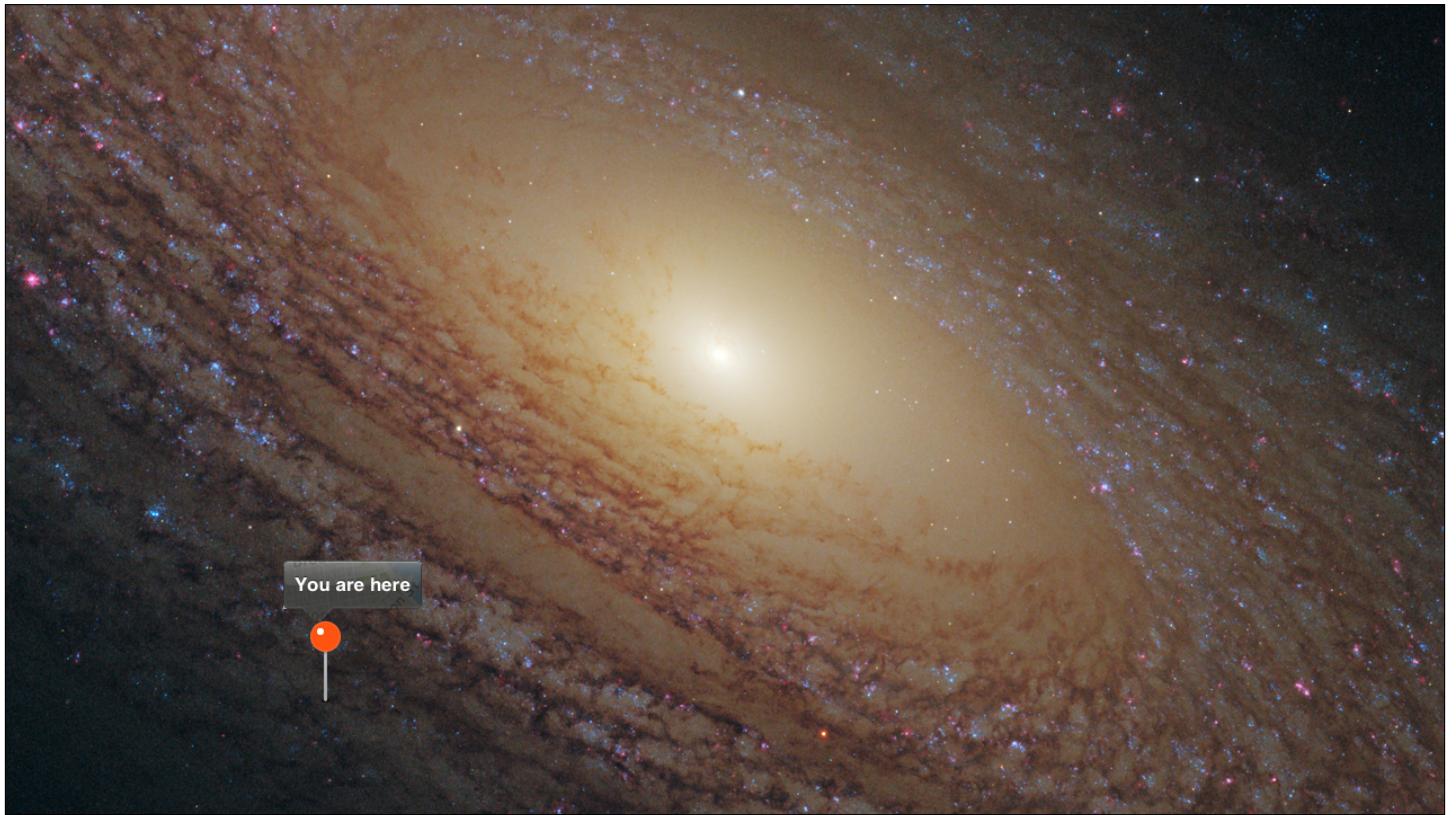


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Maps and Location in iOS

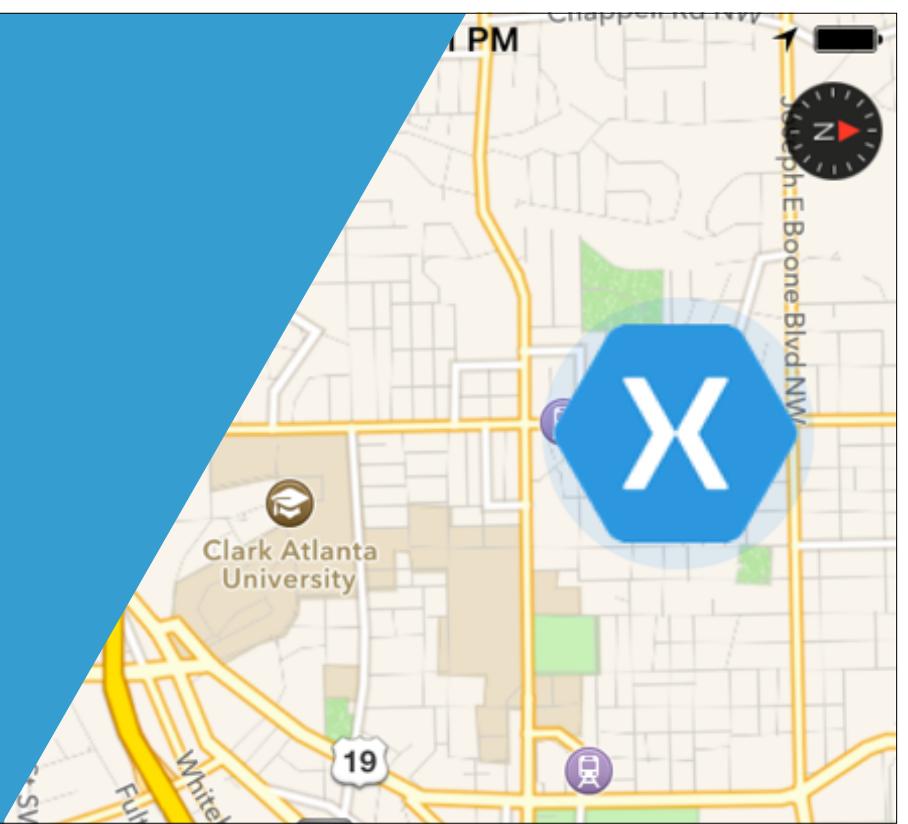
Rob Gibbens
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Agenda

1. MapKit Basics
2. Annotations
3. Overlays
4. Search



Agenda

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MapKit Basics

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Creating a map

```
using MapKit;

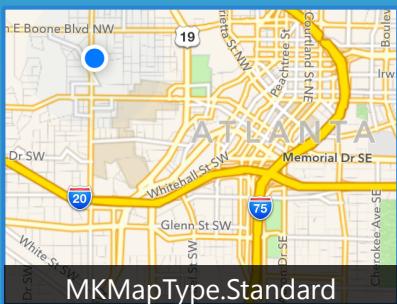
public override void ViewDidLoad()
{
    var map = new MKMapView(UIScreen.MainScreen.Bounds);
    View.Add(map);
}
```



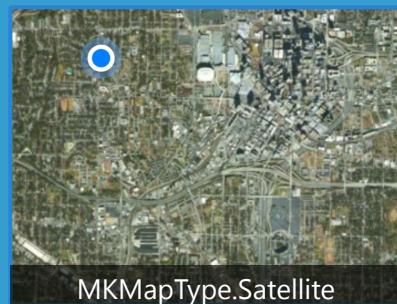
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Map types

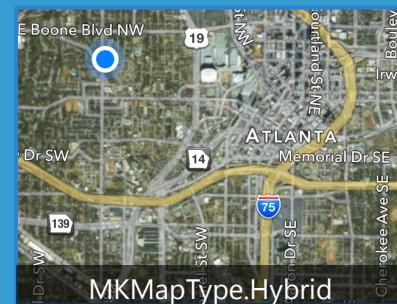
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MKMapView.Standard



MKMapView.Satellite

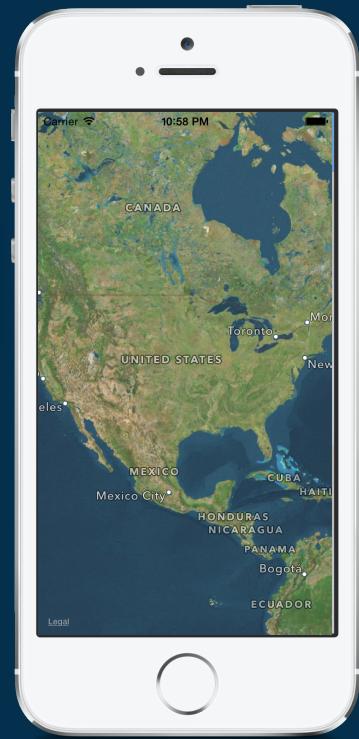


MKMapView.Hybrid

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Setting the Map Type

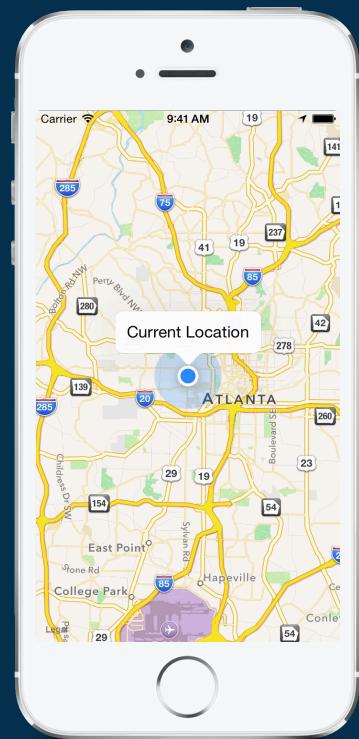
```
public override void ViewDidLoad()
{
    var map = new MKMapView(UIScreen.MainScreen.Bounds);
    View.Add(map);
    map.MapType = MKMapType.Hybrid;
}
```



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Showing the User location

```
public override void ViewDidLoad()
{
    var map = new MKMapView(UIScreen.MainScreen.Bounds);
    View.Add(map);
    map.ShowsUserLocation = true;
}
```

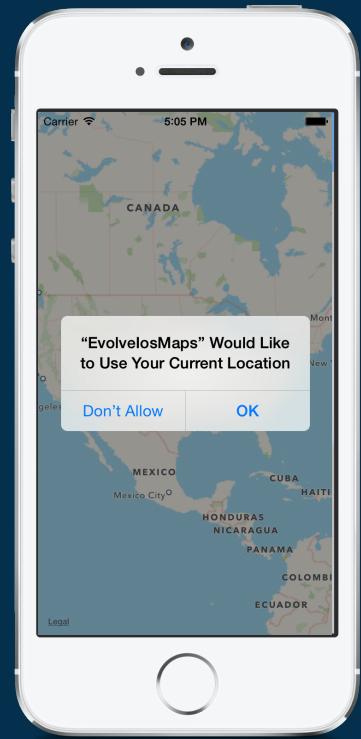


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Showing the User location

```
public override void ViewDidLoad()
{
    var map = new MKMapView(UIScreen.MainScreen.Bounds);
    View.Add(map);

    map.ShowsUserLocation = true;
}
```

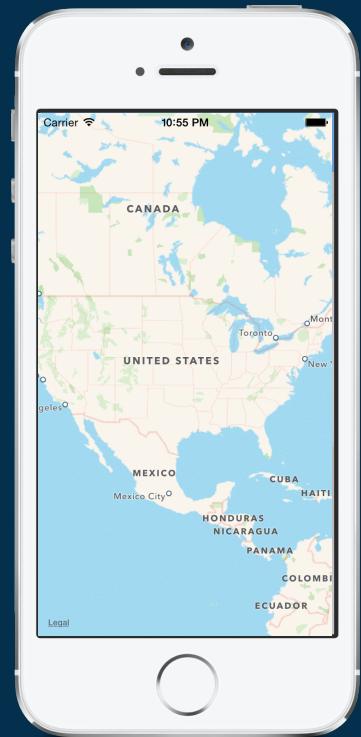


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Interactions

```
public override void ViewDidLoad()
{
    var map = new MKMapView(UIScreen.MainScreen.Bounds);
    View.Add(map);

    map.ZoomEnabled = false;
    map.RotateEnabled = false;
    map.ScrollEnabled = false;
}
```



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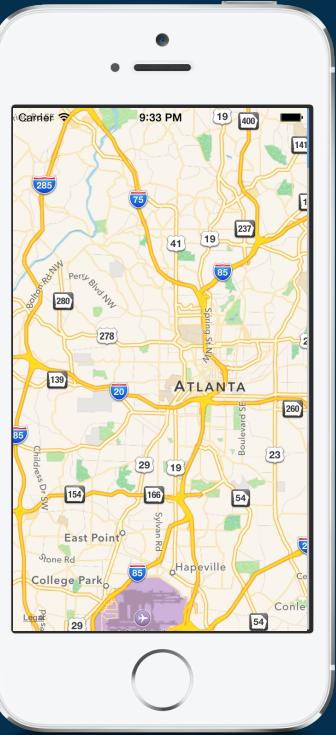
Centering

```
public override void ViewDidLoad()
{
    var map = new MKMapView(UIScreen.MainScreen.Bounds);
    View.Add(map);

    var coords = new CLLocationCoordinate2D (
        Atlanta.Latitude,
        Atlanta.Longitude);

    map.CenterCoordinate = coords;

}
```



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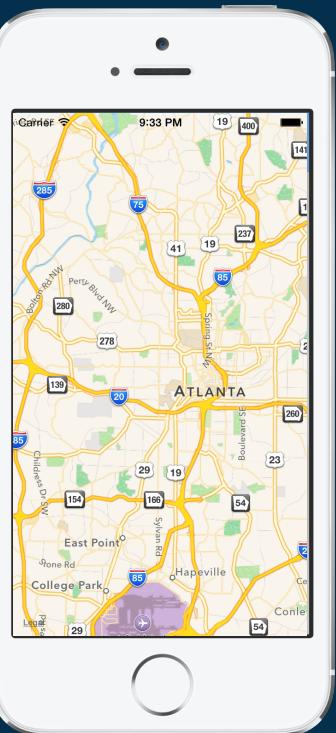
Zooming

```
public override void ViewDidLoad()
{
    var map = new MKMapView(UIScreen.MainScreen.Bounds);
    View.Add(map);

    var span = new MKCoordinateSpan (
        latitudeZoomDistance,
        longitudeZoomDistance);

    map.Region = new MKCoordinateRegion (coords, span);

}
```



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Demo

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Agenda

- 1. MapKit Basics
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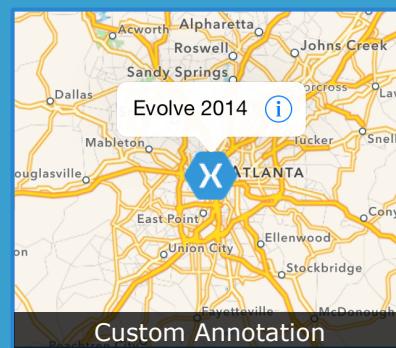
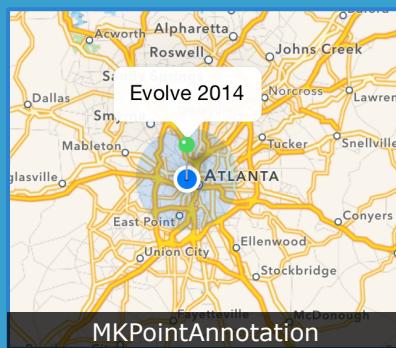
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Annotations

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Types of Annotations

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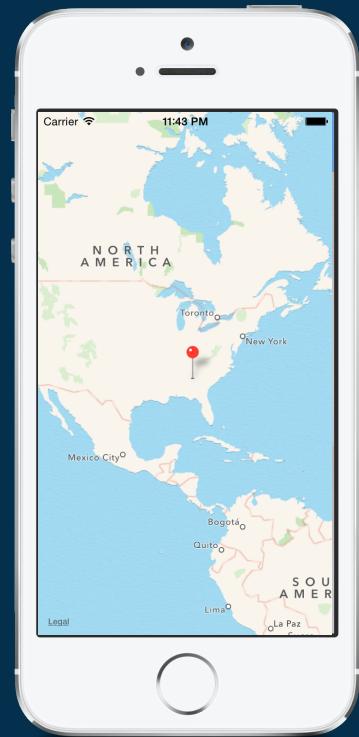


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Adding MKPointAnnotation

```
var point = new MKPointAnnotation {
    Coordinate = new CLLocationCoordinate2D(
        33.7596961,
        -84.4170825),
    Title = "Evolve 2014",
    Subtitle = "Hyatt Regency Hotel"
};

map.AddAnnotation (point);
```



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Displaying MKPointAnnotation

```
map.GetViewForAnnotation = (mapView, annotation) => {
    if (annotation is MKUserLocation)
        return null;

    var view = (MKPinAnnotationView)mapView.DequeueReusableAnnotation (pId);
    if (view == null) {
        view = new MKPinAnnotationView (annotation, pId);
        view.PinColor = MKPinAnnotationColor.Green;
    }

    return view;
};
```

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Creating custom annotations

```
public class CustomAnnotation : MKAnnotation
{
    readonly string _title;
    readonly string _subtitle;
    public override string Title { get { return _title; } }
    public override string Subtitle { get { return _subtitle; } }
    public override CLLocationCoordinate2D Coordinate { get; set; }

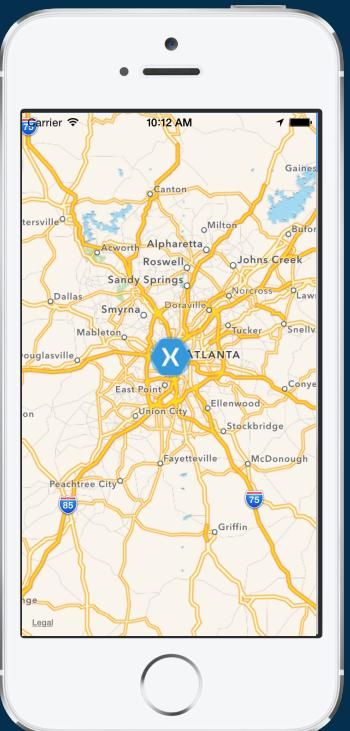
    public CustomAnnotation (string title, string subtitle,
                           CLLocationCoordinate2D coord)
    {
        _title = title;
        _subtitle = subtitle;
        Coordinate = coord;
    }
}
```

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Adding a custom annotation

```
var myCustomAnnotation = new CustomAnnotation {
    Coordinate = new CLLocationCoordinate2D(
        33.7596961,
        -84.4170825),
    Title = "Evolve 2014",
    Subtitle = "Hyatt Regency Hotel"
};

map.AddAnnotation (myCustomAnnotation);
```



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Displaying a custom annotation

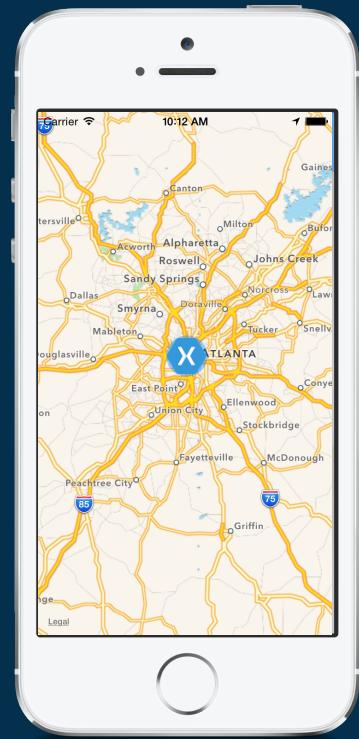
```
map.GetViewForAnnotation = (mapView, annotation) => {
    MKAnnotationView view;

    if (annotation is CustomAnnotation) {
        view = mapView.DequeueReusableAnnotation (pId);

        if (view == null)
            view = new MKAnnotationView (annotation, pId);

        view.Image = UIImage.FromFile ("logo.png");
    }

    return view;
};
```



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Demo

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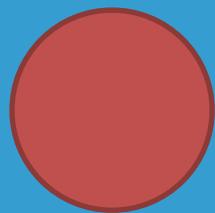


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Overlays

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Types of Overlays



Circle



Polygon



Polyline

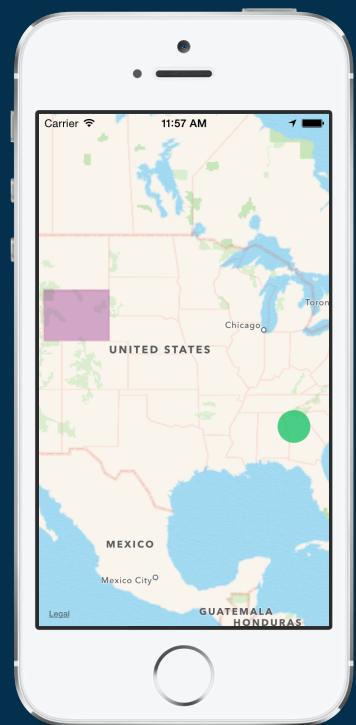


Custom

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Adding Overlays

```
var circleOverlay = MKCircle.Circle  
    (Atlanta.Coordinates, radius);  
  
map.AddOverlay (circleOverlay);
```



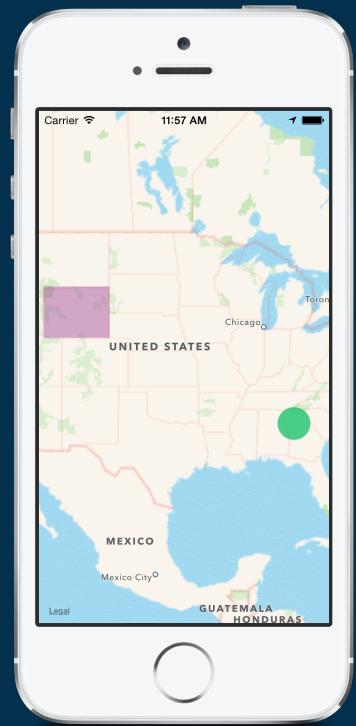
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Using the MKOverlay class

```
var circleOverlay = MKCircle.Circle(atlanta, radius);
map.AddOverlay(circleOverlay);

map.OverlayRenderer = (mapView, overlay) => {
    if (overlay is MKCircle) {
        circleRenderer = new MKCircleRenderer
            (overlay as MKCircle) {
                FillColor = UIColor.Green,
                Alpha = 0.5f
            };

        return circleRenderer;
    }
    return null;
};
```



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Demo

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Search

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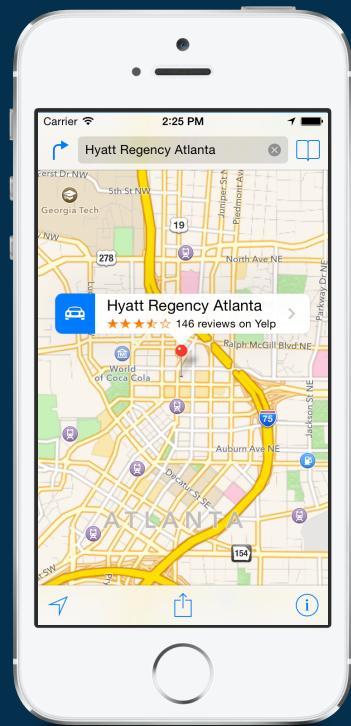
Location search

```
var searchRequest = new MKLocalSearchRequest()
{
    NaturalLanguageQuery = "Hyatt",
    Region = new MKCoordinateRegion (
        atlanta, coordinateSpan)
};

var localSearch = new MKLocalSearch(searchRequest);

MKLocalSearchResponse response =
    await localSearch.StartAsync ();

foreach (MKMapItem result in response.MapItems) {}
```



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Demo

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Agenda

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Questions?

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Maps and Location in iOS

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