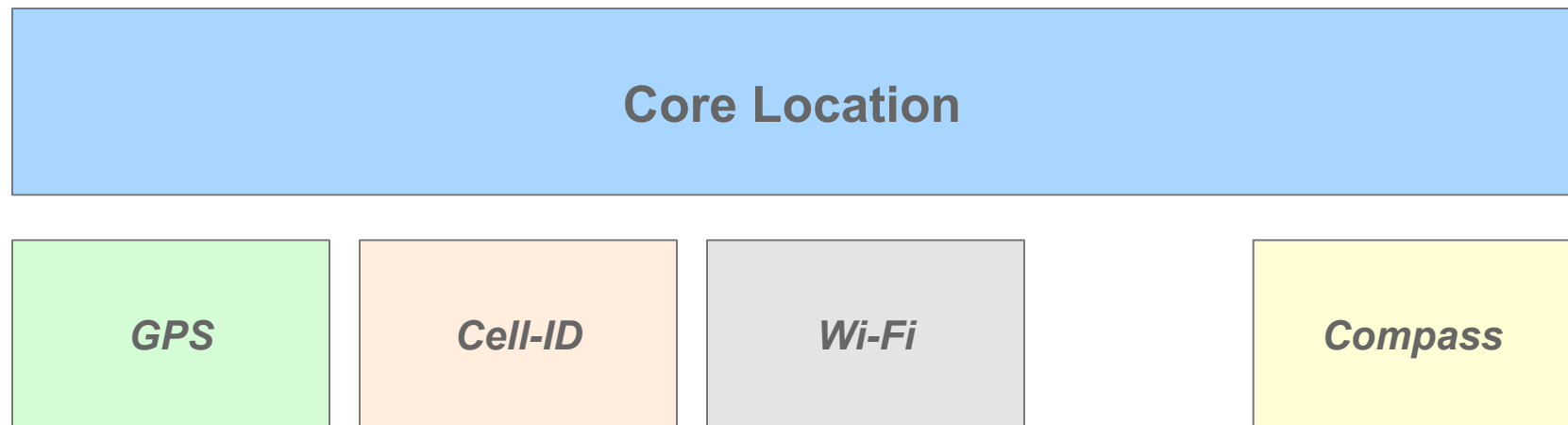


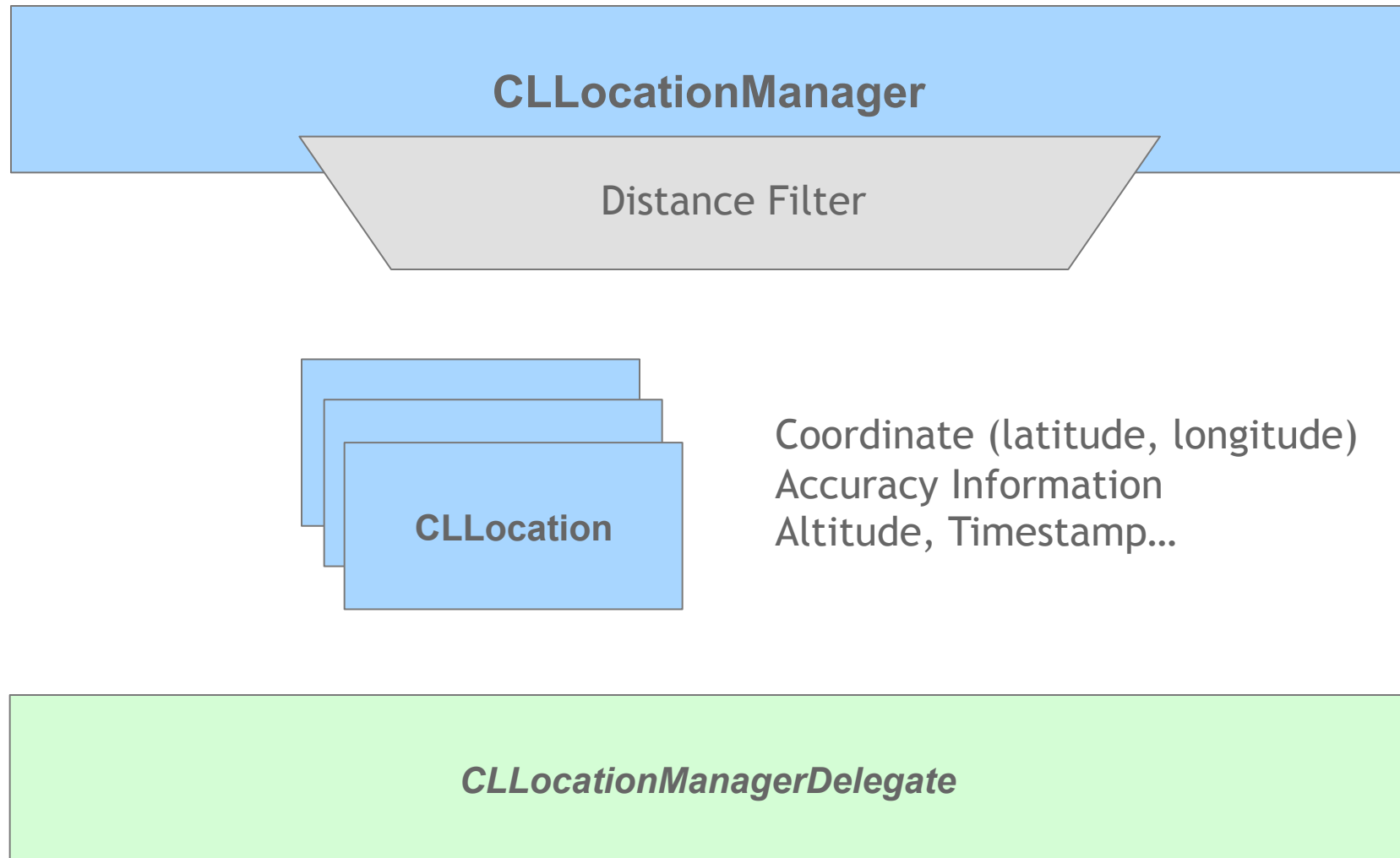
# CoreLocation in Practice

# CoreLocation Overview

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# API Overview



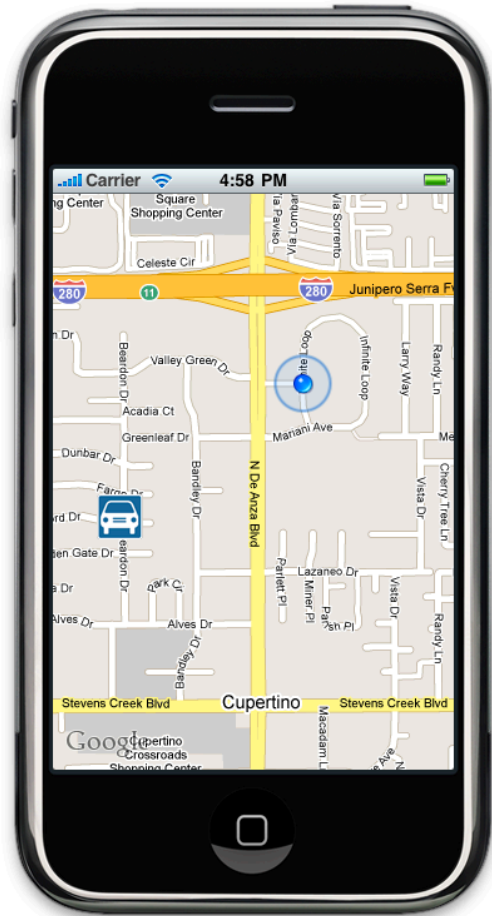
- What accuracy do you need?
- How frequently do you need to be notified of location changes?

## Accuracy Options

```
kCLLocationAccuracyBest  
kCLLocationAccuracyNearestTenMeters  
kCLLocationAccuracyHundredMeters  
kCLLocationAccuracyKilometer  
kCLLocationAccuracyThreeKilometers;
```

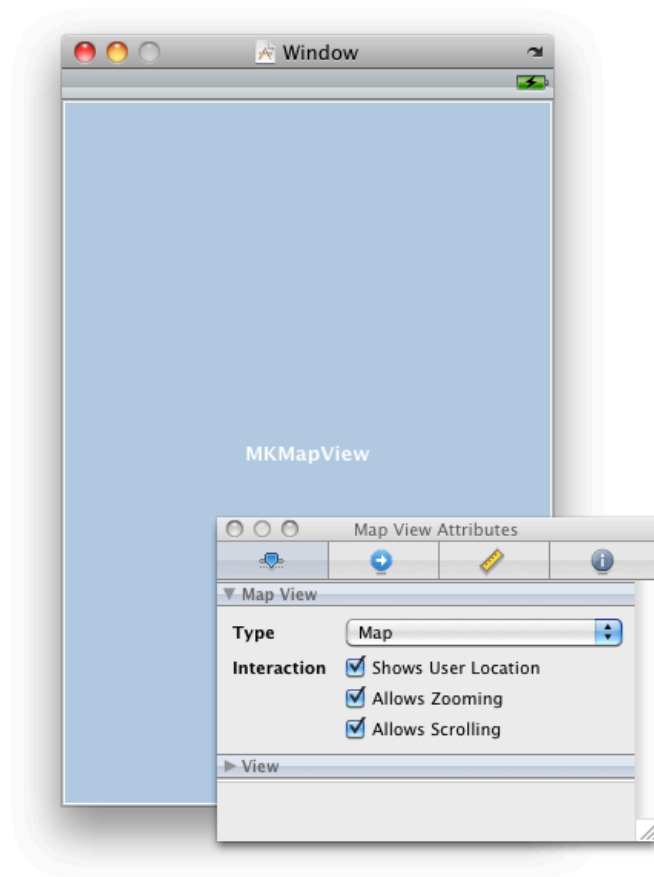
# Example App: where's my car

loop



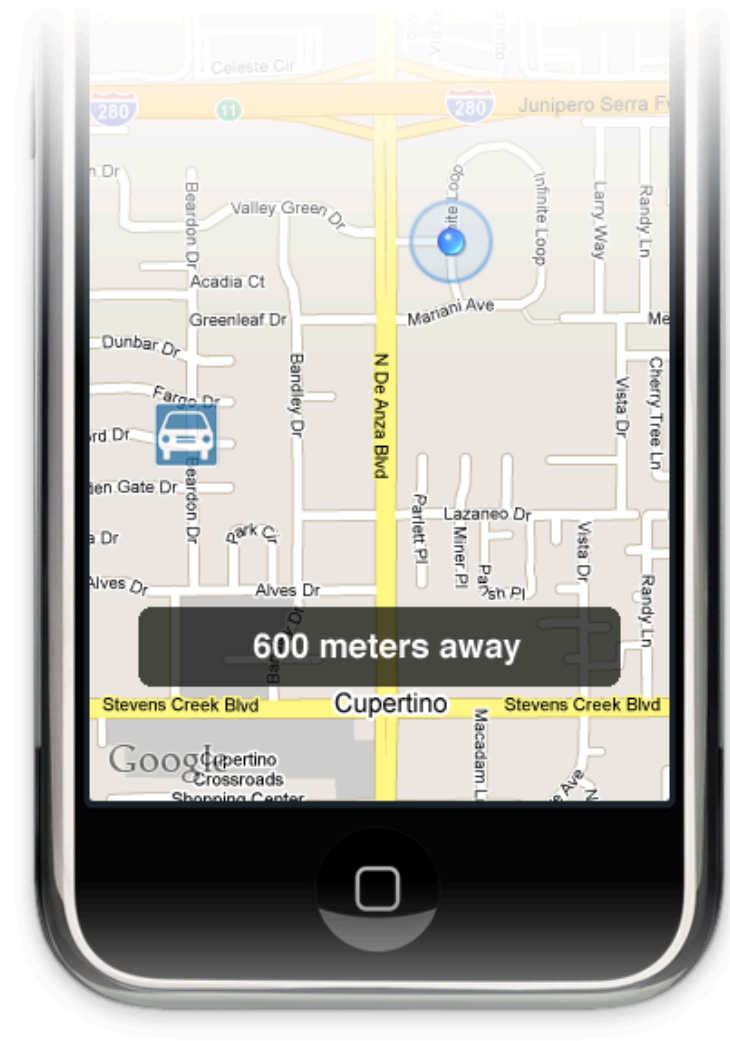
- Show a user's location on a map
- Need high accuracy, continuously updating location
- Display distance to car

# Start simple with MapKit



```
myMapView = [MKMapView alloc] init..]  
myMapView.showsUserLocation = YES
```

MapKit supports showing a user's location



# Subscribing to location

```
#pragma mark -  
#pragma mark Application lifecycle  
  
- (void)applicationDidFinishLaunching:(UIApplication *)application {  
  
    CLLocationManager * locationManager = [[CLLocationManager alloc] init];  
  
    if (locationManager.locationServicesEnabled){  
    {  
        locationManager.delegate = self;  
        locationManager.desiredAccuracy = kCLLocationAccuracyBest;  
        //kCLLocationAccuracyKilometer  
  
        [locationManager startUpdatingLocation];  
    }  
    else  
    {  
        //Notify user that location services are disabled  
    }  
}
```

# Handling Updates

```
-(void)locationManager:(CLLocationManager *)manager didUpdateToLocation:(CLLocation *)newLocation
    fromLocation:(CLLocation *)oldLocation
{
    if (newLocation.horizontalAccuracy <= DESIRED_ACCURACY)
    {
        [manager stopUpdatingLocation];      When retrieving a single location fix
    }

    double distanceToCarInMeters = [newLocation getDistanceFrom:CAR_LOCATION];

    //Update interface ...
}
```

- Updates are sent when a higher accuracy fix is available or the user has moved more than the distance filter amount
- You may never get an update of a specific accuracy (ie: sub 100 meter accuracy)

```
- (void)locationManager:(CLLocationManager *)manager didFailWithError:(NSError *)error
{
    if(error.code == kCLErrorDenied)
    {
        //User denied access to location
        [manager stopUpdatingLocation];
    }
    else if (error.code == kCLErrorLocationUnknown)
    {
        //Could not locate the user, could stop updating and wait or notify user
    }
}
```

- Place a time limit on how long the search for a single fix can take
- The simulator **always** places you in Cupertino, for real location use the device
- Try testing your application with cold location hardware - restart your iPhone before running your application

Questions?