



Lập trình ứng dụng trên iOS

Core Location Framework



Nội dung

- Giới thiệu
- Core Location framework
- Demo – MyLocationInfo



Giới thiệu





Giới thiệu

- Core Location framework cho phép lấy các thông tin địa lý hiện tại của thiết bị (vĩ độ-latitude và kinh độ-longitude), vận tốc,....
- Các thông tin này được lấy từ các Satellite, mạng Wifi, hoặc cell tower

Giới thiệu

- Satellite



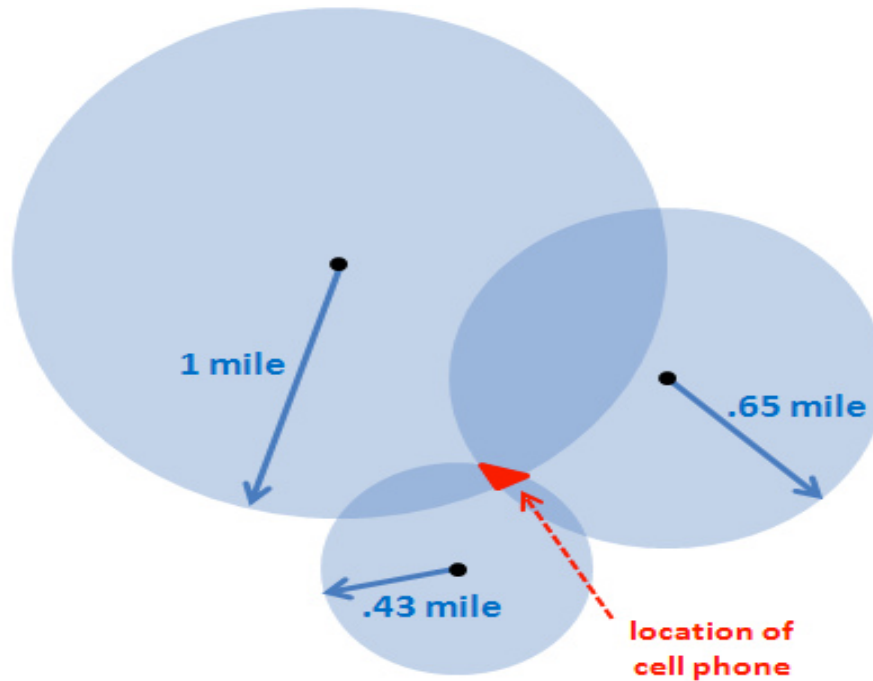
Giới thiệu

- Mạng Wifi



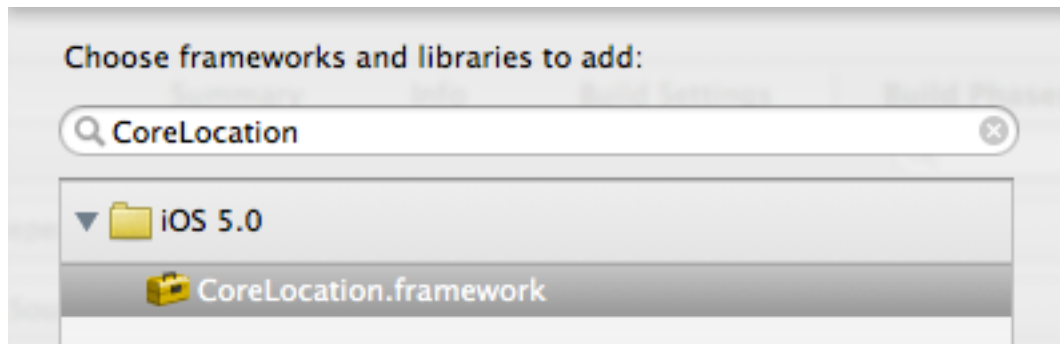
Giới thiệu

- Cell tower



Core Location framework

- Framework



- Toạ độ: vĩ độ (latitude), kinh độ (longitude)

```
@property (readonly) CLLocationCoordinate2D coordinate;
typedef{
    CLLocationDegrees latitude;
    CLLocationDegrees longitude;
} CLLocationCoordinate2D;
```


Core Location framework

- Actual location

```
@property (readonly) CLLocationAccuracy horizontalAccuracy; // in meters
@property (readonly) CLLocationAccuracy verticalAccuracy; // in meters

kCLLocationAccuracyBest;
kCLLocationAccuracyBestForNavigation; // phone should be plugged in to power source
kCLLocationAccuracyBest;
kCLLocationAccuracyNearestTenMeters;
kCLLocationAccuracyHundredMeters;
kCLLocationAccuracyKilometer;
kCLLocationAccuracyThreeKilometers;
```

- Speed:

```
@property (readonly) CLLocationSpeed speed; // in meters/second
```

Core Location framework

- Time stamp

```
@property (readonly) NSDate *timestamp;
```

- Khoảng cách:

```
- (CLLocationDistance)distanceFromLocation:(CLLocation *)otherLocation; // in meters
```

- Course:

```
@property (readonly) CLLocationDirection course; // in degrees, 0 is north, clockwise
```

Core Location framework

- Kiểm tra xem phần cứng hỗ trợ gì ?

```
+ (BOOL)locationServicesEnabled; // has the user enabled location monitoring in their Settings?  
+ (BOOL)headingAvailable; // can this hardware provide heading info (compass)?  
+ (BOOL)significantLocationChangeMonitoringAvailable; // currently only if device has cellular  
+ (BOOL)regionMonitoringAvailable; // only certain iOS4 devices  
+ (BOOL)regionMonitoringEnabled; // by the user in Settings
```

- Purpose

```
@property (copy) NSString *purpose;
```

Core Location framework

- Accuracy-based continuous location monitoring

```
@property CLLocationAccuracy desiredAccuracy; // always set this as  
    low as possible  
@property CLLocationDistance distanceFilter; //Only changes in  
    location of at least this distance will fire a location update  
    to you.
```

- Start the monitoring

```
// Be sure to turn updating off when your application is not going  
    to consume the changes!  
- (void)startUpdatingLocation;  
- (void)stopUpdatingLocation;
```

Core Location framework

- Lấy thông báo thông về thông tin location qua delegate của CLLocationManager

```
– (void)locationManager:(CLLocationManager *)manager  
    didUpdateToLocation:(CLLocation *)newLocation  
    fromLocation:(CLLocation *)oldLocation;
```

- Đưa ra thông báo lỗi thông qua delegate

```
// Not always a terrible thing, so pay attention.
```

```
– (void)locationManager:(CLLocationManager *)manager  
    didFailWithError:(NSError *)error;
```

```
kCLErrorLocationUnknown // likely temporary, keep waiting (for  
    a while at least)  
kCLErrorDenied // user refused to allow your application to  
    receive updates  
kCLErrorHeadingFailure // too much local magnetic interference,  
    keep waiting
```

Core Location framework

- Heading monitoring

```
//Only changes in heading of at least this many degrees will fire a location  
update to you.
```

```
@property CLLocationDegrees headingFilter;
```

```
//Heading of “zero degrees” is the heading of the “top” of the device. With  
this property, you can change that “top” (e.g.  
CLDeviceOrientationLandscapeLeft).
```

```
@property CLDeviceOrientation headingOrientation;
```

- Start to monitoring

```
// Be sure to turn updating off when your application is not going to  
consume the changes!
```

```
- (void)startUpdatingHeading;
```

```
- (void)stopUpdatingHeading;
```


Core Location framework

- Get notified via the CLLocationManager's delegate

```
– (void)locationManager:(CLLocationManager *)manager didUpdateHeading:  
    (CLHeading *)newHeading;
```

Core Location framework

- Region-based location monitoring in CLLocationManager

- (void)startMonitoringForRegion:(CLRegion *)region desiredAccuracy:(CLLocationAccuracy)accuracy;
- (void)stopMonitoringForRegion:(CLRegion *)region;

- Get notified via the CLLocationManager's delegate

- (void)locationManager:(CLLocationManager *)manager didEnterRegion:(CLRegion *)region;
- (void)locationManager:(CLLocationManager *)manager didExitRegion:(CLRegion *)region;
- (void)locationManager:(CLLocationManager *)manager monitoringDidFailForRegion:(CLRegion *)region withError:(NSError *)error;



Demo - MyLocationInfo

