
MapView

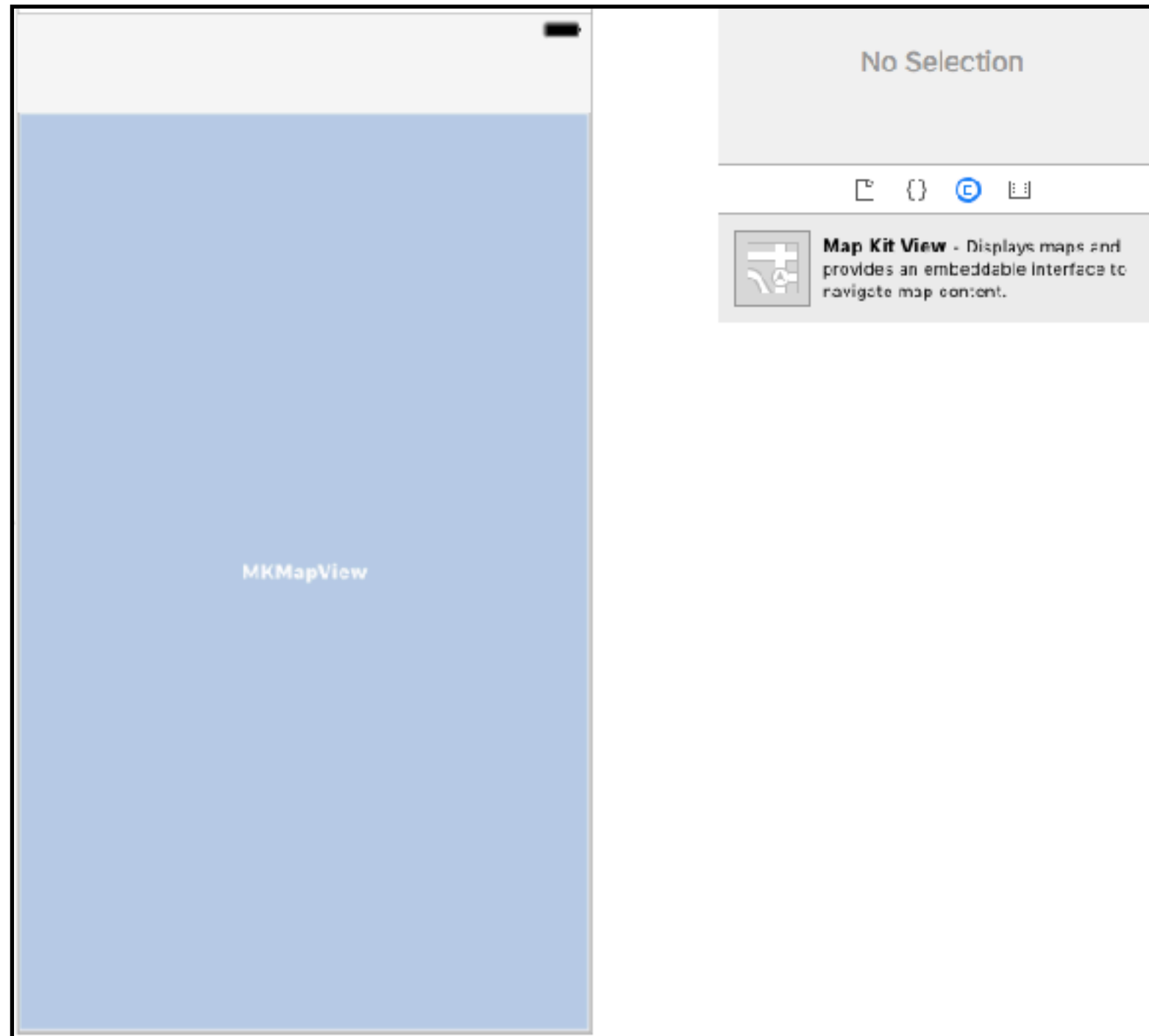
강사 주영민

Framework Import

```
import UIKit
import MapKit

class ViewController: UIViewController {
```

Show MapView



용어

- Region : 지역 (MKCoordinateRegion사용)
- Span : 펼쳐진 영역(zoom level) - (MKCoordinateSpan사용)
one degree of latitude is always approximately 111 kilometers
- Location Coordinate : 좌표
- latitude : 위도 (wgs84 좌표계 사용)
- longitude : 경도 (wgs84 좌표계 사용)

Center 좌표 설정

```
let regionRadius: CLLocationDistance = 1000
```

```
let location = CLLocation(latitude: 37.515675, longitude: 127.021378)
```

```
let coordinateRegion = MKCoordinateRegionMakeWithDistance(location.coordinate,  
regionRadius * 2.0, regionRadius * 2.0)
```

```
mapView.setRegion(coordinateRegion, animated: true)
```

.....

```
//setLocation Location
```

```
let location = CLLocation(latitude: 37.515675, longitude: 127.021378)
```

```
let span = MKCoordinateSpan(latitudeDelta: 0.1, longitudeDelta: 0.1)
```

```
let coordinateRegion = MKCoordinateRegionMake(location.coordinate, span)
```

```
mapView.setRegion(coordinateRegion, animated: true)
```

Pin 추가 (Add Annotation)

- MKAnnotation Protocol을 사용하여 annotation 클래스 생성 (NSObject 필수 상속)
- annotation 인스턴스 생성 후 Mapview에 Add

MKAnnotation Protocol

```
public protocol MKAnnotation : NSObjectProtocol {  
  
    // Center latitude and longitude of the annotation view.  
    // The implementation of this property must be KVO compliant.  
    public var coordinate: CLLocationCoordinate2D { get }  
  
    // Title and subtitle for use by selection UI.  
    optional public var title: String? { get }  
  
    optional public var subtitle: String? { get }  
}
```

CustomAnnotation Example

```
class CustomAnnotation: NSObject, MKAnnotation {  
    var coordinate: CLLocationCoordinate2D  
  
    var title: String?  
    var subtitle: String?  
  
    init(title: String, coordinate: CLLocationCoordinate2D) {  
        self.title = title  
        self.coordinate = coordinate  
    }  
}
```


Pin 추가 (Add Annotation) - 예제

```
let customPin = CustomAnnotation(title: "Sample", coordinate: location.coordinate)  
mapview.addAnnotation(customPin)
```

MKMapViewDelegate

```
func mapView(_ mapView: MKMapView, viewFor annotation: MKAnnotation) -> MKAnnotationView? {
    if let annotation = annotation as? CustomAnnotation {
        let identity = "pin"
        var pinView: MKPinAnnotationView
        if let dequeuedView = mapView.dequeueReusableAnnotationView(withIdentifier: identity)
            as? MKPinAnnotationView {
            dequeuedView.annotation = annotation
            pinView = dequeuedView
        } else {

            pinView = MKPinAnnotationView(annotation: annotation, reuseIdentifier: identity)
            pinView.canShowCallout = true
            pinView.calloutOffset = CGPoint(x: -5, y: 5)
            pinView.rightCalloutAccessoryView = UIButton(type: .detailDisclosure) as UIView
        }

        return pinView
    }
    return nil
}

func mapView(_ mapView: MKMapView, annotationView view: MKAnnotationView,
             calloutAccessoryControlTapped control: UIControl) {

    ///callout Action
}
```

사용자 위치 설정

- 사용자 허용

1. info.plist 항목 추가 (택1) - ios 10 이상

- Privacy - Location When In Use Usage Description : YES
- Privacy - Location Always Usage Description : YES

- Location Manager 객체 생성 (CLLocationManager)

```
let manager = CLLocationManager()
```

2. 현 위치 요청 인증

- manager.requestAlwaysAuthorization()
- manager.requestWhenInUseAuthorization()

3. 업데이트

- manager.startUpdatingLocation()
- manager.stopUpdatingLocation()

사용자 위치 설정 - 예제

```
let manager = CLLocationManager()  
manager.delegate = self  
manager.requestAlwaysAuthorization()  
manager.requestWhenInUseAuthorization()  
manager.desiredAccuracy = kCLLocationAccuracyBest  
manager.startUpdatingLocation()
```

CLLocationManagerDelegate

```
func locationManager(_ manager: CLLocationManager,
                    didUpdateLocations locations: [CLLocation]) {
    if let nowLocation = locations.last
    {
        //nowLocation 가지고 위치정보 가져오기
    }
}
```