

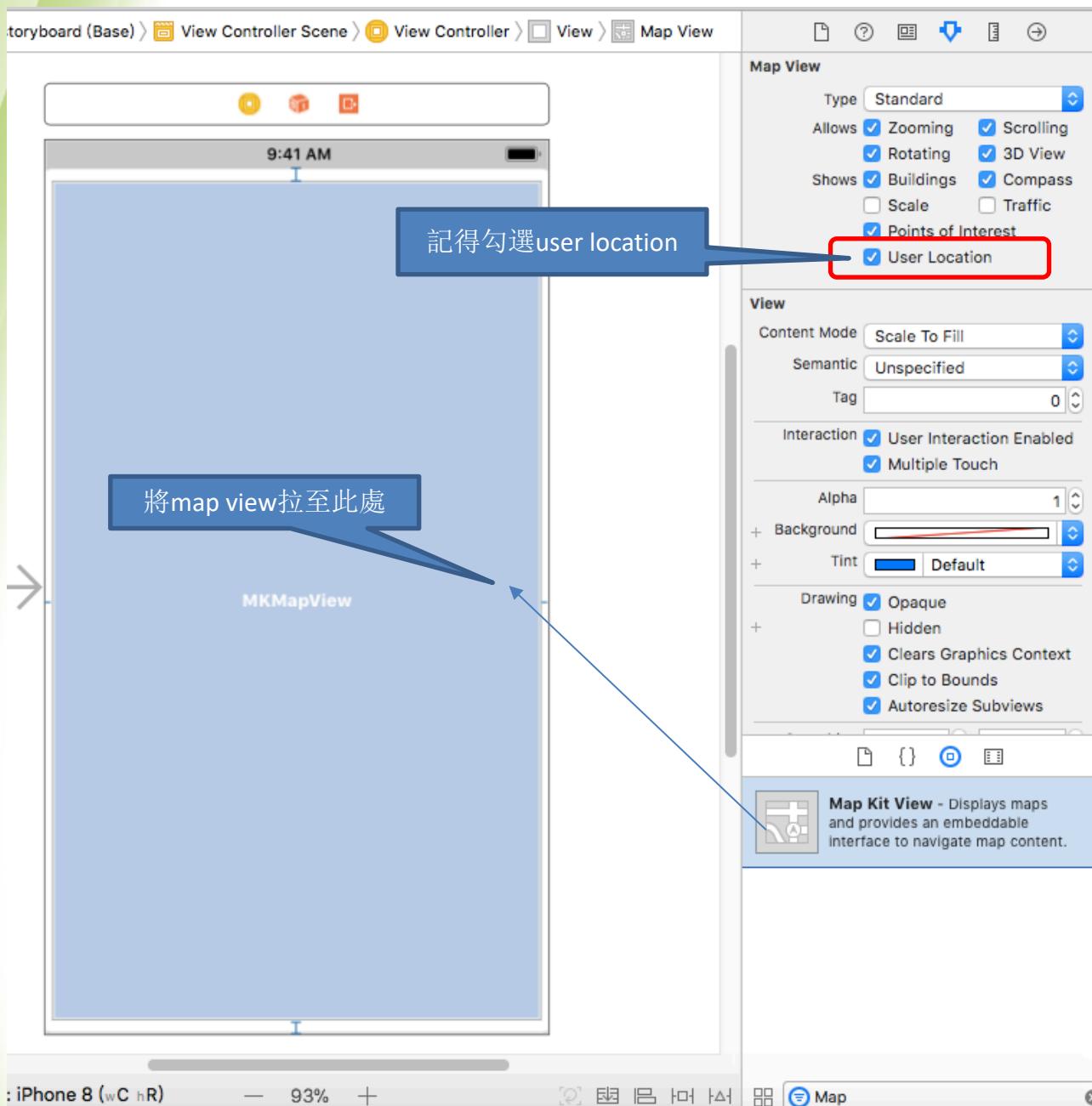
Class 10-1

Map

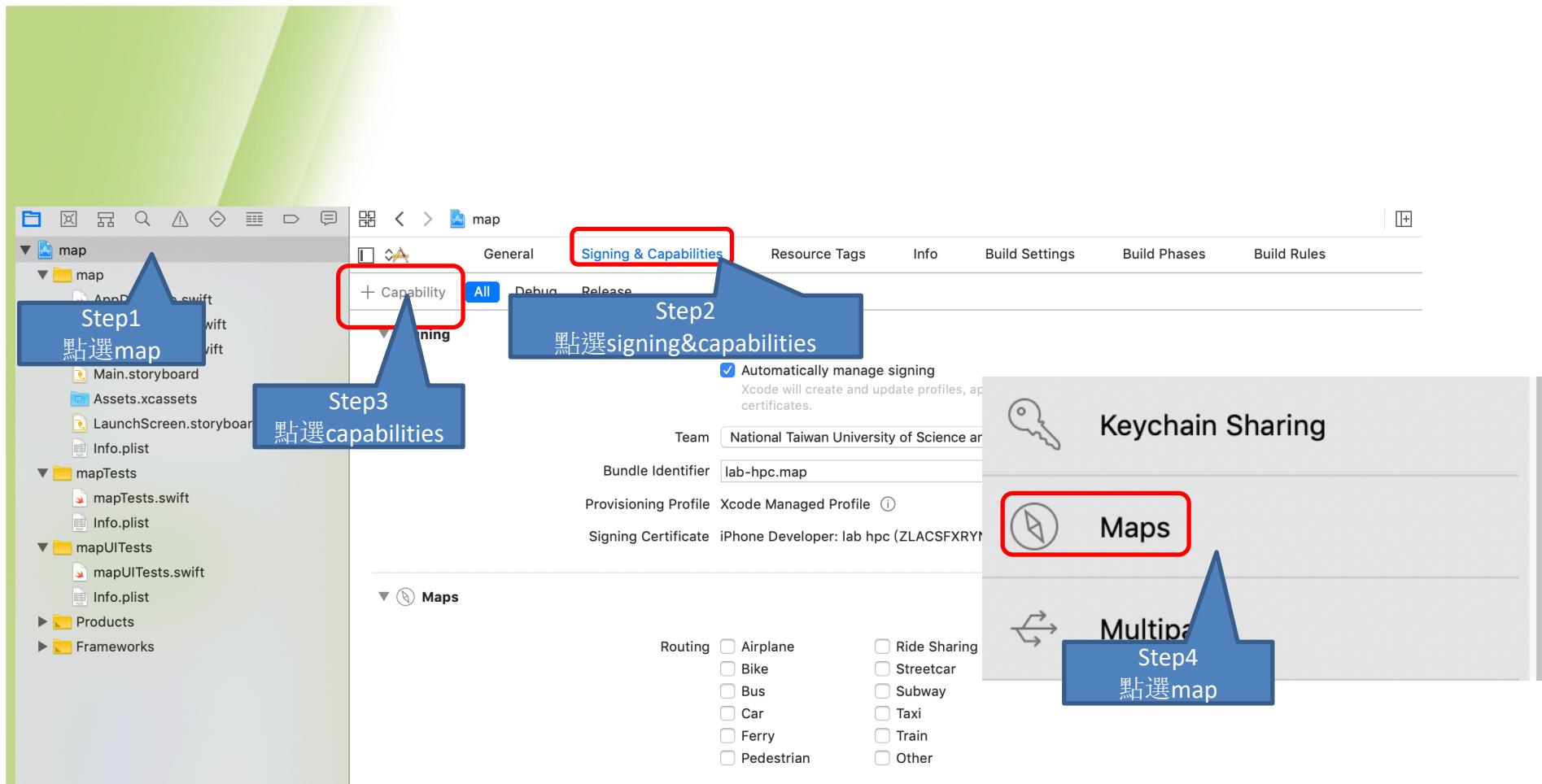
- Map Kit View 元件 or MKMapView 類別
- 地圖類型
 - ◆ 標準
 - ◆ 衛星
 - ◆ 混合
 - ◆ 3D衛星
 - ◆ 3D混合
- Annotation
 - ◆ 單一座標點
- Overlay
 - ◆ 連續 ex. 導航路線

Map

顯示目前位置



: iPhone 8 (wC hR) — 93% +



點選+號選擇Privacy - Location
When In Use Usage Description
以授權GPS

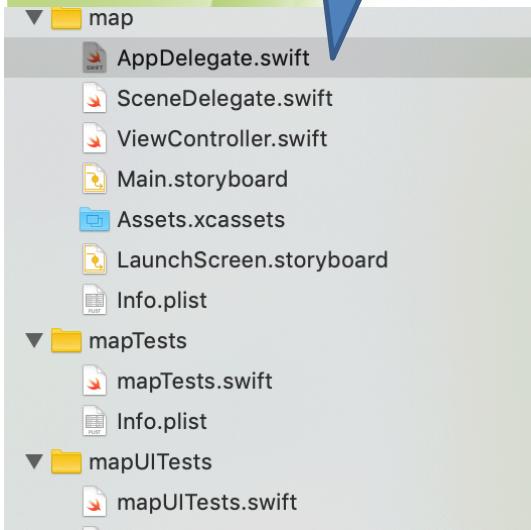
The screenshot shows the Xcode interface with the project 'Map' selected. The 'Info.plist' file is open, displaying its contents. A callout bubble points to the 'Privacy - Location When In Use Usage Description' key, which is set to '授權GPS'. The 'Info.plist' file contains the following key-value pairs:

Key	Type	Value
Privacy - Location When In Use Usage Description	String	授權GPS
Localization native development region	String	\$(DEVELOPMENT_LANGUAGE)
Executable file	String	\$(EXECUTABLE_NAME)
Bundle identifier	String	\$(PRODUCT_BUNDLE_IDENTIFIER)
InfoDictionary version	String	6.0
Bundle name	String	\$(PRODUCT_NAME)
Bundle OS Type code	String	APPL
Bundle versions string, short	String	1.0
Bundle version	String	1

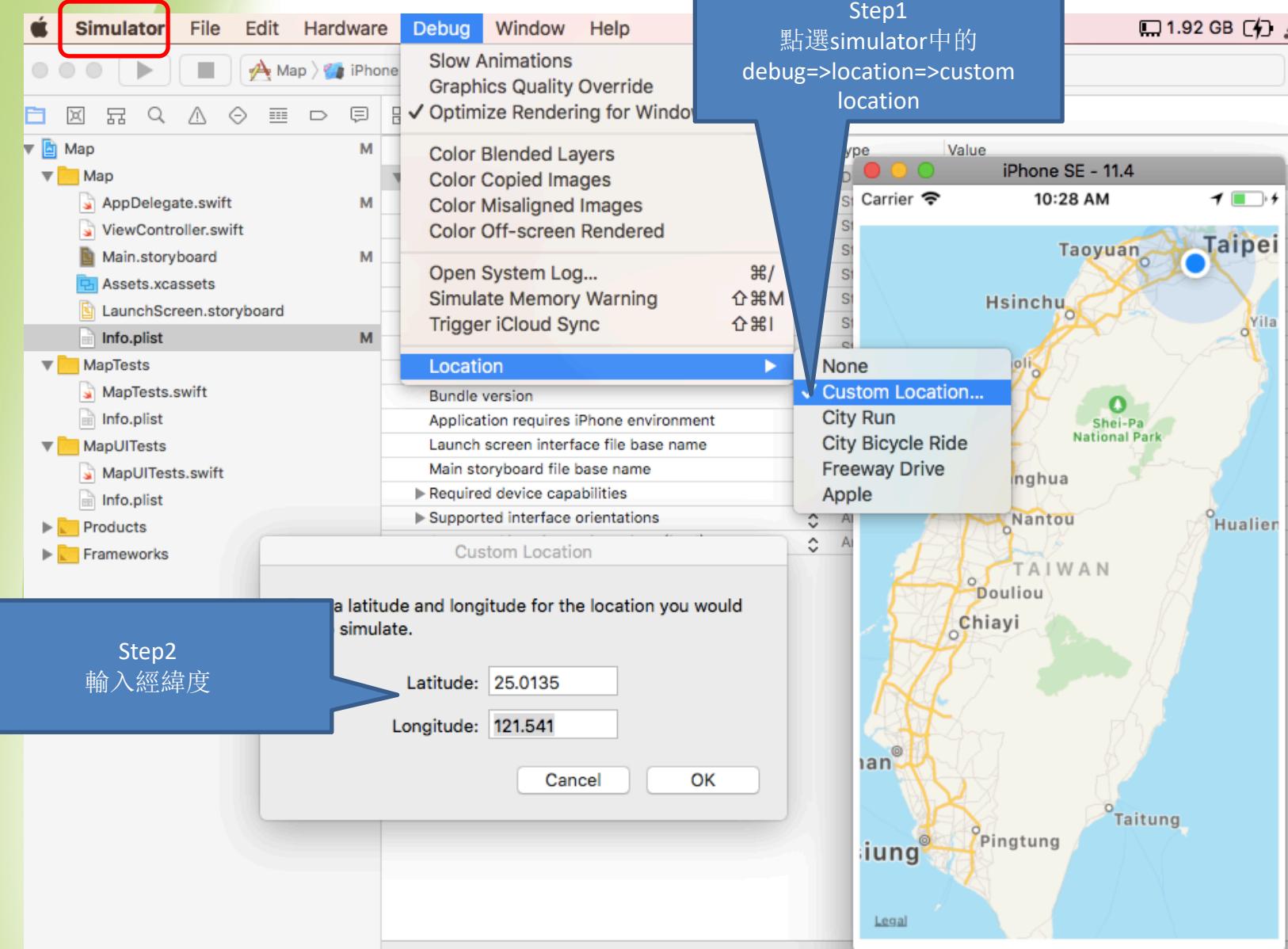
Step1
點選AppDelegate.swift

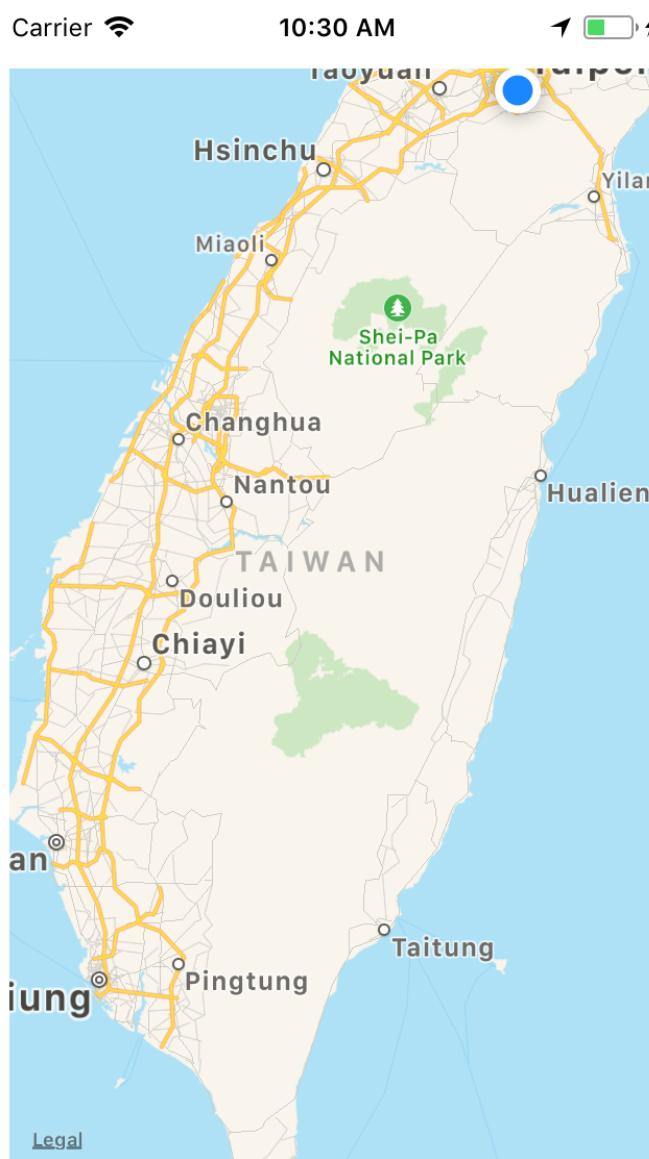
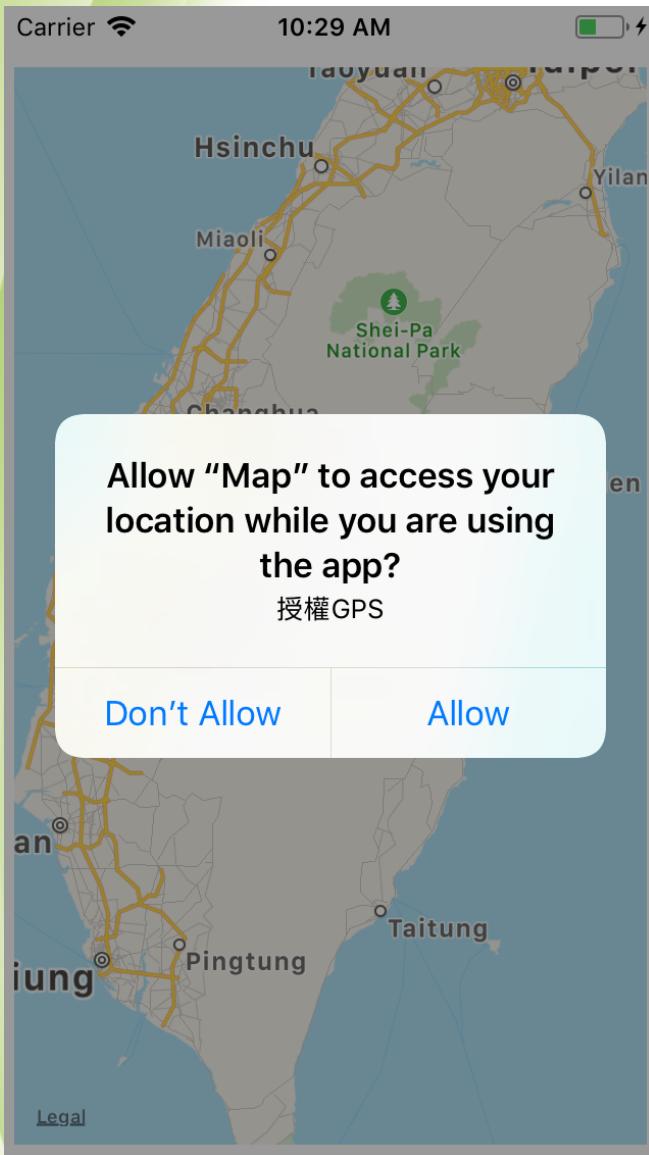
Step2
Import CoreLocation

Step3
在開啟app後詢問是否授權GPS



```
o
9 import UIKit
10 import CoreLocation
11
12 @UIApplicationMain
13 class AppDelegate: UIResponder, UIApplicationDelegate {
14     let lm = CLLocationManager()
15
16     func application(_ application: UIApplication, didFinishLaunchingWithOptions
17                     launchOptions: [UIApplication.LaunchOptionsKey: Any]?) -> Bool {
18         // Override point for customization after application launch.
19         lm.requestWhenInUseAuthorization()
20
21         return true
22 }
```





Map 大頭針

```
import UIKit  
import MapKit
```

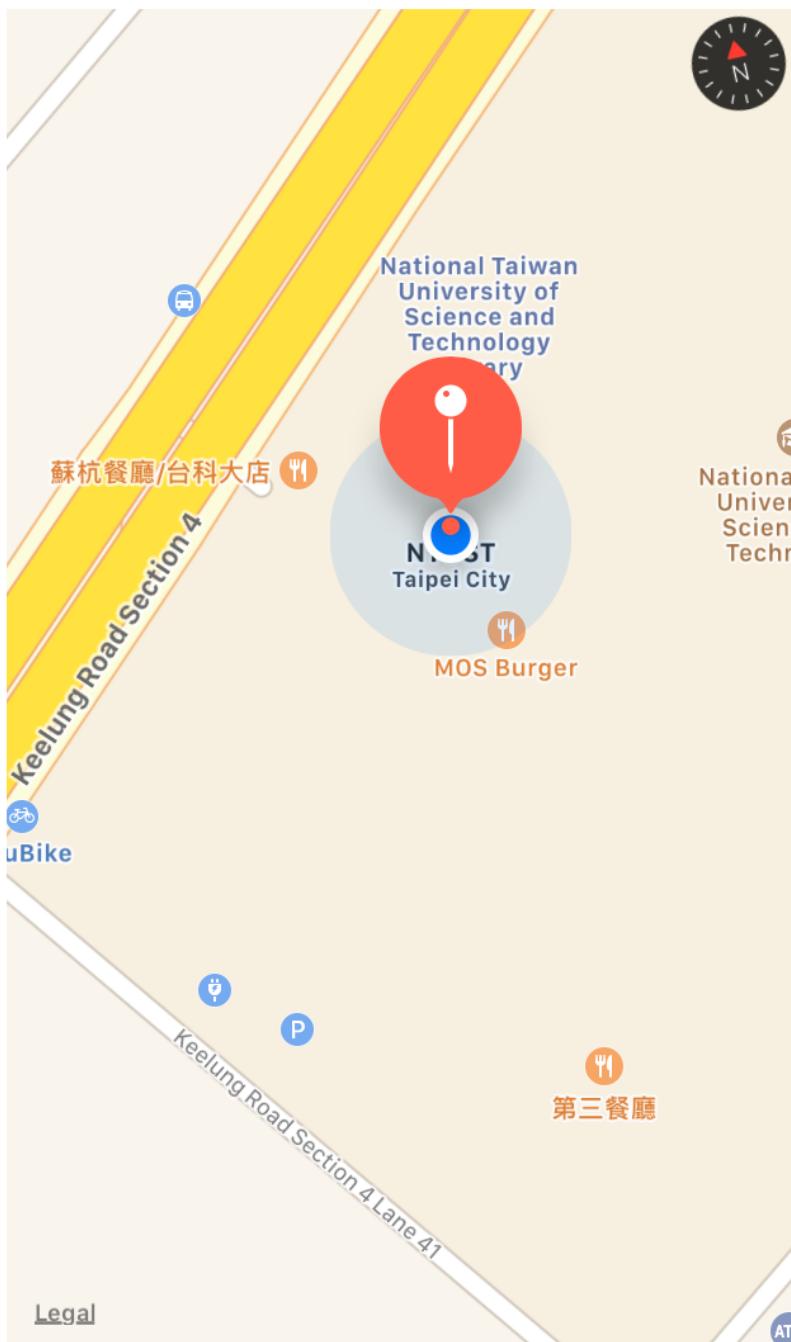
```
class ViewController: UIViewController {  
    @IBOutlet weak var mapView: MKMapView!  
  
    override func viewDidLoad() {  
        super.viewDidLoad()  
        // Do any additional setup after loading the view, typically from a nib.  
        let ann = MKPointAnnotation()  
        ann.coordinate = CLLocationCoordinate2D(latitude: 25.0135, longitude: 121.541)  
        ann.title = "NTUST"  
        ann.subtitle = "Taipei City"  
        mapView.addAnnotation(ann)  
    }  
}
```

加入 MapKit

設定大頭針的座標

設定大頭針的標題與
副標題

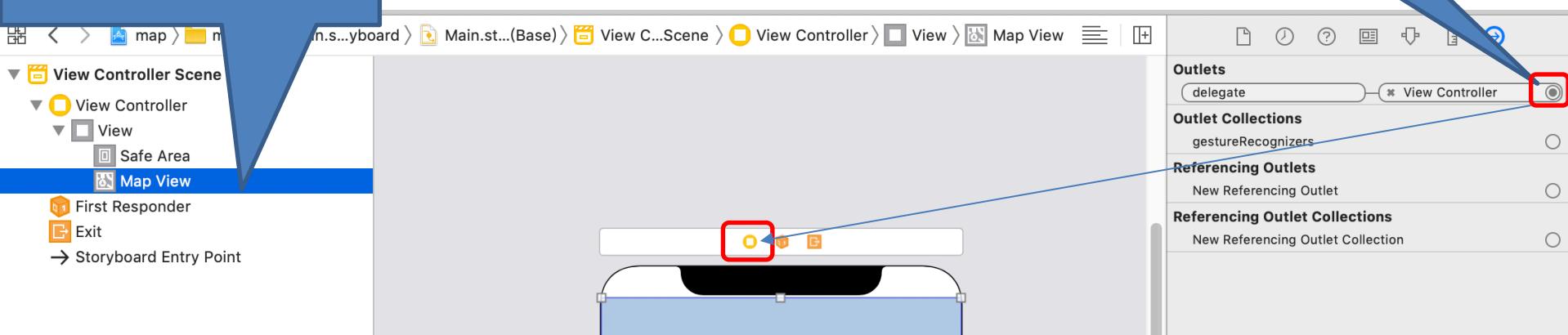
將大頭針加入
mapview 中



Map

大頭針改為自訂圖片

Step1
點選+號拉至View controller



加入MKMapViewDelegate

用as?將我們的map元件轉換成
MKMapView,失敗則回傳nil
(補充:若用as!強制轉換失敗的話會直
接runtime error)

```
import UIKit
import MapKit

class ViewController: UIViewController, MKMapViewDelegate {

    override func viewDidLoad() {
        super.viewDidLoad()
        // Do any additional setup after loading the view, typically from a nib.
        let mapView = view.subviews.first as? MKMapView //因為view controller只有一個Map元件 所以可以透過subview的方法
        let ann = MKPointAnnotation()
        ann.coordinate = CLLocationCoordinate2D(latitude: 24.120305, longitude: 120.650916)
        mapView?.addAnnotation(ann)
    }
}
```

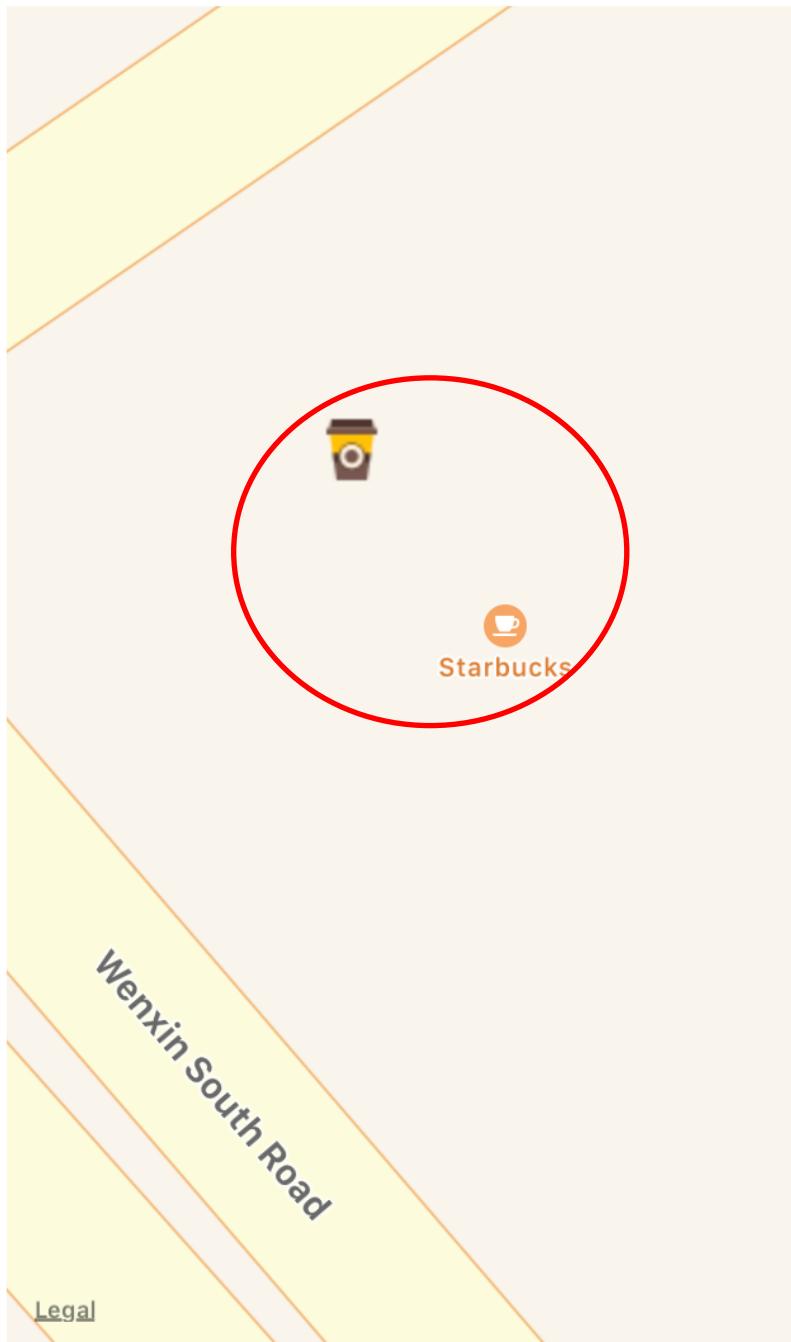
此處選擇MapView的實作有很多種,需仔細對照一下參數才能選到我們要的那一個

```
//大頭針要顯示時會呼叫的方法 如果沒有實作 就會是一般的紅色
func mapView(_ mapView: MKMapView, viewFor annotation: MKAnnotation) -> MKAnnotationView? {
    if annotation is MKUserLocation {
        return nil
    }

    var annView = mapView.dequeueReusableCell(withIdentifier: "Pin")
    if annView == nil {
        annView = MKAnnotationView(annotation: annotation, reuseIdentifier: "Pin")
    }

    annView?.image = UIImage(named: "coffee_to_go.png")

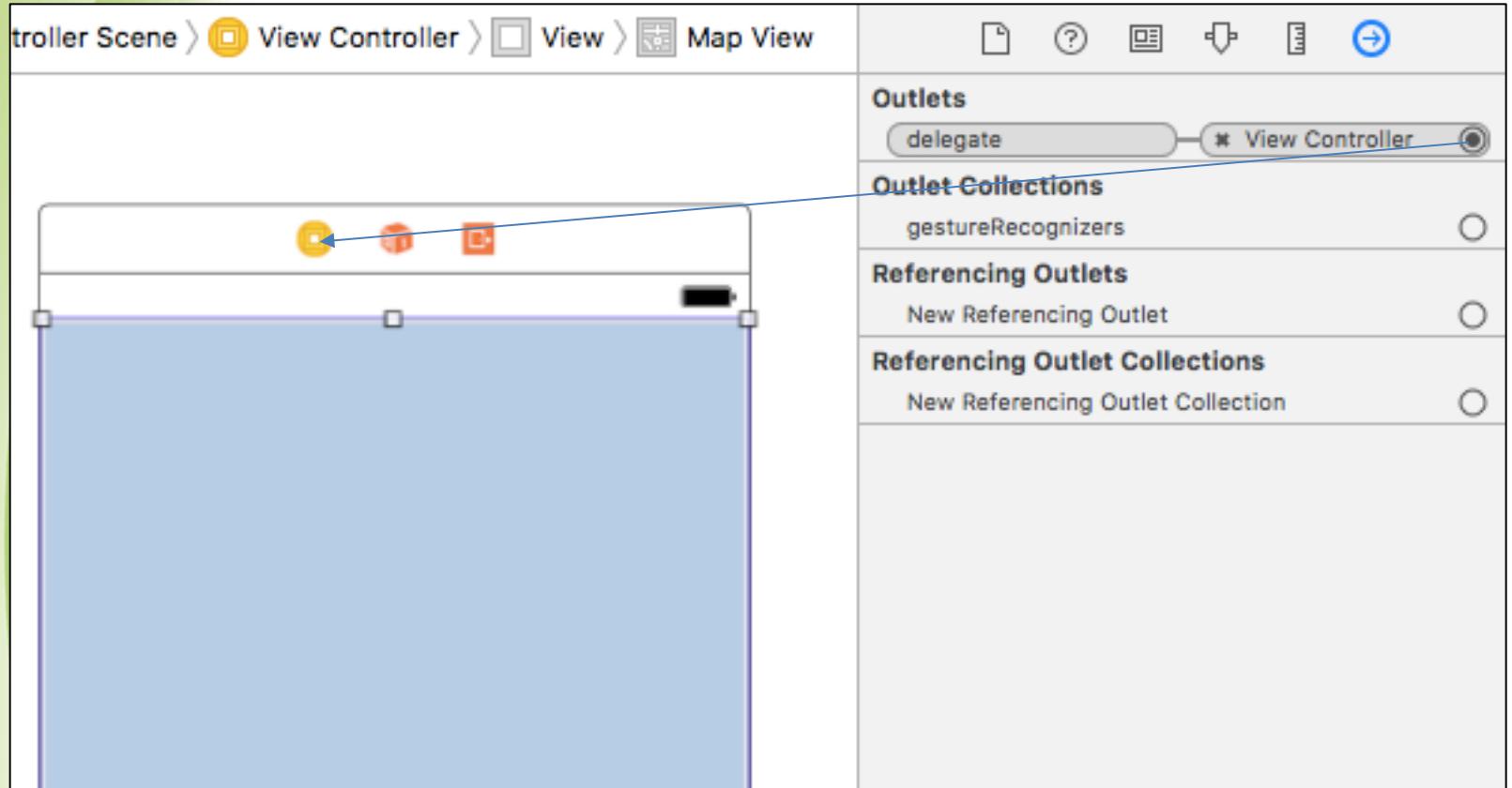
    return annView
}
```



~

Map

拖放與刪除大頭針



```

import UIKit
import MapKit

class ViewController: UIViewController, MKMapViewDelegate {
    @IBOutlet weak var mapView: MKMapView!

    override func viewDidLoad() {
        super.viewDidLoad()
        // Do any additional setup after loading the view, typically from a nib.
        let ann = MKPointAnnotation()
        ann.coordinate = CLLocationCoordinate2D(latitude: 24.137426, longitude: 121.275753)
        mapView.addAnnotation(ann)
    }
}

```

```

func mapView(_ mapView: MKMapView, viewFor annotation: MKAnnotation) -> MKAnnotationView? {
    if annotation is MKUserLocation {
        return nil
    }

    var annView = mapView.dequeueReusableCell(withIdentifier: "Pin")
    if annView == nil {
        annView = MKPinAnnotationView(annotation: annotation, reuseIdentifier: "Pin")
    }

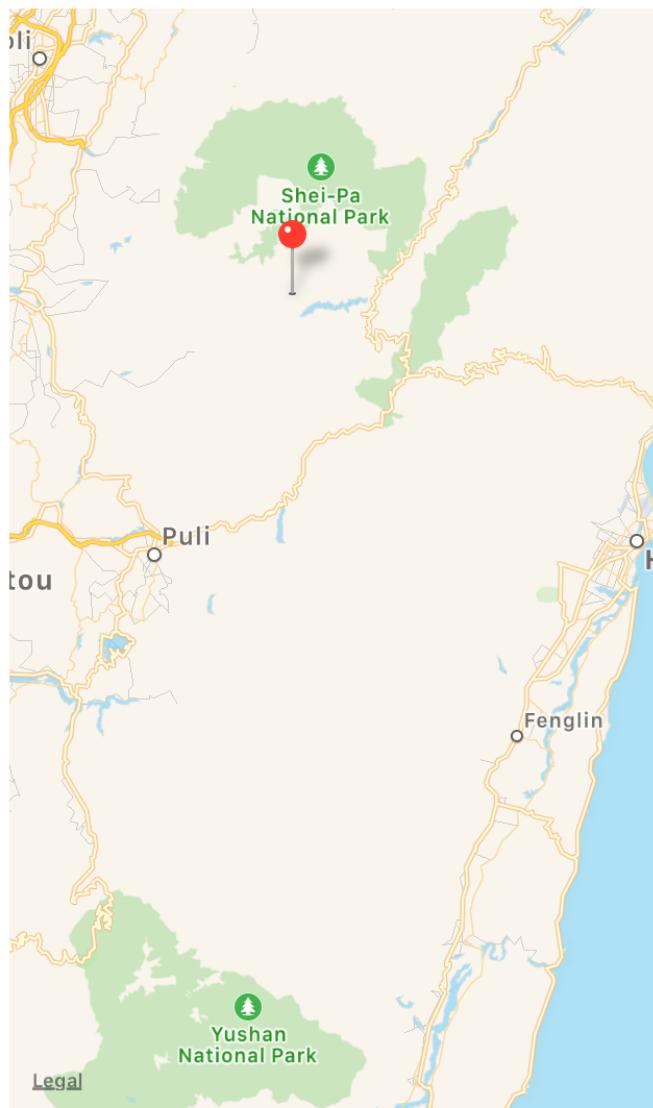
    // 允許使用者可以拖放大頭針
    annView?.isDraggable = true

    return annView
}

```

Carrier

11:29 AM



拖放

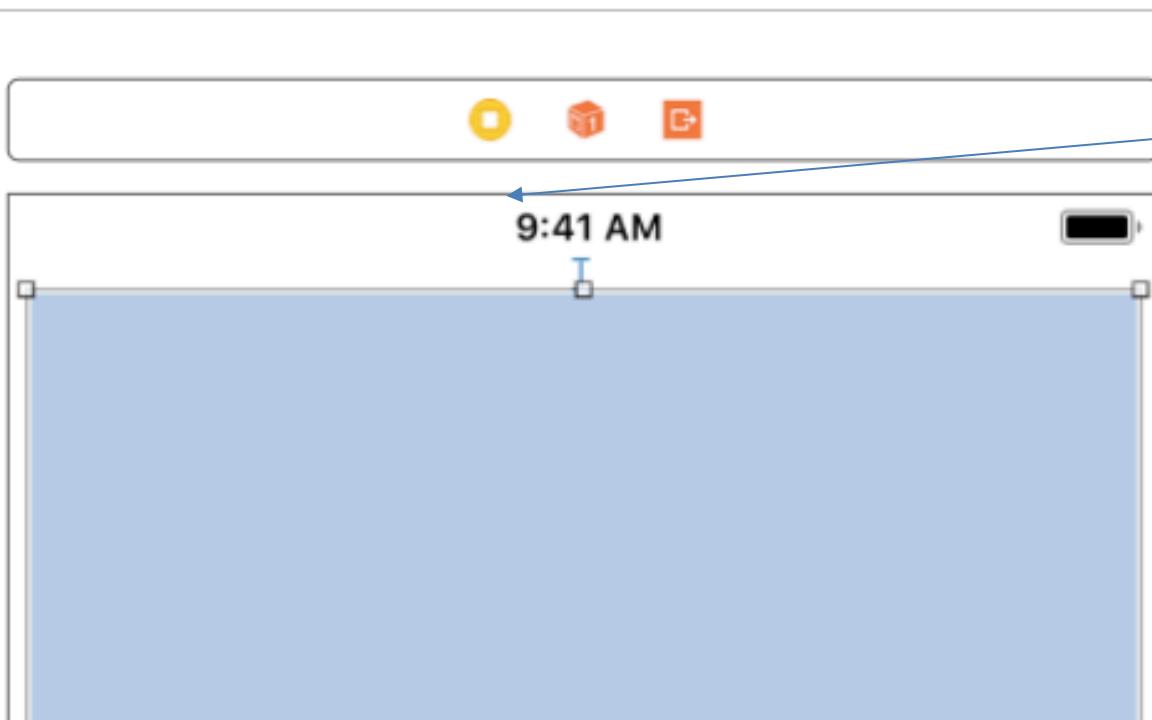
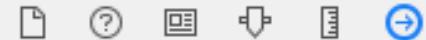
此處選擇MapView的實作有很多種,需仔細對照一下參數才能選到我們要的那一個

```
//刪除大頭針
func mapView(_ mapView: MKMapView, didSelect view: MKAnnotationView) {
    mapView.removeAnnotation(view.annotation!)
}
```

Map Callout面板



storyboard (Base) > View Controller Scene > View Controller > View > Map View



Outlets

delegate — * View Controller

Outlet Collections

gestureRecognizers

Referencing Outlets

New Referencing Outlet

Referencing Outlet Collections

New Referencing Outlet Collection

```
import UIKit
import MapKit
import SafariServices

class ViewController: UIViewController, MKMapViewDelegate {
    @IBOutlet weak var mapView: MKMapView!
```

```
override func viewDidLoad() {
    super.viewDidLoad()
    // Do any additional setup after loading the view, typically from a nib.
    let ann = MKPointAnnotation()
    ann.coordinate = CLLocationCoordinate2D(latitude: 24.137426, longitude: 121.275753)
    ann.title = "武嶺"
    mapView.addAnnotation(ann)

}
```

```
//實作面板右邊按鈕
func buttonPress(_ sender: UIButton) {
    if sender.tag == 100 {
        let url = URL(string: "http://www.taroko.gov.tw")
        let safari = SFSafariViewController(url: url!)
        show(safari, sender: self)
    }
}
```

```

func mapView(_ mapView: MKMapView, viewFor annotation: MKAnnotation) -> MKAnnotationView? {
    if annotation is MKUserLocation {
        return nil
    }

    var annView = mapView.dequeueReusableCell(withIdentifier: "Pin")
    if (annView == nil) {
        annView = MKPinAnnotationView(annotation: annotation, reuseIdentifier:
            "Pin")
    }

    if (annotation.title)! == "武嶺" {
        // 設定左邊為一張圖片
        // 圖片已經使用影像處理軟體調整為適當的長寬
        let imageView = UIImageView(image: UIImage(named: "wuling"))
        annView?.leftCalloutAccessoryView = imageView

        // 設定title下方放一個標籤
        let label = UILabel()
        label.numberOfLines = 2
        label.text = "緯度:\(annotation.coordinate.latitude)\n經度:\(annotation.coordinate.longitude)"
        annView?.detailCalloutAccessoryView = label

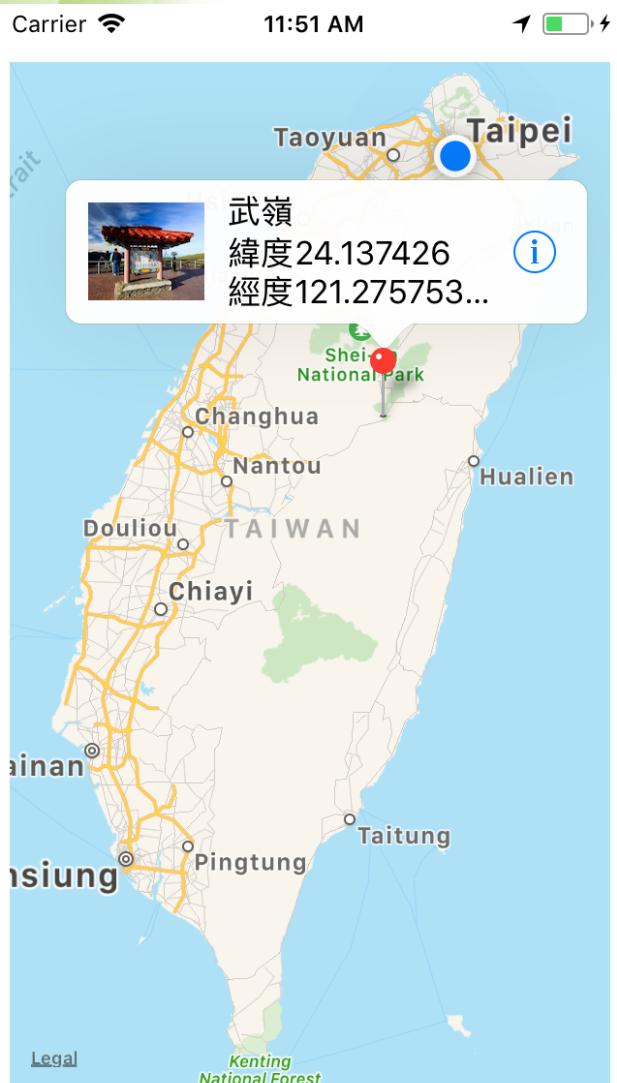
        // 設定右邊為一個按鈕
        let button = UIButton(type: .detailDisclosure)
        button.tag = 100
        button.addTarget(self, action: #selector(buttonPress), for: .touchUpInside)

        annView?.rightCalloutAccessoryView = button
    }

    annView?.canShowCallout = true

    return annView
}

```



Carrier 11:52 AM

Done taroko.gov.tw

太魯閣國家公園
Taroko National Park

學校師生

社區居民

新聞

活動

新聞公告 107-04-09
“107邀您去”三代幸福同遊國家公園 太魯...

新聞公告 107-04-09
太魯閣部落音樂會、傳統文化體驗活動，...

招標徵才 107-03-31