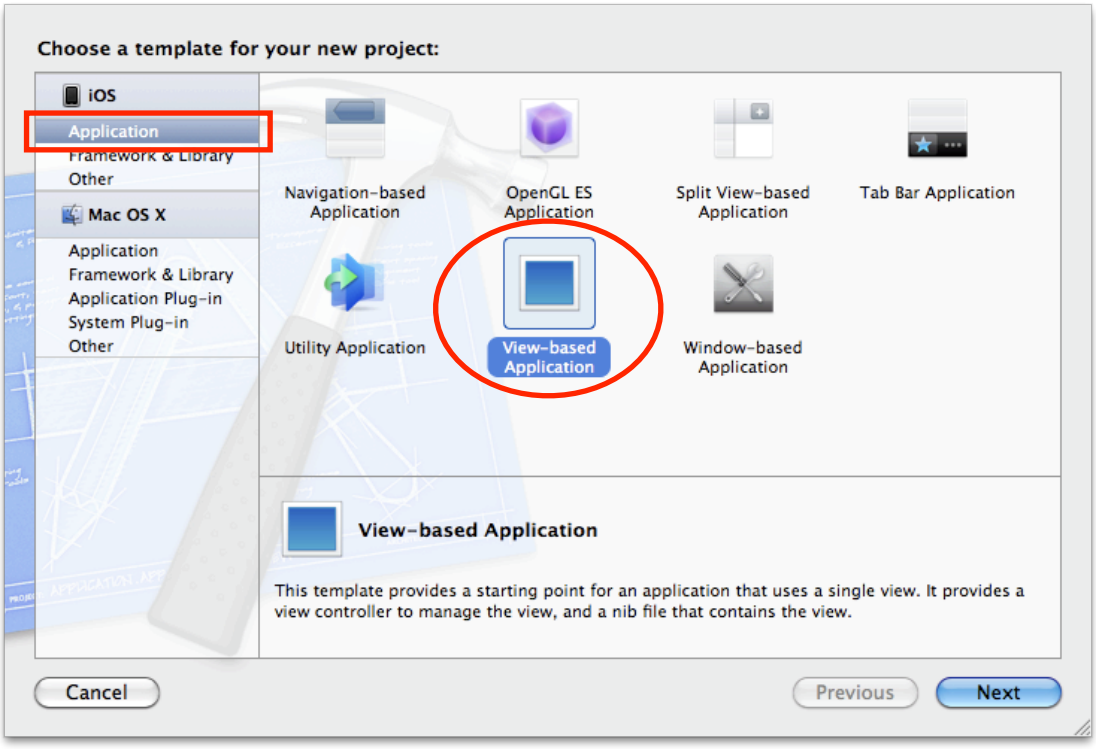
Lab ViewSizing

Step 1. 在File>New>New Project開啓一個新的專案, 在iOS的Application目錄裡面選擇 view based application

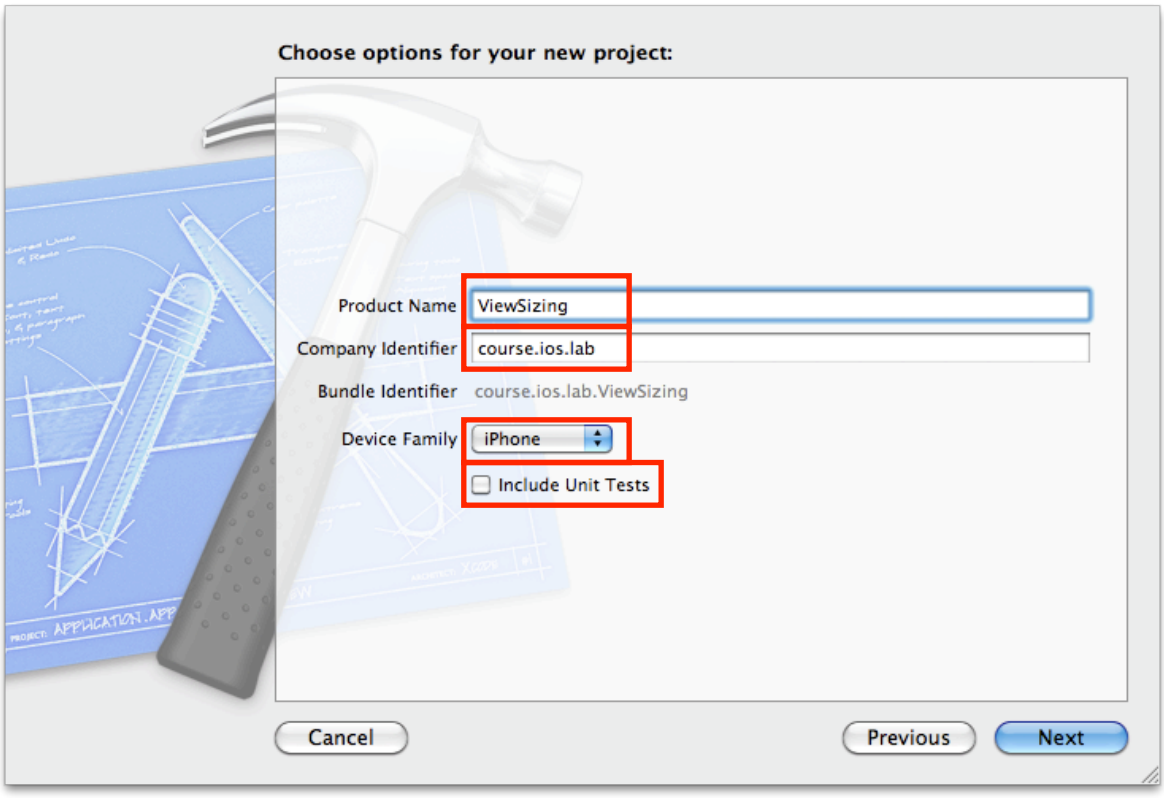


Step 2. 並將此專案命名為 **ViewSizing**

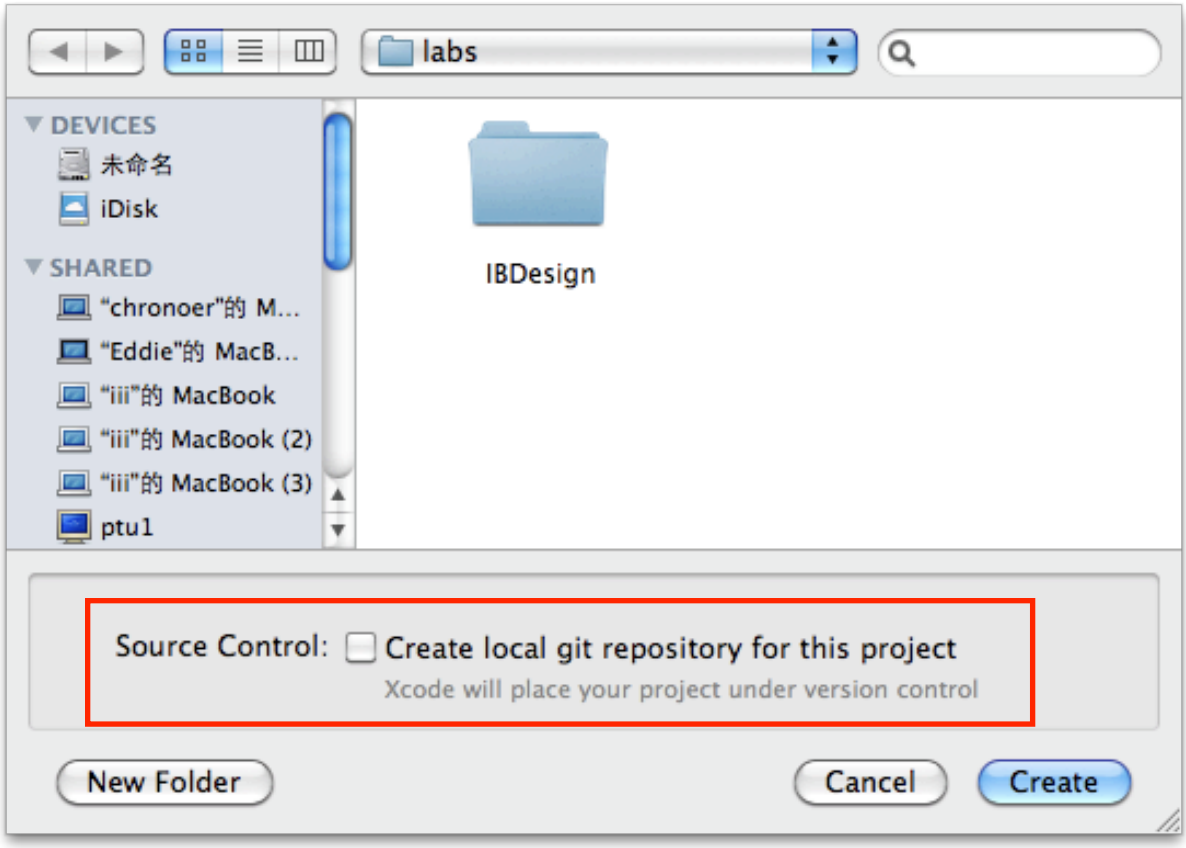
Company Identifier是填入Bundle的名稱,在此統一填入**course.ios.lab** (也可自行填入)

Device Family選擇**iPhone**

Include Unit Tests是做語意邏輯測試用,可勾選也可不勾選,在此我們統一**不勾選**



Step 3.選擇存檔的位置, 在此我們不做version control,統一不勾選Create local git repository for this project

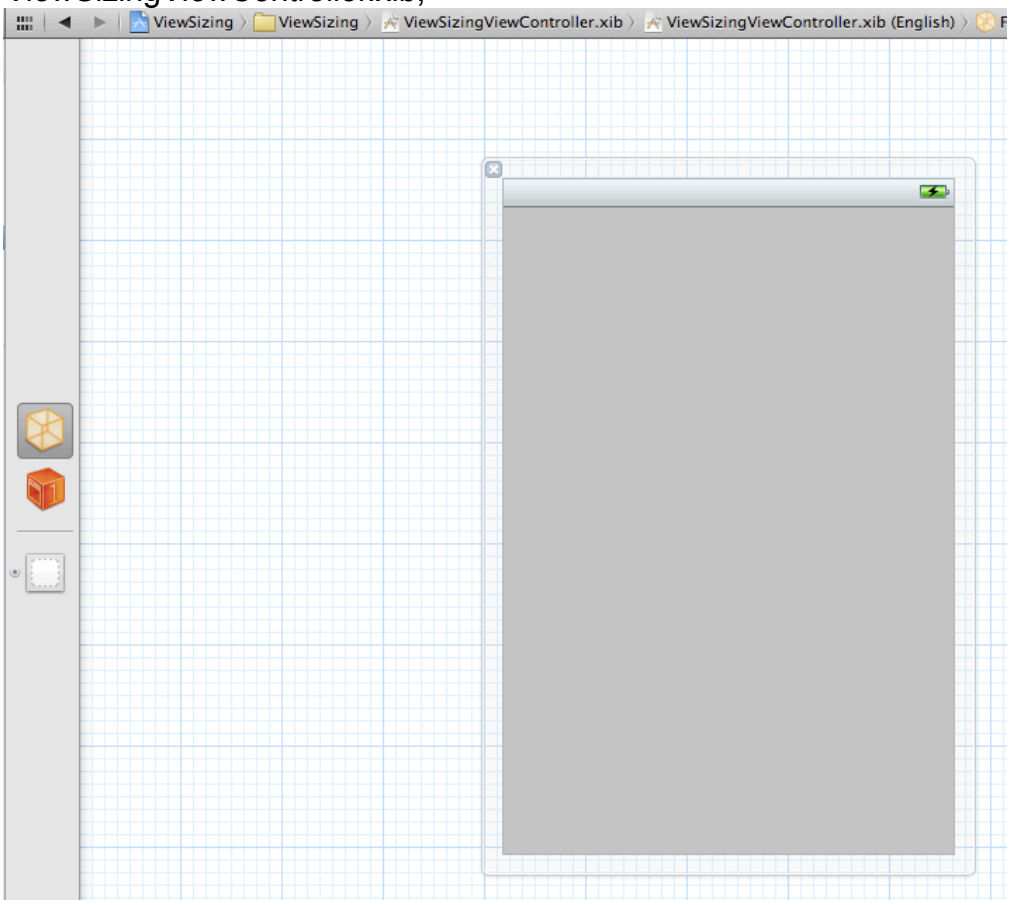


Step 4. 從左方視窗的Show the Project navigator裡的ViewSizing資料夾中開啓ViewSizingViewController.h,加入我們要做Sizing的View, 回到Size的original button, 變大變小的bigger button和smaller button, 以及三個button按下後對應的interface builder action. 並加入一個作為判斷original size的CGRect.

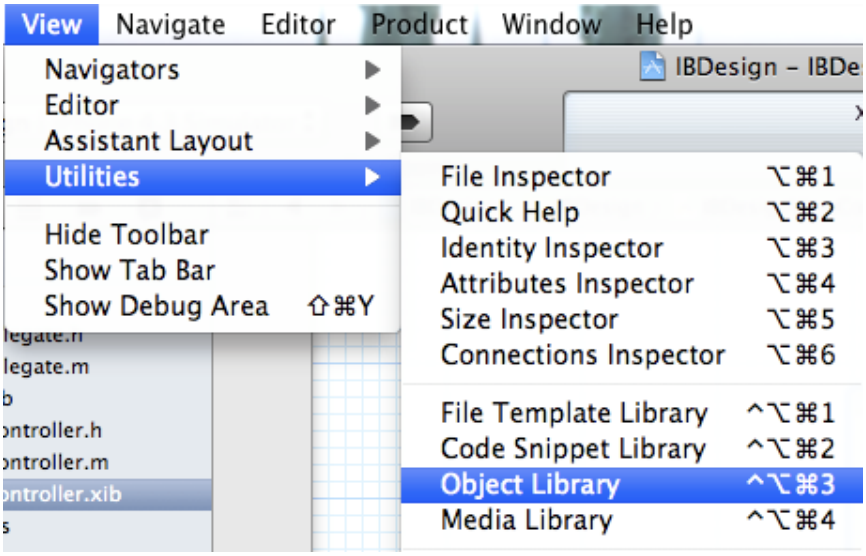
```
#import <UIKit/UIKit.h>

@interface ViewSizingViewController : UIViewController {
    IBOutlet UIView * targetView;
    IBOutlet UIButton * originalButton;
    IBOutlet UIButton * biggerButton;
    IBOutlet UIButton * smallerButton;
    CGRect orgSize;
}
-(IBAction) originalButtonPressed;
-(IBAction) biggerButtonPressed;
-(IBAction) smallerButtonPressed;
@end
```

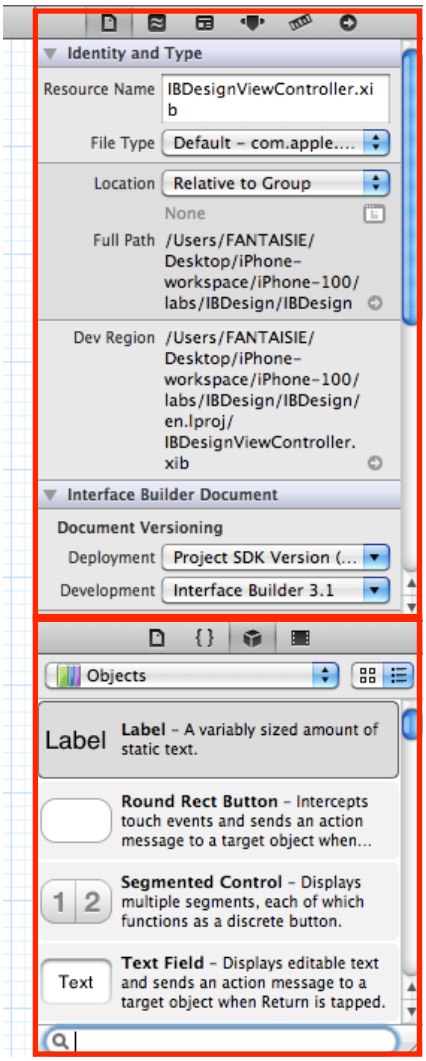
Step 5.從左方視窗的Show the Project navigator裡的ViewSizing資料夾中的ViewSizingViewController.xib,



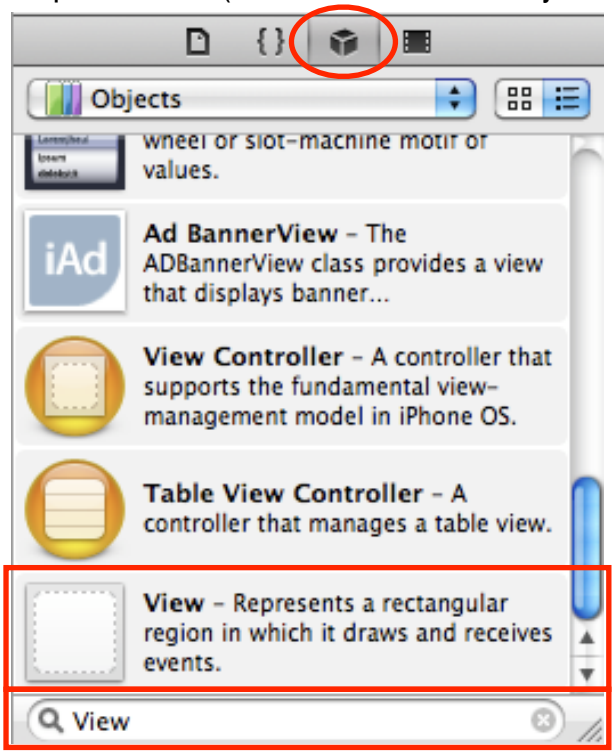
Step 6. 在Xcode視窗右上角選擇顯示視窗點下View右邊按鍵,或是View > Utilities 裡選擇任意選擇一個選項即會打開這個視窗分頁,在此選擇Object Library來方便選擇和新增UI元件



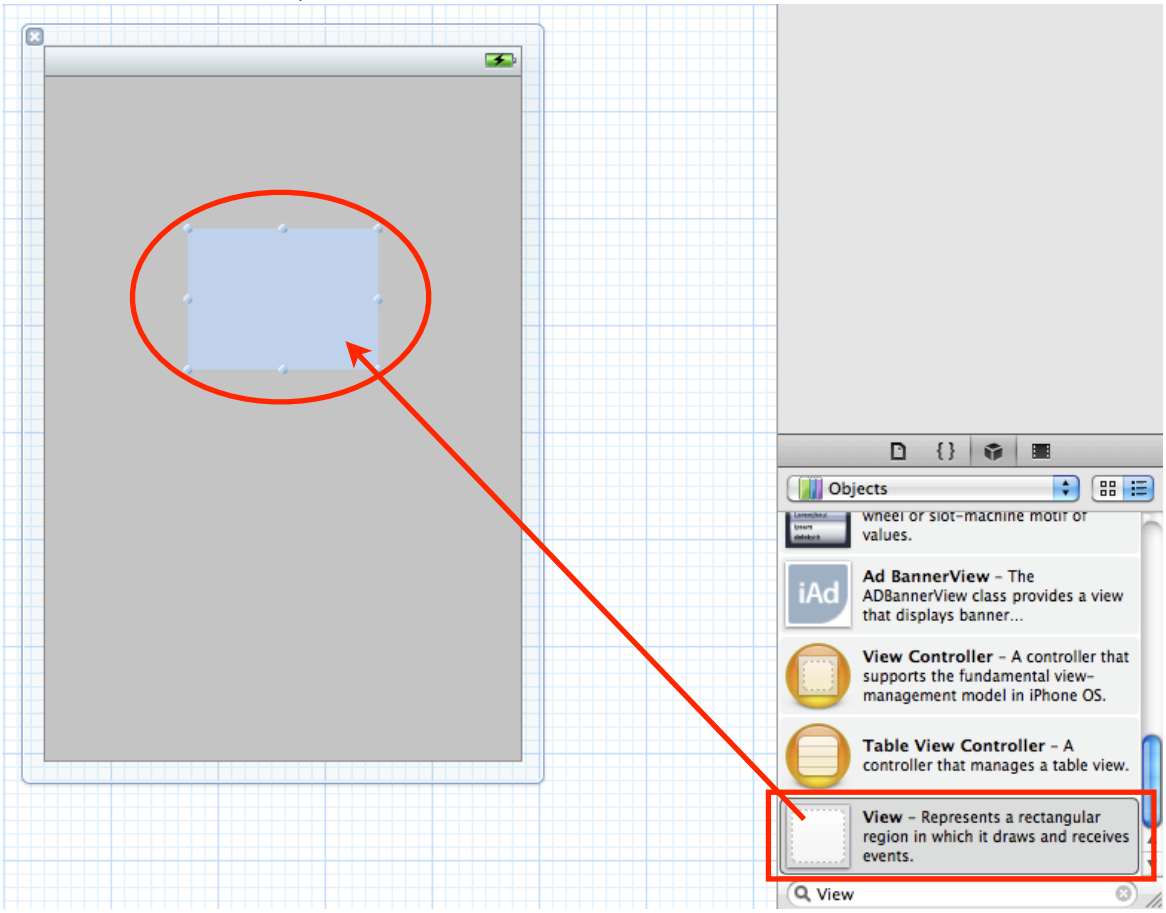
在主視窗分頁就開啓一個右邊的視窗分頁,上面是一些Inspector,下面是一些Library



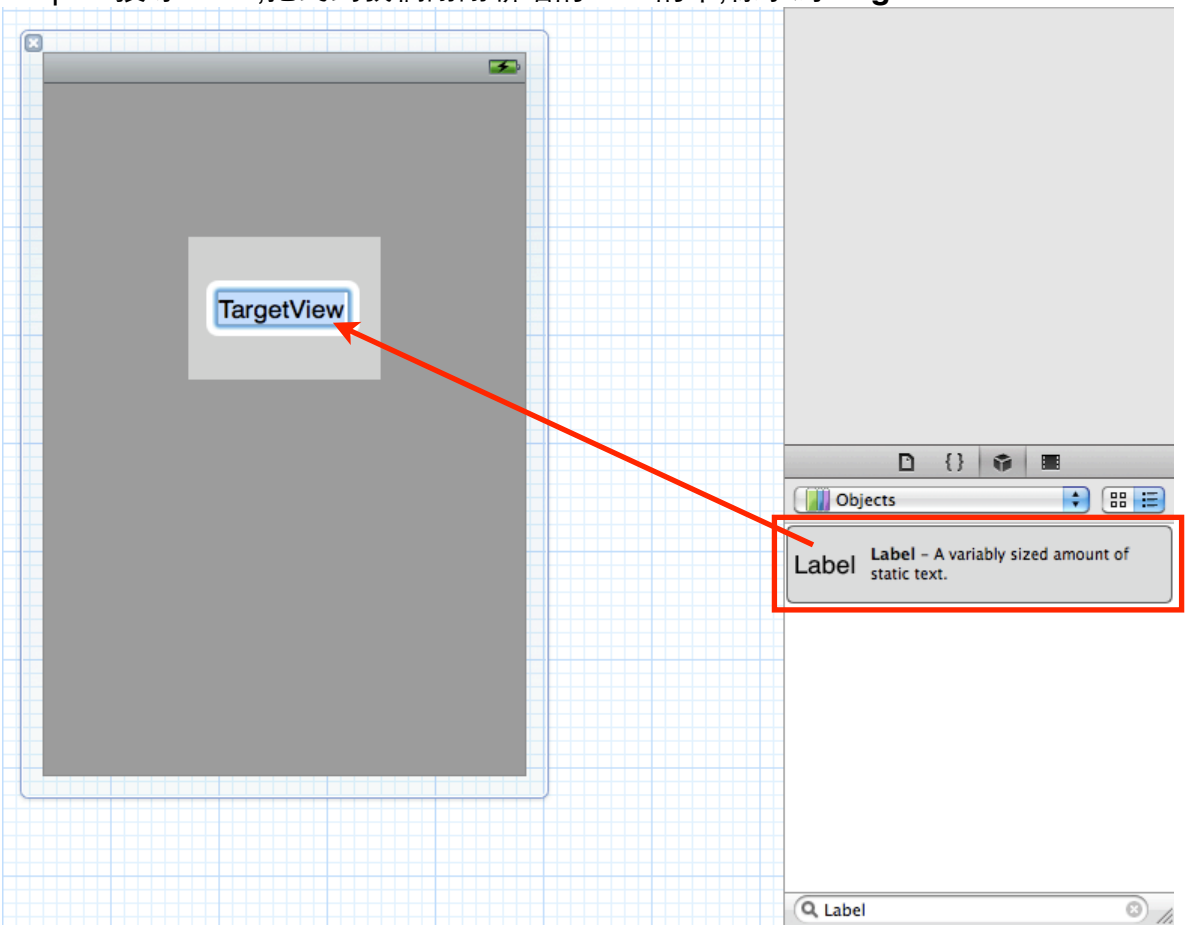
Step 7. 在下方 (記得選擇Show the Object library) 搜尋View



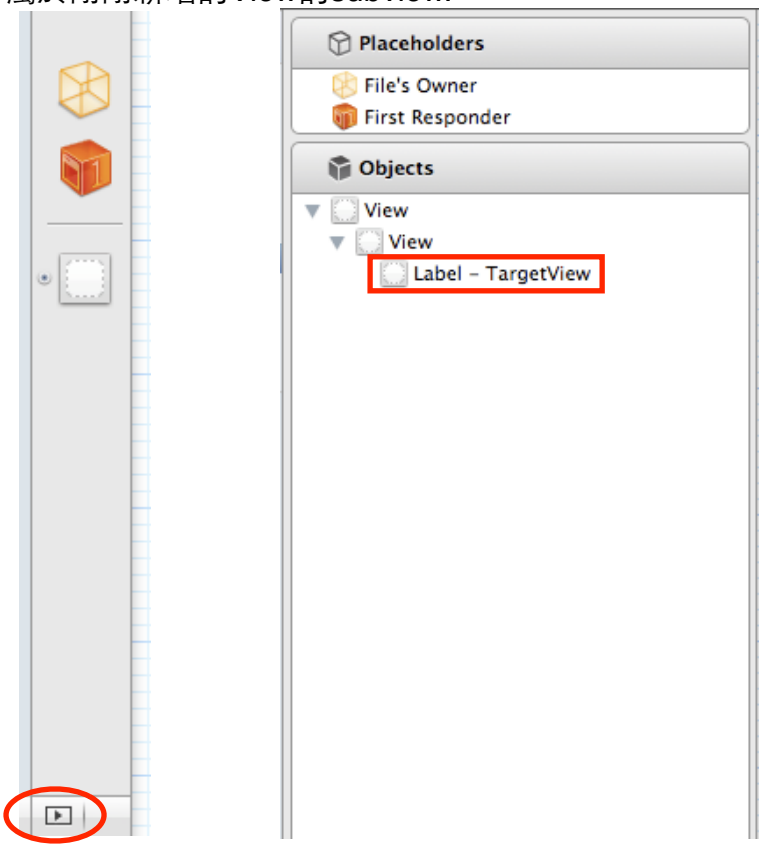
拖曳到我們的View上,並將縮小成跟主畫面的View比較起來我們可觀察到放大縮小的size.



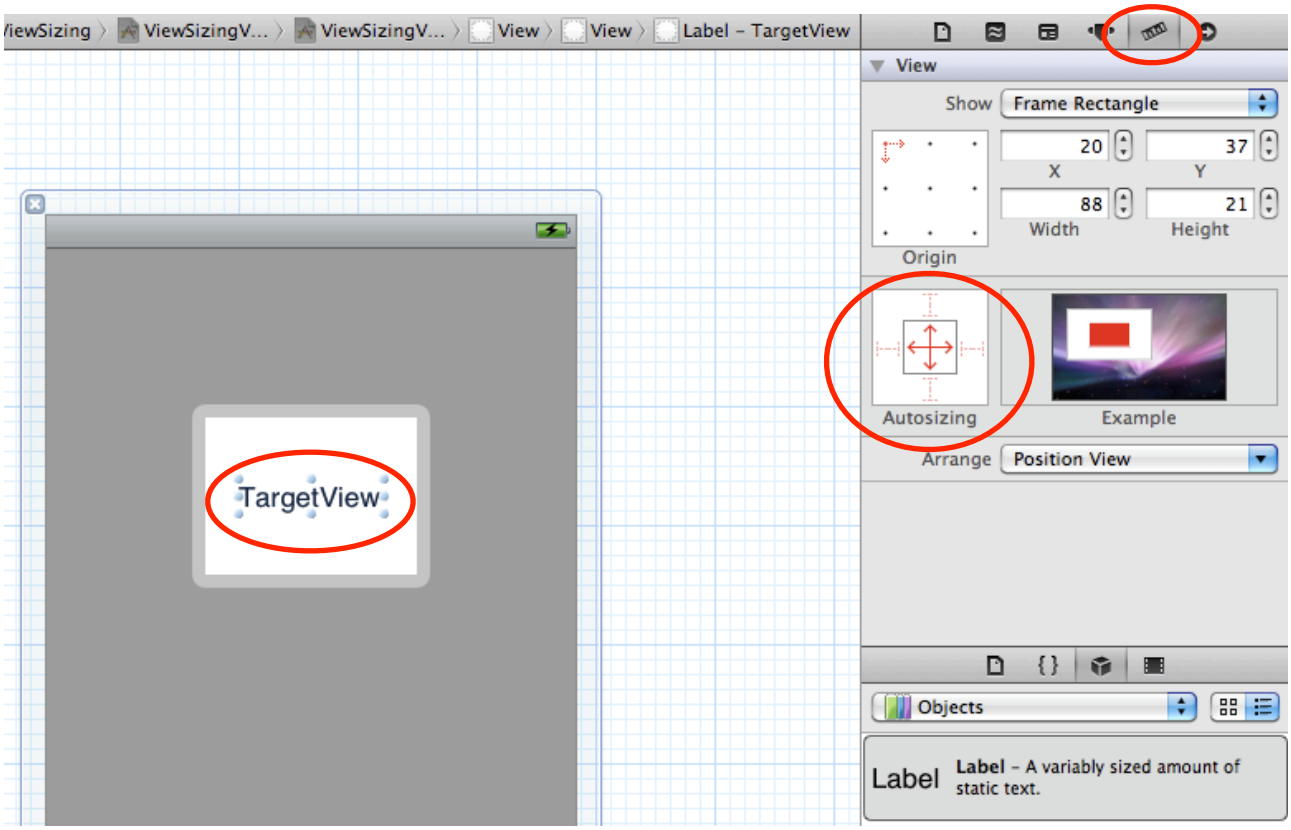
Step 8. 搜尋Label,拖曳到我們剛剛新增的View的中,標示為**TargetView**



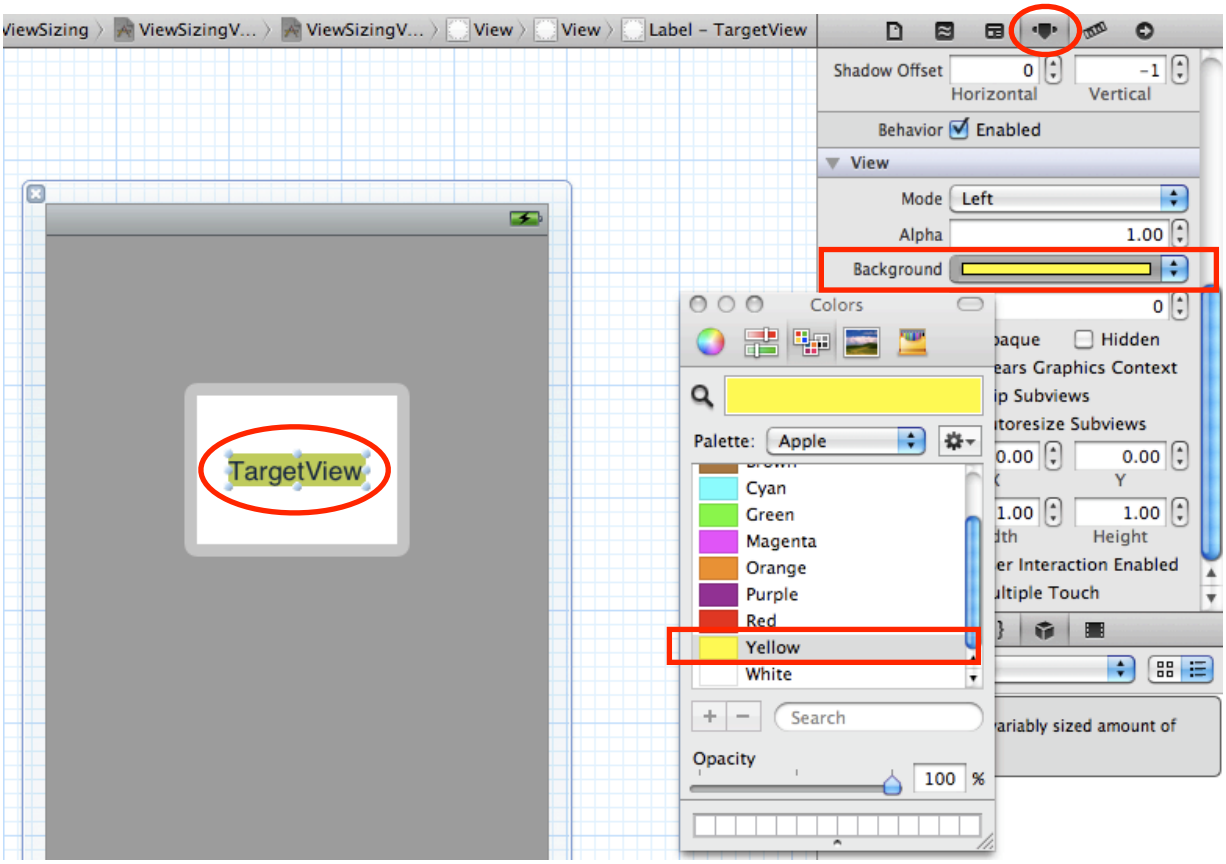
Step 9. 在ViewSizingViewController.xib視窗左下方三角形開啓的View確認階層, 確認Label屬於剛剛新增的View的subview.



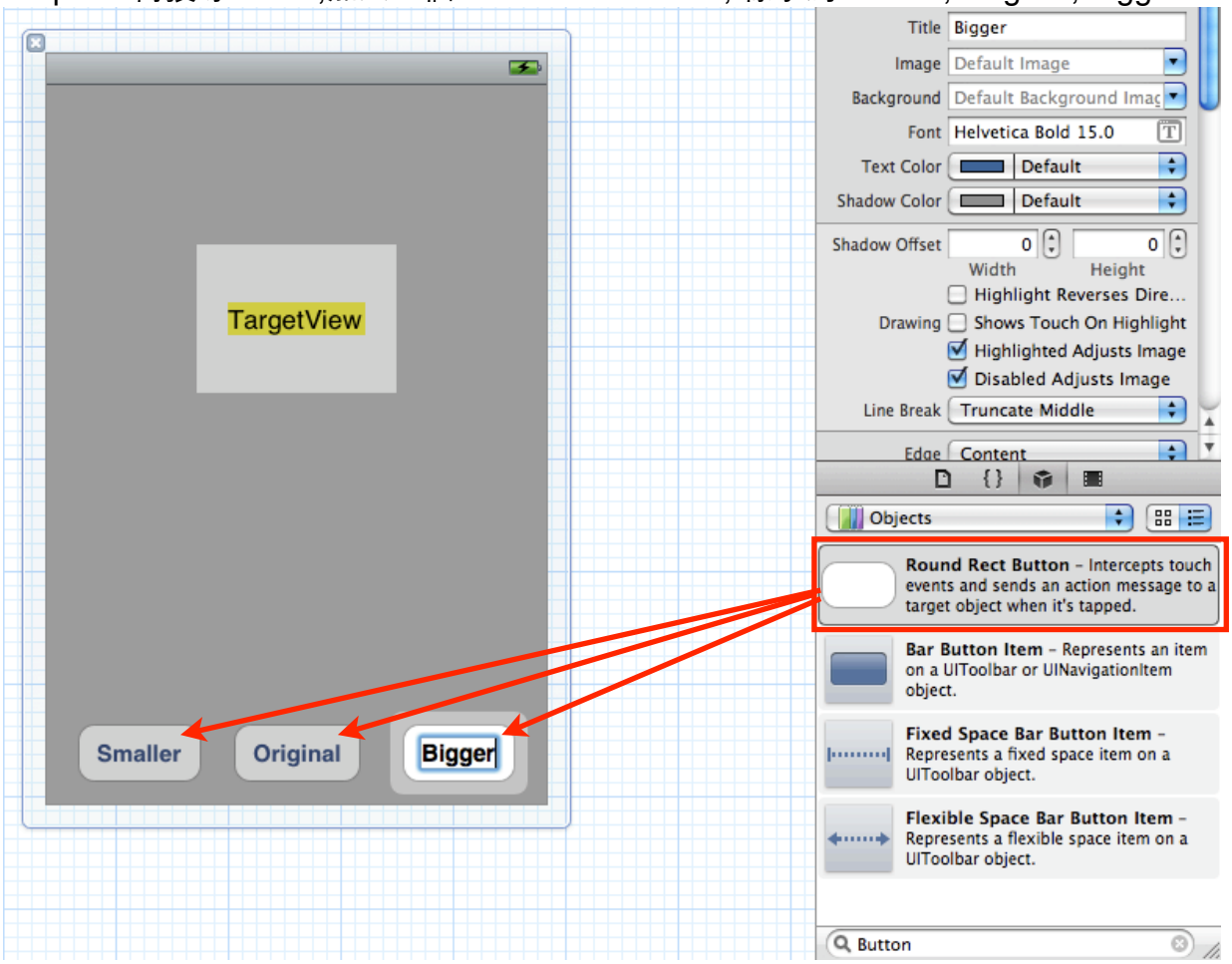
Step 10. 點選剛剛新增的Label, 在**Show the Size inspector**裡面的Label Size的Autosizing把四周固定superview相對距離的 移掉, 並點選中間的 和 使Label隨superview變大縮小(如下圖)



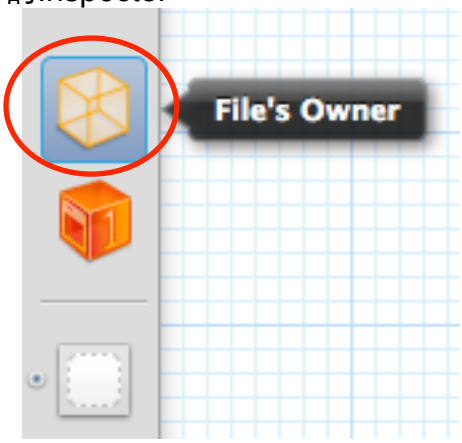
Step 11. 在此Label的Show the Attributes inspector的Background->Other..., 選擇黃色, 以讓我們容易辨識Label是否有跟我們建立的View一起放大縮小



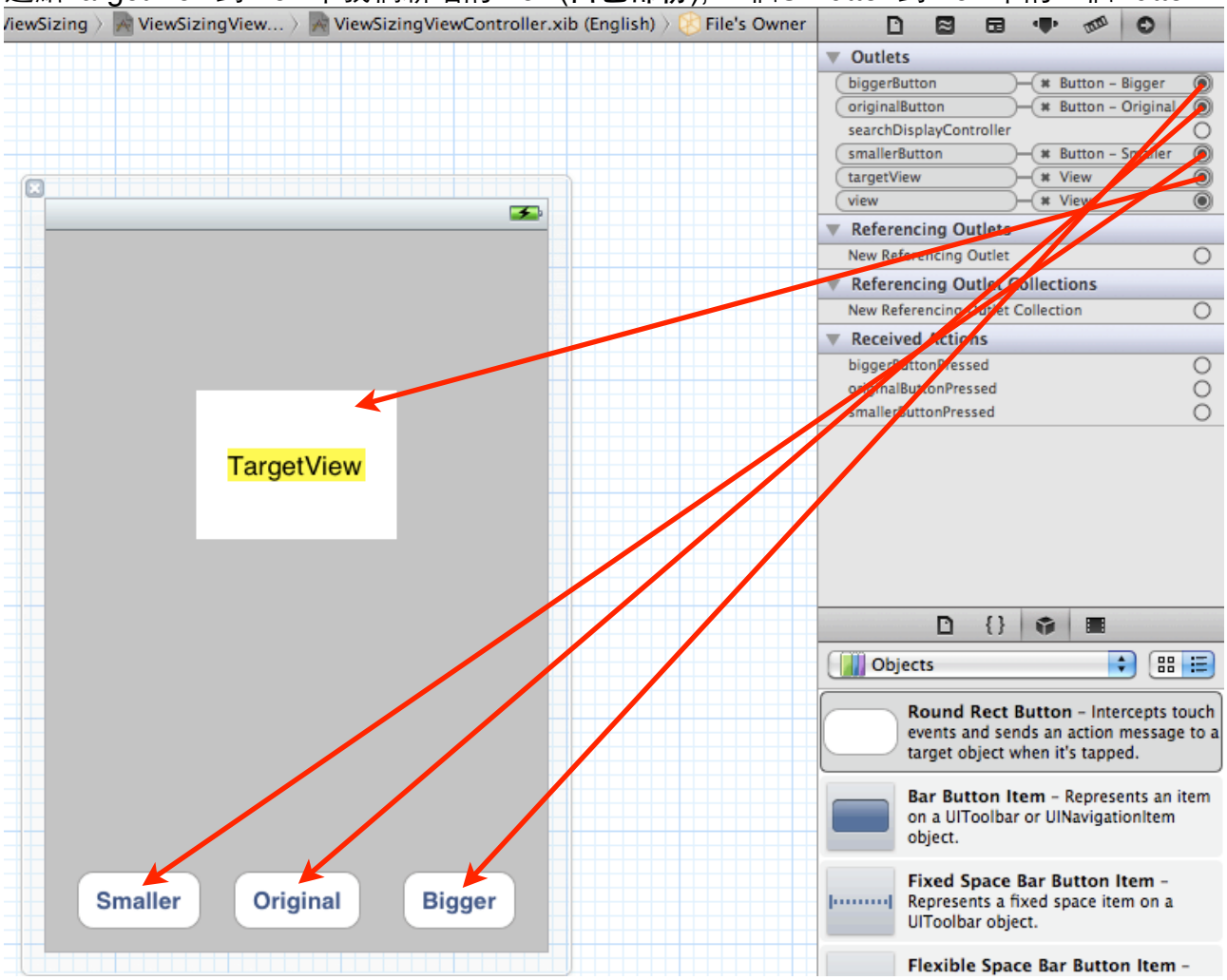
Step 12. 再搜尋button,加入三個Round Rect Button, 標示為Smaller, Original, Bigger



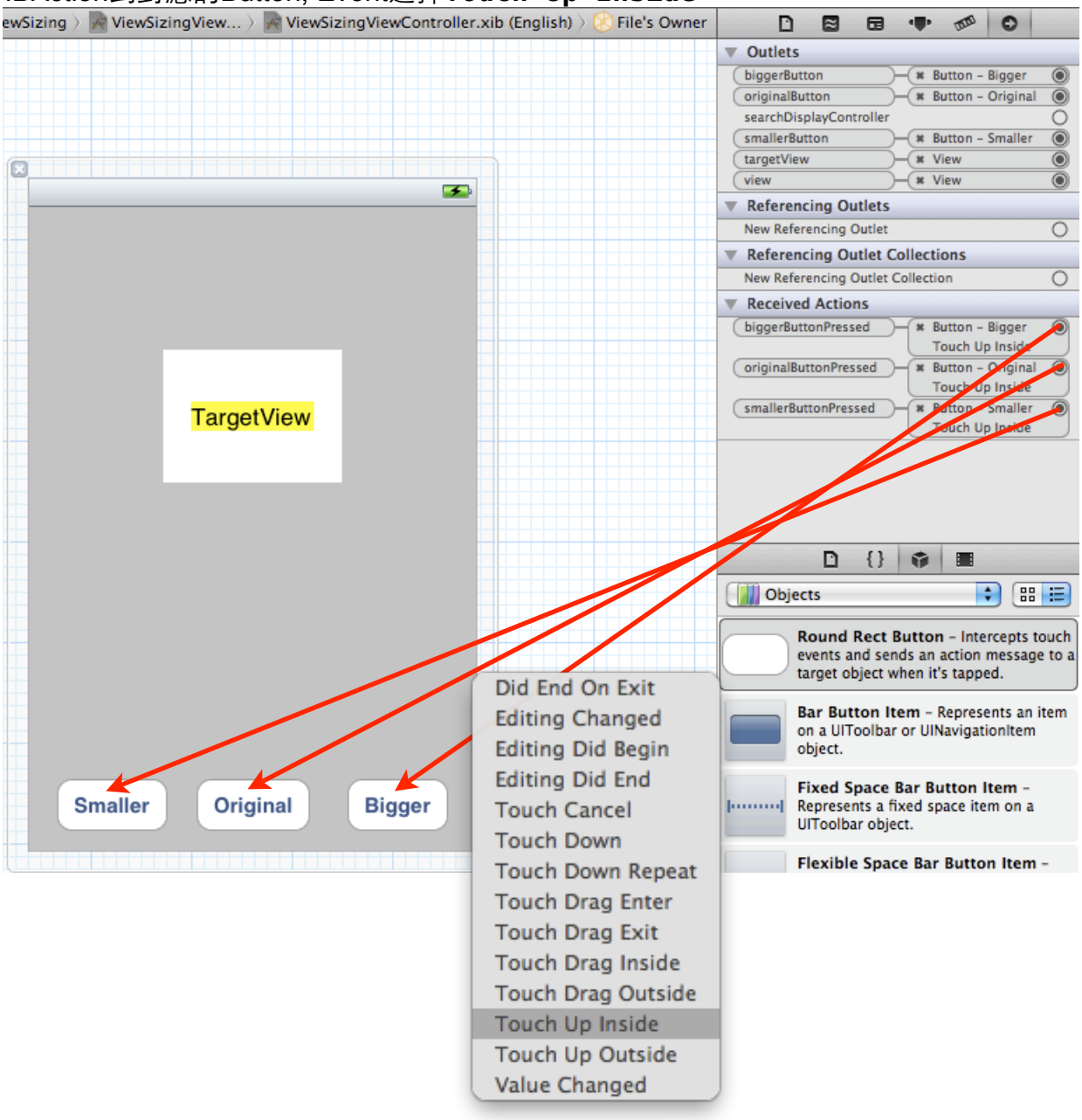
Step 13. 在ViewSizingViewController的視窗分頁左邊選擇File's Owner,來開啓File's Owner的Inspector



連結TargetView到View中我們新增的View(白色部份), 三個UIButton到View中的三個Button.



Step 14. 連結biggerButtonPressed, originalButtonPressed, 和smallButtonPressed三個IBAction到對應的Button, Event選擇**Touch Up Inside**



Step 15. 從左方視窗的Show the Project navigator裡的ViewSizing資料夾中開啓ViewSizingViewController.m, 先找到- (void)viewDidLoad {}, 將**Mark去掉**,加入`orgSize = targetView.bounds`來設定我們原本的`Size.`

```
- (void)viewDidLoad
{
    [super viewDidLoad];
    orgSize = targetView.bounds;
}
```

Step 16. 同樣在ViewSizingViewController.m實作我們三個Button對應的IBAction.
在originalButtonPressed{}裡面我們將targetView的bounds設定為原先的orgSize.

```
-(IBAction) originalButtonPressed
{
    NSLog(@"Original button pressed");
    targetView.bounds = orgSize;
}
```

在biggerButtonPressed{}裡面我們建立一個新的CGRect叫做newSize等於目前targetView的bounds的size,將他成為自己的1.5倍,再assign回給targetView.bounds.

```
-(IBAction) biggerButtonPressed
{
    NSLog(@"Bigger button pressed");
    CGRect newSize =  targetView.bounds;
    newSize = CGRectMake(0, 0, newSize.size.width*1.5,
newSize.size.height*1.5);

    targetView.bounds = newSize;
}
```

在biggerButtonPressed{}裡面我們建立一個新的CGRect叫做newSize等於目前targetView的bounds的size,將他成為自己1/1.5倍,再assign回給targetView.bounds.

```
-(IBAction) smallerButtonPressed
{
    NSLog(@"Smaller button pressed");
    CGRect newSize =  targetView.bounds;
    newSize = CGRectMake(0, 0, newSize.size.width/1.5,
newSize.size.height/1.5);

    targetView.bounds = newSize;
}
```

Step 17. Run (⌘+R)
出現我們建立的View, Label, 和三個Button.

當按下Bigger Button時, targetView放大,Label也跟著放大.

當按下Smaller Button時, targetView縮小, Label也跟著縮小.

當按下Original Button時, targetView和Label都回覆原來比例.