

The story so far

...on iOS programming

Objective C & OOP

- Objects and classes - what is the difference?
- How do we write a class?
- How do we create an object?

Classes - header files

```
#import ...  
  
@interface ClassName : ParentClass {  
    // Declare variables  
    int x;  
}  
  
// Declare methods  
- (void)setX:(int)num;  
- (int)x;  
  
@end
```

Classes: implementation files

```
#import "ClassName.h"  
@implementation ClassName  
// Implement methods  
- (void)setX:(int)num {  
    x = num;  
}  
- (int)x {  
    return x;  
}  
@end
```

Properties

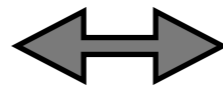
```
#import ...  
  
@interface ClassName : ParentClass {  
    // Declare variables  
    int x;  
}  
  
// Declare methods  
  
@property(nonatomic, assign) int x;  
  
@end
```

Synthesize

```
#import "ClassName.h"  
@implementation ClassName  
// Implement methods  
@synthesize x;  
@end
```

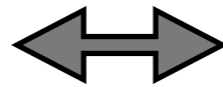
Properties and synthesize

```
@property(...) int x;
```



```
- (void)setX:(int)num;  
- (int)x;
```

```
@synthesize x;
```



```
- (void)setX:(int)num {  
    x = num;  
}  
- (int)x {  
    return x;  
}
```

- If you have a `@property` then you [usually] also have a `@synthesize`

Cocoa Touch

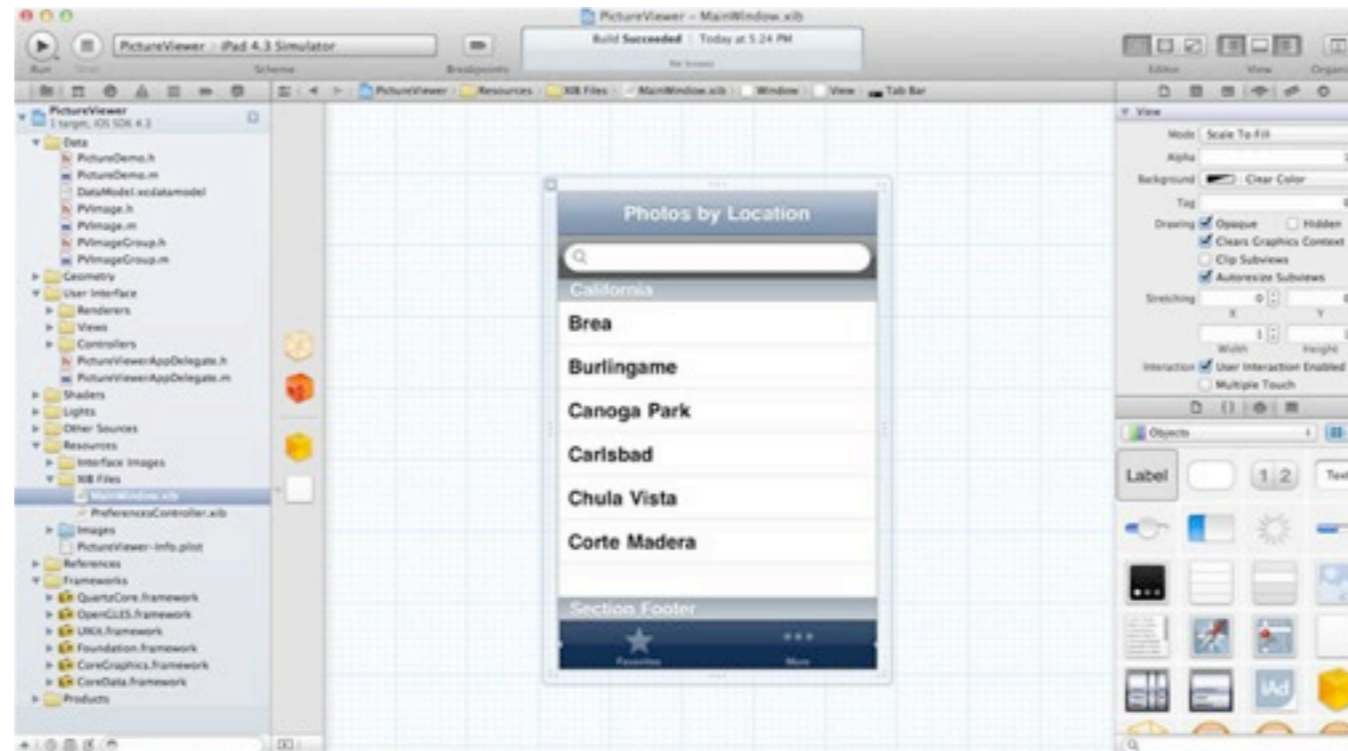
- Cocoa Touch is the framework for iOS programming
- It gives you UIButton, UILabel, UITableView, etc
- Declare and use like other classes, e.g.
`UILabel *label = [[UILabel alloc] init...];`

Xcode



- Xcode is an IDE
(Integrated Development Environment,
makes it easy to write, run & debug)
- We are using Xcode 4, and testing our apps
on the iOS Simulator

Xcode Interface Builder



- The Xcode Interface Builder is a visual tool for creating UIs
- The UI is stored in a XIB file (sometimes also called a NIB file)

App Delegate

- The code where an iOS app starts!
(e.g. `ContactsAppDelegate`)
- Usually loads one or more `UIViewController`s

UIViewController

- Your views are all subclasses of UIViewController
(e.g. ContactsViewController.h/m)
- Usually has a .xib file for the UI
(e.g. ContactsViewController.xib)
- Contains the method viewDidLoad which you can use to load the data into your view

UI Components

- UILabel, UIImageView (simple outlets)
- UIButton, UISlider (have actions)
- UITableView (must have methods to load the data source)

Connections - IBOutlet

- E.g. connect a label in the XIB to an object in the code
- Must have:
 - Variable declaration
 - Property and synthesize
 - Connection in XIB... 'Referencing Outlet'

Connections - IBActions

- E.g. connect a button press to a method in the code
- Must have:
 - A method declaration in the header:
 - `(IBAction)doSomething;`
 - A method implementation
 - A connection in the XIB from the event

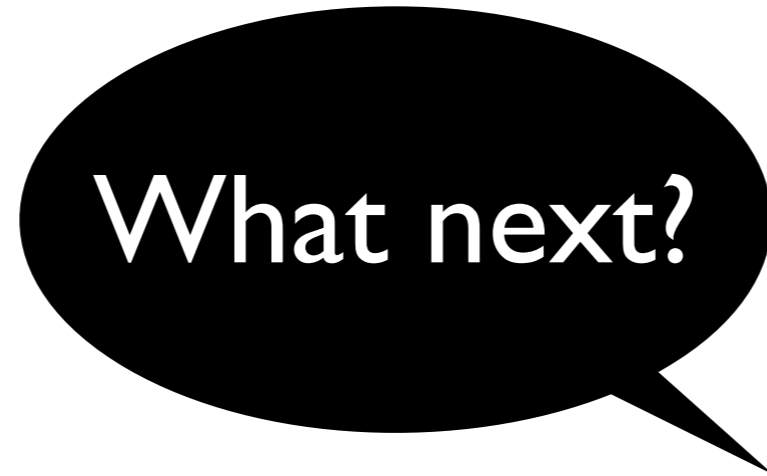
UINavigationController

- Allows you to load one UINavigationController on top of another (like a stack)



Now you can write
simple iPhone apps!





What next?

Assignment I

- The Tourism Authority of Thailand (TAT) has asked you to build an iPhone app for tourists in Phitsanulok.
- The first phase of the project is to build a simple application that lists all the tourist attractions in the area.
- You must build a prototype application in only ONE week to demonstrate your iPhone skills!

Example



Basic
version

Getting started

- Download the project provided (it is the same as a Navigation-based iOS App)
- Try to get small bits working first... load the attractions and display in a list
- Don't write too much code... simple is better!

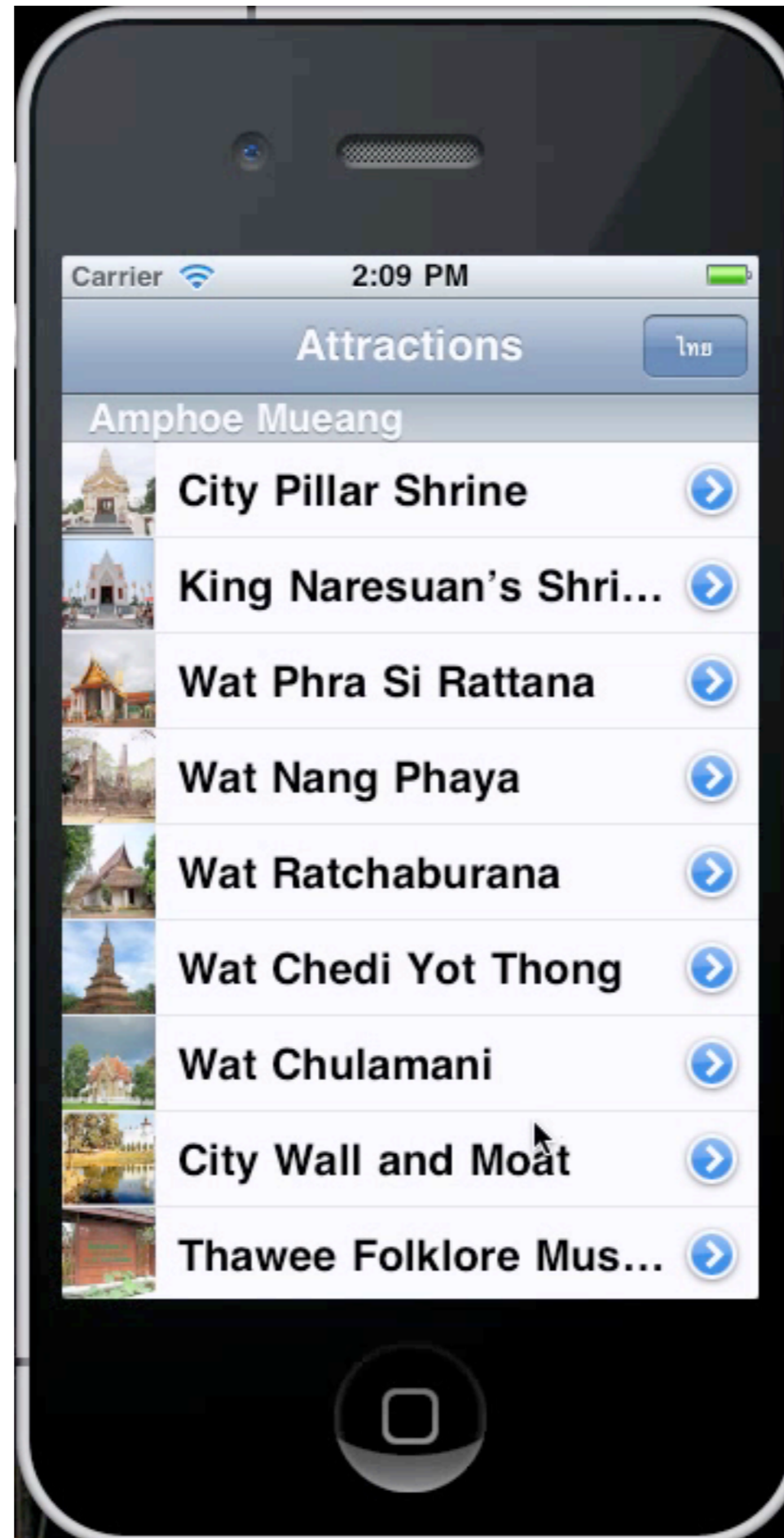
Important

- You must work on your own
- You can copy, but only from the workshops!
- Questions on the Facebook group
- iMac lab will be open as required
- Deadline is next Monday (end of class)

Assessment

- Your mark will be based on:
 - a) Does the app meet the requirements?
 - b) Does the code have good style?
 - c) Any bugs or errors?
 - d) Is the app 'fun' to use?

Example



Advanced
version

To get an 'A'