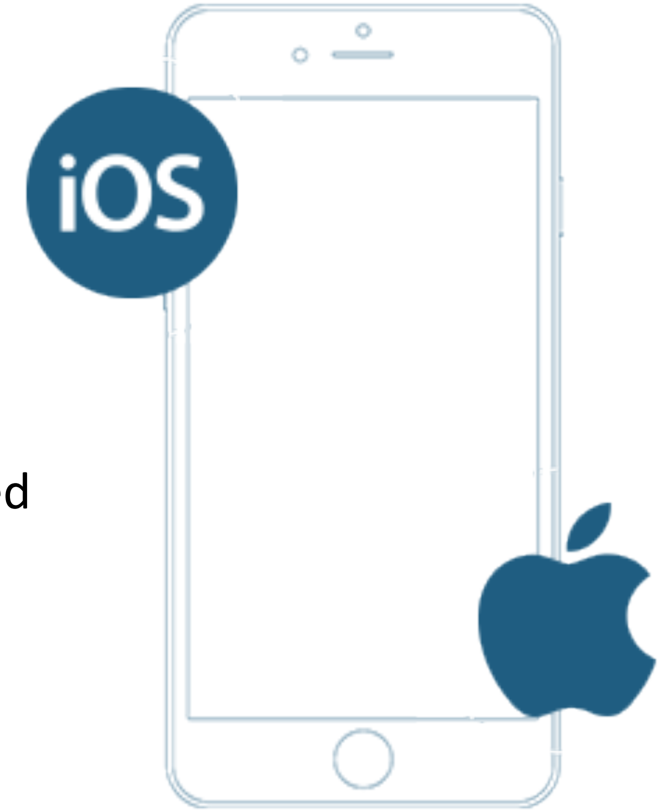
Developing IOS apps using objective-c



Presented By

Abdelrahman Sayed

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Lecture Two

Objective-C

Agenda

- UIKit.
- Navigation Controller.
- Delegation.
- TableViewController.

UIKit

UIKit

- The UIKit framework provides classes needed to construct and manage an application’s user interface for iOS.

- It provides an application object, event handling, windows, views, and controls specifically designed for a touch screen interface.

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

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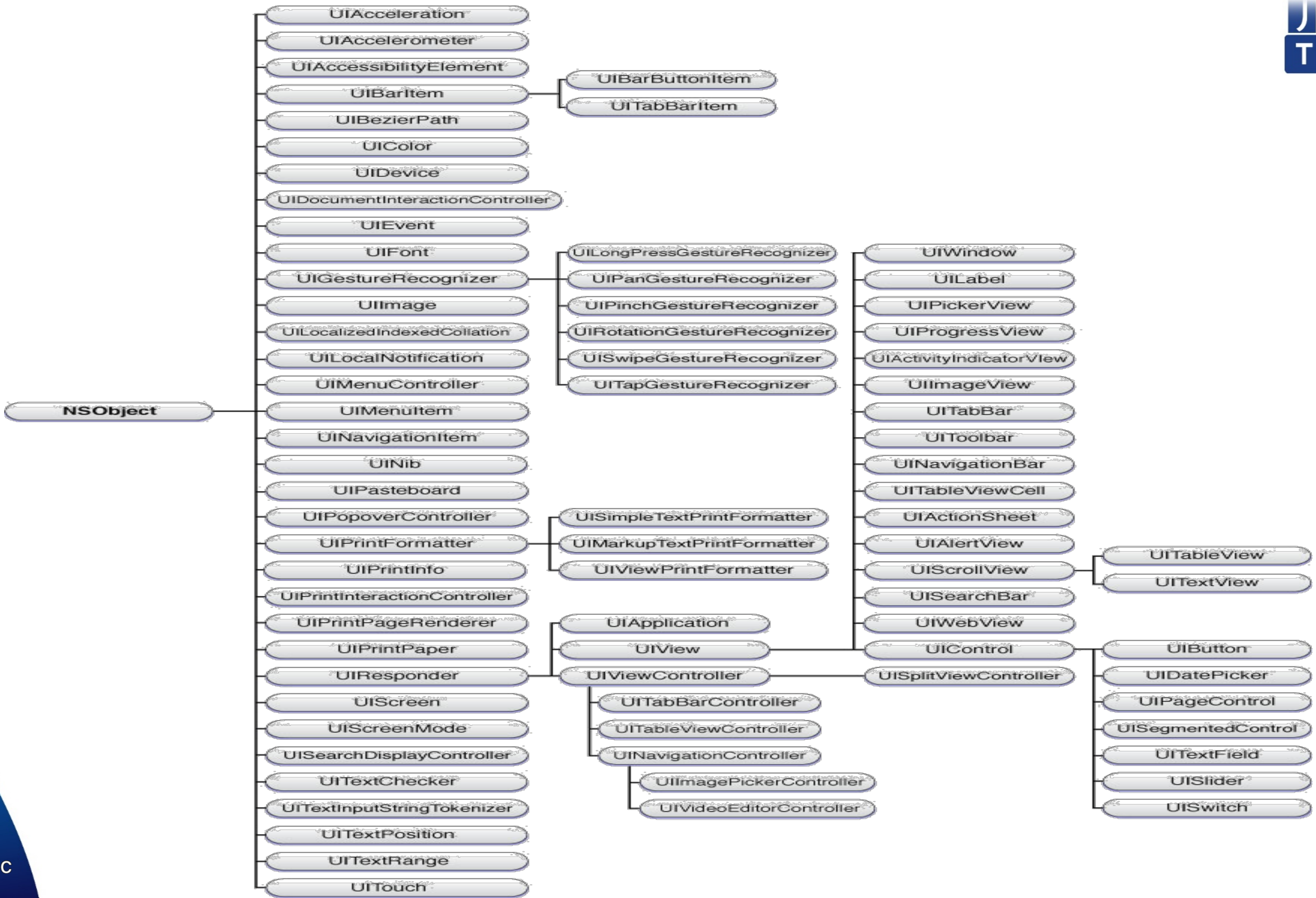
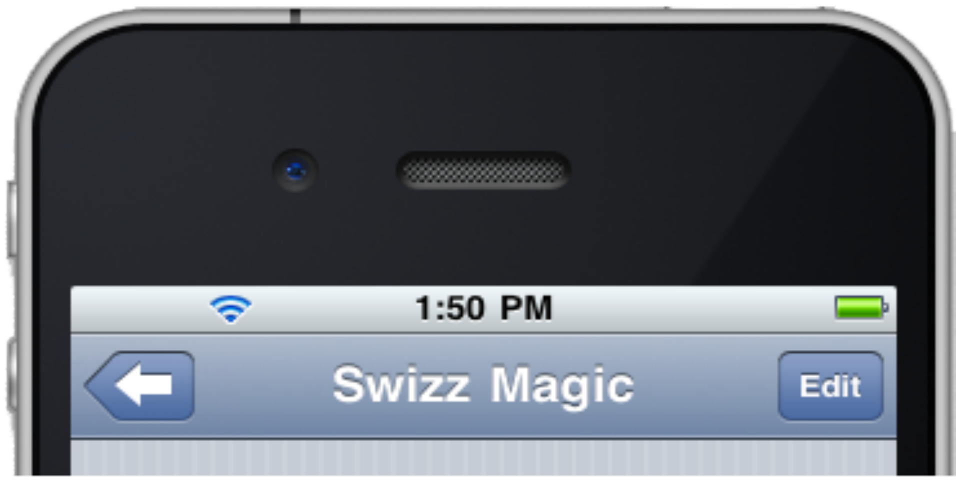


Objective-C

Navigation Controller

Navigation Controller

- It’s a bar displayed at the top of the screen, containing buttons for navigating within the screens.
- The primary properties are a left (back) button, a center title, and an optional right button.



UINavigationController

- It uses the stack concept.
- When a new view is displayed it is pushed onto the navigation controller’s stack and becomes the currently active controller.
- The navigation controller automatically displays the navigation bar and the “back” button.

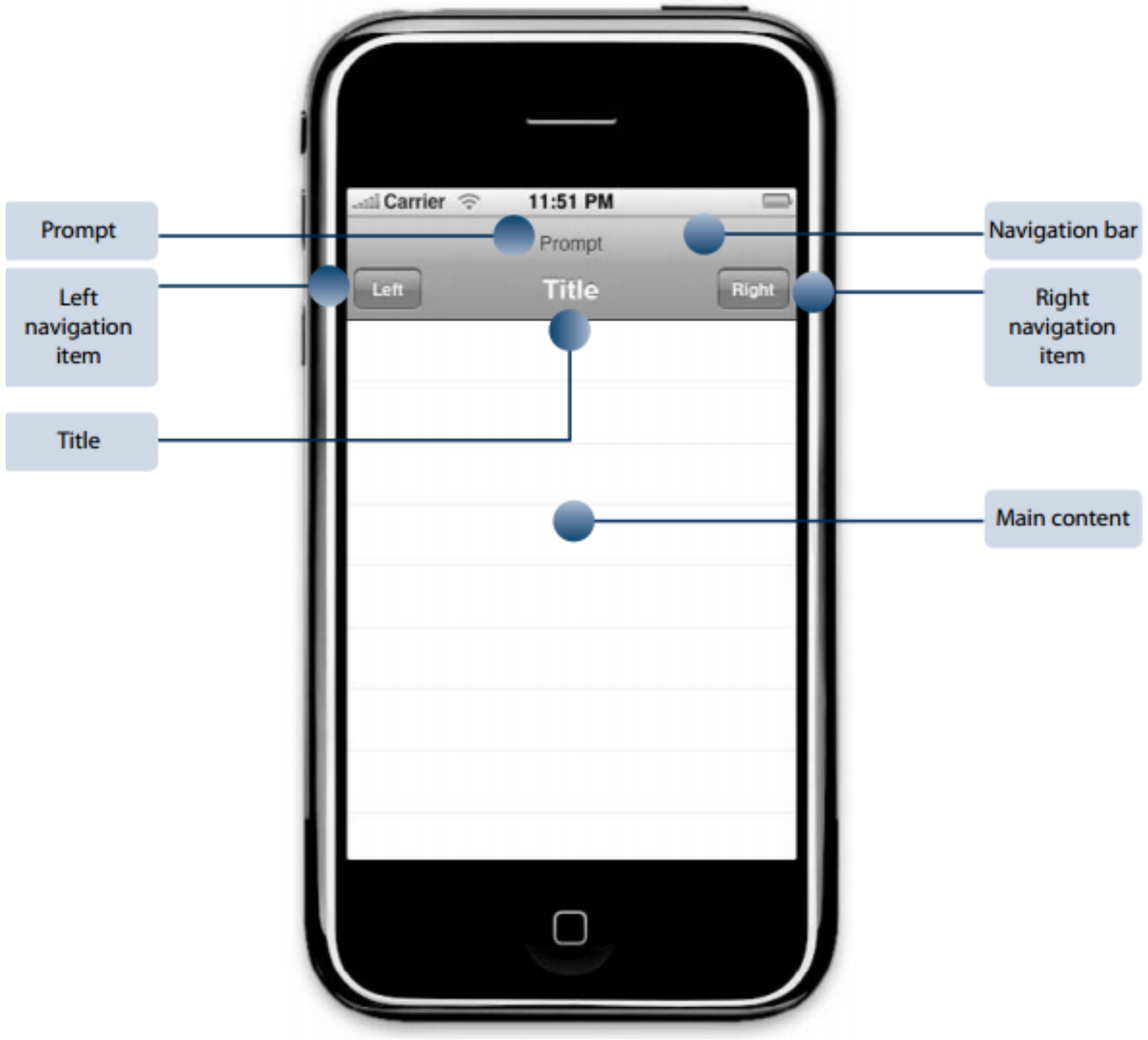
UINavigationController Cont.

- When the user selects the back button in the navigation bar to move back to the previous level, that view controller is popped off the stack and the view controller beneath it moved to the top becoming the currently active controller.

- Each UINavigationController should has at least one ViewController, known as *RootViewController.*

- The root view controller can not be popped off the navigation controller stack.

UINavigationController Cont.



UINavigationController Cont.

<u>Steps of UINavigationController Creation</u>

- In storyboard file:
  - Select the view contoller which you want to be the root of the navigation controller.
  - From menu bar select :

    Editor → Embed in → Navigation Controller.

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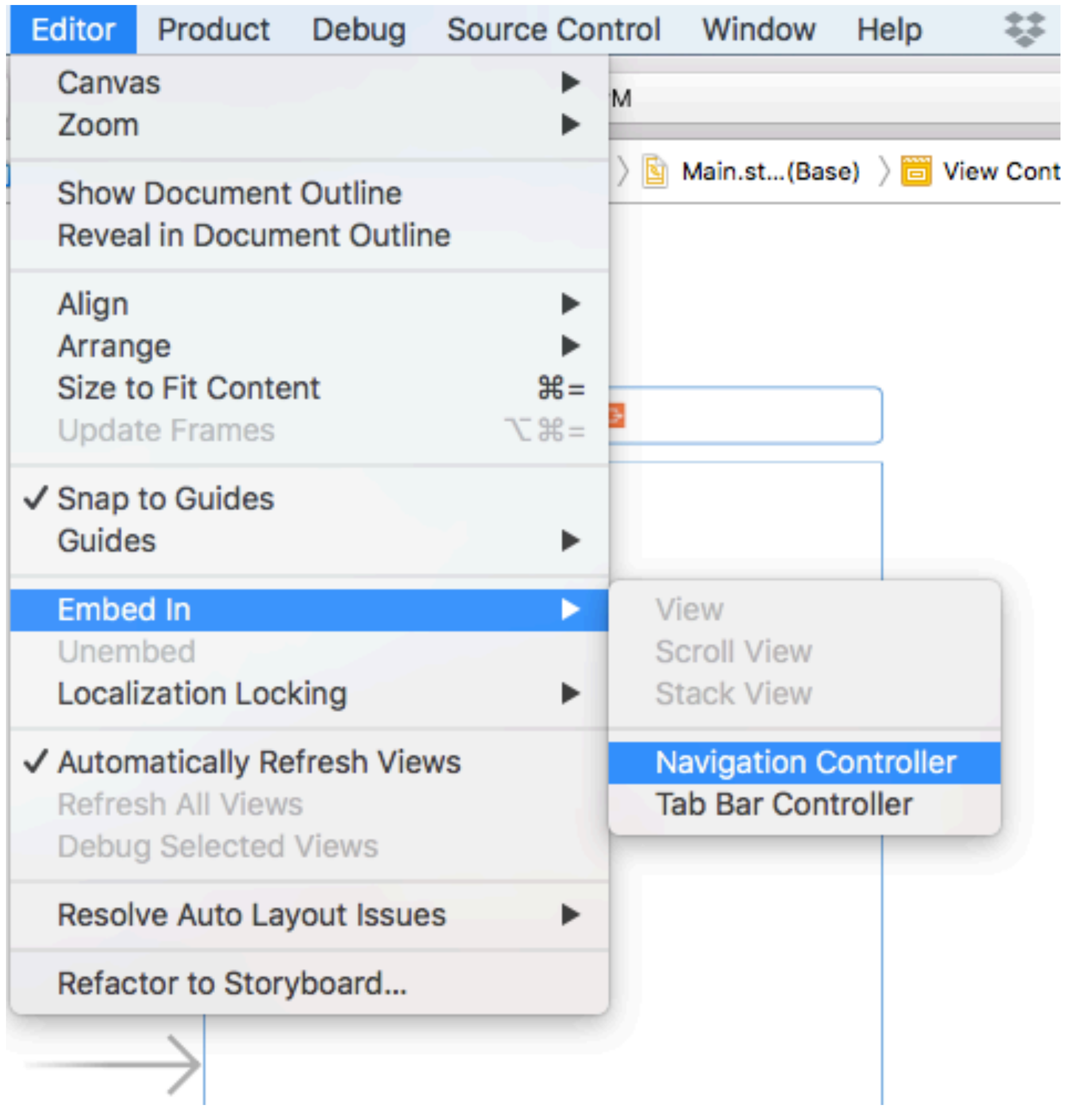
UINavigationController Cont.



Objective-C

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Navigation Controller Demo

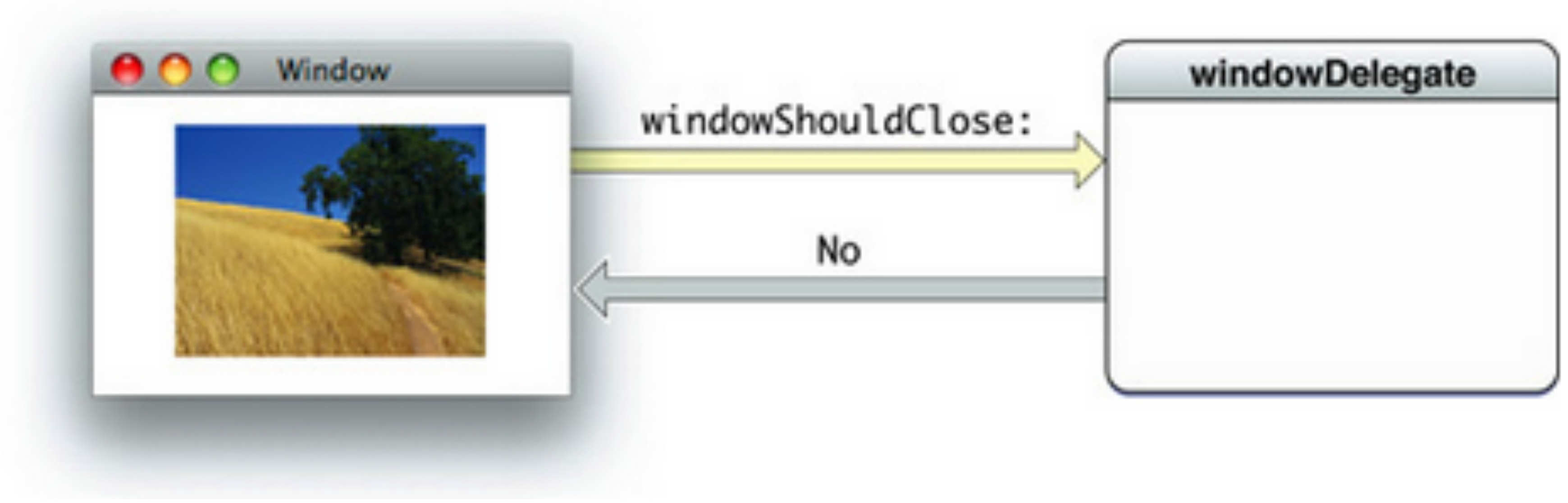
Objective-C

Delegation

Delegate

- A delegate class is a class that adopts a protocol for handling events.
- Each delegate protocol specifies a number of methods (Call back methods) that must be implemented, and additionally methods that may optionally be implemented.
- Declaring your class a delegate implies that it (at least) implements the mandatory methods

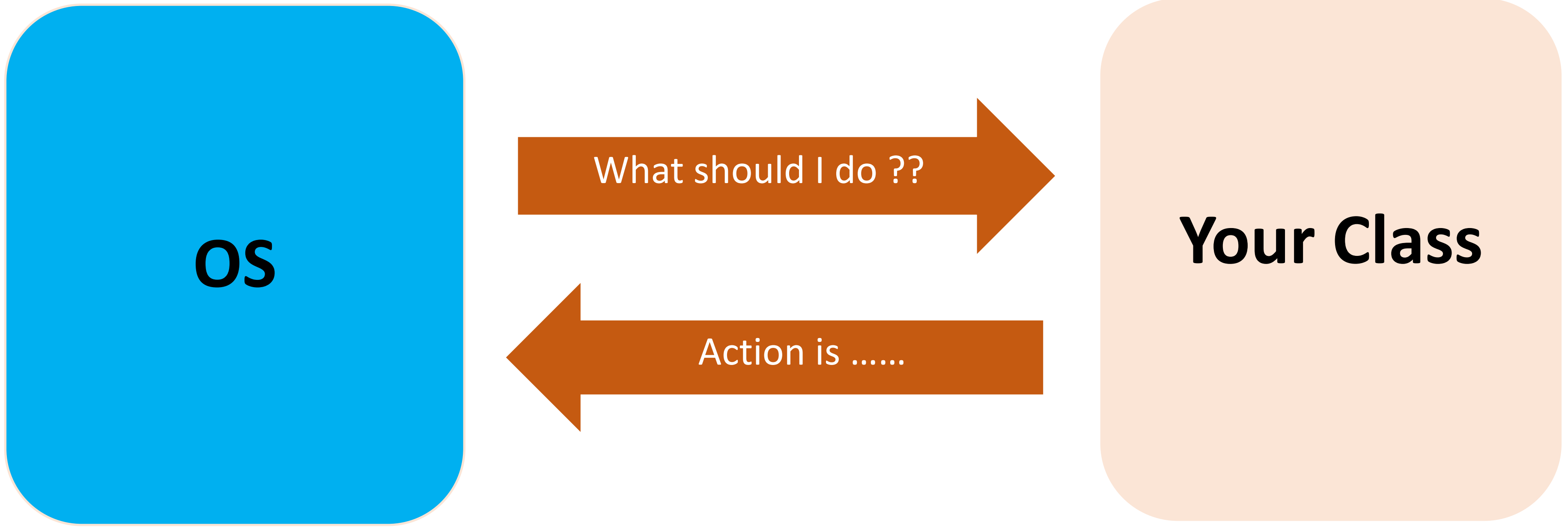
Delegate Cont.



Delegate Cont.

- An example of a delegating object is an instance of the NSWindow class of the AppKit framework.
- NSWindow declares a protocol, among whose methods is windowShouldClose: .
- When a user clicks the close box in a window, the window object sends windowShouldClose: to its delegate to ask it to confirm the closure of the window.
- The delegate returns a Boolean value, thereby controlling the behavior of the window object.

Delegate Cont.



Declared as
delegate

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Delegation Demo

Objective-C

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UITableView

Objective-C

UITableView

- Table views present the user with data in a list format and are represented by the UITableView class of the UIKit framework.
- The data is presented in rows, whereby the content of each row is implemented in the form of a UITableViewCell object.
- By default, each table cell can display a text label, a subtitle and an image or it will be custom cell
- You can create your custom cell and add your own custom functionality and appearance.

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The Table View Delegate and DataSource

- The UITableViewController conforms to:
  - UITableViewDataSource
  - UITableViewDelegate
- Each table view in an application needs to have a delegate and a dataSource associated with it

Objective-C

UITableViewDataSource

- UITableViewDataSource protocol, consists of a number of methods that define:
  - Title information.
  - How many rows of data are to be displayed.
  - How the data is divided into different sections.

UITableViewDelegate

- UITableViewDelegate protocol provides additional control over the appearance and functionality of the table view such as
  - Detecting when a user touches a specific row.
  - Defining custom row heights and indentations.
  - Providing Implementation of row deletion and editing functions.

Table View Styles

- Table views may be configured to use either *plain* or *grouped* style.
- In the grouped style, the rows are grouped together in sections represented by rounded rectangles.

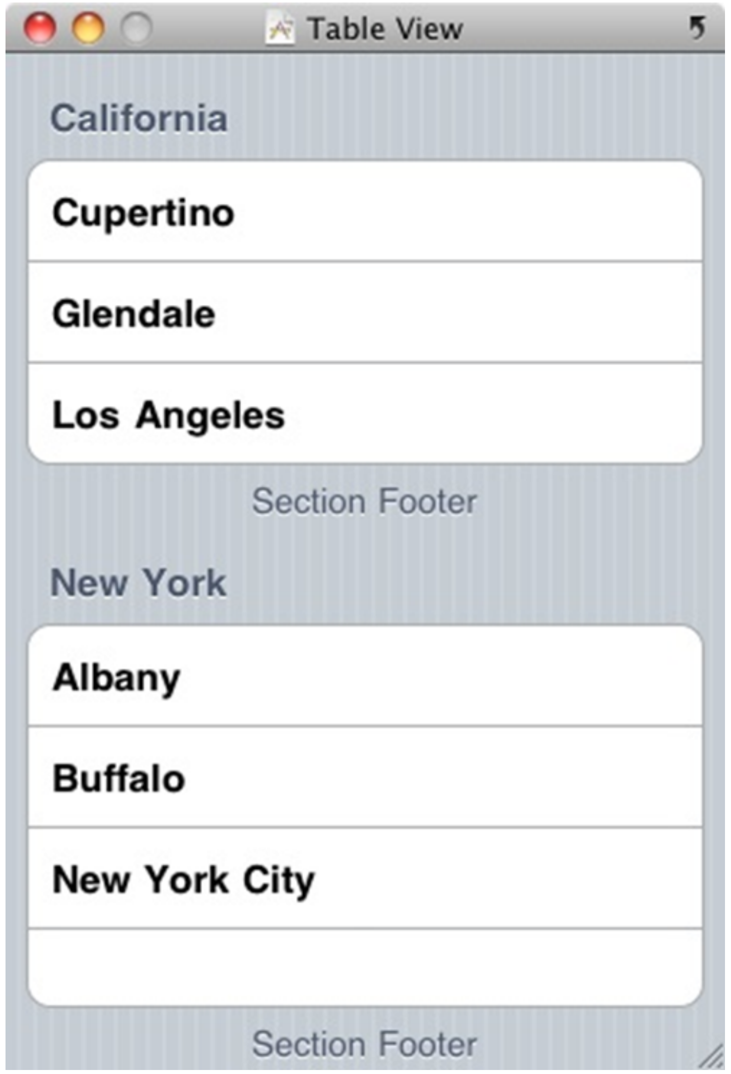
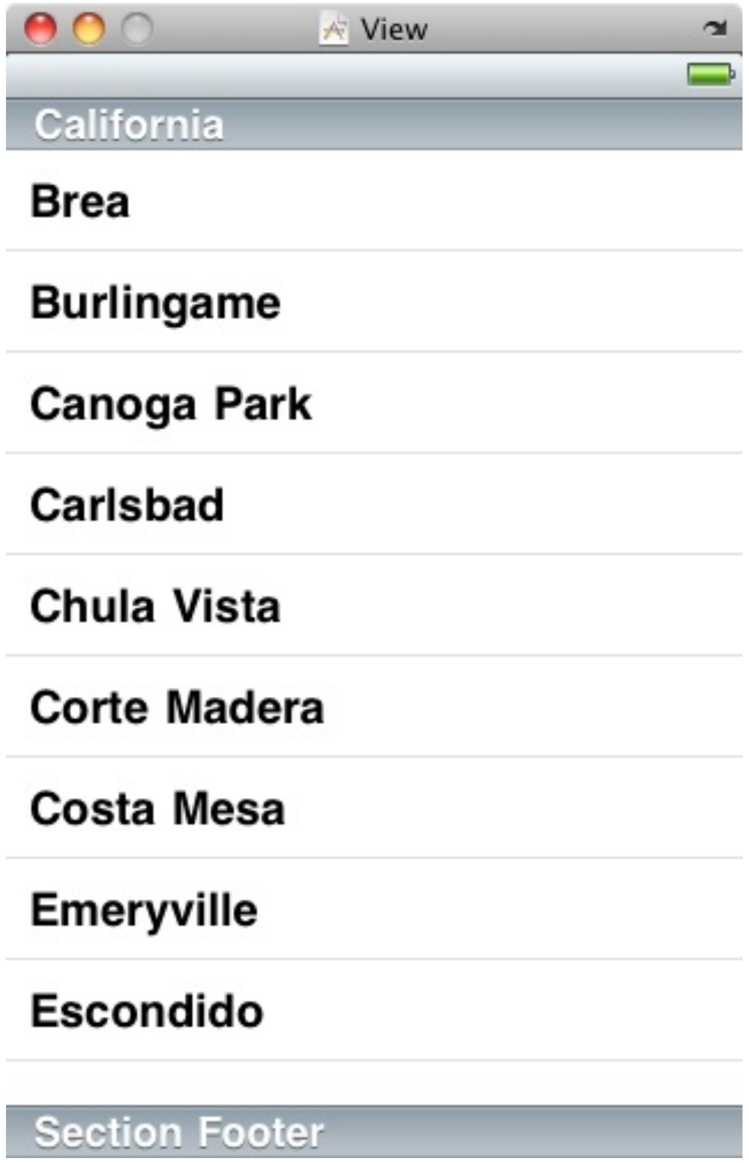


Table View Styles Cont.

- In the case of the plain style, the items are listed without separation and using the full width of the display.


View

California

Brea

Burlingame

Canoga Park

Carlsbad

Chula Vista

Corte Madera

Costa Mesa

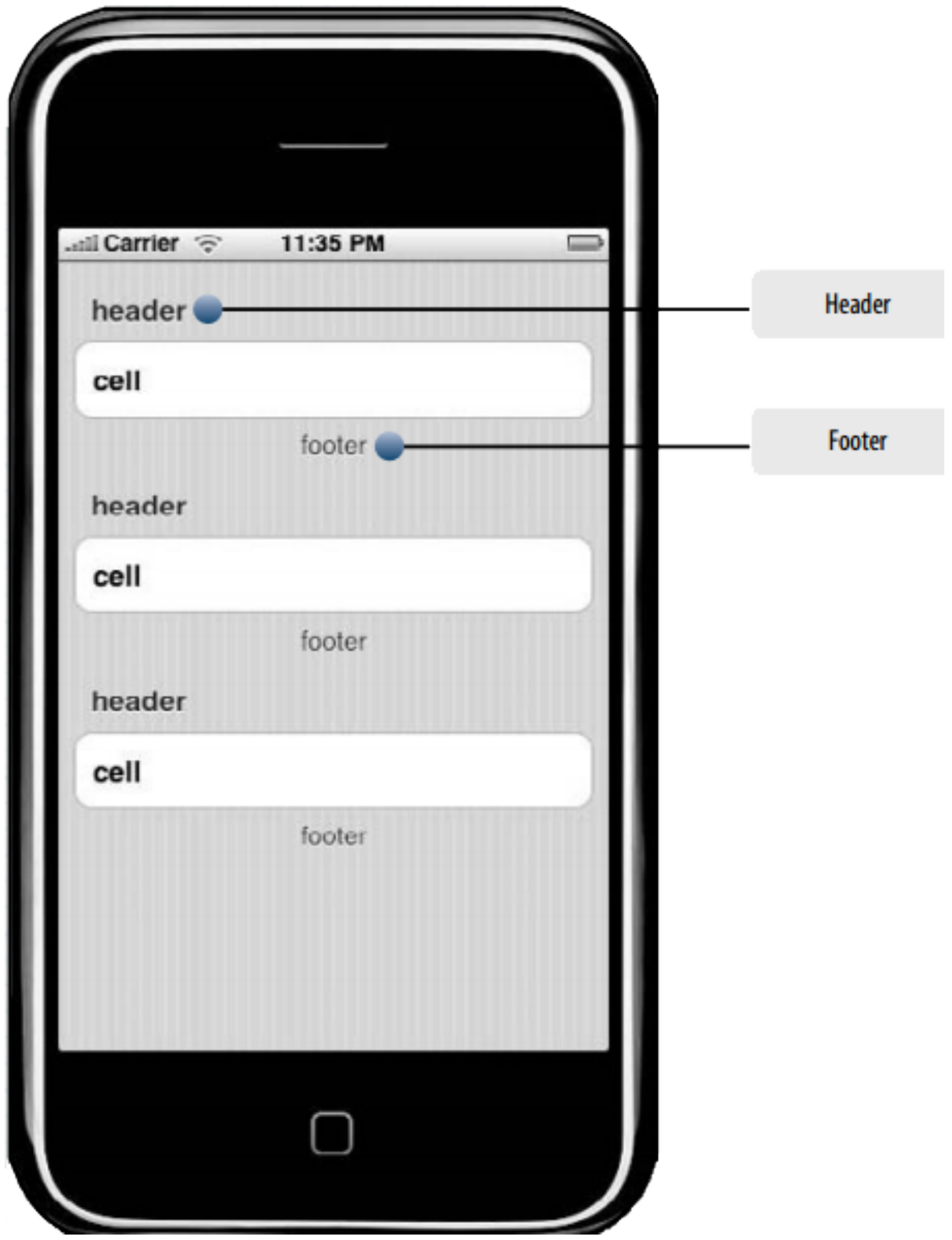
Emeryville

Escondido

Section Footer

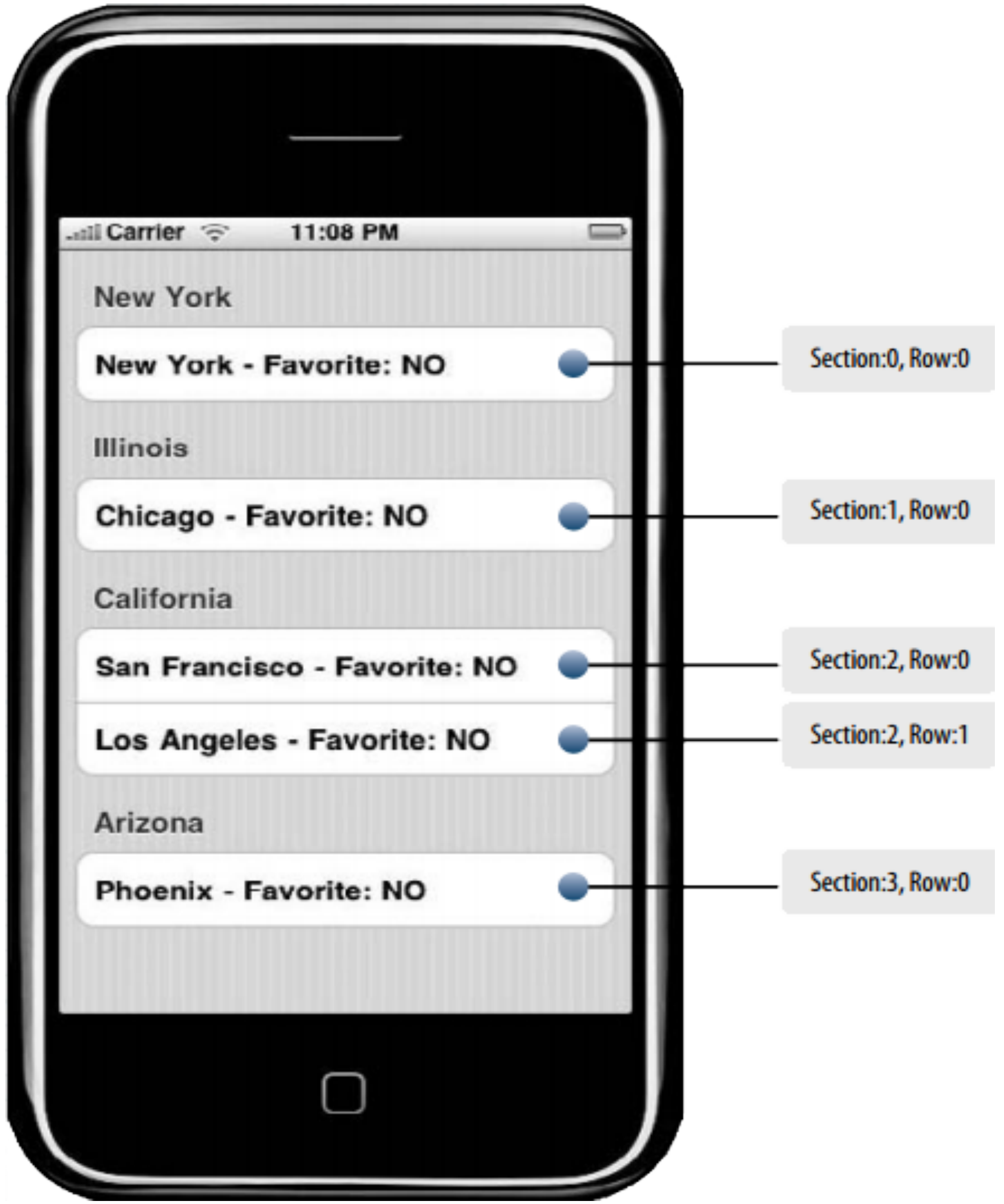
Objective-C

Table View Styles Cont.

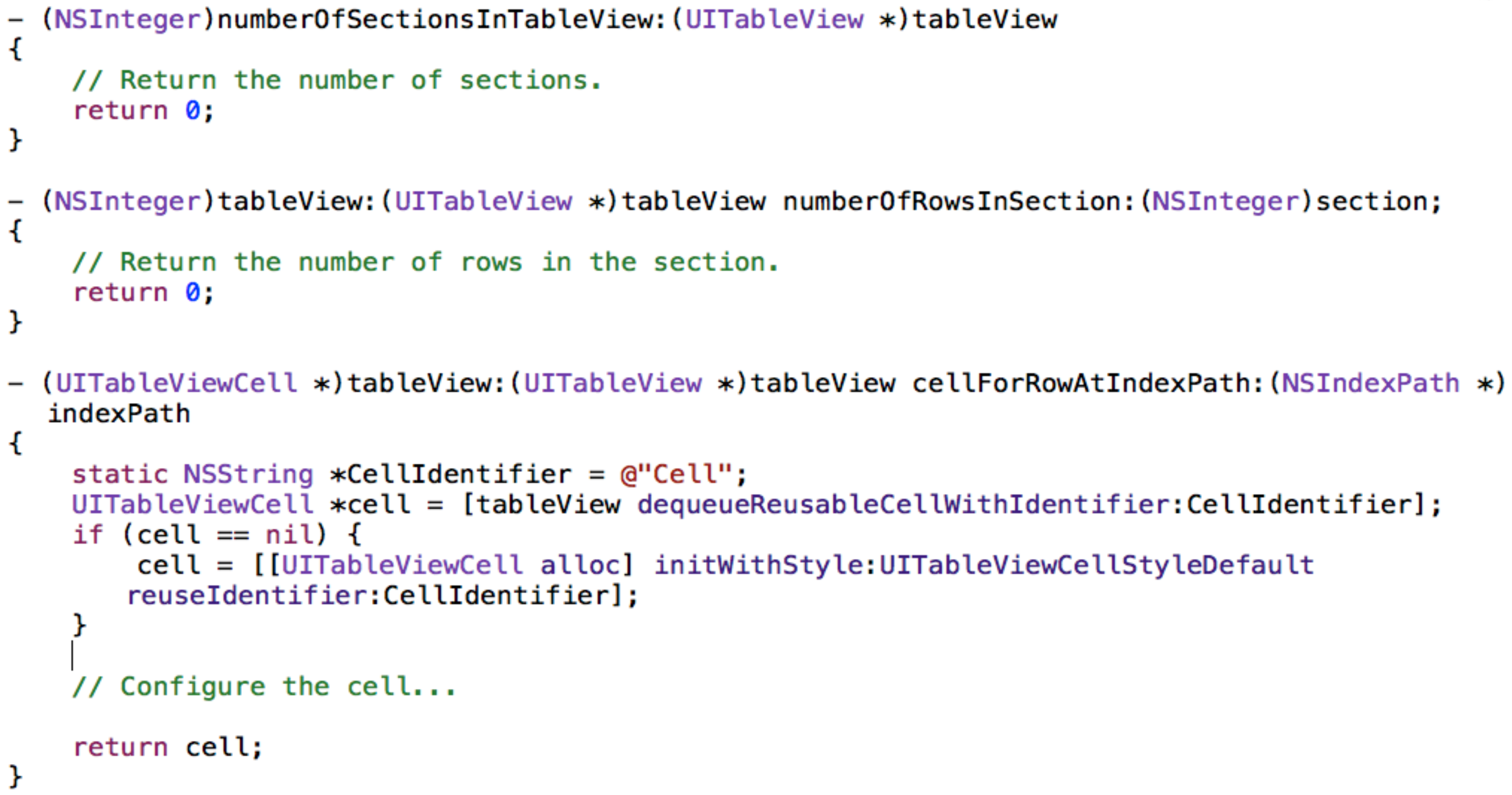


NSIndexPath

- It is the class used to identify elements in the UITableView.
- It simply holds a section index and row index.



Methods

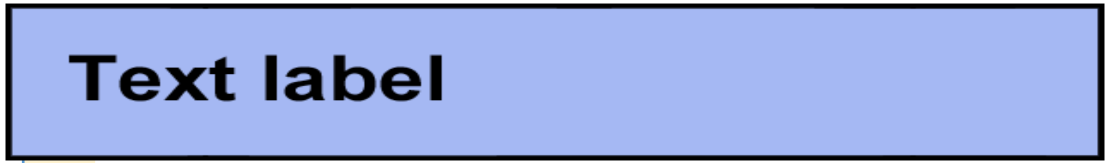


```
- (NSInteger)numberOfSectionsInTableView:(UITableView *)tableView
{
    // Return the number of sections.
    return 0;
}

- (NSInteger)tableView:(UITableView *)tableView numberOfRowsInSection:(NSInteger)section;
{
    // Return the number of rows in the section.
    return 0;
}

- (UITableViewCell *)tableView:(UITableView *)tableView cellForRowAtIndexPath:(NSIndexPath *)
  indexPath
{
    static NSString *CellIdentifier = @"Cell";
    UITableViewCell *cell = [tableView dequeueReusableCellWithIdentifier:CellIdentifier];
    if (cell == nil) {
        cell = [[UITableViewCell alloc] initWithStyle:UITableViewCellStyleDefault
       reuseIdentifier:CellIdentifier];
    }

    // Configure the cell...

    return cell;
}
```

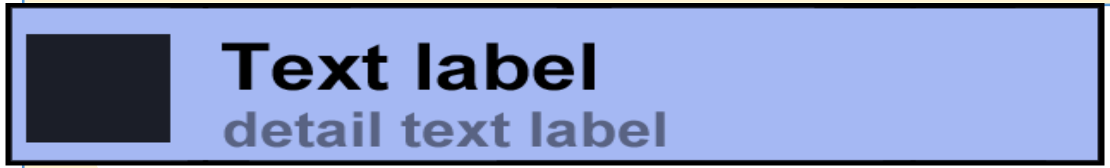
UITableViewCell

- It is a child of UIView.
- It represents a table cell.
- It contains more than text, you can place a button, an image or detailed text.
- UITableViewCell is initiated by certain style.

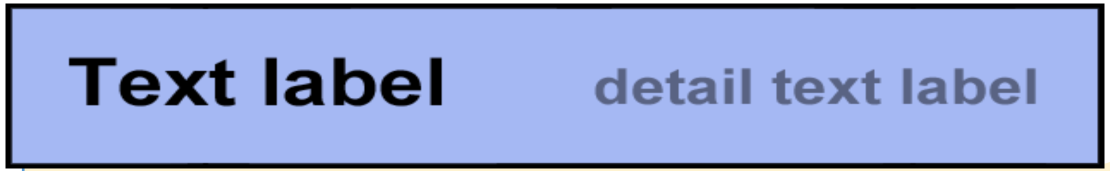
UITableViewCell Styles



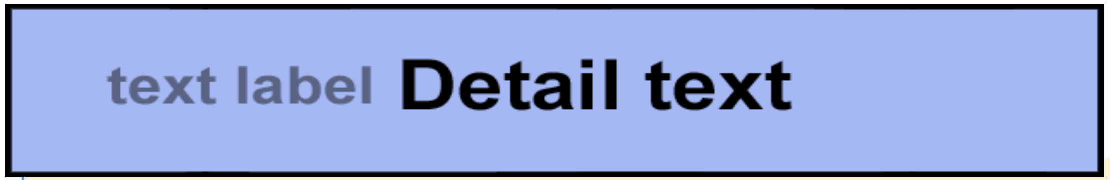
- UITableViewCellStyleDefault



- UITableViewCellStyleSubtitle



- UITableViewCellStyleValue1



- UITableViewCellStyleValue2

Accessories

- It is an indicator appears by the end of the cell.
  - UITableViewCellAccessoryDisclosureIndicator ›
  - UITableViewCellAccessoryCheckmark ✓
  - UITableViewCellAccessoryDetailDisclosureButton ➔

Cell Method Example

```
- (UITableViewCell *)tableView:(UITableView *)tableView cellForRowAtIndexPath:(NSIndexPath *)
   indexPath
{

    static NSString *CellIdentifier = @"Cell";
    UITableViewCell *cell = [tableView dequeueReusableCellWithIdentifier:CellIdentifier];
    if (cell == nil) {
        cell = [[UITableViewCell alloc] initWithStyle:UITableViewCellStyleDefault
       reuseIdentifier:CellIdentifier];
    }

    cell.textLabel.text = [myArray objectAtIndex:indexPath.row];

    cell.imageView.image = [myImages objectAtIndex:indexPath.row];

    cell.detailTextLabel.text = [mySubtitles objectAtIndex:indexPath.row];

    cell.accessoryType = UITableViewCellAccessoryNone;


    return cell;
}
```

Objective-C

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Table View Demo

Objective-C

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Lab Exercise

Objective-C

1.Navigation Controller

- Create an application with a UINavigationController
  - In the first view you have a text field and button (send).
  - When you enter your name in the text field and click send button you should move to another viewcontroller which have a label with text (Hello + your name).
  - When you press Done button (Right button) in the second view you should back to the first view with empty text field.

2.Colleagues

- Create an application with a table with your colleagues names.

- Group your colleagues to two groups male / female

3.Colleagues Details

- Update your colleagues application where each of colleague should have:
    - Name
    - Phone
    - Age
    - E-mail
    - Address
- When a certain colleague is selected his / her details should be viewed in another view.