Mobile Applications Development 2 (MAD2)

Diploma in IT

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NGEE ANN
SCHOOL OF INFOCOMM TECHNOLOGY

Chapter 4
iOS User Interface II

Objectives

To be able to understand:

- Storyboard Segue
- UITableView
  - Delegate
  - DataSource

Recall practical 3

- Creating UI without the use of Storyboard
- iOS 13 SceneDelegate (UIScene toolkit)
- Suitable for multiple instances (e.g. 2 web browsers on iPad)

Storyboard

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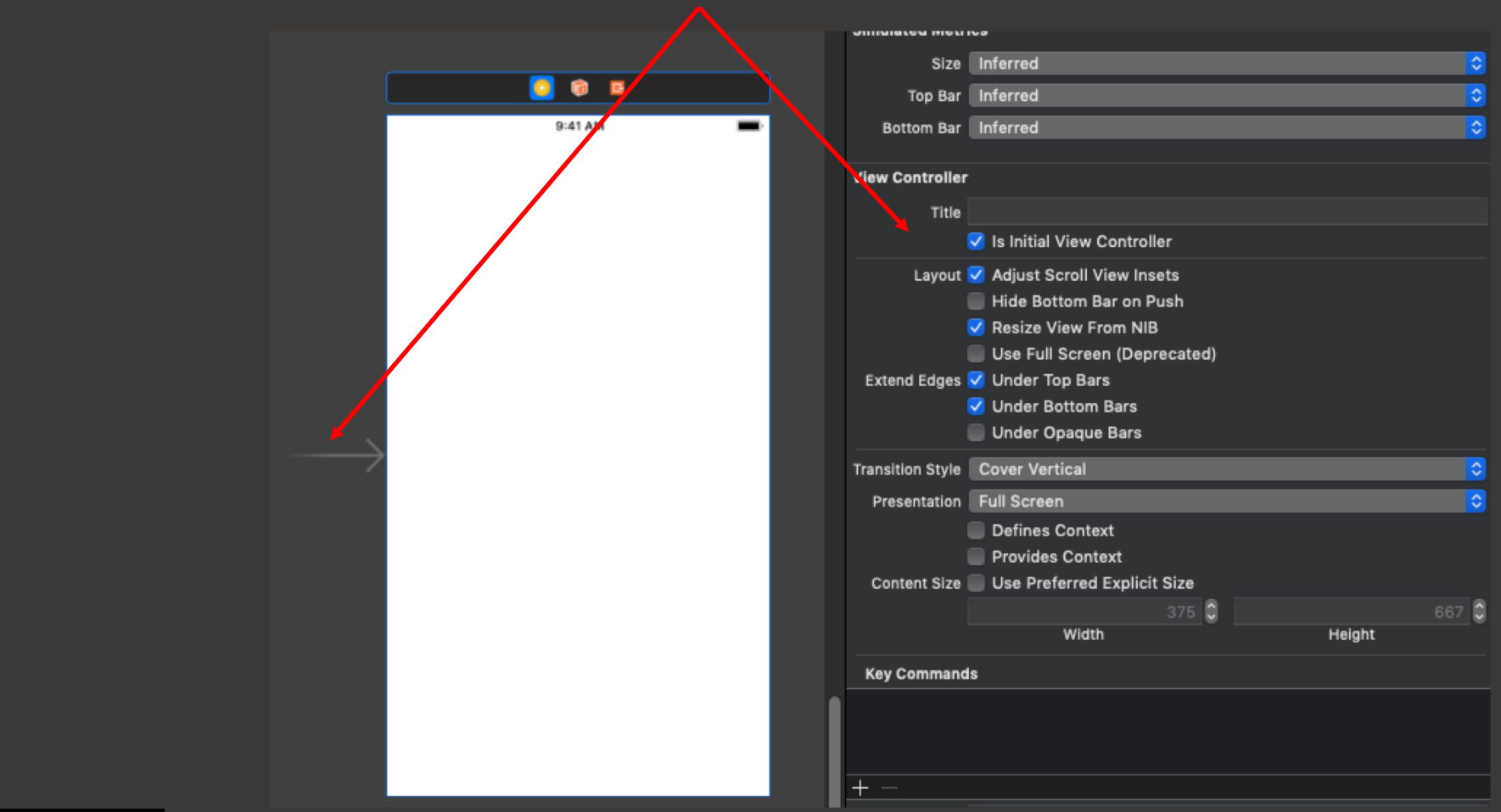
Storyboard

- You can visually layout all your view controllers in “scenes” and describe the connections between them. With a storyboard you’ve a better conceptual overview of all the scenes in your app.
- Describe the transitions between the various scenes. These transitions are called “segues” and you create them by connecting your view controllers in the storyboard.
- Segues allow you to code less and focus more on the UI.

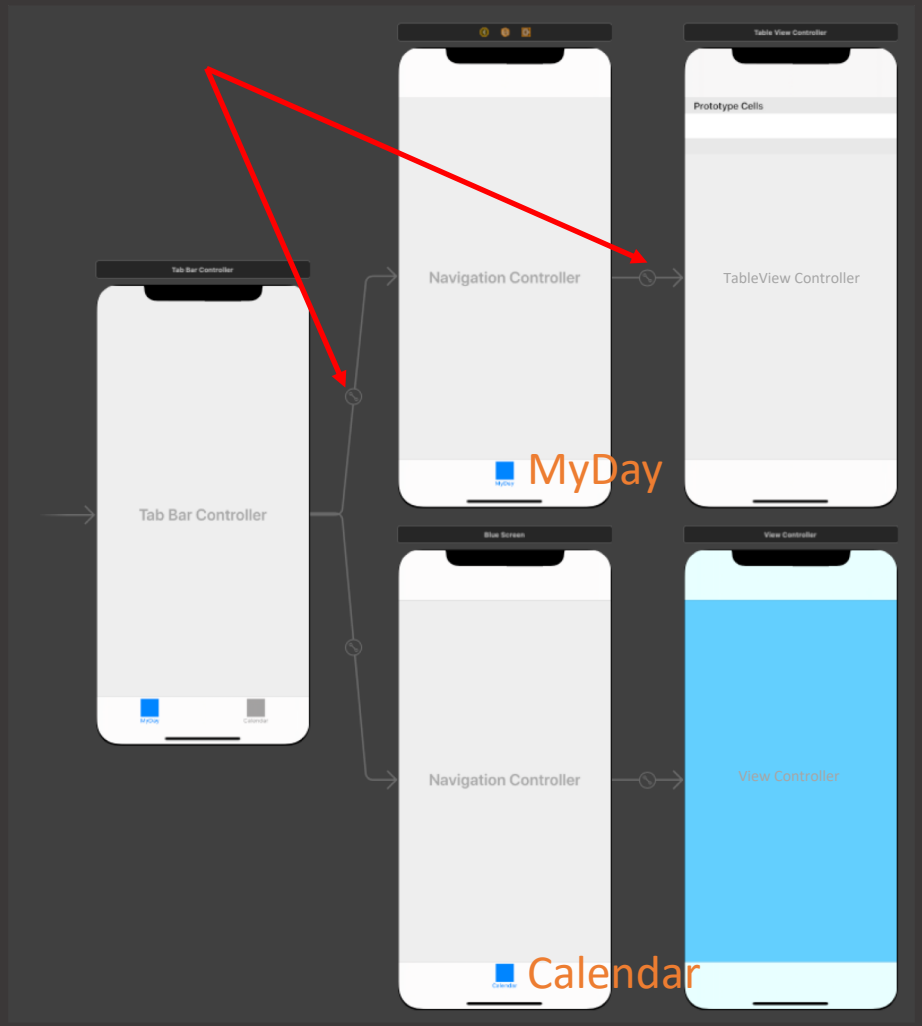
Storyboard

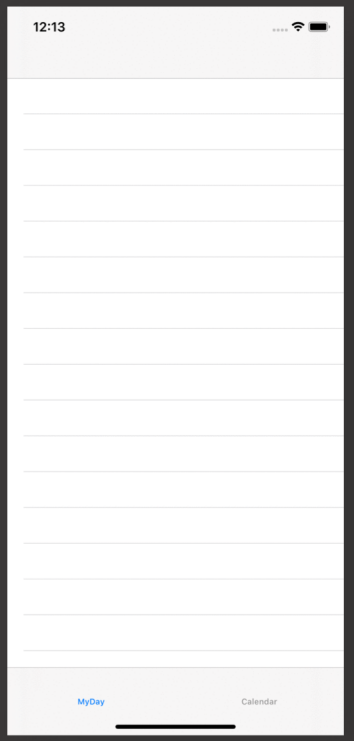
- Make working with table views a lot easier with prototype and static cells features. You can design your table views almost completely in the storyboard editor, cutting down the amount of code you have to write.
- Make it easier to use Auto Layout, a feature that allows you to define mathematical relationships between elements defining their position and sizing.

Initial View Controller



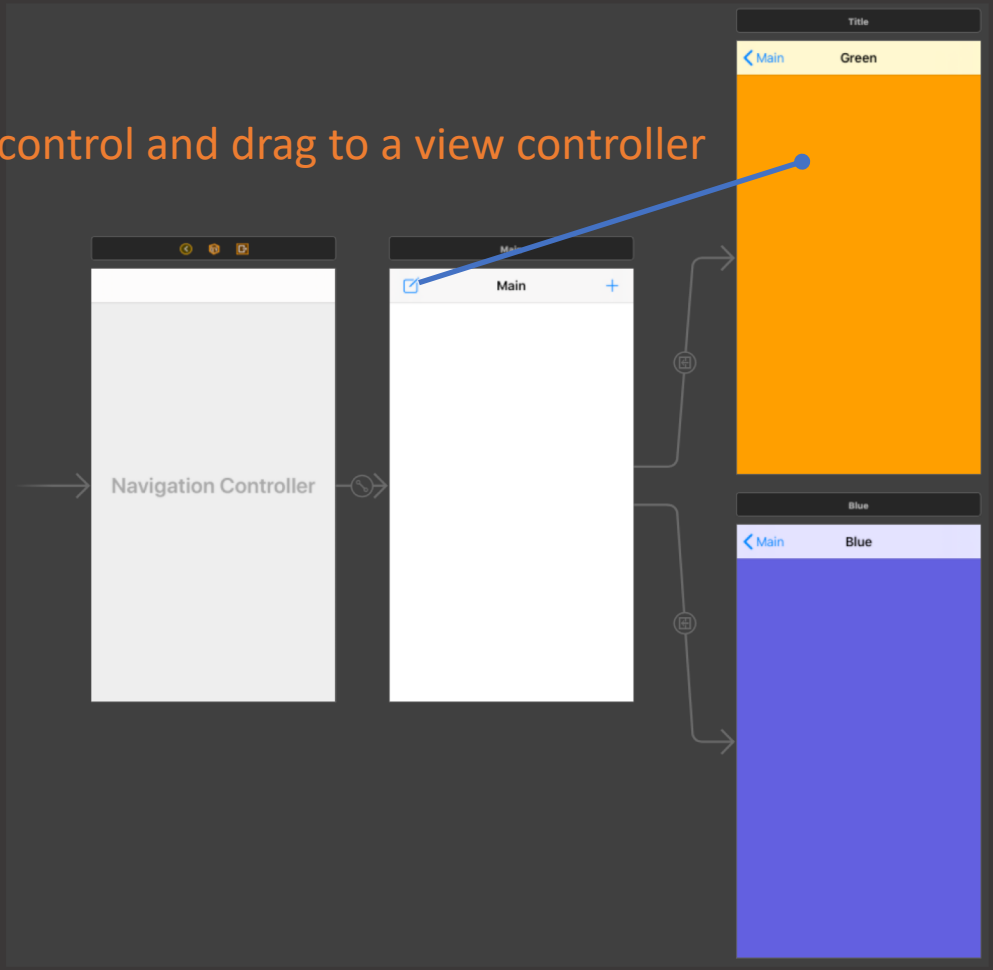
Storyboard Segue



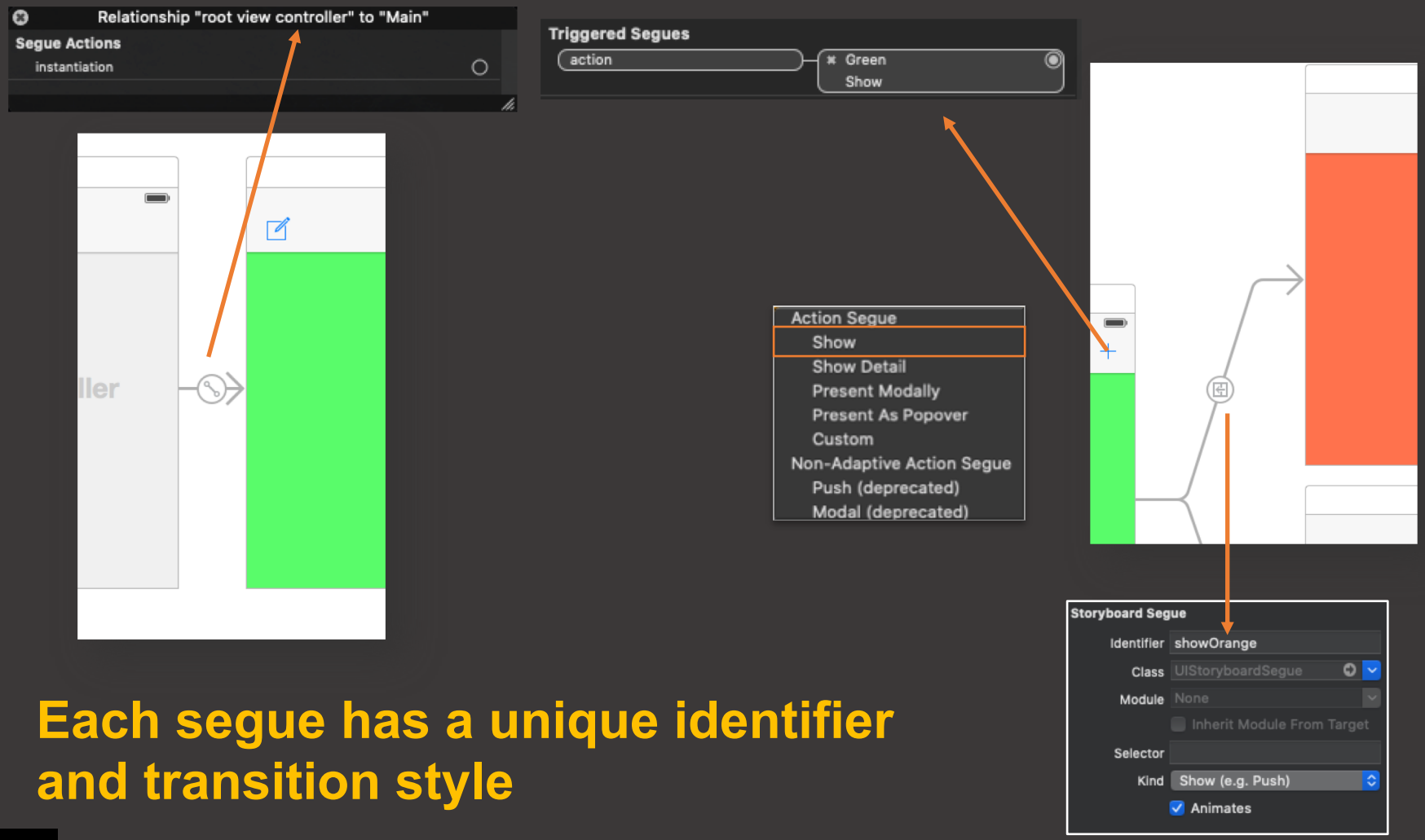


Storyboard Segue

Ctrl-click a control and drag to a view controller



Storyboard Segue

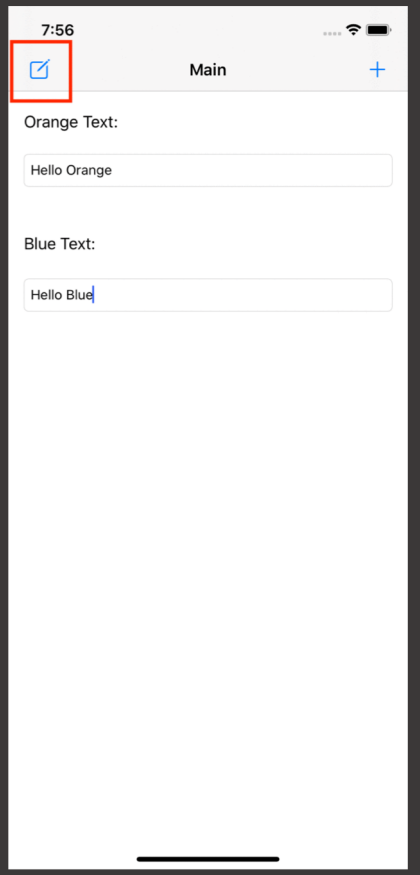


Each segue has a unique identifier and transition style

Storyboard Segue

- To pass data between controllers

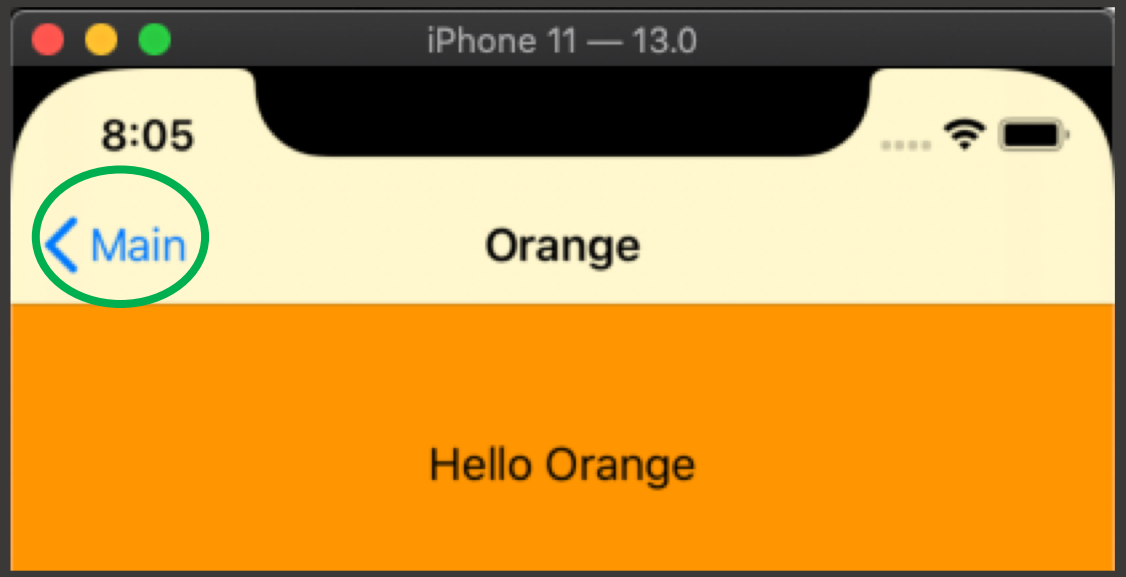
```
override func prepare(for segue: UIStoryboardSegue, sender: Any?) {
    if (segue.identifier == "showOrange"){
        (segue.destination as! OrangeViewController).dataOrange
            = txtValueforOrange.text
    } else {
        if (segue.identifier == "showBlue"){
            (segue.destination as! BlueViewController).dataBlue
                = txtValueforBlue.text
        }
    }
}
```



- Implement the above method in the originating controller, e.g. MainViewController

Storyboard Segue

- Button to navigate back



UITableView

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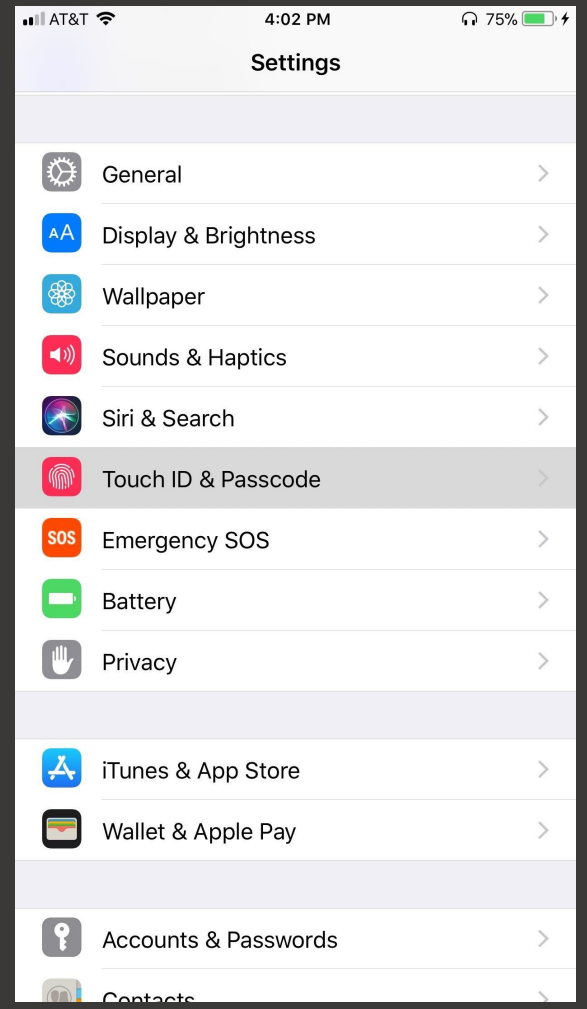
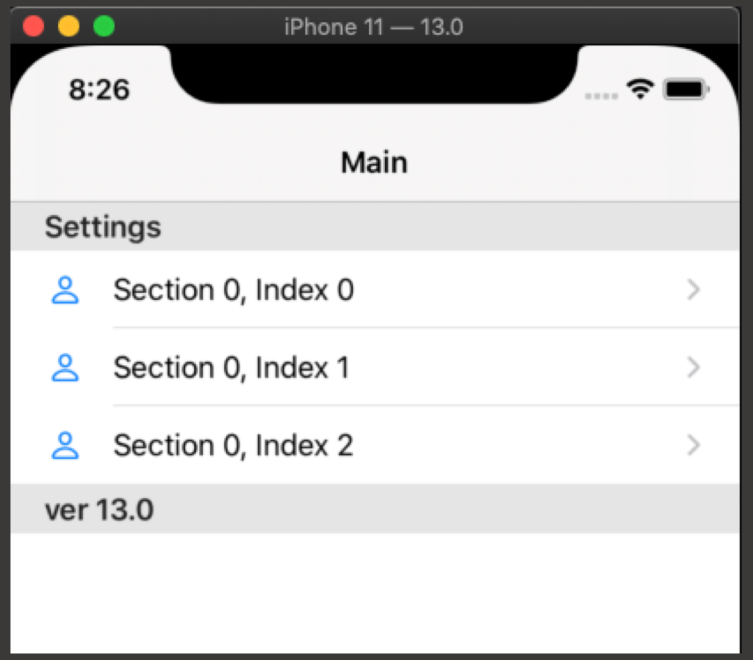
UITableView

- A scrollable list of items that may be divided into sections
- User can navigate hierarchically structured data
- Display an indexed list of items
- To display information in visually distinct groupings
- Present a list of options



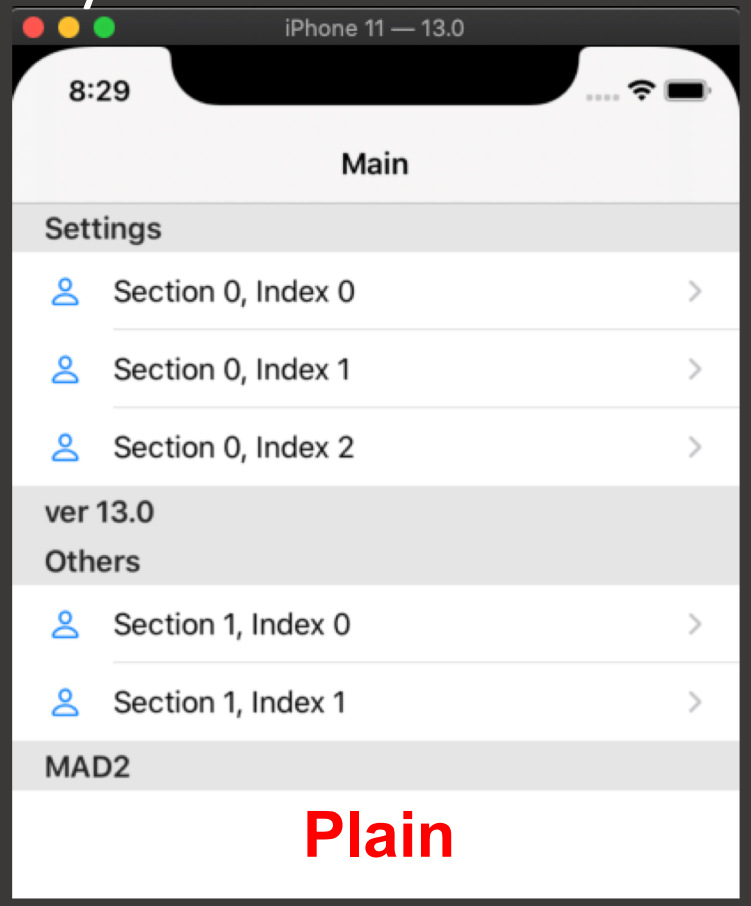
UITableView

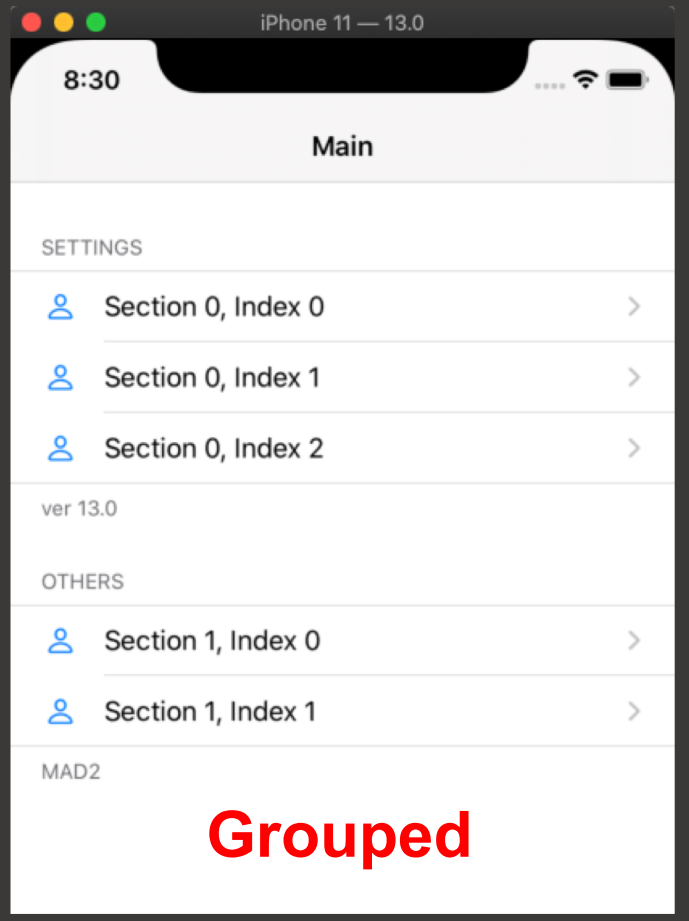
- Key concepts
  - Sections
    - Header
    - Footer
  - Rows in each section
  - Cell in each row
    - Static vs dynamic content
    - Default vs custom layout
  - UITableViewDelegate to handle events
  - UITableViewDataSource protocol to provide data



UITableView

- Different Styles





UITableView

- Specify number of section

```
override func numberOfSections(in tableView: UITableView) -> Int {
    return 2
}
```

- Specify number of rows

```
var sectionOneitems:[String] = ["One", "Two", "Three"]
var sectionTwoitems:[String] = ["Ten", "Twenty"]
override func tableView(_ tableView: UITableView, numberOfRowsInSection
section: Int) -> Int {
        switch(section) {
        case 0: return sectionOneitems.count
        case 1: return sectionTwoitems.count
        default: return 0
}
```

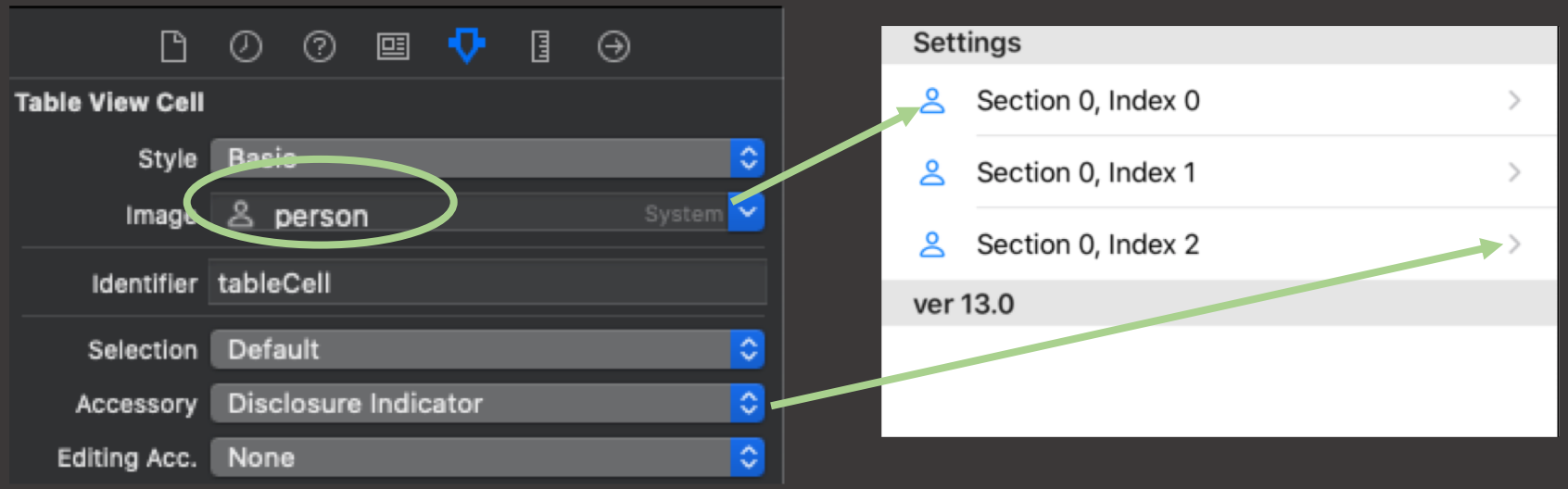
UITableView DataSource Protocol

- Populate each row from with value from DataSource e.g. database, array

```
override func tableView(_ tableView: UITableView, cellForRowAt indexPath:
IndexPath) -> UITableViewCell {
      let cell = self.tableView.dequeueReusableCell("tableCell",
        for: indexPath)
        switch ((indexPath as NSIndexPath).section) {
          case 0: cell.textLabel?.text = self.sectionOneitems[(indexPath as
                                          NSIndexPath).row]
          case 1: cell.textLabel?.text = self.sectionTwoitems[(indexPath as
                                          NSIndexPath).row]
          default: cell
        }
        return cell
}
```

UITableView DataSource Protocol

- Populate each row from with value from DataSource e.g. database, array



UITableView

- Title in Headers and Footers

```
override func tableView(_ tableView: UITableView, titleForHeaderInSection
section: Int) -> String? {
        switch(section) {
        case 0: return String(sections[0])
        case 1: return String(sections[1])
        default: return ""
        }

override func tableView(_ tableView: UITableView, titleForFooterInSection
section: Int)-> String? {
        return ""
    }
```

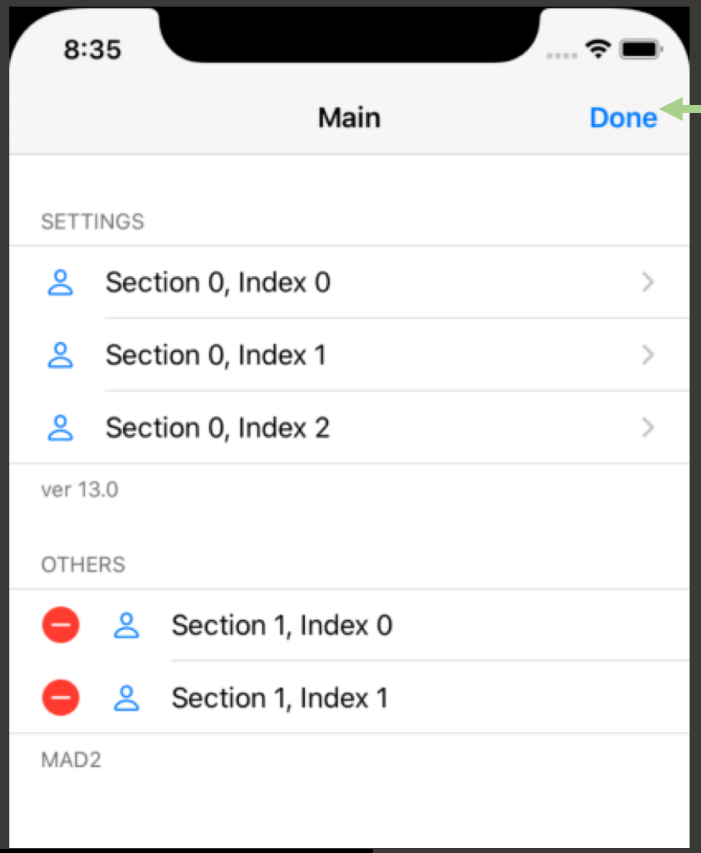
UITableView

- Row Selected

```
// when a table row is selected, the following delegate is called

override func tableView(_ tableView: UITableView, didSelectRowAt indexPath: IndexPath)
{
   let alert = UIAlertController(title: "Item selected",
        message: "You selected section\(indexPath.section) : item \(indexPath.row)",
        preferredStyle: UIAlertControllerStyle.alert)

   alert.addAction(UIAlertAction(title: "OK", style: UIAlertActionStyle.default,
        handler: { (alert: UIAlertAction!) in print("An alert was tapped!")}))

   self.present(alert, animated: true, completion: nil)
}
```

UITableView

- Editing

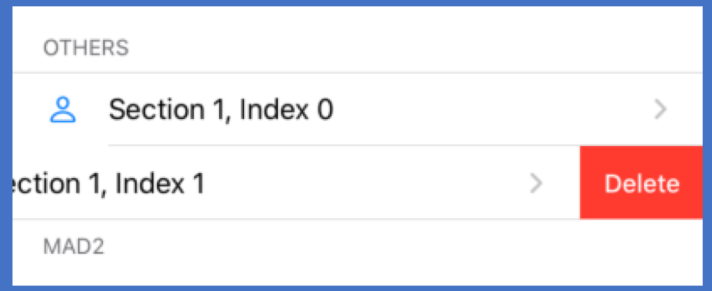



```
override func viewDidLoad() {
  super.viewDidLoad()
  self.navigationItem.rightBarButtonItem = self.editButtonItem
}
```

```
override func tableView(_ tableView: UITableView, canEditRowAt
indexPath: IndexPath) -> Bool {
        if indexPath.section == 0 {
            return false
        }
        else {
          return true
        }
    }
```

UITableView

```
override func tableView(_ tableView: UITableView, commit editingStyle:
        UITableViewCell.EditingStyle, forRowAt indexPath: IndexPath) {

        if editingStyle == UITableViewCell.EditingStyle.delete {
                    if indexPath.section == 0 {
                        sectionOneitems.remove(at: indexPath.row)
                    }
                    else {
                        sectionTwoitems.remove(at: indexPath.row)
                        tableView.deleteRows(at: [indexPath as IndexPath],
                                             with: UITableView.RowAnimation.fade)
                    }
        } else if editingStyle == UITableViewCell.EditingStyle.insert {
                    // Create a new instance of the appropriate class, insert it into the array,
                    // and add a new row to the table view.

                }

    }
```



Summary

Understand Storyboard Segue and UITableView