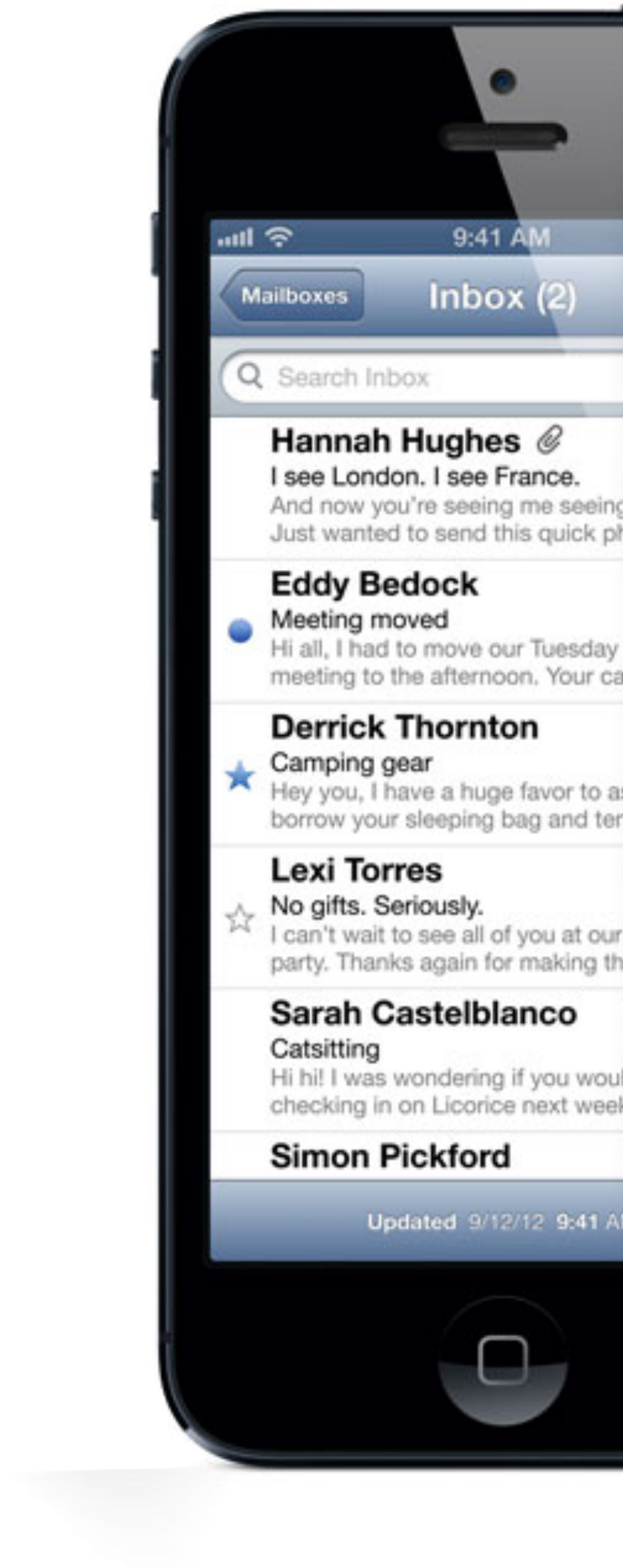
Praktikum Entwicklung von Mediensystemen mit iOS

Sommersemester 2013

Fabius Steinberger, Dr. Alexander De Luca

Today

- Table View
- Navigation Controller
- Passing Data Between Scenes
- Assignment 2



Hannah Hughes
I see London. I see France.
And now you're seeing me seeing
Just wanted to send this quick pl

Eddy Bedock
Meeting moved
Hi all, I had to move our Tuesday
meeting to the afternoon. Your ca

Derrick Thornton
Camping gear
Hey you, I have a huge favor to a
borrow your sleeping bag and ter

Lexi Torres
No gifts. Seriously.
I can't wait to see all of you at our
party. Thanks again for making th

Sarah Castelblanco
Catsitting
Hi hi! I was wondering if you wou
checking in on Licorice next weel

Simon Pickford

Navigation-based Apps (iPhone)

- Master View Controller: A Table View displays a list of table rows. Navigate to the Detail View by selecting a table row.
- Detail View Controller: Custom content. Navigate to Master by tapping the Back Button

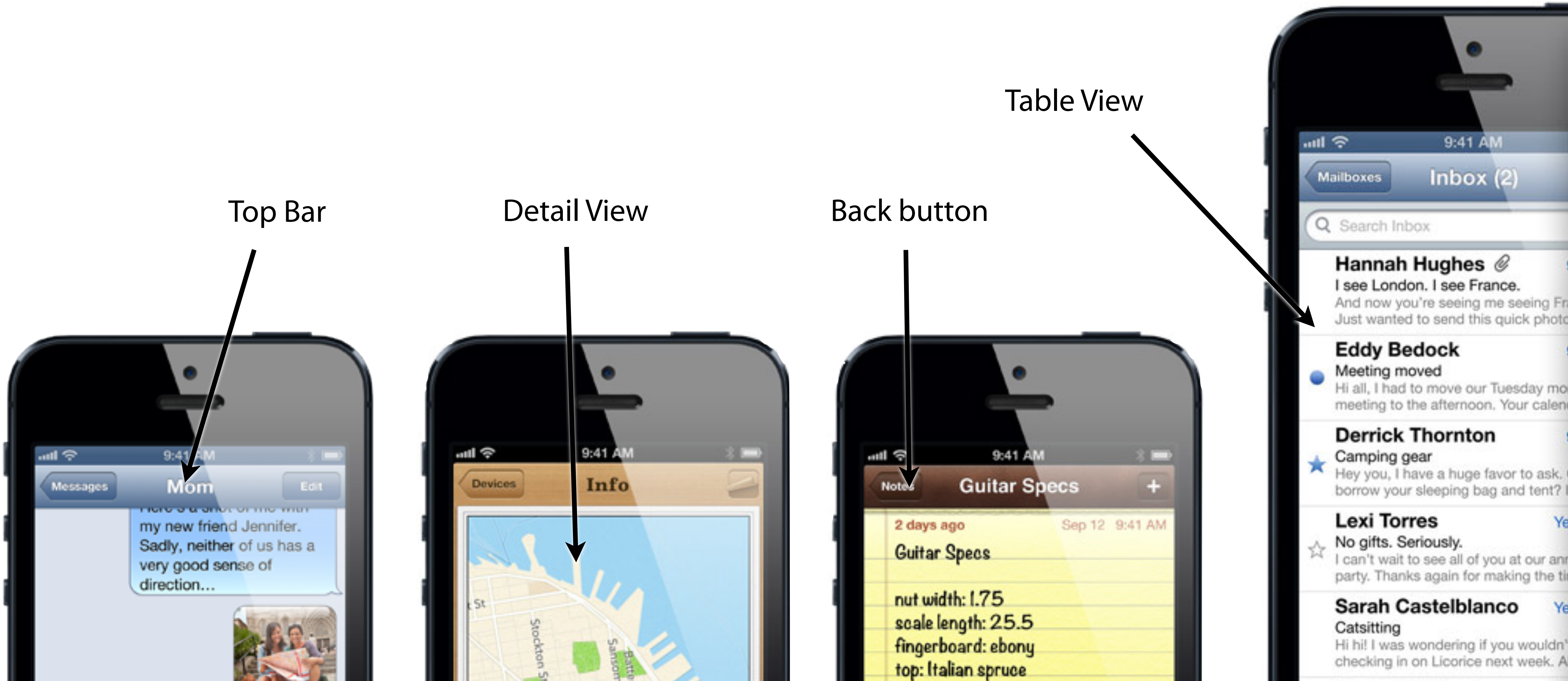


Table View

Top Bar

Detail View

Back button

my new friend Jennifer. Sadly, neither of us has a very good sense of direction...

2 days ago Sep 12 9:41 AM

Guitar Specs

nut width: 1.75
scale length: 25.5
fingerboard: ebony
top: Italian spruce

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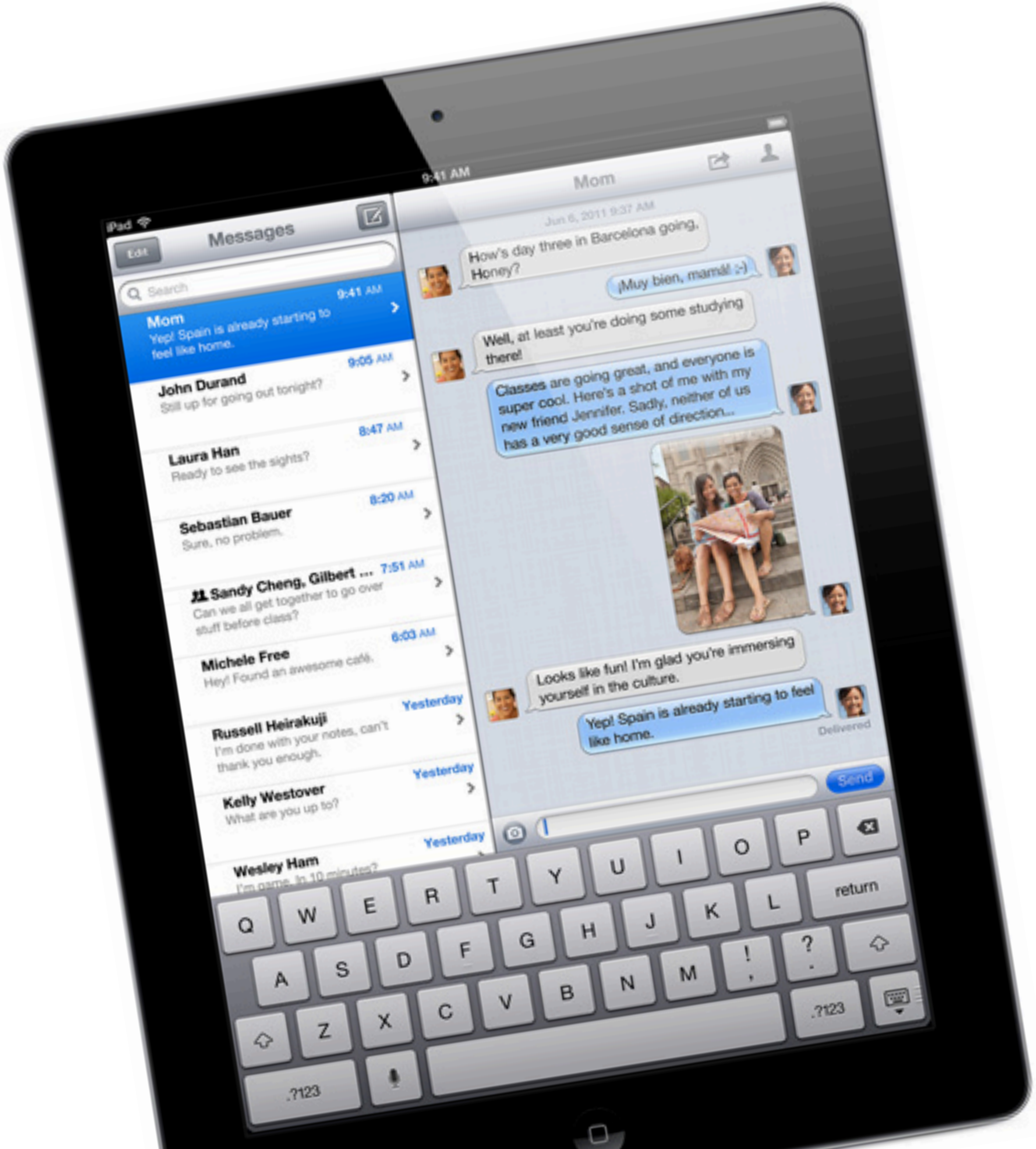
Navigation-based Apps (iPad)

- Split View: Master View and Detail View fit on one screen



Mom 9:41 AM
Yep! Spain is already starting to feel like home.

John Durand 9:05 AM
Still up for going out tonight?

Laura Han 8:47 AM
Ready to see the sights?

Sebastian Bauer 8:20 AM
Sure, no problem.

Sandy Cheng, Gilbert ... 7:51 AM
Can we all get together to go over stuff before class?

Michele Free 6:03 AM
Hey! Found an awesome café.

Russell Heirakuji Yesterday
I'm done with your notes, can't thank you enough.

Kelly Westover Yesterday
What are you up to?

Wesley Ham Yesterday
I'm game. In 10 minutes?

Mom

Jun 6, 2011 9:37 AM

How's day three in Barcelona going, Honey?

¡Muy bien, mamá! :-)

Well, at least you're doing some studying there!

Classes are going great, and everyone is super cool. Here's a shot of me with my new friend Jennifer. Sadly, neither of us has a very good sense of direction...

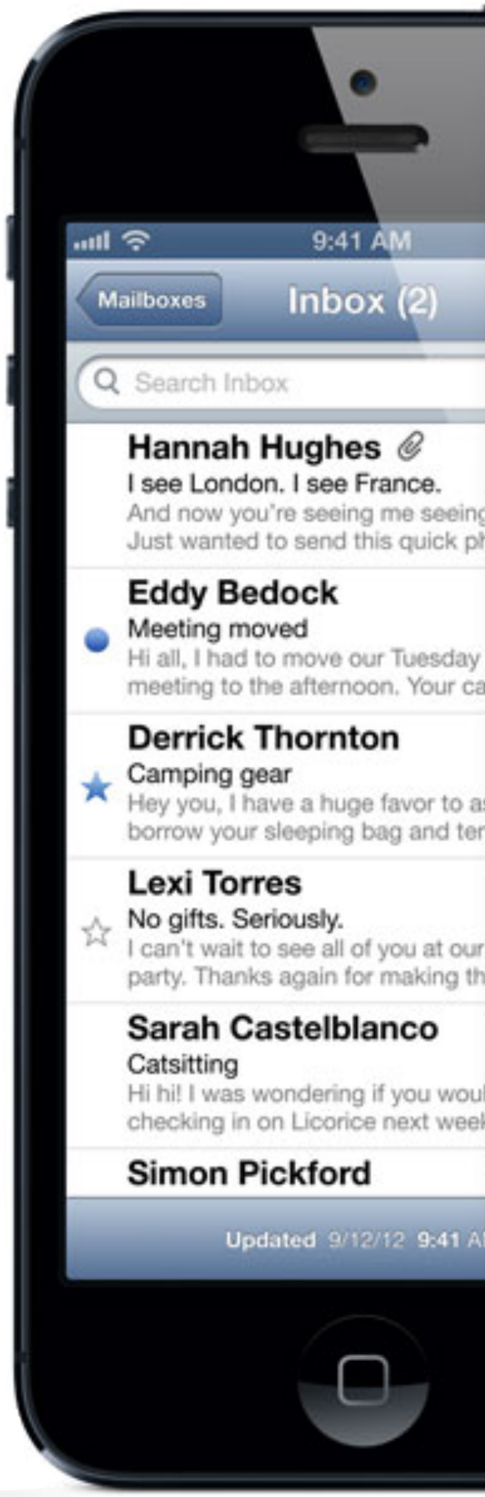
Looks like fun! I'm glad you're immersing yourself in the culture.

Yep! Spain is already starting to feel like home.

Delivered

Code

- First: Hello Table View
- Then: Hello Navigation Controller



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Simon Pickford

Updated 9/12/12 9:41 A

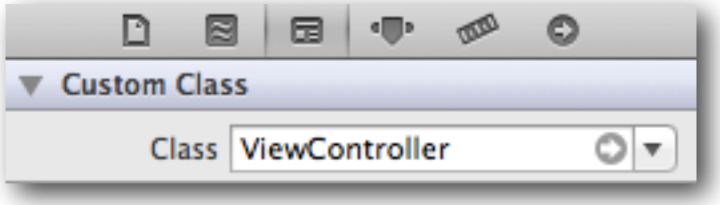
Hello Table View

- Create a new XCode Project ("Single View Application") for iPhone. (Use Storyboards and ARC)

- Change the base class of ViewController to UITableViewController and make it UITableViewDelegate and UITableViewDataSource. Add an array in .h and fill it with data in viewDidLoad in .m:

```
@interface ViewController : UITableViewController<UITableViewDelegate, UITableViewDataSource>
@property(strong, nonatomic) NSArray* tableEntries;

self.tableEntries = @[@"Blur", @"Beatles", @"Stone Roses", @"Oasis", @"Velvet Underground"];
```

- In the Storyboard, delete the scene and create a new Table View Controller. Change its class to ViewController.



Custom Class

Class: ViewController

- Select the Table View Cell and change its Identifier to "Cell".

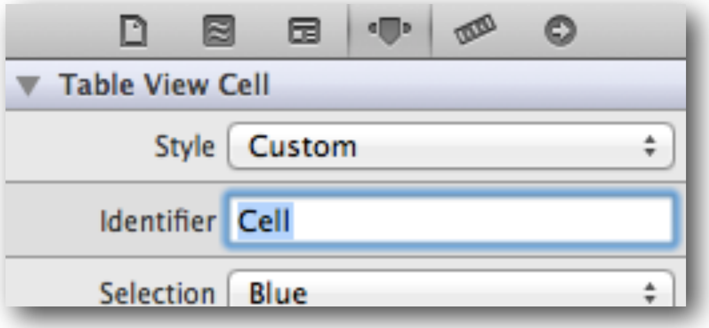


Table View Cell

Style: Custom

Identifier: Cell

Selection: Blue

Hello Table View

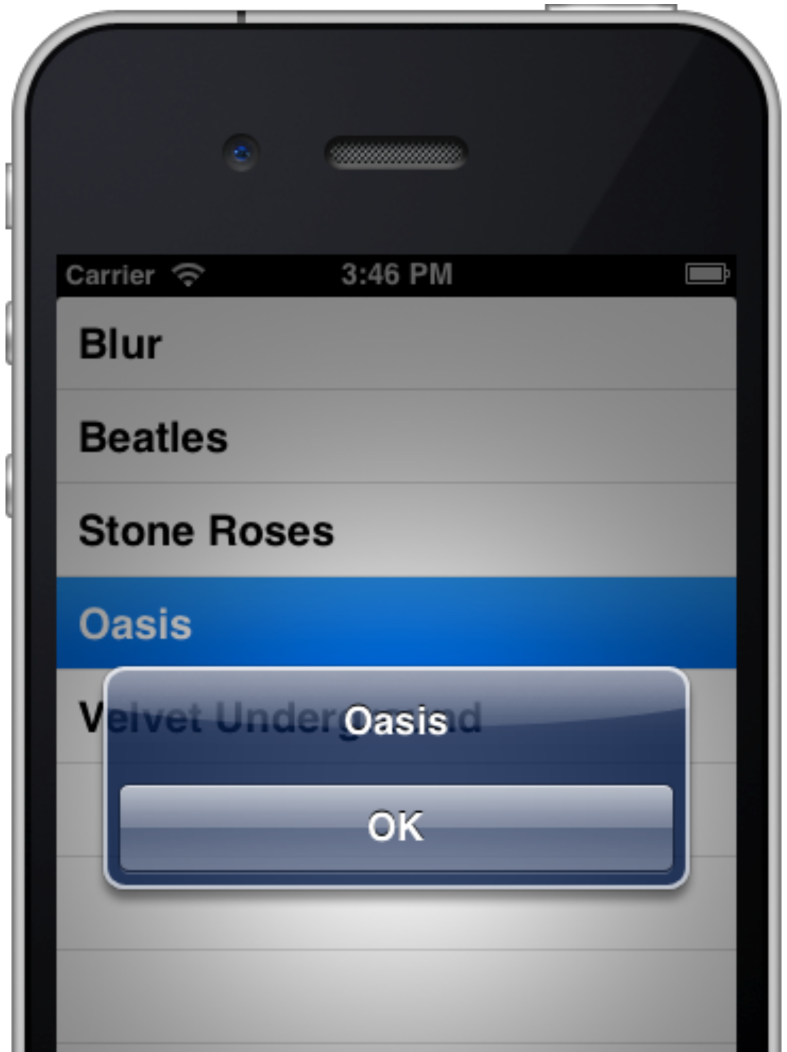
- Our table rows need to be filled with the data stored in our array. For this, implement the following methods of the Table View Data Source and Table View Delegate protocols:

```
// number of section in table
- (NSInteger)numberOfSectionsInTableView:(UITableView *)tableView {
    return 1;
}

// number of rows in our section
-(NSInteger)tableView:(UITableView *)tableView numberOfRowsInSection:(NSInteger)section {
    return [self.tableEntries count];
}

// fill table rows with content
- (UITableViewCell *)tableView:(UITableView *)tableView cellForRowAtIndexPath:(NSIndexPath *)indexPath {

    UITableViewCell *cell = [tableView dequeueReusableCellWithIdentifier:@"Cell" forIndexPath:indexPath];

    cell.textLabel.text = [self.tableEntries objectAtIndex:indexPath.row];
    return cell;
}
```

Hello Table View

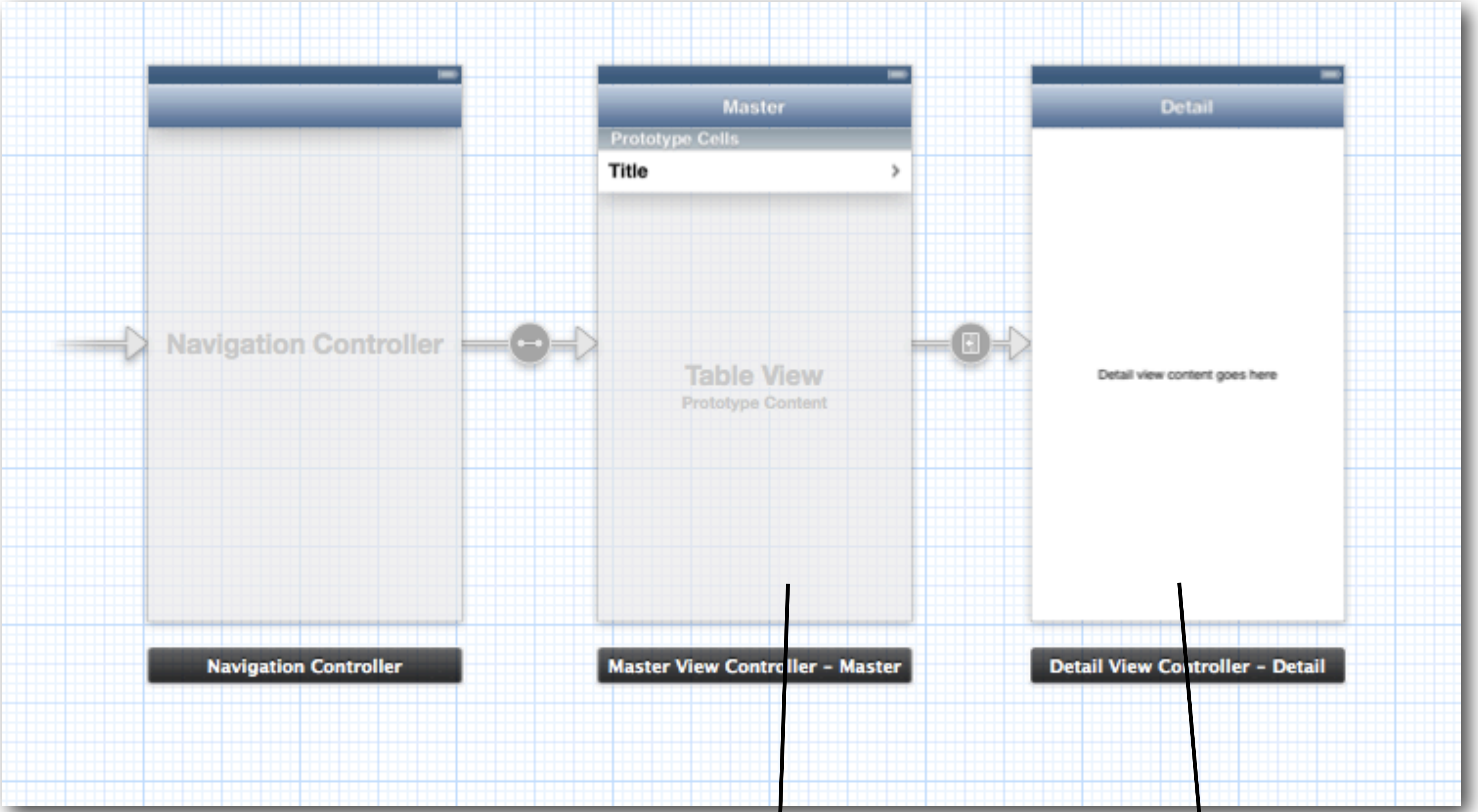
- Handle row selection:

```
// handle user interaction (i.e. row selection)
- (void)tableView:(UITableView *)tableView didSelectRowAtIndexPath:(NSIndexPath *)indexPath
{
    UIAlertView *alert = [[UIAlertView alloc] initWithTitle:[self.tableEntries objectAtIndex:indexPath.row]
                                                     message:nil
                                                    delegate:nil
                                           cancelButtonTitle:@"OK"
                                           otherButtonTitles:nil, nil];
    [alert show];
}
```



Hello Navigation Controller

- Create a new XCode Project ("Master Detail Application"). (Use Storyboards and ARC)



```
@interface
MasterViewController :
UITableViewController
```

```
@interface
DetailViewController :
UIViewController
```

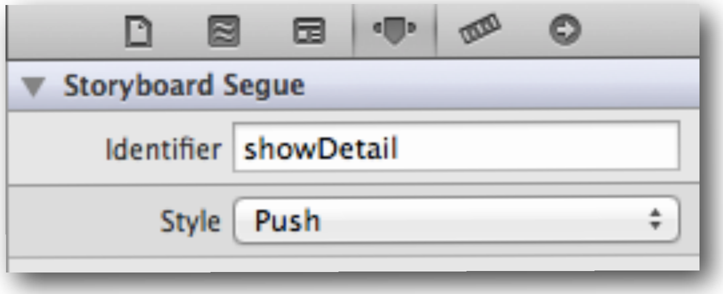
Hello Navigation Controller

- Master View Controller: "+" button in Top Bar created in viewDidLoad:

```
UIBarButtonItem *addButton = [[UIBarButtonItem alloc]
initWithBarButtonSystemItem:UIBarButtonSystemItemAdd target:self action:@selector(insertNewObject:)];

self.navigationItem.rightBarButtonItem = addButton;
```

  - `target:self` which object receives the action?
  - `action:@selector(insertNewObject:)` what's the action? (this calls a method "insertNewObject:")

- Row selection by the user: The Detail View Controller is pushed as defined by the Storyboard Segue:



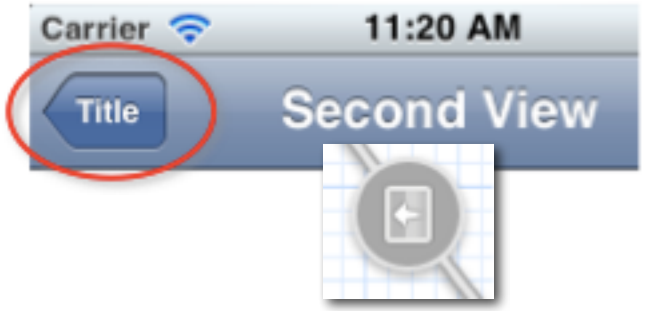
Storyboard Segue

Identifier showDetail

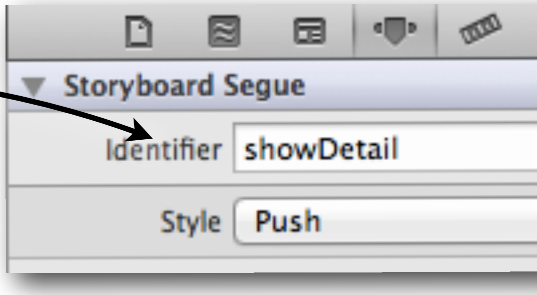
Style Push

Passing Data Between Scenes (Push)

- Push Segues add View Controllers on the Navigation Stack. Based on user interaction, the View Controllers are pushed or popped.
- Update data in prepareForSegue
  - In Master View Controller:



```
- (void)prepareForSegue:(UIStoryboardSegue *)segue sender:(id)sender
{
    if ([[segue identifier] isEqualToString:@"showDetail"]) {
        NSIndexPath *indexPath = [self.tableView indexPathForSelectedRow];
        NSDate *object = _objects[indexPath.row];
        [[segue destinationViewController] setDetailItem:object];
    }
}
```



Storyboard Segue

Identifier showDetail

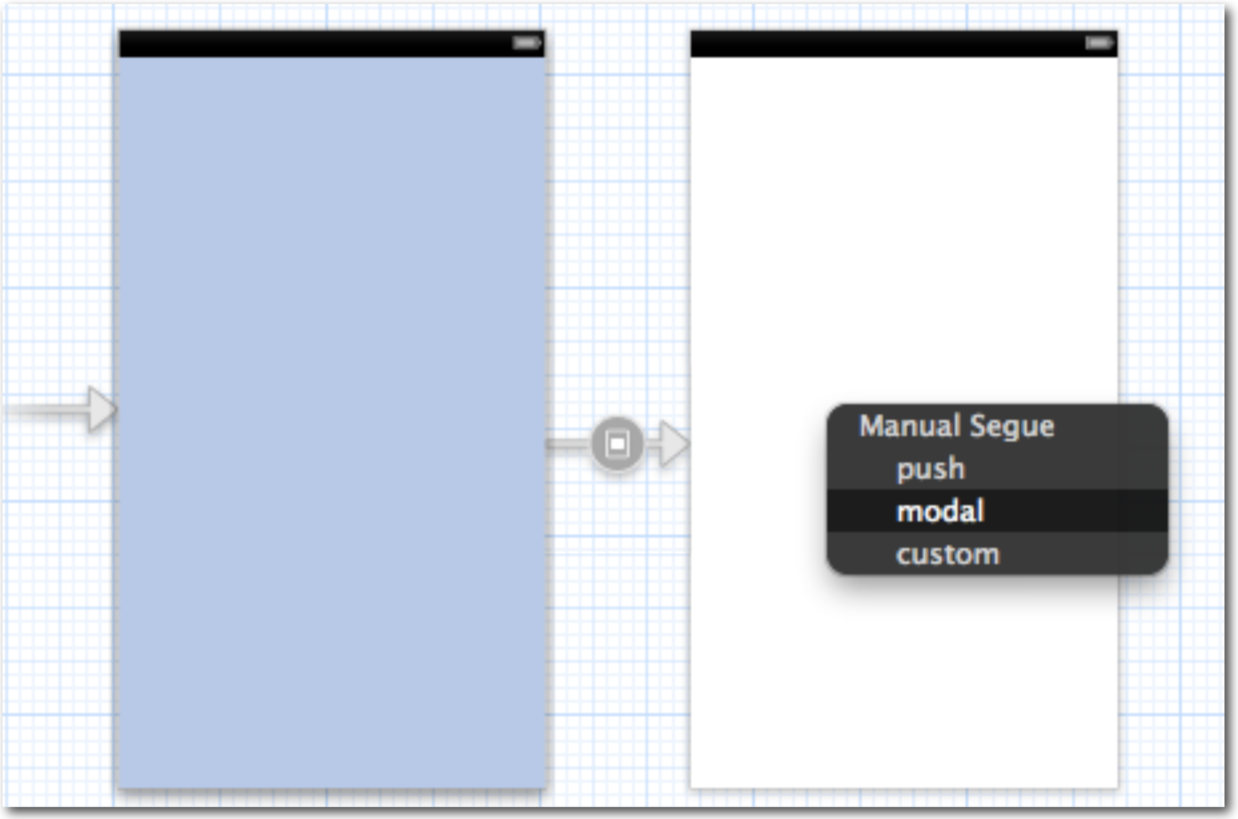
Style Push

  - In Detail View Controller:

```
- (void)setDetailItem:(id)newDetailItem
{
    // Update the text label
}
```

Passing Data Between Scenes (Modal)

- Modal Segues are used outside the context of Navigation Controllers.
- In the following example, My Modal View Controller is modally presented by First View Controller. First View Controller acts like a parent and is responsible for dismissing My Model View Controller.

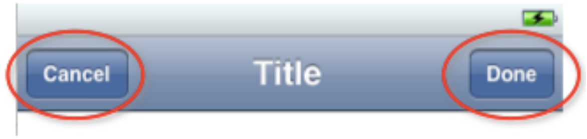


FirstViewController

MyModalViewController

Passing Data Between Scenes (Modal)

- For Modal Segues: Use a delegate that processes user interaction (e.g. Done/Cancel) and dismisses the View Controller.



  - Create delegate by defining a protocol:

MyModalViewController.h

```
@protocol MyModalViewControllerDelegate
      - (void) myModalViewControllerDidCancel:(MyModalViewController*)controller;
      - (void) myModalViewControllerDidSave:(MyModalViewController*)controller;
@end
```

  - Create a property for the delegate:

MyModalViewController.h

```
@interface MyModalViewController : UIViewController
      @property (nonatomic, strong) id <MyModalViewControllerDelegate> delegate;
      - (IBAction)cancel:(id)sender;
      - (IBAction)done:(id)sender;
@end
```

  - Call the delegate on user interaction:

```
- (IBAction)cancel:(id)sender {
      [self.delegate myModalViewControllerDidCancel:self];
}
- (IBAction)done:(id)sender {
      [self.delegate myModalViewControllerDidSave:self];
}
```

MyModalViewController.m

Passing Data Between Scenes (Modal)

- First View Controller implements our delegate protocol:

FirstViewController.h

```
#import "MyModalViewController.h”
@interface FirstViewController : UIViewController <MyModalViewControllerDelegate>
@end
```

- Set First View Controller as delegate of the My Modal View Controller:

FirstViewController.m

```
- (void) prepareForSegue:(UIStoryboardSegue*)segue sender:(id)sender {
      if ([[segue identifier] isEqualToString:@”FirstViewController_To_MyModelViewController"]) {
            MyModalViewController *myModalViewController = [segue destinationViewController];
            myModalViewController.delegate = self;
       }
}
```

- Handle user interaction (dismiss My Modal View Controller):

FirstViewController.m

```
- (void) myModalViewControllerDidCancel:(MyModalViewController*)controller {
      [controller dismissModalViewControllerAnimated:YES];
}

- (void) myModalViewControllerDidSave:(MyModalViewController*)controller{
      [controller dismissModalViewControllerAnimated:YES];
}
```

Passing Data Between Scenes (Global)

- Use the Application Delegate for global data:

```
#import "AppDelegate.h"

AppDelegate *appDelegate = (AppDelegate*) [UIApplication sharedApplication].delegate;
NSArray *data = appDelegate.data;
```

- sharedApplication is a singleton (i.e. an instance that exists only once) that can be accessed from anywhere within the application.

Assignment 2

- Individual assignment (but feel free to help each other)
- Navigation-based app
- Due next Thursday 12:00, upload to Uniworx
- Questions?