

# iPhone/iPod Application Development

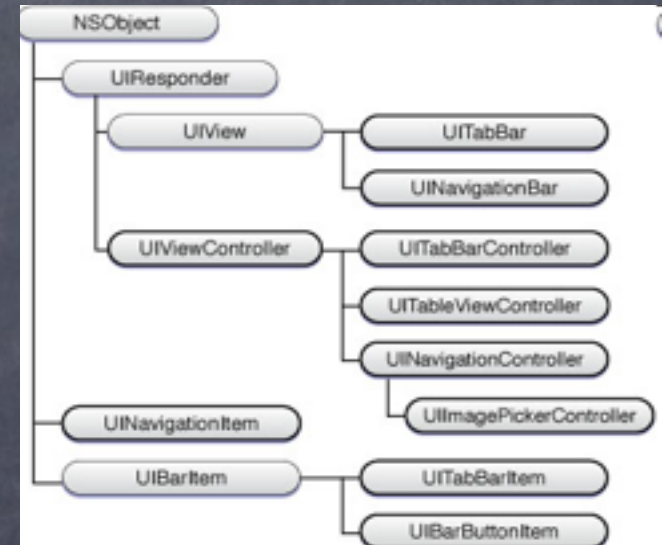
Tab Bar Controllers

Class # 5, Fall 2016

# View Controllers

- Rich set of APIs to control view arrangements
- Tab View Controller to switch view between tabs
- Navigation View Controller to switch view in prev-next or next-prev pattern
- Table View Controllers to navigate contents of the table
- Custom View Controllers to hook different views in customer format
- Web View Controller to navigate the web
- We will review all of these and do hands on exercises to understand how to use controllers.
- Remember you can use IB or insert code to control views. Our focus will be in IB. Class 5 – hands on exercise was to insert view via code.

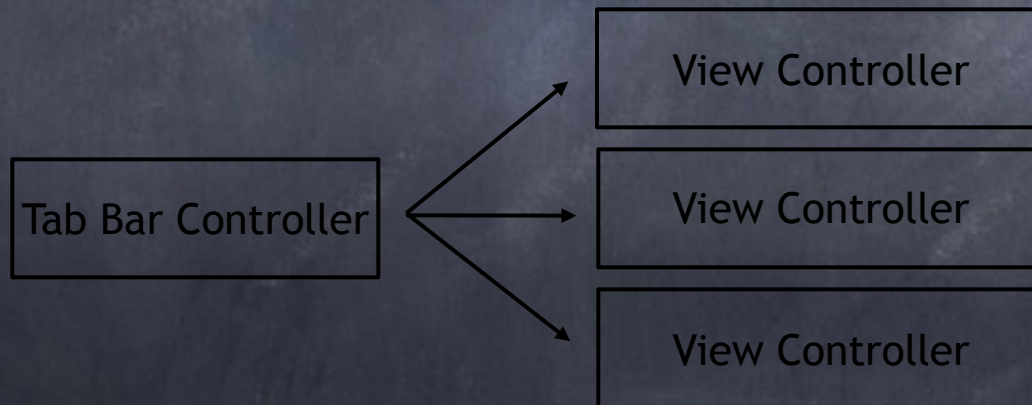
View Controller Classes in the UI Kit



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# Tab Bar View Controller

- Simplest of all the view controllers.
- Keeps no knowledge of viewing hierarchy – no previous, next nor a forced path.
- Views generally have different representations of the same data. For example different functions of clock such as Timer, Stop watch, Alarm, and Clock can be on 4 separate tabs. User can switch from one to the other – no co-relation in order of view implied or needed.
- Generally buttons are at bottom of the screen





# Tab Bar Controller APIs

- Three basic steps to set up tab bar controller:

1. Create a tab bar controller

```
tabBarController = [[UITabBarController alloc] init];
```

2. Set the array of view controllers

```
tabBarController.viewControllers = myViewControllers;
```

3. Add the tab bar controller's view to the window

```
[window addSubview:tabBarController.view];
```

- View controllers can define their appearance in the tab bar with same controls that we discussed in Navigation Controller
- UITabBarItem - provides title and image or system item
- Each view controllers comes with a tab bar item for customizing
- More view Controllers “...” tab bar. When you have too many items to fit on screen, tab bar controller will put up “...” and without any change from code tabs will be managed.

# Tab Bar Class Exercise

- Build two item Tab Bar based app
- Notice MainWindow, FirstView and SecondView File difference
  - How do you switch order of the buttons?
- Hands on exercise to build Tab Bar app using template
- Use of Story Board to manage navigation for Tab Bars and adding controls we have build before.

# More on TabBar

- You can embed image for tabBar icons. Attributes inspector for Bar Item has option on Xcode to put image. Size of the image will depend on type of device.
- Here is info from Apple's iOS Human Interface Guidelines.

## Custom Icon Sizes

Device	Navigation bar and toolbar icon size	Tab bar icon size
<b>iPhone 6s Plus, iPhone 6 Plus</b>	About 66px by 66px	About 75px by 75px Maximum 144px by 96px
<b>iPhone 6s, iPhone 6, iPhone SE</b>	About 44px by 44px	About 50px by 50px Maximum 96px by 64px
<b>iPad Pro, iPad, iPad mini</b>	About 44px by 44px	About 50px by 50px Maximum 96px by 64px

- Refer to Apple's Human Interface Guidelines at URL: <https://developer.apple.com/ios/human-interface-guidelines/graphics/custom-icons/>

# Page View Controller

- Just like flipping pages on a book, the page view controller provides API to go from page to page.
- Unlike tab bar view controller, you cannot go from any view of the tab. Nominally there is an order of the “page flip” and the order is linear.
- Page view controller provides navigation between between pages. Content of the pages are still controlled by page/view controllers of specific page.
- Page view controller is different than page control.



# Home Work 3

- Build an app to view at least three different aspects of particular information you would be interested in. You could choose to show different aspects or different type of information of building in Chicago. One view about pic, another about stats on the building, another on audio description of the building. You could focus similarly on Recipes, famous people etc.
- Implement app using tab bar view controller as we discussed in our class.
- Add more appropriate contents in each tabs. For e.g. on recipe app, you can integrate what we learned in HW 2. You could put conversion for ingredients to serving sizes.
- Use of background pictures, icon pictures for controls and icon for the springboard (default.png file in your project) carry bonus points.
- Home work due three weeks from now. Start ASAP.



# Summary

- Need VC to communicate between model and actions from view to change screens
- Tab Bar View Controller is a controller of view controllers.