

MOBILE DEVELOPMENT DESIGN PATTERNS, NOTIFICATIONS, DICTIONARIES

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Learning Objectives

- ▶ Identify iOS design patterns and how they are used in our apps
- ▶ Add table view to a UIView without adding a TableViewController
- ▶ Define notifications and show how to post and observe notifications
- ▶ Implement NotificationCenter notifications that already exist in our apps
- ▶ Identify best practices for using delegation vs notifications

DESIGN PATTERNS, NOTIFICATIONS, DICTIONARIES

**CODE DEMO: ADD TABLE VIEW
VIA DELEGATES**

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CODE DEMO: DELEGATES

DRIVING POINT HOME WITH

UITEXTFIELDDELEGATE

DESIGN PATTERNS, NOTIFICATIONS, DICTIONARIES

ACTIVITY

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NOTIFICATIONS

NOTIFICATIONS

- ▶ Another pattern seen in iOS
- ▶ Any instance can **post** a notification to `NSNotificationCenter defaultCenter()`
- ▶ Any instance can **subscribe** to the notifications coming out of `NSNotificationCenter`
- ▶ Multiple things can subscribe to the same kind of notifications
- ▶ Notifications are identified with strings
- ▶ Why?

NOTIFICATIONS

- ▶ Why?
 - ▶ Things that post notifications don't have to know about who listens to them
 - ▶ Things that listen to notifications don't have to know about who posts them, or if they ever get posted
 - ▶ An **abstraction** between two things
- ▶ Apple uses this for keyboard notifications, battery low, memory low, text field changes, etc

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NOTIFICATIONS CODE-ALONG

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DICTIONARIES

WHAT IS A DICTIONARY?

A dictionary has a unique set of **keys**. Each of those keys is unique in the dictionary

- ▶ Each key has a **value**, which can be quickly referenced if you have the **key**
 - ▶ Values do not have to be unique in the dictionary
- ▶ Storage: `ages["tedi"] = 30`
- ▶ Retrieval: `if let tediAge = ages["tedi"] { /* if ages["tedi"] exists, this is run */ }`
- ▶ Also referred to as **maps**

WHAT IS A DICTIONARY?

- ▶ We use dictionaries when there is an association between one thing and another
- ▶ You **really really should** query a dictionary for a value when you already have the key
- ▶ Looking up values for keys in dictionaries is **fast**

DICTIONARY SYNTAX

- ▶ Creating a dictionary with values: `var ages = ["tedi":30] // Type is [String: Int]`
- ▶ Creating an empty dictionary: `var ages: [String: Int] = [:]`
- ▶ Creating a constant: `let ages = ["tedi":30]`
- ▶ Accessing: `let tediAge = ages["tedi"] // tediAge is an Int? with value 30`
 - ▶ Hint: This is a great chance to use 'if let'!
- ▶ Setting: `ages["thomas"] = 43`

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ACTIVITY