

# Lecture 3

CS2049: Intermediate iPhone Development

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# Today's Lecture

- Tools
  - CocoaPods
- Frameworks
  - Persistence with Realm
  - Networking with Alamofire (maybe)

# Today's App

# Outline

1. Create inspection view
2. Create DB models
3. Wire “done” button and add new object to database
4. Create table view
  - 4.1. Connect to inspection view
  - 4.2. Notifications
5. Map View
6. Fetch data over network

# CocoaPods

- Package manager for Xcode projects
- Use with yours or open source projects
- Downloads and integrates third party projects with your Xcode project
- Webpage: [cocoapods.org](http://cocoapods.org)

# Installation

Open your terminal and type:

```
[sudo] gem install cocoapods
```

# Workflow

1. Navigate to your current project folder in the terminal
2. Type `pod init`
3. Edit the created `Podfile`
  - Add frameworks you want to incorporate
4. Execute `pod install`
5. Open the `.xcworkspace` Xcode project and happy coding

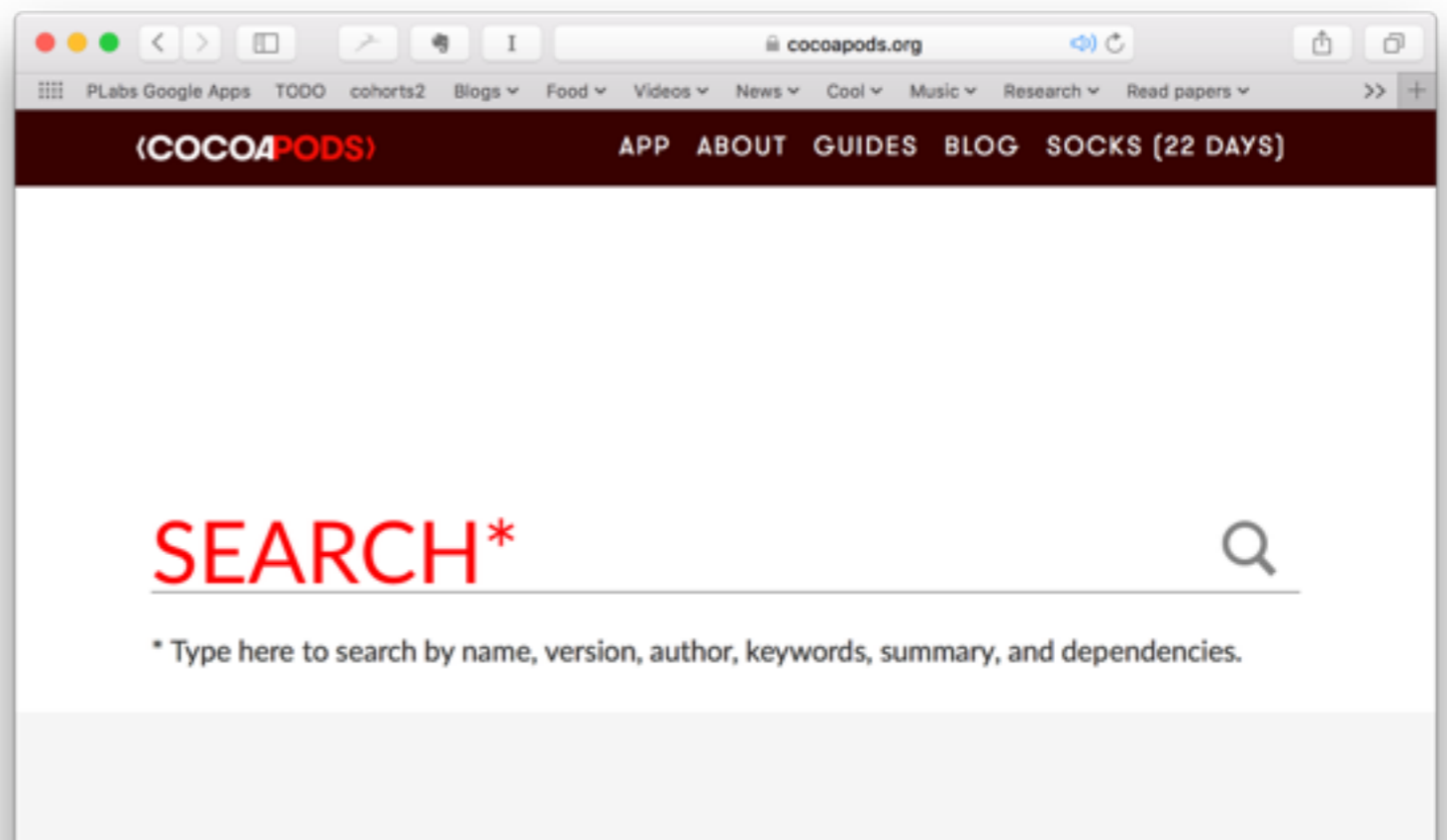
# Workflow

- To update linked code run `pod update`



# There's more...

- CocoaPods is extensible enabling plugins with more functionality
  - Check out [deintegrate](#) if you need to remove CocoaPods from a project
- Go go [CocoaPods.org](#) and explore!



# Basic File Syntax

this is basically  
Ruby code

```
target 'App' do
  pod 'Artsy+UIColors'
  pod 'Artsy+UIButtons'

  pod 'FLKAutoLayout'
  pod 'ISO8601DateFormatter', '0.7'
  pod 'AFNetworking', '~> 2.0'
end
```

# Realm

- Mobile database framework
- Easy to use (*no need to write SQL*)
- Fast (*2x to 30x faster than CoreData*)
- Cross platform (*iOS, OS X, Android*)

# Realm

- 3 Core classes:
  - Object: this is the data you store.
  - Array: list of Object. Used for query results and one-to-many relationships.
  - Realm: the database itself.

# Declaring an Object

```
class Dog: Object {  
    dynamic var name = ""  
    dynamic var age = 0  
}
```

```
let mydog = Dog()
```

```
mydog.name = "Rex"  
print("name of dog: \(mydog.name)")
```

# Store an Object

```
let realm = try! Realm()  
  
try! realm.write {  
    realm.add(mydog)  
}
```

# Queries

```
let realm = try! Realm()  
let r = realm.objects(Dog).filter("age > 8")  
  
// Queries are chainable  
let r2 = r.filter("name contains 'rex'")
```

# Property types

Type	Non-optional	Optional
Bool	<code>dynamic var value = false</code>	<code>let value = RealmOptional&lt;Bool&gt;()</code>
Int	<code>dynamic var value = 0</code>	<code>let value = RealmOptional&lt;Int&gt;()</code>
Float	<code>dynamic var value: Float = 0.0</code>	<code>let value = RealmOptional&lt;Float&gt;()</code>
Double	<code>dynamic var value: Double = 0.0</code>	<code>let value = RealmOptional&lt;Double&gt;()</code>
String	<code>dynamic var value = ""</code>	<code>dynamic var value: String? = nil</code>
Data	<code>dynamic var value = NSData()</code>	<code>dynamic var value: NSData? = nil</code>
Date	<code>dynamic var value = NSDate()</code>	<code>dynamic var value: NSDate? = nil</code>
Object	n/a: must be optional	<code>dynamic var value: Class?</code>
List	<code>let value = List&lt;Class&gt;</code>	n/a: must be non-optional



# Topics we didn't cover

- Relationships
- Migrations
- Storing data or other objects
- Encryption
- In memory database (no persistence)

# Realm vs CoreData

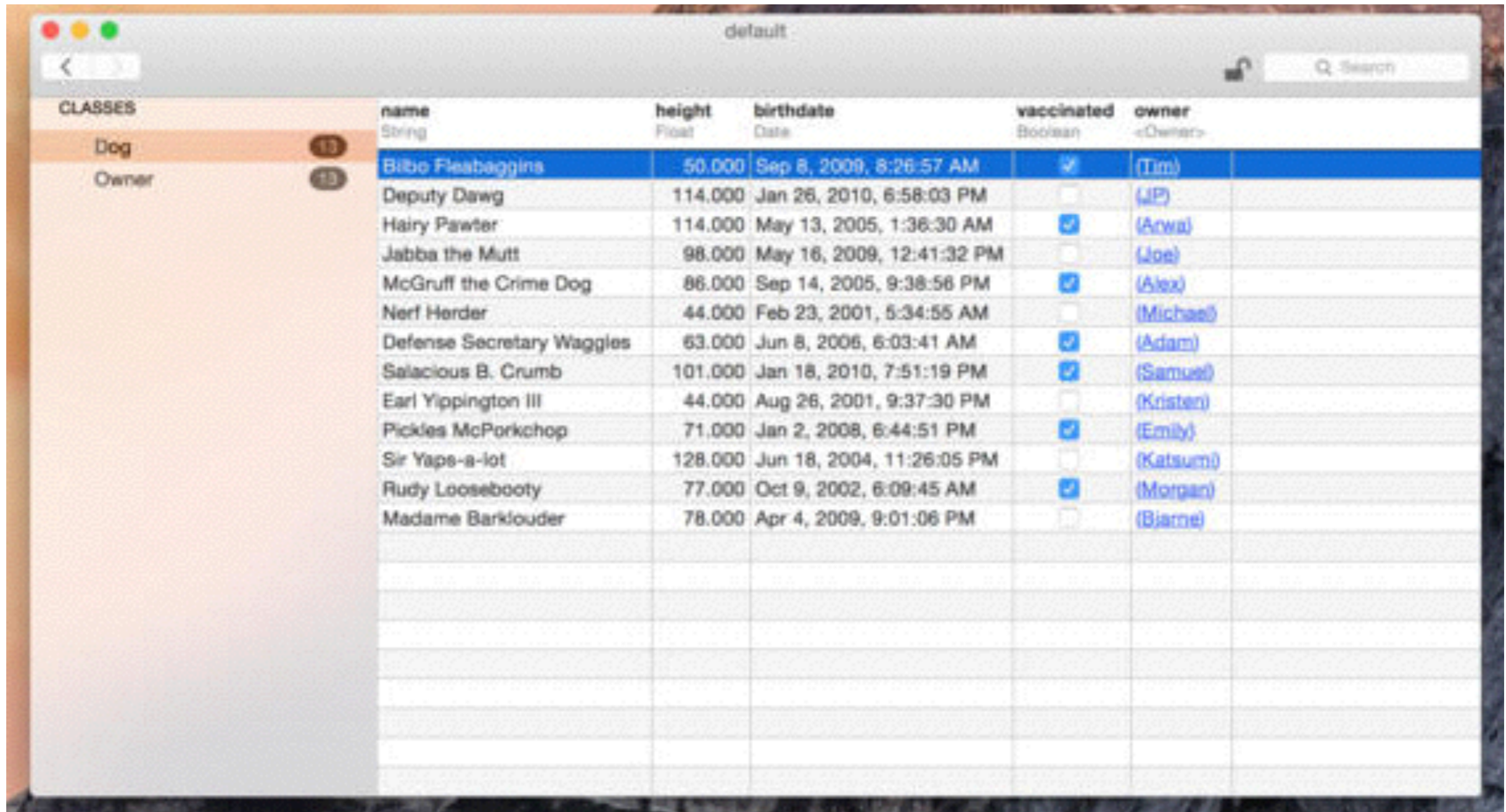
## Realm

- + Fast
- + Ease of use
- + Simple multi threading model

## CoreData

- +Undo
- +Automatic Migrations *(sort of)*
- +Fine grained notifications
- +Better integration with UI classes
- Complex

# Realm Browser



The screenshot shows the Realm Browser application interface. On the left, there is a sidebar with a 'CLASSES' section containing 'Dog' and 'Owner'. The main area displays a table of dog records with columns for name, height, birthdate, vaccinated status, and owner. The first row is highlighted in blue.

name	height	birthdate	vaccinated	owner
Bibo Fleabeggin	50.000	Sep 8, 2009, 8:26:57 AM	<input checked="" type="checkbox"/>	(Tim)
Deputy Dawg	114.000	Jan 26, 2010, 6:58:03 PM	<input type="checkbox"/>	(JP)
Hairy Pawter	114.000	May 13, 2005, 1:36:30 AM	<input checked="" type="checkbox"/>	(Arwa)
Jabba the Mutt	98.000	May 16, 2009, 12:41:32 PM	<input type="checkbox"/>	(Joe)
McGruff the Crime Dog	86.000	Sep 14, 2005, 9:38:56 PM	<input checked="" type="checkbox"/>	(Alex)
Nerf Herder	44.000	Feb 23, 2001, 5:34:55 AM	<input type="checkbox"/>	(Michael)
Defense Secretary Waggle	63.000	Jun 8, 2006, 6:03:41 AM	<input checked="" type="checkbox"/>	(Adam)
Salacious B. Crumb	101.000	Jan 18, 2010, 7:51:19 PM	<input checked="" type="checkbox"/>	(Samuel)
Earl Yippington III	44.000	Aug 26, 2001, 9:37:30 PM	<input type="checkbox"/>	(Kristen)
Pickles McPorkchop	71.000	Jan 2, 2008, 6:44:51 PM	<input checked="" type="checkbox"/>	(Emily)
Sir Yaps-a-lot	128.000	Jun 18, 2004, 11:26:05 PM	<input type="checkbox"/>	(Katsumi)
Rudy Loosebooty	77.000	Oct 9, 2002, 6:09:45 AM	<input checked="" type="checkbox"/>	(Morgan)
Madame Barklouder	78.000	Apr 4, 2009, 9:01:06 PM	<input type="checkbox"/>	(Bjarn)

Available for free on the Mac App Store

# Web service

<http://169.54.42.86:9000/position>