Table of Contents (Summary)

	Intro	xxi
l	Getting Started: Going mobile	1
2	iPhone App Patterns: Hello @twitter	37
3	Objective-C for the iPhone: Twitter needs variety	89
1	Multiple Views: A table with a view	131
5	plists and Modal Views: Refining your app	185
6	Saving, Editing, and Sorting Data: Everyone's an editor	239
7	Tab Bars and Core Data: Enterprise apps	303
8	Migrating and Optimizing with Core Data: Things are changing	377
9	Camera, Map Kit, and Core Location: Proof in the real world	431
i	Leftovers: The top 6 things (we didn't cover)	487
ii	Preparing Your App for Distribution: Get ready for the App Store	503

Table of Contents (the real thing)

Intro

Your brain on iPhone Development. Here *you* are trying to *learn* something, while here your *brain* is doing you a favor by making sure the learning doesn't *stick*. Your brain's thinking, "Better leave room for more important things, like which wild animals to avoid and whether naked snowboarding is a bad idea." So how *do* you trick your brain into thinking that your life depends on knowing enough to develop your own iPhone apps?

Who is this book for?	xxii
We know what you're thinking	xxiii
Metacognition: thinking about thinking	XXV
Here's what YOU can do to bend your brain into submission	xxvii
Read me	xxviii
The technical review team	XXX
Acknowledgments	xxxi

getting started

Going mobile

The iPhone changed everything.

It's a **gaming** platform, a personal **organizer**, a full **web browser**, oh yeah, and a **phone**. The iPhone is one of the most exciting devices to come out in some time, and with the opening of the App Store, it's an opportunity for independent developers to compete worldwide with big named software companies. All you need to release your own app are a couple of **software tools**, some **knowledge**, and **enthusiasm**. Apple provides the software and we'll help you the knowledge; we're sure you've got the enthusiasm covered.









2
3
5
6
7
8
10
12
13
14
16
17
22
23
24
24
25
35

iPhone app patterns

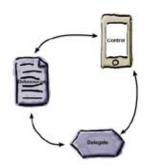
2

Hello @twitter!

Apps have a lot of moving parts.

OK, actually, they don't have any real moving parts, but they do have lots of **UI controls**. A typical iPhone app has more going on than just a button, and now it's time to build one. Working with some of the **more complicated widgets** means you'll need to pay more attention than ever to how you **design** your app as well. In this chapter, you'll learn how to put together a bigger application and some of the **fundamental design patterns** used in the iPhone SDK.







First we need to figure out what Mike (really) wants	39
App design rules—the iPhone HIG	44
HIG guidelines for pickers and buttons	47
Create a new View-based project for Insta-Twit	48
The life of a root view	52
First, get the data from Mike	55
Use pickers when you want controlled input	56
Fill the picker rows with Mike's data	57
Pickers get their data from a datasource	58
Γhere's a pattern for that	59
First, declare that the controller conforms to both protocols	64
The datasource protocol has two required methods	66
Connect the datasource just like actions and outlets	67
There's just one method for the delegate protocol	68
The button needs to be connected to an event	72
Connect the picker to our outlet	78
Use our picker reference to pull the selected values	79
Your iPhone Toolbox	87

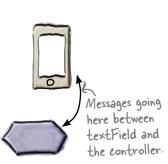
objective-c for the iPhone

Twitter needs variety

We did a lot in Chapter 2, but what language was that?

Parts of the code you've been writing might look familiar, but it's time you got a sense of what's really going on under the hood. The **iPhone SDK** comes with great tools that mean that you don't need to write code for everything, but you can't write entire apps without learning something about the underlying language, including **properties**, **message passing**, and **memory management**. Unless you work that out, all your apps will be just default widgets! And you want more than just widgets, right?





Renee is catching on	90
Make room for custom input	91
Header files describe the interface to your class	93
Auto-generated accessors also handle memory management	99
To keep your memory straight, you need to remember just two things	101
But when Mike's finished typing	111
Customize your UITextField	113
Components that use the keyboard ask it to appear	114
Ask the textField to give up focus	115
Messages in Objective-C use named arguments	117
Use message passing to tell our view controller when the Done button is pressed	118
Something's still not right	122
Your Objective-C Toolbox	129



multiple views

A table with a view

4

Most iPhone apps have more than one view.

We've written a cool app with one view, but anyone who's used an iPhone knows that most apps aren't like that. Some of the more impressive iPhone apps out there do a great job of moving through complex information by using multiple views. We're going to start with navigation controllers and table views, like the kind you see in your Mail and Contact apps. Only we're going to do it with a twist...

Look, I don't have time for posting to
Twitter. I need to know a ton of drink recipes every
night. Is there an app for that?







So, how do these views fit together?	13.
The navigation template pulls multiple views together	130
The navigation template starts with a table view	13
A table is a collection of cells	140
Just a few more drinks	148
Plists are an easy way to save and load data	150
Arrays (and more) have built-in support for plists	153
Use a detail view to drill down into data	150
A closer look at the detail view	15
Use the navigation controller to switch between views	16
Navigation controllers maintain a stack of views	168
Dictionaries store information as key-value pairs	175
Debugging—the dark side of iPhone development	17
First stop on your debugging adventure: the console	170
Interact with your application while it's running	17
Xcode supports you after your app breaks, too	178
The Xcode debugger shows you the state of your application	179
What the heck is going on?	18
Your iPhone Toolbox	183

plists and modal views

Refining your app

So you have this almost-working app...

That's the story of every app! You get some functionality working, decide to add something else, need to do some **refactoring**, and respond to some **feedback** from the App Store. Developing an app isn't always ever a linear process, but there's a lot to be learned in that process.









It all started with Sam	186
Use the debugger to investigate the crash	188
Update your code to handle a plist of dictionaries	191
The detail view needs data	194
Each dictionary has all the information we need	195
We have a usability problem	201
Use a disclosure indicator if your cell leads to more information	203
Sales were going strong	206
Use navigation controller buttons for editing	211
The button should create a new view	215
We need a view but not necessarily a new view	216
The view controller defines the behavior for the view	217
A nib file contains the UI components and connections	218
You can subclass and extend views like any other class	219
Modal views focus the user on the task at hand	224
Any view can present a modal view	225
Our view doesn't have a navigation bar	230
Create the save and cancel buttons	232
Write the save and cancel actions	233
Your iPhone Toolbox	237

saving, editing, and sorting data

Everyone's an editor...

6

Displaying data is nice, but adding and editing information is what makes an iPhone app really rock. DrinkMixer is great—it uses some cell customization, and works with plist dictionaries to display data. It's a handy reference application, and you've got a good start on adding new drinks. Now, it's time to give the user the ability to modify the data—saving, editing, and sorting—to make it more useful for everyone. In this chapter we'll take a look at editing patterns in iPhone apps and how to guide users with the nav controller.









Sam is ready to add a Red-Headed School Girl	240
but the keyboard is in the way	24
We need to wrap our content in a scroll view	24
The scroll view is the same size as the screen	24.
The keyboard changes the visible area	248
iPhone notifies you about the keyboard	250
Register with the default notification center for events	25
Keyboard events tell you the keyboard state and size	25
The table view doesn't know its data has changed	270
You need to ask the table view to reload its data	270
The array is out of order, too	280
Table views have built-in support for editing and deleting	28
Your iPhone Development Toolbox	30

tab bars and core data

HF bounty hunting

Build the fugitive list view

Next up: the captured view

After a quick meeting with Bob...

Choose a template to start iBountyHunter

Drawing how iBountyHunter works...

Enterprise apps

Enterprise apps mean managing more data in different

Ways. Companies large and small are a significant market for iPhone apps. A small handheld device with a **custom app** can be huge for companies that have **staff on the go**. Most of these apps are going to manage **lots of data**, and iPhone 3.x has built in Core Data support. Working with that and another new controller, the **tab bar controller**, we're going to build an app for justice!

304

308

310

316

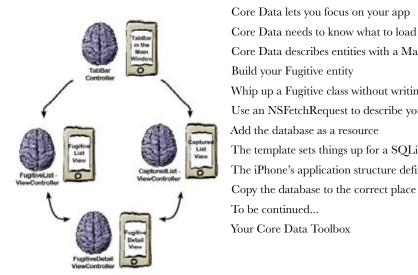
318

327

329

358359373375





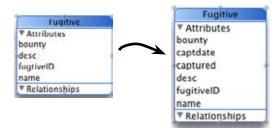
migrating and optimizing with core data

8

Things are changing

We have a great app in the works. iBountyHunter successfully loads the data that Bob needs and lets him view the fugitives in an easy way. But what about when the data has to change? Bob wants some new functionality, and what does that do to the data model? In this chapter you'll learn how to handle changes to your data model and how to take advantage of more Core Data features.







Bob needs documentation	378
Everything stems from our object model	381
The data hasn't been updated	384
Data migration is a common problem	385
We need to migrate the old data into the new model	386
Xcode makes it easy to version the data model	387
Core Data can "lightly" migrate data	389
Bob has some design input	394
A quick demo with Bob	406
Use predicates for filtering data	408
We need to set a predicate on our NSFetchRequest	409
Core Data controller classes provide efficient results handling	416
Time for some high-efficiency streamlining	417
Next we need to change the search to use the controller	417
Refactor viewWillAppear to use the controller	418
We need to refresh the data	423
Your Data Toolbox	499

camera, map kit, and core location

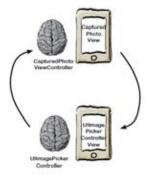
9

Proof in the real world

The iPhone knows where it is and what it sees. As any iPhone user knows, the iPhone goes way beyond just managing data: it can also take pictures, figure out your location, and put that information together for use in your app. The beauty about incorporating these features is that just by tapping into the tools that iPhone gives you, suddenly you can import pictures, locations, and maps without much coding at all.









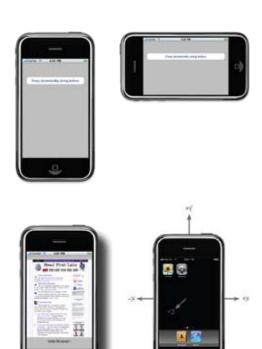
For Bob, payment requires proof!	432
The way to the camera	441
There's a method for checking	451
Prompt the user with action sheets	452
Bob needs the where, in addition to the when	458
Core Location can find you in a few ways	464
Add a new framework	466
Just latitude and longitude won't work for Bob	472
Map Kit is new with iPhone 3.0	473
A little custom setup for the map	474
Annotations require a little more finesse	479
Your extras Toolbox	485
It's been great having you here!	486

appendix i, leftovers

The top 6 things (we didn't cover)

Ever feel like something's missing? We know what

you mean... Just when you thought you were done, there's more. We couldn't leave you without a few extra details, things we just couldn't fit into the rest of the book. At least, not if you want to be able to carry this book around without a metallic case and castor wheels on the bottom. So take a peek and see what you (still) might be missing out on.



#1. Internationalization and Localization	488
Localizing string resources	490
#2. UIWebView	492
#3. Device orientation and view rotation	494
Handling view rotations	495
Handling rotation with two different views	496
#4. View animations	497
#5. Accelerometer	498
Understanding the device acceleration	499
#6. A word or two about gaming	500
Quartz and OpenGL	501

appendix ii, preparing your app for distribution Get ready for the App Store

You want to get your app in the App Store, right? So

far, we've basically worked with apps in the simulator, which is fine. But to get things to the next level, you'll need to **install an app** on an actual iPhone or iPod Touch before applying to get it in the App Store. And the only way to do that is to **register** with Apple as a developer. Even then, it's not just a matter of clicking a button in Xcode to get an app you wrote on your personal device. To do that, it's time to **talk with Apple**.

Apple has rules	504
The Provisioning Profile pulls it all together	505
Keep track in the Organizer	506