

Where to Next?

Well, wow! You’re still with us, huh? Great! It sure has been a long journey since that very first iOS application we built together. You’ve certainly come a long way. We would love to tell you that you now know it all. But when it comes to technology, and especially when it comes to programming, you never know it all.

At its core, programming is about problem solving and figuring things out. It’s fun, and it’s rewarding. But, at times, you will run up against a puzzle that just seems insurmountable—a problem that appears to have no solution. Sometimes the answer will come to you if you just take a bit of time away from the problem. A good night’s sleep or a few hours of doing something different can often be all that is needed to get you through it. Believe us—you can stare at the same problem for hours, overanalyzing and getting yourself so worked up that you miss an obvious solution. But sometimes even a change of scenery doesn’t help. In those situations, it’s good to have friends in high places. This appendix outlines some resources you can turn to when you’re in a bind.

Apple’s Documentation

Become one with Xcode’s documentation browser, grasshopper. The documentation browser is a front end to a wealth of incredibly valuable sample source code, concept guides, API references, video tutorials, and a whole lot more.

There are few areas of iOS that you won’t be able to learn more about by making your way through Apple’s documentation. And if you get comfortable with Apple’s documentation, navigating through uncharted territories and new technologies as Apple rolls them out will be easier.

Note Xcode’s documentation browser takes you to the same information you can find by going to Apple’s Developer web site at <http://developer.apple.com>.

Mailing Lists

You might want to sign up for these handy mailing lists:

Cocoa-dev: This moderately high-volume list, run by Apple, is primarily about Cocoa for Mac OS X. Because of the common heritage shared by Cocoa and Cocoa Touch, however, many of the people on this list may be able to help you. (Do make sure to search the list archives before asking your question.)

<http://lists.apple.com/mailman/listinfo/cocoa-dev>

Xcode-users: Another list maintained by Apple, this one is specific to questions and problems related to Xcode.

<http://lists.apple.com/mailman/listinfo/xcode-users>

Quartz-dev: This is an Apple-maintained mailing list for discussion of the Quartz 2D and Core Graphics technologies.

<http://lists.apple.com/mailman/listinfo/quartz-dev>

Cocoa-unbound: This list, intended for discussion of both Mac and iOS development, appeared in 2010 in response to the sometimes heavy-handed moderation of some of the Apple-run lists, particularly Cocoa-dev. The posting volume is lower here, and topics can run a bit further afield.

<http://groups.google.com/group/cocoa-unbound>

iPhone SDK Development: Another third-party list, this one is focused entirely on iOS development. You'll find a medium-sized community here, with a nice cast of regulars.

<http://groups.google.com/group/iphonesdkdevelopment>

Discussion Forums

These discussion forums allow you to post your questions to a wide range of forum readers:

Learn Cocoa Forum: As the official forum for this book, this features an active, vibrant community, full of people, such as you, with the wisdom and sensibility to buy our book. At least, that's what we hope! This forum was hosted somewhere else in the past, and not everyone has found their way to the new location yet.

<http://forum.learncoocao.org>

Apple Developer Forums: This is a web forum set up by Apple specifically for discussing iOS and Mac software development. Many iOS programmers, both new and experienced (including Apple engineers and evangelists), contribute to these

forums. It's also the only place where you can legally discuss issues with prerelease versions of the SDK that are under nondisclosure agreements. You'll need to sign in with your Apple ID to access this forum.

<http://devforums.apple.com>

Apple Discussions, Developer Forums: This link connects you to Apple's community forums for Mac and iOS software developers:

<http://discussions.apple.com/category.jspa?categoryID=164>

Apple Discussions, iPhone: This link connects to Apple's community forums for discussing the iPhone:

<http://discussions.apple.com/category.jspa?categoryID=201>

Web Sites

Visit these web sites for helpful coding advice:

CocoaHeads: This is the site of a group dedicated to peer support and promotion of Cocoa. It focuses on local groups with regular meetings where Cocoa developers can get together, help each other out, and even socialize a bit. There's nothing better than knowing a real person who can assist you, so if there's a CocoaHeads group in your area, check it out. If there's not, why not start one?

<http://cocoaheads.org>

NSCoder Night: NSCoder Nights are weekly, organized meetings where Cocoa programmers get together to code and socialize. Like CocoaHeads meetings, NSCoder Nights are independently organized local events.

<http://nscodernight.com>

Stack Overflow: This is a community Q&A site targeted at programmers. Many experienced iOS programmers hang out here and answer questions.

<http://stackoverflow.com>

Apart from accessing the main site, you may also want to use tags to browse topics relevant to iOS developers:

<http://stackoverflow.com/questions/tagged/objective-c>
<http://stackoverflow.com/questions/tagged/iphone>
<http://stackoverflow.com/questions/tagged/xcode>
<http://stackoverflow.com/questions/tagged/ios>

iDeveloper TV: This is a great resource for in-depth video training in iOS and Mac development, for a price. It also contains some nice, free video content, mostly from NSConference (listed in the “Conferences” section of this chapter), which is run by the same people behind iDeveloper TV.

<http://ideveloper.tv>

Cocoa Controls: Here, you’ll find a huge range of GUI components for both iOS and Mac OS X. Most of them are free and open source. These controls can be useful as is or as examples for further learning.

<http://cocoacontrols.com>

iphonedevbook.com: In addition to hosting the source code for this book’s example projects, this site aims to be a larger resource for iOS development knowledge. At the time of this writing, the newest incarnation of the site hasn’t launched yet, but we expect great things from it in the future.

<http://iphonedevbook.com>

NSHipster: This site’s slogan says it all: It’s “a journal of the overlooked bits in Objective-C and Cocoa.” You can learn about a whole slew of underused pieces of our favorite frameworks here.

<http://nshipster.com>

Blogs

If you still haven’t found a solution to your coding dilemma, you might want to read these blogs:

Matt Gemmell’s blog: Matt has a lot of experience and a lot of strong opinions about development in Objective-C. We think these opinions are usually right, and always worth paying attention to.

<http://www.mattgummell.com>

Cocoa is my Girlfriend: This is a group blog, spearheaded by Marcus Zarra, focusing on iOS and Cocoa development issues. These guys cover a wide range of topics useful to everyone working in this corner of the field.

<http://cimgf.com>

Ray Wenderlich’s blog: Ray’s site has expanded so much it can hardly be described as a blog at all anymore, but we’re putting it here anyway! This is a fantastic resource for iOS developers, full of tutorials on a wide range of topics. Much of this content is directed toward game developers, but there’s really something for everyone here.

<http://www.raywenderlich.com>

Wil Shipley's blog: Wil is one of the most experienced Objective-C programmers on the planet. His *Pimp My Code* series of blog postings should be required reading for any Objective-C programmer.

<http://www.wilshipley.com/blog>

Wolf Rentzsch's blog: Wolf is an experienced, independent Cocoa programmer and the founder of the (now defunct) C4 independent developers' conference.

<http://rentzsch.tumblr.com>

iDevBlogADay: This is a multiauthor blog, whose authorship rotates daily among several indie developers of iOS and Mac software. Follow this blog, and you'll be exposed to new insights from different developers every day.

<http://idevblogaday.com>

CocoaCast: This has a blog and podcast about various Cocoa programming topics, available in both English and French.

<http://cocoacast.com/>

@ObjectiveC on Twitter: The @objectivec Twitter user posts about new Cocoa-related blog posts. It's worth a follow.

<http://twitter.com/objectivec>

Mike Ash's blog: Mike is "just this guy, you know?" This RSS feed presents Mike's collection of his ongoing iOS Friday Q&A.

<http://www.mikeash.com/pyblog/>

Conferences

Sometimes, books and web sites aren't enough. Attending an iOS-focused conference can be a great way to get new insights and meet other developers. Fortunately, this is an area that has really boomed over the past few years, and iOS developers have no shortage of interesting conferences to attend. Here are a few:

WWDC: Apple's World Wide Developer Conference is the annual event where Apple typically unleashes the next great new things for its developer community.

<http://developer.apple.com/wwdc>

MacTech: This is a conference for Mac and iOS programmers and IT professionals. It's hosted by the same people who publish *MacTech Magazine*.

<http://www.mactech.com/conference>

NSConference: This multiple-continent event has been held in both the United Kingdom and United States, so far. It's run and promoted by Steve "Scotty" Scott, perhaps the hardest working man in the Mac/iOS conference scene.

<http://nsconference.com>

360 iDev: This approximately once-a-year conference, which is hosted in either San Jose or Denver (flipping between the two year after year), began in 2009.

<http://www.360idev.com>

Cingleton: So far, there have been two instances of the Çingleton Symposium, so it's not a singleton any more. But it is a great conference that attendees rave about.

<http://www.cingleton.com>

CocoaConf: No one else seems to be operating as many iOS developer events in so many different cities as CocoaConf. These folks have events planned all over the U.S. through 2013.

<http://www.cocoacn.com>

Follow the Authors

All of this book's authors are active Twitter users. You can follow Dave, Jack, Jeff, and Fredrik via @davemark, @jacknutting, @jeff_lamarche, and @peylow, respectively. Some of them have blogs, too:

- Jeff's iOS development blog contains a lot of great technical material. Be sure to check out the comprehensive series on OpenGL ES.

<http://iphonedevolution.blogspot.com>

- Jack uses his blog, [nuthole.com](http://www.nuthole.com), to talk about what's going on in his career and his life (technically and otherwise). It's a blog like many others, but this one is Jack's.

<http://www.nuthole.com>

Tip Are you serious about diving more deeply into the iOS SDK, and especially interested in all the great new functionality introduced with the iOS 6 SDK (of which we only scratched the surface in this book)? If so, you should check out *More iOS 6 Development: Further Explorations of the iOS SDK* by Dave Mark, Alex Horovitz, Kevin Kim, and Jeff LaMarche (Apress 2012).

And if all else fails, drop us an e-mail at begin6errata@learncoocao.org. This is the perfect place to send messages about typos in the book or bugs in our code. We can't promise to respond to every e-mail message, but we will read all of them. Be sure to read the errata on the Apress site and the forums on <http://forum.learncoocao.org> before clicking *Send*. And please do write and tell us about the cool applications you develop.

Farewell

The programming language and frameworks we've worked with in this book are the end result of more than 20 years of evolution. And Apple engineers are feverishly working round the clock, thinking of that next cool new thing. The iOS platform has just begun to blossom. There is so much more to come.

By making it through this book, you've built yourself a sturdy foundation. You have a solid knowledge of Objective-C, Cocoa Touch, and the tools that bring these technologies together to create incredible new iPhone, iPod touch, and iPad applications. You understand the iOS software architecture—the design patterns that make Cocoa Touch sing. In short, you're ready to chart your own course. We are so proud!

We sure are glad you came along on this journey with us. We wish you the best of luck and hope that you enjoy programming iOS as much as we do.

Index

A

- Application settings, 397
bundle
application icon addition, 412–413
child setting view addition, 420–422
contextual menu, 418
finder window, 419
iOS device, 397–398
minimum and maximum value image, 419
multivalue field addition, 414–416
preferences, 398
property list, 398, 406, 408–409
Root.plist, 405
secure text field setting, 414
slider setting, 418
text field addition, 410–412
toggle switch setting, 417
Xcode, 405
child setting view, 401
default value
BIDFlipsideViewController, 429
extra code, 429
flipside view controller scene, 429
flipside view designing, 427
refreshFields method, 430
registration, 430–431
direct preference setting, 403
iOS 4, 431
main view, 402
notification, 432
primary setting view, 399
project creation
 flipside view, 404
 location, 404
 utility application template, 405
reader settings
 main view controller updation, 426–427
 main view creation, 423–425
retrieving user setting, 422–423
simulator, 399
single preference item selection, 400
user defaults system, 432–434
 application instance, 433
 notification system, 434
 synchronize method, 432–434
 automatic reference counting, 61
Automatic Reference Counting (ARC), 7, 15
Autorotation
 and autosizing, 115
designing an interface,
 autosize, 121
 button, stretch, 127
 button stuck, 123
 dashed blue lines, 123
 full width buttons, 126
 labeled buttons, 122
 leading space, 123
 new constraints, 125
 overriding constraints, 124
 place, left button, 124
 position, rotate, 125
 single view application, 121
 size inspector, 123
 UR button, 127
 width by constraint, 127
mechanics
 added approaches, 117
 approaches, 117
 constraints, 117
 interface builder, 117
 pixels, 116
 points, 116
 status bar, 116
 the retina display, 116
mobile Safari, 115
restructuring

- Autorotation (*cont.*)
 autoconstraints, 129
 CGRect, 130
 CGRectMake, 130
 create and connect outlets, 129
 didLoad method, 131
 moving buttons, 130
 portrait layout, view, 128
 swapping views
 bar buttons, 137
 buttonTapped, 137
 foo button, 138
 implementing, 135
 labeling views, 135
 landscapeviews, 134
 outlet changes, 137
 outlet collection, 132
 rotation transformation, 136
 storage pop-up, 134
 swap application, 133
 transformation, 136
 two views, 134
 view orientation
 code sense, 120
 C-style mask, 120
 device orientation, 118
 per controller rotation, 119
 sense of gravity, 119
 supported orientation at app level, 118
 UIApplication, 120
 UIInterf, 121
 upside down, 118
- B**
- Background processing, 525
 background state
 applicationDidEnterBackground method, 540, 542
 applicationWillEnterForeground, 541
 beginBackgroundTaskWith ExpirationHandler, 543
 debugging terminate, 544
 endBackgroundTask, 543
 initWithNibName, 539
 instance variable, 540
 label-rotating magic, 538
 remoing resources, 537
 saving the state, 539
 time request, 541
 UIApplicationDelegate instance, 542
 UIBackgroundTaskInvalid, 543
 viewDidLoad, 537
 execution states
 active to inactive, 531
 applicationWillTerminate, 530
 background to inactive, 532
 inactive to active, 532
 inactive to background, 532
 message app, 530
 thread 1 SIGKILL, 530
 inactive state
 implementation block, 535
 implicit animation, 534
 label rotating magic, 534
 methods, 533
 override, initializer, 535
 rotateLabelDown, 536
 transform property, 534
 view controller, 536
 viewDidLoad, 533
 life cycle, application, 526
 active, 526
 background, 526
 inactive, 526
 not running, 526
 suspend, 526
 state change notification, 527
 applicationDidBecomeActive, 527
 applicationDidEnterBackground, 527
 applicationWillEnterForeground, 527
 applicationWillResignActive, 527
 delegate methods, 527
 didFinishLaunchingWith Options, 527
 state lab creation, 528
 VoIP, 525
 Background processing
 background state, 537, 539, 541
 execution states, 531–532
 Buttons, 100
 control states, 112
 edge insets, 112
 stretchable images, 112
 viewDidLoad Method, 111

C

Camera application, 671
 BIDViewController implementation, 673
 delegate methods, 676
 interface design, 672
 utility methods, 674
 viewDidLoad and viewWillAppear
 methods, 674
 Cell ID location, 619
 CheckPlease application
 BIDCheckMarkRecognizer, 614
 check-mark gesture, 612
 CheckPlease project, 613
 declarations, 614
 instance variables, 614
 Cocoa Touch, 7
 Collection view
 configuring, 682–683
 controller class, 679
 custom cells, 679–681
 DialogViewer project, 677
 header view, 687
 keys, 682
 snazzy look, 683
 viewDidLoad, 683
 layout flow, 685
 providing, content cells, 683
 BIDContentCell
 BIDHeaderCell, 681
 defaultFont method, 680
 label property, 679
 text property, 679
 UILabel, 681
 DialogViewer project, UICollectionView
 View, 677–678
 header view
 cell class, 688
 DialogViewer app, 689
 UICollectionViewFlowLayout, 688
 layout flow
 cramped, 687
 flow and wrap, 686
 paragraph flow, 686
 UICollectionView, 685
 providing, content cells
 dequencing method, 684
 format, 685
 wordsInSection, 684

Control fun application
 image view
 alpha value, 81
 background property, 81
 drawing checkboxes, 81
 interaction checkboxes, 81
 mode menu, 80
 object library, 75
 resize, 78
 stretching, 82
 tags, 80
 outlets, creating and connecting, 89
 text fields
 attributes settings, 89
 blue guidelines, 83
 inspector settings, 88
 Core data framework, 463
 entities and managed objects
 application's root controller,
 478–479
 attributes, 465
 backing store, 466
 data model designing, 468,
 470–471, 473
 data model editor, 464
 fetched property, 465
 key value coding, 465
 managed object context, 466
 new managed objects, 467–468
 NSManagedObjectModel, 467
 persistence view and controller
 creation, 473–474, 476, 478
 relationships, 465
 new project creation, 463
 persistence and supporting file
 folders, 464
 project templates, 463
 Core Location, 619
 Cell ID location, 619
 GPS, 619
 location manager
 CLLocation object, 622
 distance filters, 621
 error notifications, 624
 level of accuracy, 620
 location updates, 622
 updates, 629
 WhereAml application, 626
 WPS option, 619

D, E, F

Data persistence, 435
 application's sandbox, 436–437
 Documents directory, 437
 globally unique identifiers, 436
 iPhone simulator, 436
 Library option, 436
 NSUserDefaults, 436
 temporary directory, 437
 archiving model objects, 452
 core data, 463
 archiving model objects
 BIDFourLines Class, 449–450
 BIDViewController Class, 450–451
 generic type, 446
 NSCoding protocol, 446–447
 NSCopying implementation, 447
 property implementation, 446
 and unarchiving data objects, 448–449
 file-saving strategies, 438
 multiple-file persistence, 438
 single-file persistence, 438
 SQLite3 database file, 438
 nonvolatile storage, 435
 property lists, 439
 SQLite3 database, 452–457
 advantages, 452
 BIDViewController.h file, 456
 BIDViewController.xib, 456
 bind variables, 455
 creation, 453–454
 dynamic library, 456–457
 object-relational mapping, 453
 persistence view controller
 modification, 457–458, 460
 Structured Query Language, 453
 Delegate and data source picker, 175

G, H

Gestures, 585
 custom gesture
 CheckPlease application, 612
 CheckPlease touch methods, 615
 definition, 585
 events, 586
 gesture recognizer, 586
 handling process, 588

pinch and rotation detection, 607
 responder chain
 app delegate, 587
 swipe gesture, 588
 working principle, 586
 swipes application, 594
 taps, 586, 601
 touch, 586
 TouchExplorerApplication, 590
 touch notification methods, 589
 Globally unique identifiers
 (GUIDs), 436
 GPS, 619
 Grand central dispatch
 access, blocks, 512
 define, CPU speed, 511
 low level queueing
 activity indicator, 522
 BIDViewController, 522
 block access, 520
 blockhead, 518
 blocks, 518
 closures, 518
 concurrent blocks, 523
 dispatch_async, 519
 dispatch_get_global_queue()
 function, 520
 dispatch group, 523
 doWork, 523
 feedback, 521
 improving slow worker, 519
 lambdas, 518
 main thread, 520
 priority, 520
 spinner, 522
 startTime variable, 520
 UIActivityIndicatorView, 521
 wrapping, 518
 over and out, 544
 slow worker
 BIDViewController, 513
 device family, 513
 GUI, 513
 interface hide, 512
 round rect button, 514
 sleepForTimeInterval, 514
 tapping application, 515
 text view, 515

threading basics
 code safe, 516
 main thread, 516
 mutex, 516
 units of work, 517

Gyro and accelerometer, 637
 accelerometer results, 647
 axes, graphic representation, 638
 core motion and motion manager
 alloc and init methods, 639
 audio toolbox framework, 640
 BIDViewController, 640
 blocks, 639
 event-based motion, 639
 MotionMonitor, 640
 supportedInterfaceOrientations
 method, 642
 detecting shakes, 648, 650, 654
 backed-in shaking, 650
 shake and break, 650
 viewDidLoad method, 654

directional controller, 657, 660, 663
 ball movement calculation, 663
 BIDBallView, 660
 rolling marbles, 657

g-force measurement, 637
 proactive motion access, 645
 rotation value, 638

I, J

iCloud, 481
 adding support
 bundle identifier, 505
 bundle seed, 505
 code signing identity, 505
 entitlements, enable, 506
 NSMetadataQuery, 507
 ongoing query, 506
 provisioning profile, 504
 query, 506
 reloadFiles method, 507
 save file, 508
 storing preferences, 509
 urlForFilename, 508
 viewWillAppear method, 509

computerless backup, 481
 document based application, 510

document storage with UIDocument
 alert view call, 490
 BIDDetailViewController, 502
 BIDMasterViewController, 486
 BIDTinyPixDocument, 483
 BIDTinyPixView, 496
 _blockSize, 498
 buttonIndex, 491
 cellForRowAtIndexPath, 489
 chooseColor method, 503
 code master, 486
 color segmented control, 487
 completion Handler method, 491
 configureView method, 503
 constraints, 501
 contentsForType, 486
 control drag method, 495
 C struct, 497
 detailing storyboard, 500
 diagonal pattern, 484
 document class, 487
 document directory, 487
 _gapSize, 498
 identifier to FileCell, 494
 initWithFileURL method, 485
 loadFromContents, 486
 master detail application, 487
 master view controller, 494
 MVC principle, 486
 navigation controller, 493
 NSUserDefaults, 489
 openWithCompletionHandler, 492
 prepareWithInvocationTarget, 499
 selectedColorIndex property, 503
 setNeedsDisplay, 503
 size inspector, 501
 storyboarding, 493
 table view data source methods, 489
 text editor, 501
 TinyPix document, 482, 495
 toggle cell, 485
 toggleSelectedBlock method, 499
 touch events, 498
 tr, 492
 UIBarButtonItem, 490
 UIViewdrawRect method, 498
 UIView subclass, 497
 undoManager, 499

iCloud (*cont.*)
 views, 500
 viewWillAppear, 489
 viewWillDisappear, 504

Image picker, 667
 camera application
 BIDViewController implementation, 673
 delegate methods, 676
 interface design, 672
 pickMediaFromSource method, 674
 shrinkImage method, 675
 updateDisplay method, 674
 utility methods, 674
 viewDidLoad and viewDidAppear
 methods, 674
 delegate method, 669
 isSourceTypeAvailable, 669
 photo library, 671
 scaling or cropping, 668
 UIImagePickerController, 668

Interaction handling, 43
 application delegate
 applicationWillTerminate, 65
 BIDAppDelegate, 66
 cocoa touch, 64
 declared link, 66
 didFinishLaunchingWithOptions, 68
 option clicked, 66
 option key, Xcode, 65
 referenced link, 66
 UIApplication, 64

view controller
 action methods, 48, 62
 actions, 50
 alignment button, 58
 arguments field, 56
 attribute inspector, 59
 BIDViewController, 47
 button fun group, 46
 buttonPressed, 57
 buttons and actions, 52
 connection type, 55
 control dragging, 54, 60
 drag to action, 57
 edit in Xcode, 51
 editor toggle button, 53
 empty class extension, 51
 event field, 56

floating pop-up, 55
HIG, 53
IBOutlet, 48
interface builder, 49
label and outlet, 58
labeled storage, 60
low level virtual machine
 (LLVM), 49
malloc(), 61
myButton, 48
navigator, class files, 47
NeXTSTEP, 49
nib file, 50, 56
object library, 52, 58
outlets and action, 47, 48
owner icon, 54
sender argument, 50
statusLabel, 60
string creation, 62
stub method, 56
type field, 56
user interface, 51

model view controller
 cocoa touch applications, 45
 NSObject subclass, 45
 patterns, 44
 reusability, 45

NSAttributedString, 43

project creation
 ARC, 45
 git repository, 46
 naming and selection, 46

two button application, 44

view controller
 attributeText property, 63
 NSMutableAttributedString, 63
 practicing, 62
 styling, 63

view controller, clean up, 50

iOS applications development, 1
 desktop application development,
 garbage collection, not support, 7
 limited access, 5
 limited response time, 6
 limited system resources, 6
 one active application, 5
 one window, 5
 screen size limitation, 6

developer options
 general-purpose computer, 8
 programming knowledge, 4
 restrictions, 3
 simulator, 3
 functionality, 7
 Objective-C, 4
 requirements, 1
 SDK versions and source code, 3
 iPad considerations
 split view
 App delegate, 374–376
 awakeFromNib method, 377
 detail view controller, 378–379
 in landscape mode, 368
 Master View Controller, 376–377
 in portrait mode, 369
 project creation, 370
 storyboard, 373
 viewDidLoad method, 377
 Xcode, 374
 popovers
 instance methods, 393
 retain cycle, 390
 setDetailItem method, 393
 setLanguageString, 393
 size, definition, 391
 viewDidLoad method, 393
 presidents
 BIDMasterViewController, 382
 configureView method, 386
 tableView, 384
 viewDidLoad method, 382
 split views
 class extension, 379
 detail view controller, 379–381
 setDetailItem method, 380

K

Keyboard, closing, 91
 action method, 99
 actions and outlets, 99
 adding slider and label, 96
 backgroundTap action, 94
 compile and run app, 96
 constraints, 98
 done button, taps, 92
 identity inspector, 95

using interface builder, 94
 view property, 94

L

LLVM (Low Level Virtual Machine) compiler, 25
 Location manager, 620
 CLLocation object, 622
 distance filters, 621
 error notifications, 624
 level of accuracy, 620
 location updates, 622
 updates, 629
 WhereAmI application, 626

M

Map Kit, 619
 didUpdateLocations method, 633
 MKCoordinateRegion, 633
 property declaration, 631
 viewDidLoad method, 633
 Multiple-file persistence, 438
 Multiview applications, 139
 content views, 139
 Music application, 143
 navigation bar, 141
 split view, 142
 stocks application, 139
 tab bar, 140
 toolbar, 143
 utility application, 139
 View Switcher
 add controller, 154
 alerts, 147
 animate, transition, 166
 animation block, 167
 app delegate, 152
 bar button, 158
 BIDBlueViewController, 162–163, 165
 BIDSwitchViewController, 151, 154
 BIDYellowController, 165
 blueButtonPressed method, 164
 blue view flips, 146
 button and toolbar, 145
 content view implement, 163
 content views, 148
 controller and nib files, 150
 controllers, 144

Multiview applications (*cont.*)
 curve, animation, 167
 didReceiveMemoryWarning
 method, 160, 162
 empty application project, 148
 features, toolbar, 158
 flip style, 167
 IDAppDelegate, 153
 identity inspector, 155
 lazy loading, 161
 metrics section, 164
 navigation controller, 148
 navigator, 149
 nib files, 147, 157
 project template, 149
 received actions, 155–156
 root controller, 147
 root view controller, 159
 subclass, view controller, 150
 SwapAppDelegate, 153
 switch off, 168
 switchView method, 159
 tab bar controller, 148
 toolbar, build, 156
 transition methods, 168
 UI section, 152
 viewDidLoad method, 160
 yellowViewController, 161

N

Navigation controller, 269
 fundamentals
 computer stack, 270
 navigation, 271
 navigation controller, 271
 root view controller, 270
 stack, 270
 subcontrollers, 270
 nav
 abstract class, 281
 accessory icons, 272
 accessory view, 275, 305, 309
 action method, 329
 add, edit view, 336
 add images, 286
 application skeleton, 278, 286
 BIDAppDelegate, 280

BIDCheckListViewController, 297
 BIDDeleteMeViewController, 315
 BIDFirstLevelViewController, 279
 BIDPresident, 322
 BIDPresidentDetailViewController, 324
 BIDSecondLevelViewController, 282
 bundle method, 299, 317
 buttonType property, 306
 button view, disclosure, 273
 button views, 294
 checklist, 296
 checklist controller, 302
 checklist view, 274
 code deletion, 338
 contents view, 330
 controller instance, 292
 controls on table rows, 302
 create, movable rows, 310
 data model object, 322
 data source method, 330
 decode, 335
 deletable rows, 276, 315
 delete me instance, 318
 detail disclosure, 274, 295
 detail tapping, 273
 detail view, 287, 296
 detail view controller, 323
 didFinishLaunchinWithOptions, 280
 didSelectRowAtIndexPath, 299
 disclosure button view, 286
 disclosure indicator, 272
 editable detail pane, 321
 editable detail view, 277
 editingStyleForRowAtIndexPath, 312
 editing styles, 317
 edit mode, 277
 edit mode, tapping, 320
 features, 337
 fieldLabels, 325
 final subcontroller, 337
 grouped table, 278
 grouped table view, 321
 implement detail view list, 333
 initWithNibName, 291
 initWithStyle method, 281, 313, 329
 instance, checklist controller, 300
 instances, 282
 label property, 289

launch, delete me, 319
 modify disclosure button, 289
 movable rows, 275, 310
 move me controller, 313
 mutable strings, 288
 navigationController property, 285
 navigation controller set up, 280
 NSKeyedUnarchiver method, 335
 NSMutableString, 288
 numberOfRowsInSection
 method, 284
 protocols, 325
 return key type, 330
 root level controller, 308
 row controller instance, 307
 row controls view, 303
 row selection, 274
 save method, 329
 second level controllers, 293, 301
 selected Snack method, 299
 setEditing method, 310
 subcontrollers, 272
 on table, move me row, 314
 tag property, 305
 textFieldDone, 338
 top-level view controller, 279
 touch and drag, 276
 UIImage property, 281
 UITableViewRowAnimation
 Automatic, 318
 view, checklist, 297
 view, row control, 275
 views, deletable rows, 315
 viewWillAppear, 287
 wrap rows, 339
 NSString method, 437, 453
 NSZone parameter, 448

O

Object-relational mapping (ORM), 453

P

Photo library, 671
 Pickers, 169
 in clock application, 170
 date picker, 171, 188
 delegates and data sources, 175

dependent components
 bundle, 206
 compile and run app, 208
 content view, 203
 controller class, 203
 delegate and data source
 methods, 205
 delegate methods, 207
 statedictionary.plist file, 203
 states array, 207
 viewDidLoad method, 205
 game creation
 audio toolbox framework, 218
 controller header file, writing the, 209
 controller implementation, 211
 fonts, 211
 image files, 211
 playerWon method, 217
 sound files, 215
 spin method, 213
 view building, 210
 viewDidLoad method, 212, 214
 multicomponent picker
 buttonPressed method, 200
 controller implementation, 199
 delegate method, 201
 implementation of, 198
 outlets and actions, 198
 view building, 198
 root view controller, 176
 single-component picker
 BIDSingleComponentPickerView
 Controller.m, 194
 data source methods, 196
 delegate methods, 197
 with dependent components, 173
 with images, 174
 implementation of, 191
 outlets and actions, 192
 #pragma, 197
 view building, 192
 Pinch and rotation detection
 action methods, 610
 image transformation, 610
 instance variables, 609
 PinchMe application, 611
 PinchMe project, 607
 Swipes project, 595

Pinch and rotation detection (*cont.*)

two-finger rotation, 607

UIImageView, 609

UIPinchGestureRecognizer, 607

#PRAGMA, 197

Property lists

persistence application

creation, 441

designing, 442

editing, 443, 445

first version, 440

serialization, 439–440

Q

Quartz and OpenGL

2D approach

CGContextStrokePath(), 547

CGFloat, 549

color theory, 549

convenience method, color, 551

coordinate system, 548

drawing a line, 548

drawing shapes, 552

fill color, 547

gamut, 550

graphic libraries, 549

graphics contexts, 546

images in context, draw, 551

models, color, 551

parameters, 548

primary colors, 550

QuartzDemo, 553

RGB color model, 550

RYB color model, 550

specifying colors, 549

strike color, 547

tool sampler, 552

GLFun application

BIDGLFunView, 575

BIDViewController update, 582

CGPoint structs, 579

completion, 583

coordinate, 575

ellipse, Quartz, 580

ES based drawing, 575, 580

glEnable(), 579

glVertexPointer, 580

initWit, 578

nib update, 582

objectm Texture2D, 578

QuartzFun, 574

Quartz version, 579

RGBA color space, 579

set up, 574

snapshot, 574

texture, 575

vertex array, 581

QuartzFun application, 570–571

BIDQuartzFunView, 571

2D drawing code, 564

action methods, 563

application in action, 554

CGColor property, 565

CGPoint, 570

CGRect, 568

changeShape, 564

color control, 558

color drawing, 567

constants, define, 556

currentColor property, 565, 568

drawing the image, 569

drawing the line, 565

drawRect method, 565, 567

image segment, 564

initialization code, 558

initWithCoder, 559

lastTouch, 566

navigation bar, 560–561

optimizing, 570

outlets and action, 560

QuartzFunView skeleton, 557

random color create, 555

rectangle and ellipse, 567

redDrawRect, 571

reference change, 571

segmented control, 562

setNeedsDisplayInRect, 570

set up, 554

touchesMoved, 570

UIImageView property, 557

UIView, 559

views of graphical world, 546

2D drawing, 546

painter's model, 546

state machine, 546

R

Resources

- Apple's documentation, 717
- blogs, 720
- conferences, 721
- farewell, 723
- forums, 718
- mailing list, 718
- web sites, 719

Retain cycles, 390

S

Simple property lists, 440

Single-file persistence, 438

Storyboards, 341

- features, 341

prototype cells

- attentionCell, 347
- cell types, 350
- editing, 346
- fields, 347
- flags, 350
- load, 350
- queueReusableCellWithIdentifier, 349
- table content, 345
- table view data source, 348
- task grabbing, 349
- view controller, 346

segue

- BIDTasDetailController, 361
- blank slate, 356
- change of title, 357
- cocoa touch section, 359
- controller model, 358
- dragging a navigation, 356
- editedSelection property, 365
- first transition, 358
- handle tasks, 363
- key value coding, 362
- list receive the details, 364
- mutableCopy, 365
- navigator, 355
- passing a task, 361
- passing back details, 364
- plainCell to attentionCell, 366
- prepareForSegue, 362
- scene set up, 361

- seg nav, 358
- selected section, 358
- task list, 359
- text editing, 360
- triggering, 358
- UINavigationController, 356
- viewing task details, 360
- a simple storyboard
 - BIDViewController, 344
 - didFinishLaunchingWithArguments, 344
 - empty methods, 344
 - project navigator, 342
 - responder, 343
 - targets, 344
 - view controller, 343
- static cells
 - attribute inspector, 352
 - clock application, 354
 - from dynamic, 351
 - grouped view, 352
 - modes, 351
 - in new table, 352
 - table view data source, 353
 - UITableViewController, 351
 - UITableViewDataSource
 - methods, 351
 - transition, 366
- Structured Query Language (SQL), 453
- Swap file, 7
- Swipes application, 594
 - automatic gesture recognition, 598
 - fabsf() function, 597
 - multiple-finger swipe, 601
 - multiple swipes implementation, 599
 - performSelector, 598
 - single view application template, 595
 - swipe-reporting methods, 601
 - swipes detection, 595
 - touchesBegan, 597
 - touchesMoved, 597
- Switches, 100
 - doSomethingButton, 105
 - labeled switches, 102
 - on and off, 100
 - outlets and actions, 103
 - round rect button, 104
 - segmented control, 101
 - switchChanged method, 104

T

- Tab bar application
compile and run app, 186
empty application template, 176
icons, 178
identifier, 185
root view controller, 178
TabBarController.xib, 179
- Table views
customize cells
add subviews, 241
attributes inspector, 249
BIDNameAndColorCell, 242, 247
BIDViewController, 245
cell addition, 242
cellForRowAtIndexPath, 246
CellTableIdentifier, 248–249
contentView, 243
controller code, 244
CustomCell, 251
delegate methods, 251
dequeueReusableCellWithIdentifier, 246, 251
dragged labels, 250
group and target, 242
identifier field, 249
interface builder, 248
labels, static text, 244
multiline rows, subviews, 241
new table view cells, 251
nib editor, 248
NSMutableString, 242
resized views, 250
reuseIdentifier method, 243
row properties, 246
UITableViewCell subclass, 242
UITableViewCell, nib, 247
user interface, 247
viewDidLoad, 246
- grouped and indexed sections
adding indexes, 258
attribute inspector, 252
cellForRowAtIndexPath, 256
controller implementation, 253
data import, 252
data source methods, 255
- dictionary, 253
NSDictionary, 255
titleForHeaderInSection, 256
view building, 252
with an index, 259
with multiple sections, 257
without indexes, 258
- iOS tables, 222–223
and cells, 222
indexed table, 224
plain and grouped, 224
UITableView, 223
UITableViewCell, 223
UITableViewDelegate
protocol, 223
UITableViewSource
protocol, 223
- search bar
application, 260
bar to a table, 265
data source methods, 262
delegate method, 264
didFinishLaunchingWithOptions, 266
didLoadSearchResultsTable
View, 261
filtered array, 264
navigation bar, 265
shouldReloadTableForSearch
String, 263
tapping, 267
UISearchDisplayController, 260
- simple table
array values, 229
BIDViewController, 226, 236
cellForRowAtIndexPath, 230, 237
cell styles, 232
change size and height, 237
coding, 227
controller writing, 226
delegate methods, 237
design, view, 225
dwarven glory, 229
full size view, 225
image addition, 230
indent level set, 234–235
indexPath method, 236

justification, 233
modified size and height, 239
modify text label, 233
numberOfRowsInSection, 227
picker view, 226
property, image, 231
row change, delegate, 240
row selection handling, 235
SimpleTableIdentifier, 228
string instance, 228
style in a row, 233
subtitle, styles, 233
textLabel, 229
UITableViewControllerCellStyleDefault, 228

Taps, 585
doDoubleTap method, 602
doSingleTap method, 602
eraseMe method, 605
gesture recognizers, 606
labels, 603
multiple taps detection, 601
TapTaps application, 603
UITapGestureRecognizer, 602

Touches, 585
TouchExplorer application, 590
Touch notification methods, 589

U
UIImagePickerController, 667
User interface, 69
action sheets and alerts,
106–109
buttonPressed method, 107
delegate method, 107
initializer method, 108
view and self.view, 109
active and passive controls, 73
buttons (see Buttons)
control fun application, 69, 74
iOS vs. Mac controls, 74
segmented control action, 106
static controls, 73
switches (see Switches)

V
View switcher, 144
Voice over IP (VoIP), 525

W

WhereAml application, 626
Wi-Fi Positioning Service (WPS), 619
Workspace window, Xcode, 16
interface builder, 25
jump bar, 24
LLVM compiler, 25
navigator view
breakpoint navigator, 22
debug navigator, 21
issues navigator, 20
log navigator, 23
project navigator, 18
search navigator, 19
symbol navigator, 18
toolbar, 17
activity view, 17
assistant view, 17
scheme, 17
standard view, 17
utility pane, 25

X, Y, Z

Xcode, 11
changing attributes, 35
groups, 26
Hello World project, 26
inspector pane, 35
interface builder
dock, 29
history of, 28
.nib extension, 29
.xib extension, 29
in iPhone application, 38
keyboard shortcuts, 25
label, 32
library
code snippet library, 32
file template library, 32
media library, 32
object library, 32
project creation
ARC, 15
bundle identifier, 14
class prefix, 14
device family, 15
name and company identifier, 14

Xcode (*cont.*)

project template selection sheet, 13
single view application, 14
source control repository, 16
storyboard option, 15
unit tests, 15
welcome window, 12

workspace window

compiler and debugger, 25
interface builder, 25
jump bar, 24
navigator view, 18
toolbar, 17
utility pane, 25