GETTING STARTED IN IOS DEVELOPMENT IN SWIFT



TABLE OF CONTENTS

PREFACE	8
CHAPTER ONE: INTRODUCTION TO SWIFT AND XCODE	9
I. Swift and iOS	9
II. what should you learn to build an app?	10
CHAPTER TWO: PREPARE FOR HELLO WORLD APP	11
I. what hardware do i need?	11
II. Get an Apple id	12
III. Install & configure xcode	13
IV. Start your first Xcode project	15
V. Get To Know The Working Interface	18
VI. Run Your App For The First Time	20
Exercise #1	21
Exercise #2	21
SUMMARY	21
CHAPTER THREE: XCODE PROJECT AND FILES	23
I. PROJECT STRUCTURE	23
II. STORYBOARDS	24
III. Swift Files	26
IV. OTHER SUPPORTING Files	26
Exercise #1	28
Exercise #2	29
CHAPTER FOUR: USER INTERFACE OF THE HELLO WORLD APP	30
I. Overview of the function	30
II. Modify Main.storyboard	31

III. Link The Button To ViewController	35
IV. Test The Modifications	38
Exercise #1	39
Exercise #2	39
SUMMARY	40
CHAPTER FIVE : DOCUMENTATION AND BASIC SWIFT	41
I.Overview of ViewController.swift	41
II.A Swift Tour And Playground	43
III. Simple Values	44
IV. Control Flow	47
V. Functions and Closures	50
Exercise #1	53
Exercise #2	53
SUMMARY	54
CHAPTER SIX: INTRODUCTION TO DESIGN PATTERN MVC	55
I. Overview of The MVC pattern	55
II. Apply MVC To Hello World App: VIEW	56
III. Apply MVC To Hello World App: MODEL	60
VI. Apply MVC To Hello World App: CONTROLLER	60
V. Further understanding on MVC	63
SUMMARY	66
CHAPTER SEVEN: OOP AND DATA STRUCTURES IN SWIFT	67
I.INTRODUCTION	67
II. OBJECTS AND CLASSES	67
III. ENUMERATIONS AND STRUCTURES	71
IV. PROTOCOLS AND EXTENSIONS	73
V. ERROR HANDLING	75
vi. generics	77
SUMMARY	78
CHAPTER EIGHT: POWER FOCUS PROJECT OVERVIEW	79
I. Introduction	79
II. Function Overview	79

III. Interface and prototyping	80
IV. Data Structure	81
SUMMARY	82
CHAPTER NINE : CREATE MAIN STORYBOARD	84
I. CREATE A NEW PROJECT	84
II. Set Up the Storyboard	
III. Add Widgets to the Storyboard	
IV. Image View And Use Assets in Storyboards	
V. Image View and Image in Storyboards	
Exercise #1	
Exercise #2	97
SUMMARY	99
CHAPTER TEN: CREATE TIMER MODEL	100
I. Introduction	100
II. SPECIFICATION	
III. Timer Class Diagram	
IV. Enumeration ActivityType	
V. Create Class FocusTimer and Attributes	
V. FocusTimer's Initializer	107
VI. Static Attributes	107
VI. Exercise	109
Exercise #1	110
Exercise #2	111
SUMMARY	113
CHAPTER ELEVEN: UNIT TEST OF THE MODEL	114
I. Introduction to SOFTWARE TESTING	114
II. CREATE Unit testS in Xcode	
III. Basics of Unit Testing	11 <i>7</i>
IV. Test FocusTimer	
V. UI Tests	
Exercise	
SUMMARY	126

CHAPTER TWELVE: COMMUNICATIONS BETWEEN CONTROLLER AND VIEW....

1	2	7

I. Role of Controller in MVC	127
II. Simple binding	128
Exercise	133
SUMMARY	135
CHAPTER THIRTEEN: Controller Behaviors	136
I. Controller behaviors and model update	136
II. PowerFocous Timer	138
III. Timer handler and validation	140
IV. Update the model	142
Exercise	144
SUMMARY	145
CHAPTER FOURTEEN: INTERACTION MANAGEMENT A	ND MODEL
PERSISTENCe	146
I. Introduction	146
II. Interaction cases	147
III. Use int Extension to format string	149
IV. Alternate between work and pause	150
Exercise #1	155
Exercise #2	156
SUMMARY	157
CHAPTER FIFTEEN: SETTINGS STATIC TABLE VIEW	158
I. Design Settings	158
II. Create a static table view	159
III. Customize static table view	162
IV. View Controller Setup	164
Exercise #1	166
Exercise #2	167
SUMMARY	168
CHAPTER SIXTEEN: PERSISTENCE	169

I. Data Source and Persistence	169
II. User Defaults	170
III. Modify User Defaults in Settings	173
IV. Update Timer in View Controller	177
Exercise #1	179
Exercise #2	180
SUMMARY	181
CHAPTER SEVENTEEN: SUBMIT YOUR APP TO APP STORE	182
I. Introduction	182
II. Get Prepared and Well-Tested	
III. Submit Your App to App Store	
SUMMARY	
CHAPTER EIGHTEEN: INTRODUCTION TO SWIFTUI	186
I. Introduction	186
II. Creating and Combining Views	
III. Combine Views Using Stacks	
IV. Create a Custom Image View	
V. Use UIKit and SwiftUI Views Together	
VI. Compose the Detail View	
SUMMARY	
APPENDIX: SWIFT BASICS	
Variables	
Functions	
Operators	
Classes, Objects, Properties	
Structs	
Control Flow: Conditionals	206
Loops	
Switch	
Strings	
Optionals	
Collections: Arrays	
Dictionaries	210

Sets	211
Closures	212
Guard	213
Defer	213
Generics	214
Tuples	215
Enumerations	215
Error Handling	



Do you enjoy using iPhone and all the amazing apps in the Apple AppStore? If your answer is yes and you want to build your own app, this book is perfect for you to get your programming journey started!

This book will cover everything you need to learn to build your own app and for iOS app development. If you are an absolute beginner with no programming background or experience, don't worry! In my opinion, one of the beauties about learning mobile app developments compared to the hard core computer science is that you don't really learn until you get your hands dirty and really build something of your own. So if you are a beginner, just follow the instructions step by step, and I'm sure that your app is going to be awesome little by little.

In this book, I will show you step by step how to build an app using Xcode and other tools that Apple provides to its developers. If you want to build your own apps with your app ideas, you don't need to finish the whole book to get started. The first half of this book is about some basic concepts and approaches, which you are going to need no matter what you're trying to build. However, the second half is about the cool features that are introduced to iOS 11 and 12 which can make your app look and feel better. So if you want to add a certain feature to your own app, just jump right to the corresponding chapter and follow the template.

Can't wait to get started? Let's build your first app!