

# Contents

<b>Preface</b>	<b>8</b>
About this book	
Notes for iOS developers	
<b>Introduction: Swift for Complete Beginners</b>	<b>14</b>
How to install Xcode and create a playground	
Variables and constants	
Types of Data	
Operators	
String interpolation	
Arrays	
Dictionaries	
Conditional statements	
Loops	
Switch case	
Functions	
Optionals	
Optional chaining	
Enumerations	
Structs	
Classes	
Properties	
Static properties and methods	
Access control	
Polymorphism and typecasting	
Closures	
Protocols	
Extensions	
Protocol extensions	
Wrap up	

<b>Project 1: Storm Viewer</b>	<b>109</b>
Storm Viewer: Setting up	
Working with views	
Introduction to lists	
Loading our images	
Responding to image selection	
Finishing touches	
Storm Viewer: Wrap up	
<b>Project 2: Cows and Bulls</b>	<b>134</b>
Cows and Bulls: Setting up	
Designing our user interface	
Filling in the list	
Marking guesses	
Extra polish	
Cows and Bulls: Wrap up	
<b>Project 3: Views and Modifiers</b>	<b>161</b>
Views and modifiers: Introduction	
Why does SwiftUI use structs for views?	
Why modifier order matters	
Why does SwiftUI use “some View” for its view type?	
Conditional modifiers	
Environment modifiers	
Views as properties	
View composition	
Custom modifiers	
Custom containers	
Views and modifiers: Wrap up	
<b>Project 4: Text Parser</b>	<b>189</b>
Text Parser: Introduction	

- Bootstrapping an app
- Performing semantic analysis
- Finding alternative words
- Detecting names and languages
- Bringing in an external package
- Flags and options
- Text Parser: Wrap up

## **Project 5: MultiMap** **221**

- MultiMap: Introduction
- Creating an interactive map
- Searching for locations
- Handling multiple list selection
- Final polish
- MultiMap: Wrap up

## **Project 6: Animation** **246**

- Animation: Introduction
- Creating implicit animations
- Customizing animations in SwiftUI
- Animating bindings
- Creating explicit animations
- Controlling the animation stack
- Animating gestures
- Showing and hiding views with transitions
- Building custom transitions using ViewModifier
- Animation: Wrap up

## **Project 7: Fast Track** **277**

- Fast Track: Setting up
- From lists to grids
- Downloading data from a server
- Remote images and custom subviews
- Playing audio

Finishing touches  
Fast Track: Wrap up

## **Project 8: Odd One Out** **318**

Odd One Out: Setting up  
Creating a grid of buttons  
Generating layouts  
Click to win  
Game over  
Odd One Out: Wrap up

## **Project 9: Drawing** **336**

Drawing: Introduction  
Creating custom paths with SwiftUI  
Paths vs shapes in SwiftUI  
Adding strokeBorder() support with InsettableShape  
Transforming shapes using CGAffineTransform and even-odd fills  
Creative borders and fills using ImagePaint  
Enabling high-performance Metal rendering with drawingGroup()  
Special effects in SwiftUI: blurs, blending, and more  
Animating simple shapes with animatableData  
Animating complex shapes with AnimatablePair  
Creating a spirograph with SwiftUI  
Drawing: Wrap up

## **Project 10: Time Buddy** **378**

Time Buddy: Setting up  
The art of nothing  
Hello, menu bar  
Over to SwiftUI  
Dynamic menu items  
Time Buddy: Wrap up

<b>Project 11: Bubble Trouble</b>	<b>406</b>
Bubble Trouble: Setting up	
Cleaning up the Xcode template	
Bubbles... bubbles everywhere!	
Setting the universe in motion	
Adding some difficulty	
Gotta pop 'em all	
Bubble Trouble: Wrap up	
<b>Project 12: Layout and Geometry</b>	<b>429</b>
Layout and geometry: Introduction	
How layout works in SwiftUI	
Alignment and alignment guides	
How to create a custom alignment guide	
Absolute positioning for SwiftUI views	
Understanding frames and coordinates inside GeometryReader	
ScrollView effects using GeometryReader	
Layout and geometry: Wrap up	
<b>Project 13: Screenable</b>	<b>458</b>
Screenable: Setting up	
Introduction to FileDocument	
Custom rendering with Canvas	
Loading files from your app bundle	
Adding images with drag and drop	
Colors and gradients	
Adding shadows	
Exporting the finished product	
Credits and settings	
Screenable: Wrap up	
<b>Project 14: Shooting Gallery</b>	<b>519</b>
Shooting Gallery: Setting up	
Creating the game world	

Creating a custom node  
Click, click, bang!  
Adding some polish  
Shooting Gallery: Wrap up

## **Project 15: Accessibility**

**544**

Accessibility: Introduction  
Identifying views with useful labels  
Hiding and grouping accessibility data  
Reading the value of controls  
Accessibility: Wrap up