SwiftUI on watchOS

Matthew Koonce, watchOS Frameworks Engineer
Josh Weinberg, watchOS Frameworks Engineer
watchOS
watchOS

- Digital Crown
- Native apps
- SceneKit
- SpriteKit
- Complications
- Taptic Engine
- PassKit
- HealthKit
- Background App Refresh
- Background modes
- SiriKit
- ClockKit
- MapKit
- Navigation session
- NSURLSession
- Interactive notifications
- Audio recording
- Single process runtime
watchOS 6

- Streaming audio
- Independent apps
- Improved debugging
- watchOS App Store
- Smart alarms
- Self-care
- Asset and architecture thinning
- PassKit
- Health authorization
- Audio recording
- Native apps
- Interactive notifications
- Taptic Engine
- Digital Crown
- HealthKit
- ClockKit
- Apple Neural Engine
- SceneKit
- SiriKit
- Navigation session
- SpriteKit
- Single process runtime
- Background App Refresh
- MapKit
- Background modes
- NSURLConnection
- Complications
- Physical therapy
- Tinted complications
- Sign in with Apple
- Continuity keyboard
- Health monitoring
- Native apps
- Background push target
- Interactive notifications
- Extended runtime
import SwiftUI

struct SignInView: View {

    @State var username = ""
    @State var password = ""

    var body: some View {
        ScrollView {
            VStack {
                SignInWithAppleButton() { // execute the Apple sign in flow
                    // execute the sign in flow
                    Text("Sign In")
                }
                HorizontalDivider{
                    label: Text("or")
                }
                TextField("Username", placeholder: Text("Username"))
                    .textContentType(.username)
                SecureField("Password", placeholder: Text("Password"))
                    .textContentType(.password)
            }
        }
    }
}

struct SignInWithAppleButton: ButtonAction {
    func action() {
        // execute the Apple sign in flow
    }
}
Integrating SwiftUI

Thursday, 3:00
Contextual and Timely

TOMORROW'S FORECAST

Partly cloudy starting in the evening. Winds light and variable. Chance of precip 9%.
Quick Interactions
Quick Interactions
Demo
Next-Level Customizations

Josh Weinberg, watchOS Frameworks Engineer
Your Reservation

YELP
Coffee with Tiffany
The Coffee Shop
Coffee with Tiffany
The Coffee Shop
Coffee with Tiffany
The Coffee Shop
.digitalCrownRotation(
    Binding<BinaryFloatingPoint>
    from: BinaryFloatingPoint
    through: BinaryFloatingPoint
)
Digital Crown

```swift
.digitalCrownRotation(
    Binding<BinaryFloatingPoint>
    from: BinaryFloatingPoint
    through: BinaryFloatingPoint
)
```

Post-talk dinner with Matt and Mana
Digital Crown

```swift
.digitalCrownRotation(
    $offset
    from: BinaryFloatingPoint
    through: BinaryFloatingPoint
)
```
Digital Crown

digitalCrownRotation(
    $offset
    from: BinaryFloatingPoint
    through: BinaryFloatingPoint
)
.digitalCrownRotation(
    $offset
    from: 0.0
    through: BinaryFloatingPoint
)
Digital Crown

```swift
.digitalCrownRotation(
    $offset
    from: 0.0
    through: BinaryFloatingPoint
)
```
Digital Crown

digitalCrownRotation(
    $offset
    from: 0.0
    through: size.height
)
Digital Crown

```swift
.digitalCrownRotation(
    $offset
    from: 0.0
    through: size.height
)
```
Digital Crown

digitalCrownRotation(
  $offset
  from: 0.0
  through: size.height
)
Digital Crown

digitalCrownRotation($offset from: 0.0 through: size.height)
18% Tip: $204.84
People: 1
Total: $1,342.84
Digital Crown

```swift
.digitalCrownRotation(
    Binding<BinaryFloatingPoint>
    from: BinaryFloatingPoint
    through: BinaryFloatingPoint
    by: BinaryFloatingPoint
)
```
Digital Crown

```swift
.digitalCrownRotation(
    Binding<BinaryFloatingPoint>
    from: BinaryFloatingPoint
    through: BinaryFloatingPoint
    by: BinaryFloatingPoint
)
```
Digital Crown

```swift
digitalCrownRotation(
    $people
    from: 1.0
    through: 15.0
    by: BinaryFloatingPoint
)
```

18% Tip 204.84

People 1

1,342.84

Total
Digital Crown

```swift
.digitalCrownRotation(
    $people
    from: 1.0
    through: 15.0
    by: BinaryFloatingPoint
)
```
Digital Crown

```
.digitalCrownRotation($people
  from: 1.0
  through: 15.0
  by: 1.0
)
```
Digital Crown

```swift
.digitalCrownRotation(
    $people
    from: 1.0
    through: 15.0
    by: 1.0
)
```
Digital Crown

```swift
.digitalCrownRotation(
    $people
    from: 1.0
    through: 15.0
    by: 1.0
)
```
Digital Crown

```swift
.digitalCrownRotation(
    $people
    from: 1.0
    through: 15.0
    by: 1.0
)
```
Digital Crown

```swift
.digitalCrownRotation(
    $people
    from: 1.0
    through: 15.0
    by: 1.0
)
```
Digital Crown

```swift
.digitalCrownRotation(
    Binding<BinaryFloatingPoint>
    from: BinaryFloatingPoint
    through: BinaryFloatingPoint
    by: BinaryFloatingPoint
    sensitivity: RotationSensitivity
    isContinuous: Bool
)
```
Digital Crown

```swift
.digitalCrownRotation(
    Binding<BinaryFloatingPoint>
    from: BinaryFloatingPoint
    through: BinaryFloatingPoint
    by: BinaryFloatingPoint
    sensitivity: RotationSensitivity
    isContinuous: Bool
)
```
.digitalCrownRotation(
    $hours
    from: 1.0
    through: 12.0
    by: 1.0
    sensitivity: RotationSensitivity
    isContinuous: Bool
)
Digital Crown

```
.digitalCrownRotation(
    $hours
    from: 1.0
    through: 12.0
    by: 1.0
    sensitivity: RotationSensitivity
    isContinuous: Bool
)
```
Digital Crown

```
digitalCrownRotation(
    $hours
    from: 1.0
    through: 12.0
    by: 1.0
    sensitivity: .low
    isContinuous: Bool
)
```
.digitalCrownRotation(
    $hours
    from: 1.0
    through: 12.0
    by: 1.0
    sensitivity: .low
    isContinuous: Bool
)
.digitalCrownRotation(
  $hours
  from: 1.0
  through: 12.0
  by: 1.0
  sensitivity: .low
  isContinuous: true
)
Digital Crown

digitalCrownRotation(
  $hours
  from: 1.0
  through: 12.0
  by: 1.0
  sensitivity: .low
  isContinuous: true
)
.digitalCrownRotation($hours
    from: 1.0
    through: 12.0
    by: 1.0
    sensitivity: .low
    isContinuous: true
)
.digitalCrownRotation(
    $hours
    from: 1.0
    through: 12.0
    by: 1.0
    sensitivity: .low
    isContinuous: true
)
Digital Crown

```swift
.digitalCrownRotation(
    $hours
    from: 1.0
    through: 12.0
    by: 1.0
    sensitivity: .low
    isContinuous: true
)
```
Focus

VStack {
    Tip(selection: $percent)

    People(selection: $people)
}

1,138

18% Tip 204.84

People 1

1,342.84
VStack {
    Tip(selection: $percent)

    People(selection: $people)
}

18% Tip 204.84
People 1
1,342.84
Total
VStack {
    Tip(selection: $percent)
        .focusable(true)
    People(selection: $people)
        .focusable(true)
}

Focus
Focus

VStack {
    Tip(selection: $percent)
        .focusable(true)
    People(selection: $people)
        .focusable(true)
}

18% Tip  204.84
People  1

Total  1,342.84
VStack {
    Tip(selection: $percent)
        .focusable(true)
    People(selection: $people)
        .focusable(true)
}

SwiftUI On All Devices

Friday, 2:00
SwiftUI and watchOS

Engaging and interactive experiences

Easily create custom UI

Concepts apply everywhere
## More Information

developer.apple.com/wwdc19/219

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