

Week 1

Xcode, Swift, SwiftUI

이안진



Week 1



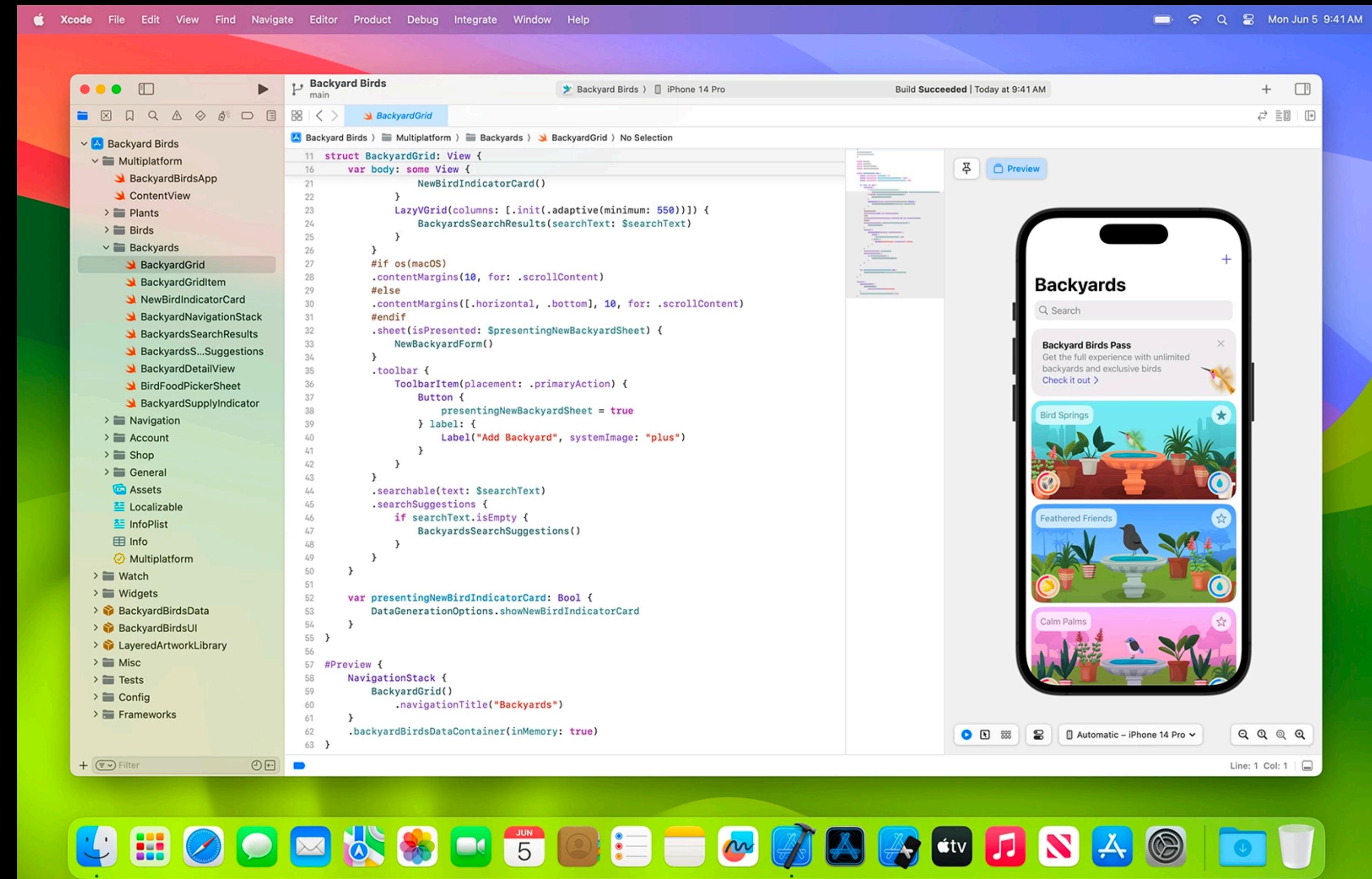
iOS



Xcode

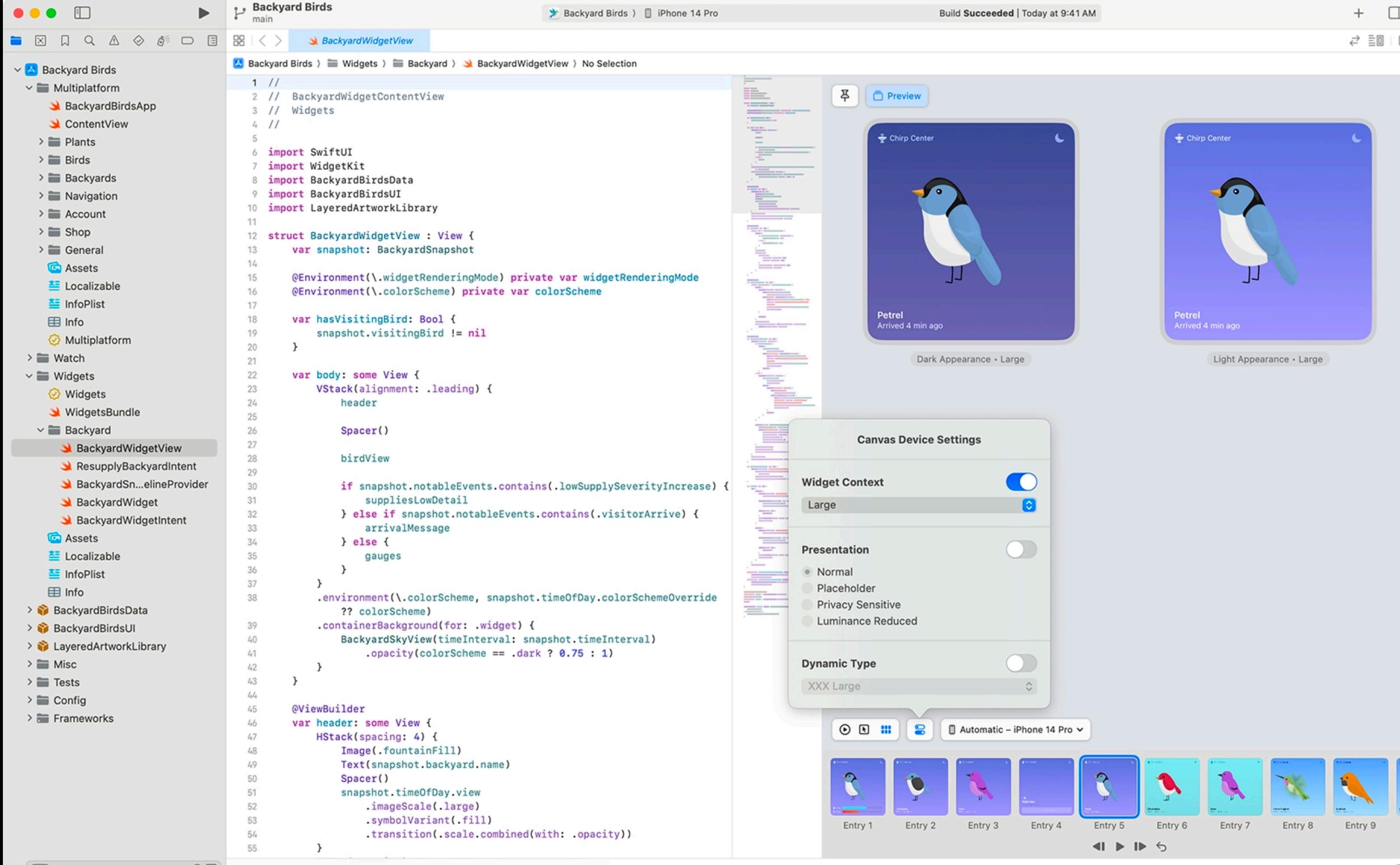


Xcode



Xcode





Backyard Birds

BackyardWidgetView

```
1 //  
2 // BackyardWidgetContentView  
3 // Widgets  
4 //  
5  
6 import SwiftUI  
7 import WidgetKit  
8 import BackyardBirdsData  
9 import BackyardBirdsUI  
10 import LayeredArtworkLibrary  
11  
12 struct BackyardWidgetView : View {  
    var snapshot: BackyardSnapshot  
    @Environment(\.widgetRenderingMode) private var widgetRenderingMode  
    @Environment(\.colorScheme) private var colorScheme  
    var hasVisitingBird: Bool {  
        snapshot.visitingBird != nil  
    }  
    var body: some View {  
        VStack(alignment: .leading) {  
            header  
            Spacer()  
            birdView  
            if snapshot.notableEvents.contains(.lowSupplySeverityIncrease) {  
                suppliesLowDetail  
            } else if snapshot.notableEvents.contains(.visitorArrive) {  
                arrivalMessage  
            } else {  
                gauges  
            }  
        }  
        .environment(\.colorScheme, snapshot.timeOfDay.colorSchemeOverride  
            ?? colorScheme)  
        .containerBackground(for: .widget) {  
            BackyardSkyView(timeInterval: snapshot.timeInterval)  
                .opacity(colorScheme == .dark ? 0.75 : 1)  
        }  
    }  
    @ViewBuilder  
    var header: some View {  
        HStack(spacing: 4) {  
            Image(.fountainFill)  
            Text(snapshot.backyard.name)  
            Spacer()  
            snapshot.timeOfDay.view  
                .imageScale(.large)  
                .symbolVariant(.fill)  
                .transition(.scale.combined(with: .opacity))  
        }  
    }  
}
```

Canvas Device Settings

Widget Context

Large

Presentation

Normal

Placeholder

Privacy Sensitive

Luminance Reduced

Dynamic Type

XXX Large

Automatic – iPhone 14 Pro

Entry 1 Entry 2 Entry 3 Entry 4 Entry 5 Entry 6 Entry 7 Entry 8 Entry 9

Xcode



Backyard Birds

Backyard Birds > iPhone 14 Pro

Paused Backyard Birds on iPhone 14 Pro

BackyardsSearchResults

```
Backyard Birds > Multiplatform > Backyards > BackyardsSearchResults > M init(searchText:)
```

Backyard Birds PID 24726

- CPU 2%
- Memory 95.3 MB
- Disk Zero KB/s
- Network Zero KB/s

Thread 1 Queue: com.apple.main-thread (serial)

- 0 BackyardsSearchResults.init(searchText:)
- 1 closure #1 in closure #1 in BackyardGrid.body...
- 2 closure #1 in BackyardGrid.body.getter
- 3 BackyardGrid.body.getter
- 4 static BackyardBirdsApp.\$main()
- 5 main
- 6 start_sim
- 7 start

Thread 2

Thread 3

Thread 4

Thread 5

com.apple.uikit.eventfetch-thread (6)

Thread 7

Thread 8

Thread 9

Thread 10

com.apple.SwiftUI.AsyncRenderer (11)

```
import SwiftUI
import SwiftData
import BackyardBirdsData

struct BackyardsSearchResults: View {
    @Binding var searchText: String
    @Query private var backyards: [Backyard]

    init(searchText: Binding<String>) {
        _searchText = searchText
        if searchText.wrappedValue.isEmpty {
            _backyards = Query(sort: \.creationDate)
        } else {
            let term = searchText.wrappedValue
            _backyards = Query(filter: #Predicate { backyard in
                backyard.name.contains(term)
            }, sort: \.name)
        }
    }

    var body: some View {
        ForEach(backyards) { backyard in
            BackyardGridItem(backyard: backyard)
        }
    }

    #Preview {
        BackyardsSearchResults(searchText: .constant("B"))
            .backyardBirdsDataContainer(inMemory: true)
    }
}
```

Thread 1: breakpoint 1.1 (1)

BackyardsSearchResults.init(searchText:)

searchText (SwiftUI.Binding<String>)

transaction (SwiftUI.Transaction)

location (SwiftUI.StoredLocation<String> 0x0000600000cdea60)

self (Backyard_Birds.BackyardsSearchResults)

term = (String) "Quiet Haven"

17:11:41.3920 % BackyardBirdsData BackyardVisitorEvent

17:11:41.3920 % BackyardBirdsData BackyardVisitorEvent

Finished generating current events

Generating future events

Metadata

- Type
- Timestamp
- Library
- PID:ID
- Subsystem
- Category

Filter

Auto

Filter

SUBSYSTEM ≠ "com.appleUIKit"

Xcode



Backyard Birds

Backyard Birds > iPhone 14 Pro

Paused Backyard Birds on iPhone 14 Pro

BackyardsSearchResults

```
Backyard Birds Multiplatform Backyards BackyardsSearchResults init(searchText:)

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BackyardsSearchResults.init(searchText:)

17:11:41.3920 % BackyardBirdsData BackyardVisitorEvent

Finished generating current events

17:11:41.3920 % BackyardBirdsData BackyardVisitorEvent

Generating future events

Metadata

- Type
- Timestamp
- Library
- PID:TID
- Subsystem
- Category

Count

BackyardBirdsData DataGeneration

Backing Account

BackyardBirdsData Account Generation

Filter

Auto

Filter

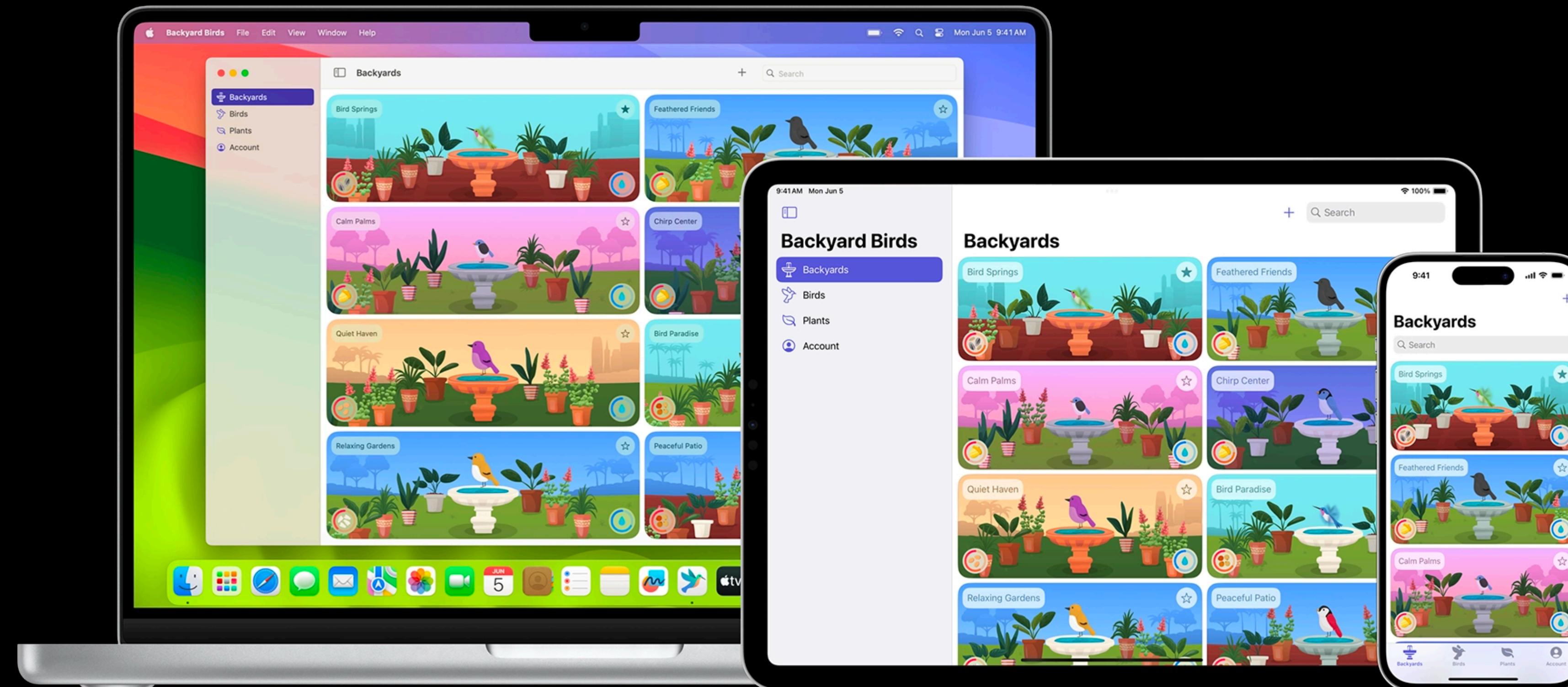
SUBSYSTEM = "com.appleUIKit"

<https://developer.apple.com/documentation/xcode>

SwiftUI



SwiftUI



SwiftUI

```
import SwiftUI

struct AlbumDetail: View {
    var album: Album

    var body: some View {
        List(album.songs) { song in
            HStack {
                Image(album.cover)
                VStack(alignment: .leading) {
                    Text(song.title)
                    Text(song.artist.name)
                        .foregroundStyle(.secondary)
                }
            }
        }
    }
}
```

SwiftUI

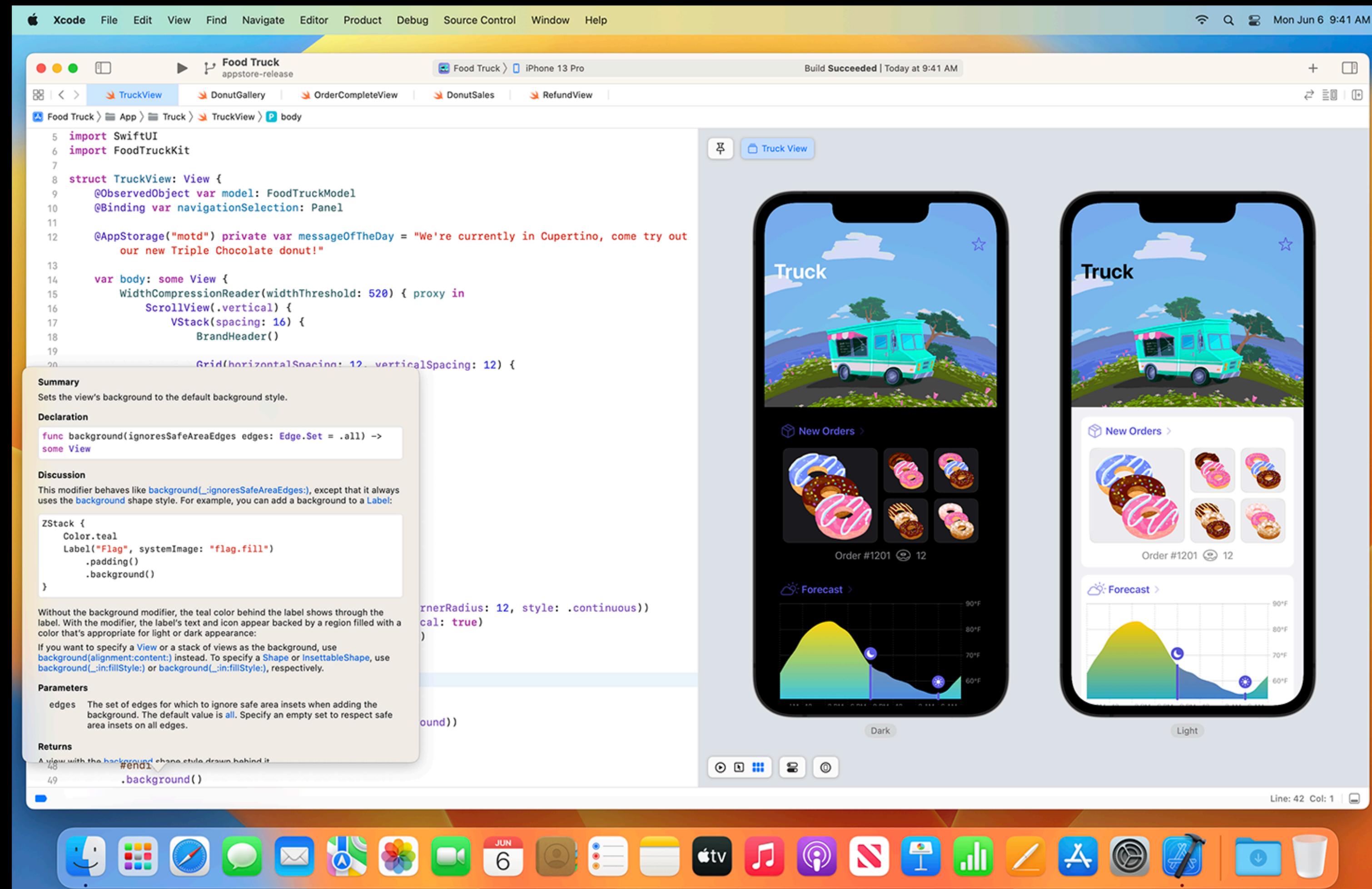
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```

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List(album.songs) { song in
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            Text(song.artist.name)
                .foregroundStyle(.secondary)
        }
    }
}
```

SwiftUI



UIKit

SwiftUI

UIKit

SwiftUI UIKit

iOS 13 이상

UIKit

UIKit

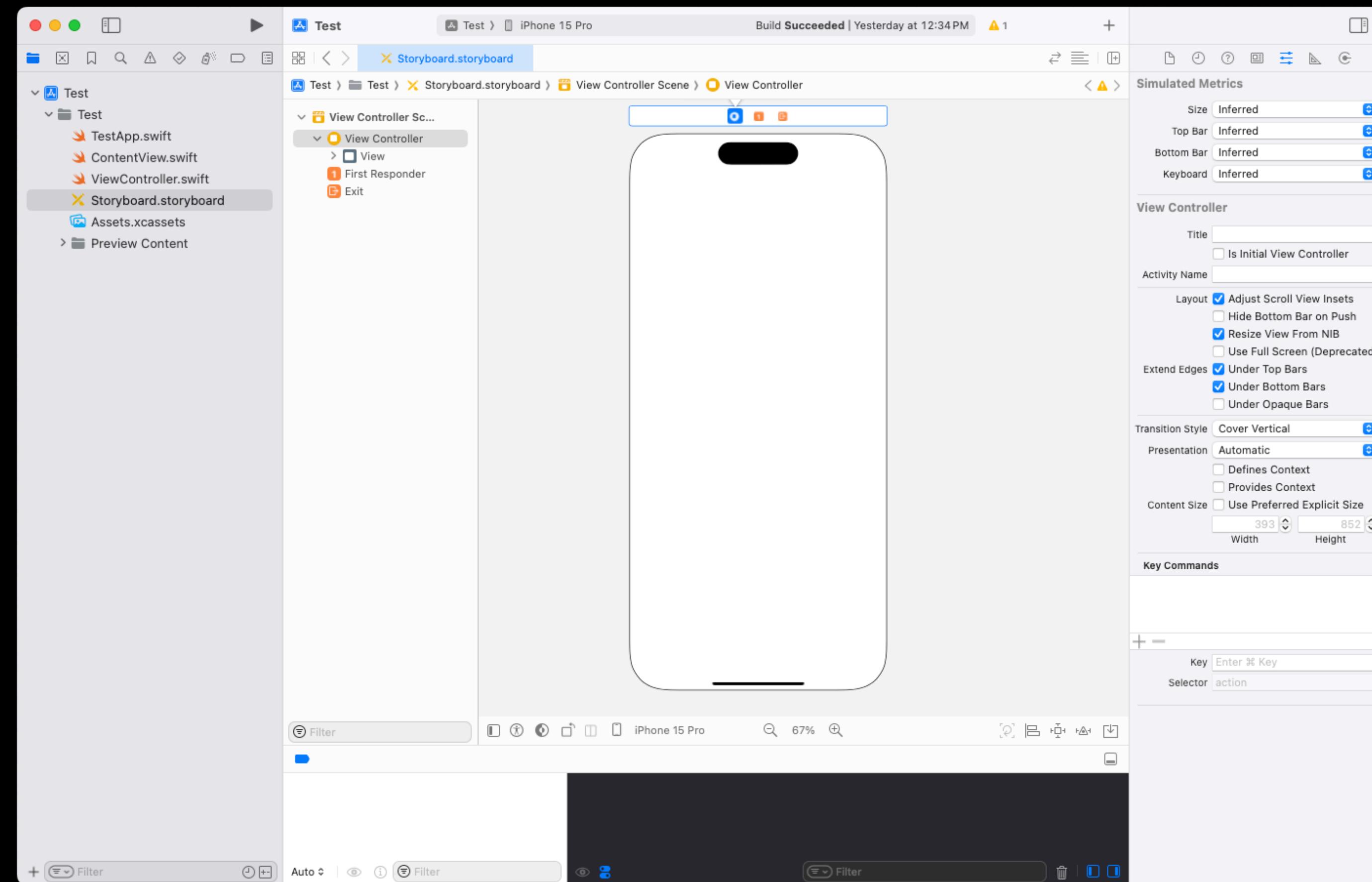
```
import UIKit

class ViewController: UIViewController {

    override func viewDidLoad() {
        super.viewDidLoad()

        // Do any additional setup after loading the view.
    }
}
```

UIKit



UIKit

Delegates and data sources

UIKit



A mature and stable framework

UIKit

- ✓ A mature and stable framework
- 👉 A wide range of UI component

UIKit

- ✓ A mature and stable framework
- 🖱 A wide range of UI component
- 🌐 Extensive documentation and community support

UIKit

❑ Verbose code

UIKit

- ❑ Verbose code
- ❑ Lack of built-in support for modern design patterns

SwiftUI



Simplified code and easier maintenance

SwiftUI

-  Simplified code and easier maintenance
-  Improved design-to-code workflow

SwiftUI

-  Simplified code and easier maintenance
-  Improved design-to-code workflow
-  Automatic support for dark mode and accessibility

SwiftUI

- ☒ Limited compatibility with older iOS versions

SwiftUI

- ❑ Limited compatibility with older iOS versions
- ❑ Less mature framework with fewer UI components

SwiftUI

UIKit



SwiftUI