

Sri Lanka Institute of Information Technology



Mobile Application Design and Development – SE4041

Assignment 2 - Report

Topic: Mobile app for Travel & Tourism

App Name: Serendip Buddy (Discover the Island together)

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1. Introduction

SerendipBuddy is a mobile application designed to connect students and tourists in Sri Lanka with like-minded travel companions. The app helps users find reliable buddies for trips, share costs, and explore destinations together, making travel safer, more affordable, and more enjoyable. With features like profile matching, group trip planning, secure in-app chat, and event discovery, SerendipBuddy creates a trusted community for collaborative travel experiences. It aims to bridge the gap between solo travelers and local explorers, enhancing cultural exchange while promoting Sri Lanka's vibrant tourism opportunities.

2. Design Principles

- **Simplicity:** Minimal clicks to access main features
- **Consistency:** Use of a fixed color palette, typography, and icon style across all screens.
- **Accessibility:** Readable fonts, sufficient contrast, and offline functionality.
- **User-Centered:** Focus on real traveler needs such as itinerary planning and emergency information.

3. Color Scheme

The design follows the 60-30-10 rule.

- **60% White (FFFFFF)** – Backgrounds
- **30% Green (F44336)**- Buttons
- **10% Black (333333)** – texts

4. Typography

Selected fonts for readability and aesthetics.

- **Headings:** Inter Bold - 28pt
- **Body Text:** Roboto Bold – 16pt
- **Buttons:** Roboto Bold 18pt

5. Iconography

- **Home:** 
- **Notification:** 
- **Profile:** 

6. UI Screens & Features

6.1 1. Splash Screen

- App Logo + Name

6.2 2. User Authentication

- Login/Sign Up
- Skip

6.3 3. Home Dashboard

- Matching, Suggestions, MyTrips, Combo deals, Super Deals

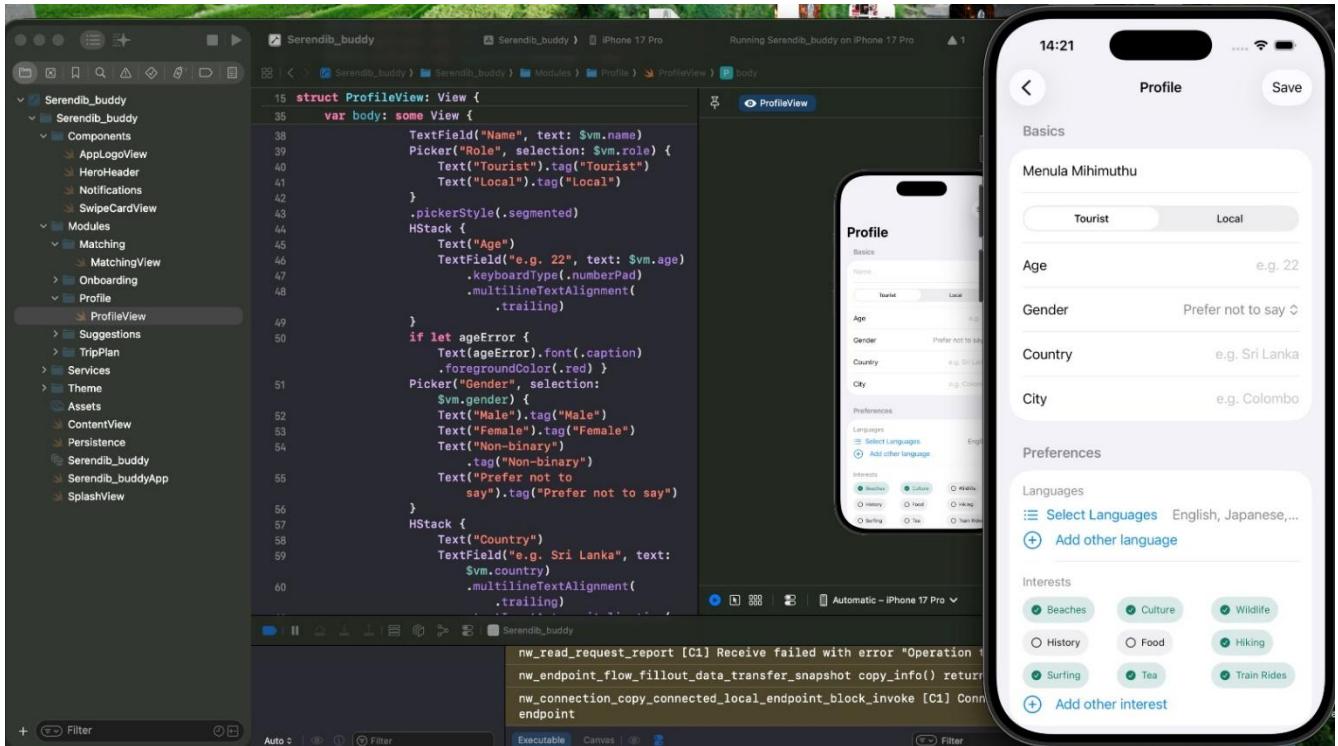
6.4 4. MyTrips

- Add Destinations
- Travel Bookings

6.5 5. Suggestions

- Matching people, user profiles, Search Bar

6.6 6. User profile & Settings



7. Conclusion

In conclusion, SerendipBuddy is more than just a travel app it's a community platform that helps students and tourists in Sri Lanka connect with trustworthy companions, discover authentic local experiences, and plan trips together with ease. By combining features like buddy matching, group trip planning, event discovery, and secure communication, the app enhances safety, reduces travel costs, and creates opportunities for cultural exchange. Ultimately, SerendipBuddy aims to make every journey across Sri Lanka more enjoyable, affordable, and memorable.

8. Prototyping tool

Demo_Video:

<https://drive.google.com/drive/folders/1JuG9ePVEG3PStqWowuoqrHue1PC31lHg?usp=sharing>

9. Project Codes

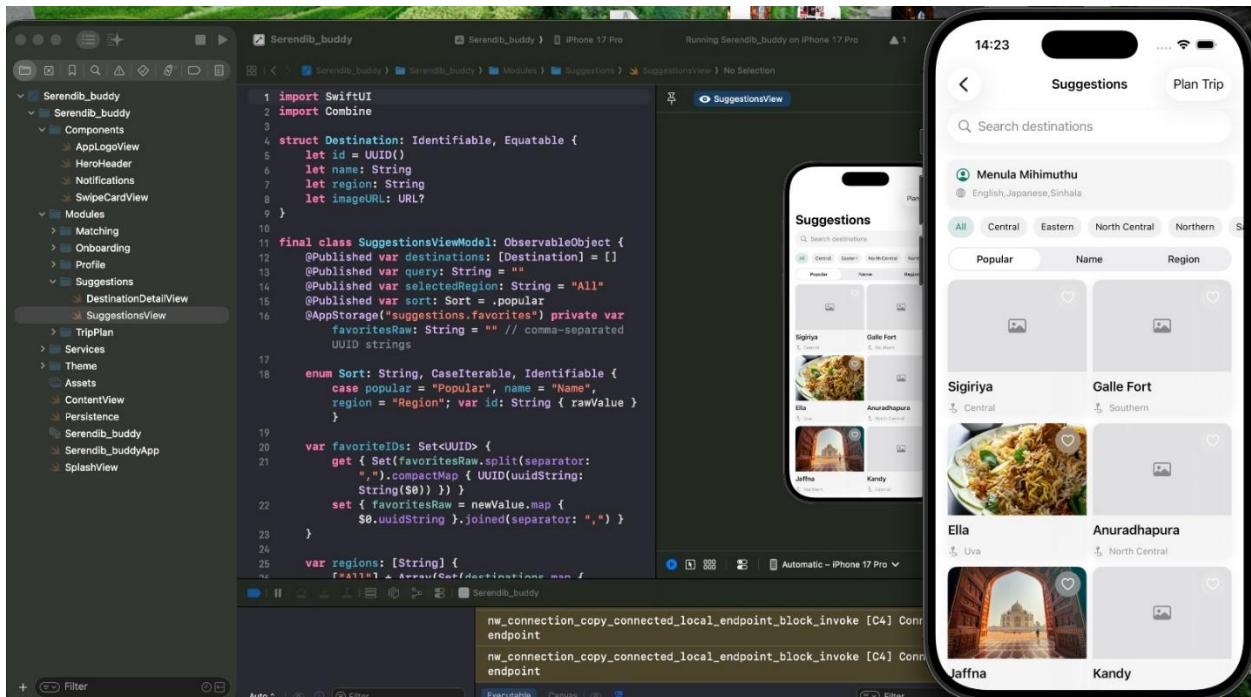
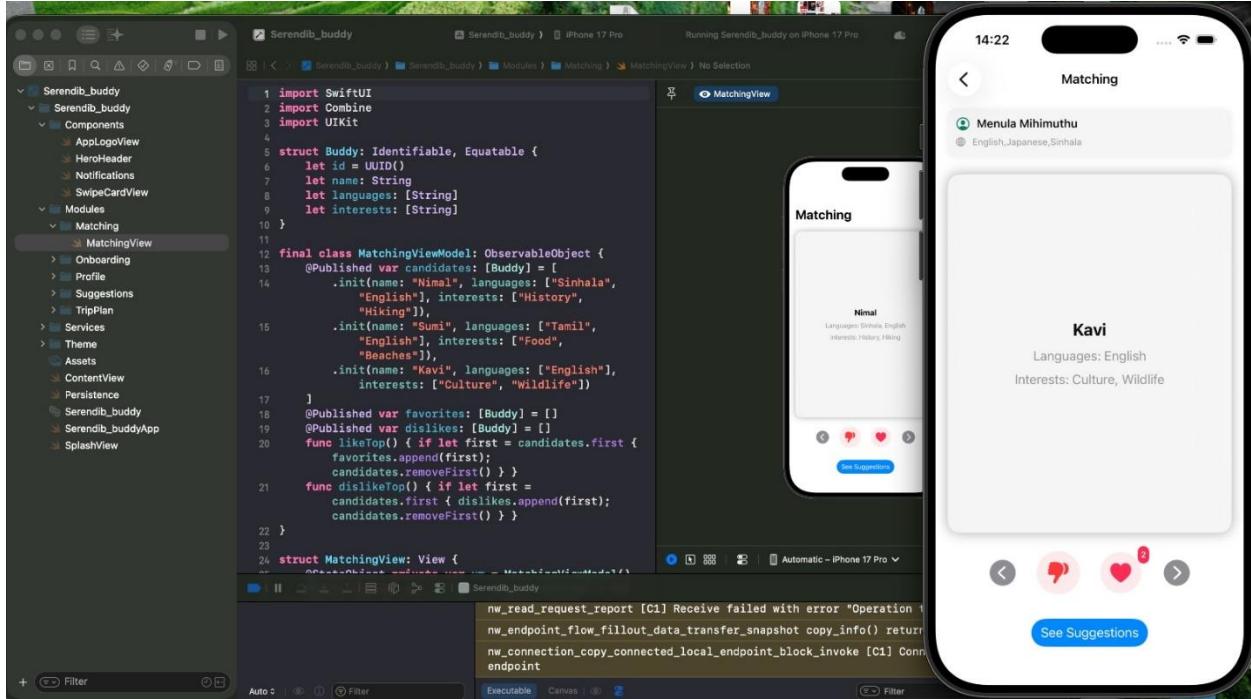
The screenshot shows the Xcode IDE with the project structure of "Serendib_buddy" and the ContentView.swift file open. The code is as follows:

```
1 // Content View.swift
2 // Serendib_buddy
3 // Created by IM Student on 2025-11-23.
4
5 import SwiftUI
6 import Combine
7 import CoreData
8
9 struct ContentView: View {
10     @Environment(\.managedObjectContext) private var viewContext
11
12     @FetchRequest(
13         sortDescriptors: [NSSortDescriptor(keyPath: \Item.timestamp, ascending: true)],
14         animation: .default)
15     private var items: FetchedResults<Item>
16
17     @State private var searchText: String = ""
18     @AppStorage("profile.name") private var storedName: String = ""
19
20     private struct MenuItem: Identifiable {
21         let id = UUID()
22         let title: String
23         let destination: AnyView
24     }
25
26     // MARK: - Brand Badge
27     struct BrandBadge: View {
28
29     }
30 }
```

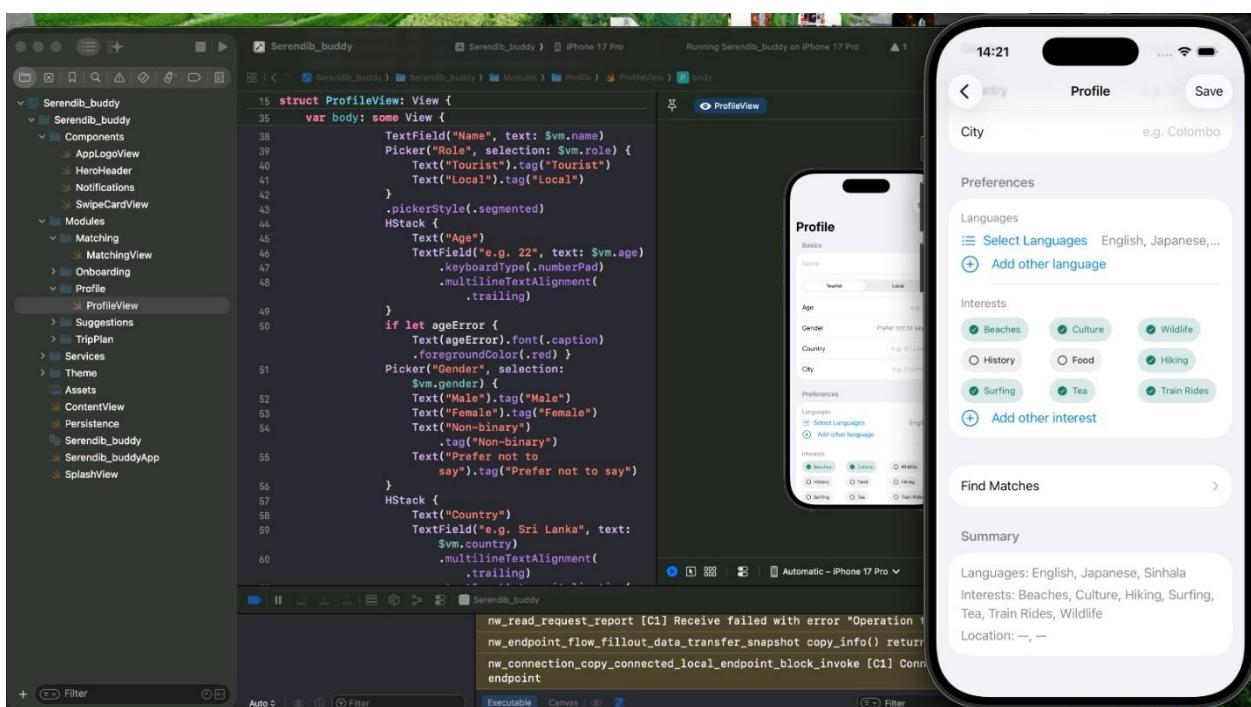
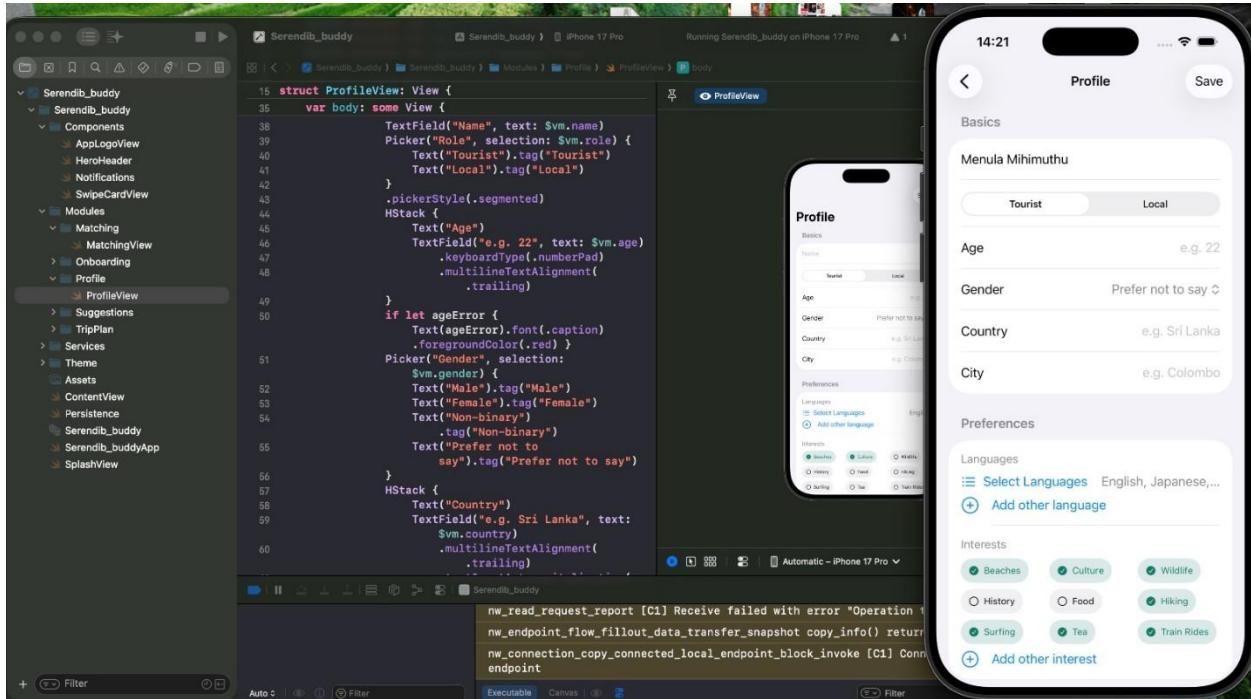
The Xcode interface includes a sidebar with components like AppLogoView, HeroHeader, Notifications, SwipeCardView, MatchingView, OnboardingView, Profile, Suggestions, TripPlan, Services, Theme, Assets, Persistence, Serendib_buddyApp, and SplashView. The bottom of the screen shows the build log: "Build Succeeded | Today at 13:54".

Two iPhone 17 Pro simulators are displayed side-by-side. The left simulator shows the "Profile" screen with fields for Age, Gender, Country, City, Preferences (language, interests), and a "Find Matches" button. The right simulator shows the main "Travel Buddy Matcher" screen with a greeting "Hello, Menua Mihimuthu", a search bar, and sections for "Discover Sri Lanka" (Match with local student buddies), "Smart buddy matching", "Personalized destination suggestions", and "Plan your itinerary with ease". Below these are navigation links for "Matching", "Suggestions", and "Trip Plan".

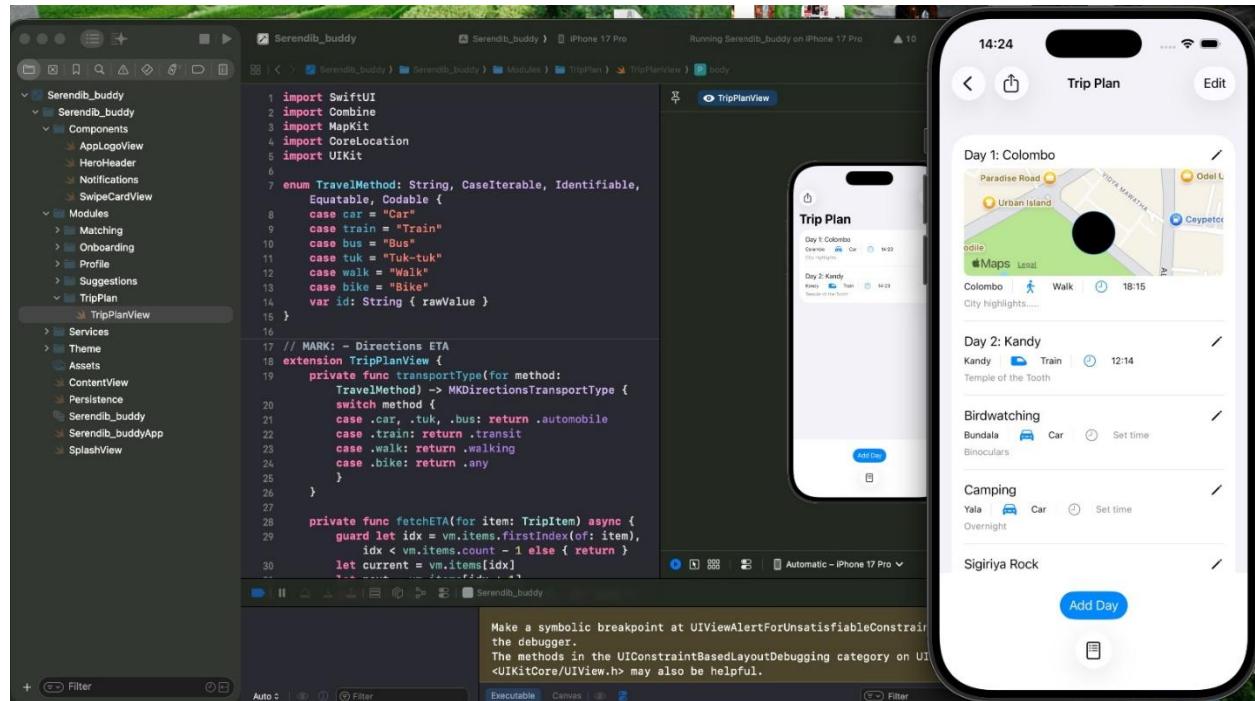
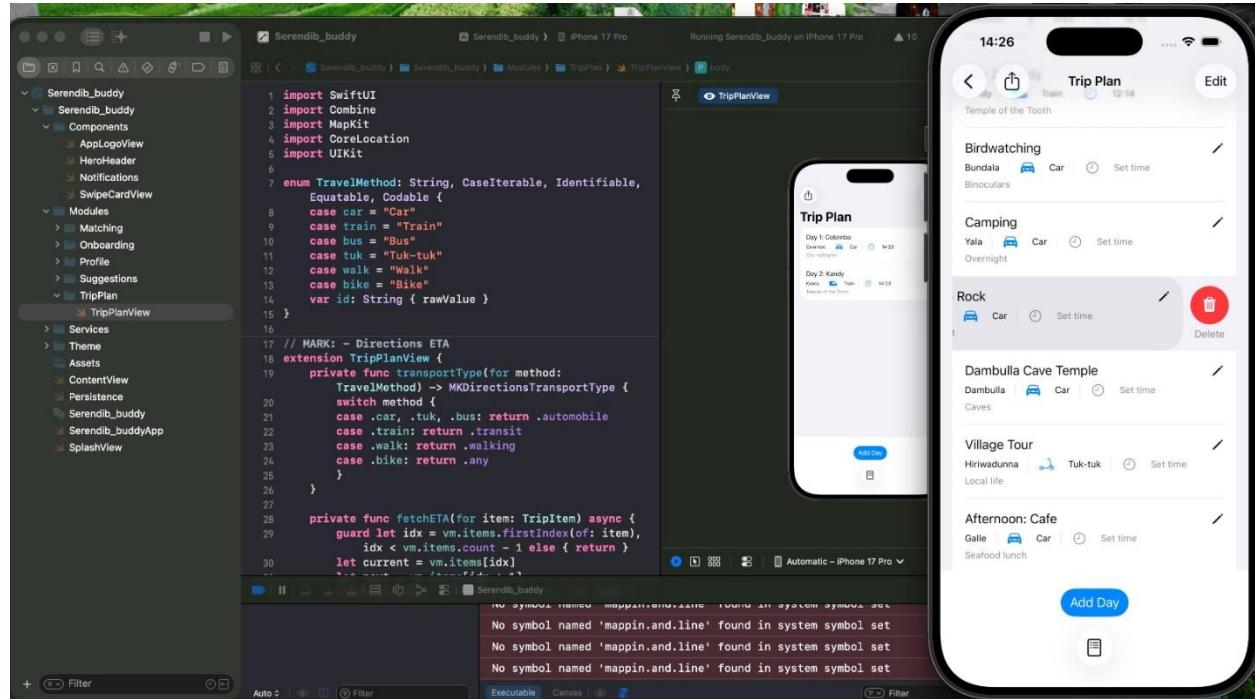
Suggestions

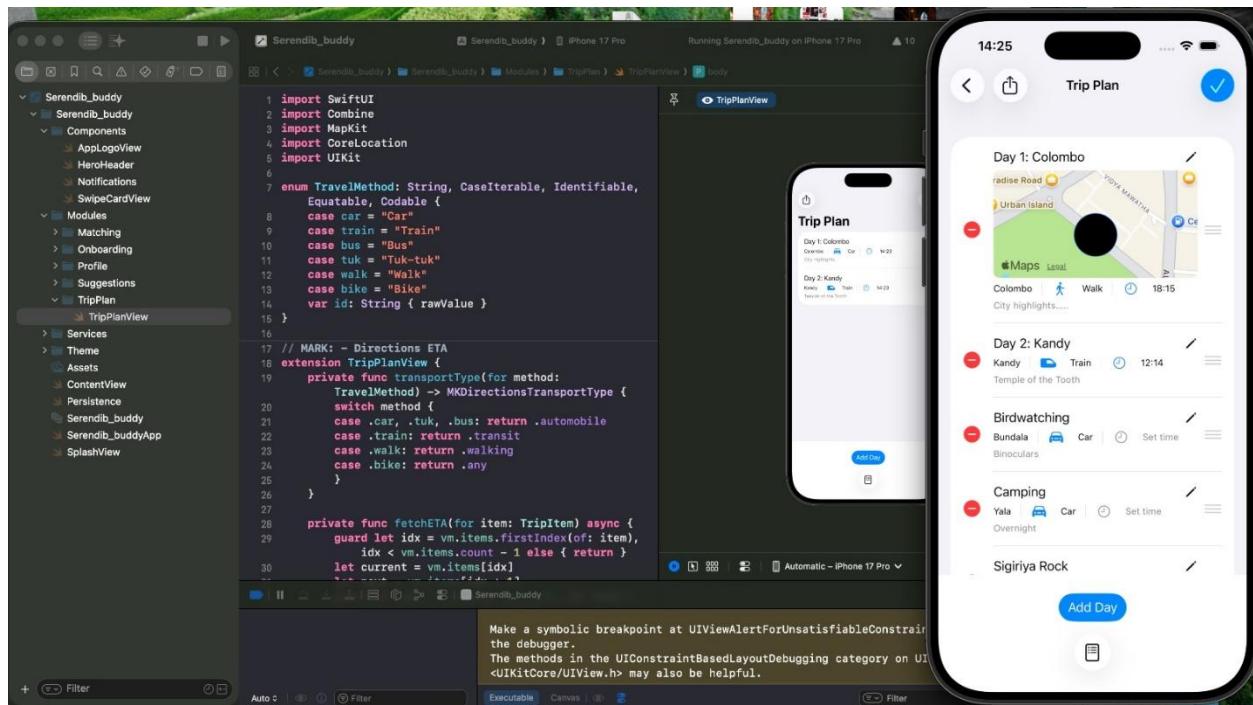


Profile

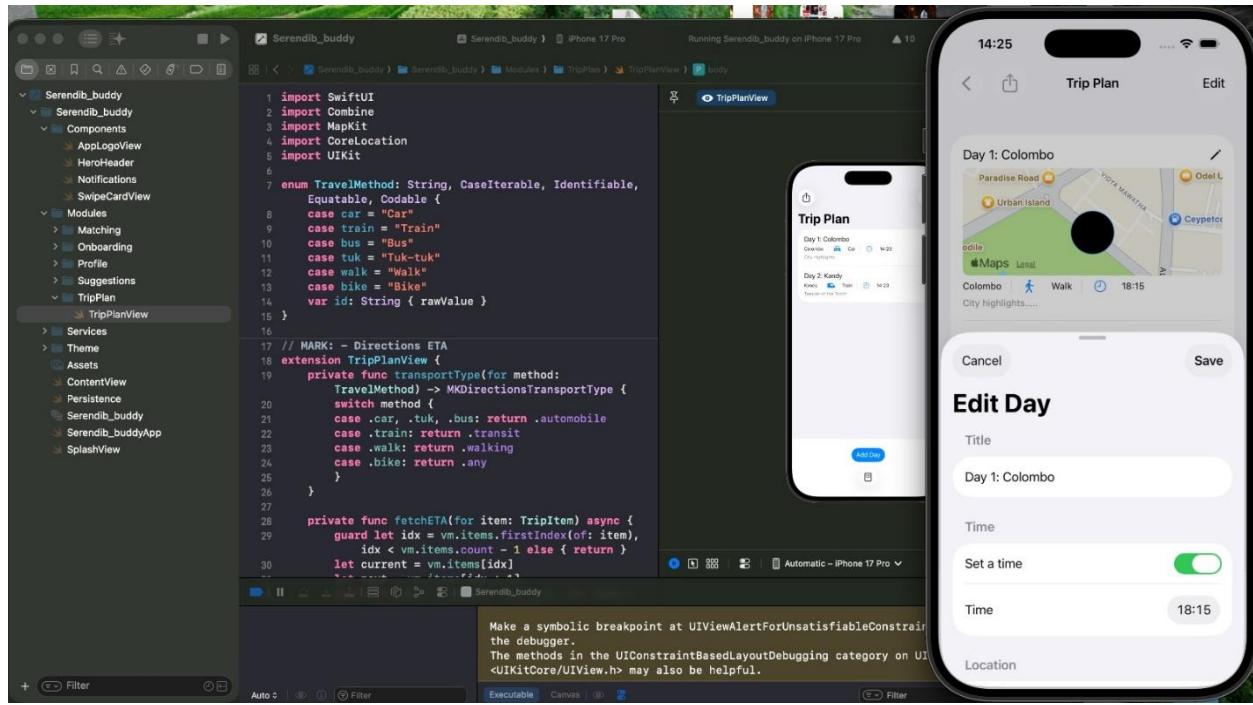


Trip Plan

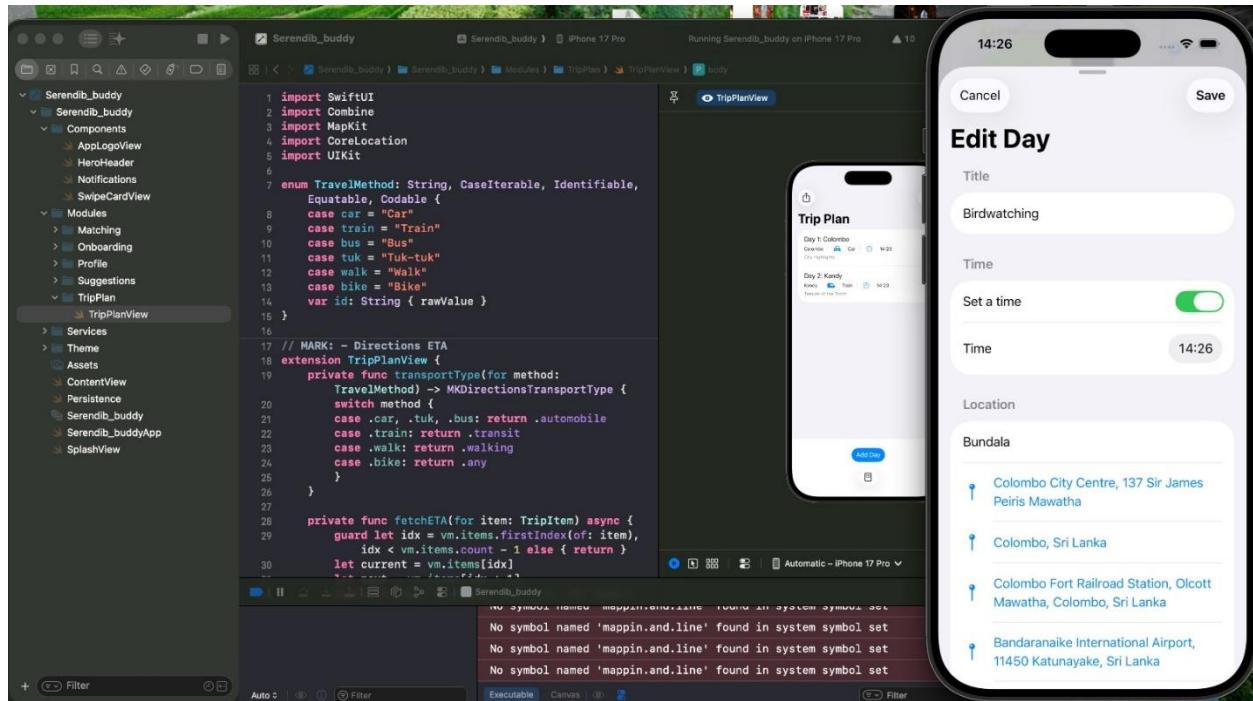




Edit plan



Updated



Testings:

Functional testing to check whether each feature works correctly, such as navigation, data saving, loading, user inputs, and UI interactions. Second, I performed **UI/UX testing** to make sure the interface looks correct on different screen sizes, animations work smoothly, and the app responds properly to user gestures. Third, I completed **performance testing**, where I checked the app's load time, memory usage, and ensured that Core Data operations and ML recommendations run smoothly without lag. I also did some basic **error testing**, like invalid inputs and empty data cases. Finally, I tested the app with a few users to get quick **user acceptance feedback** and made small improvements based on their suggestions