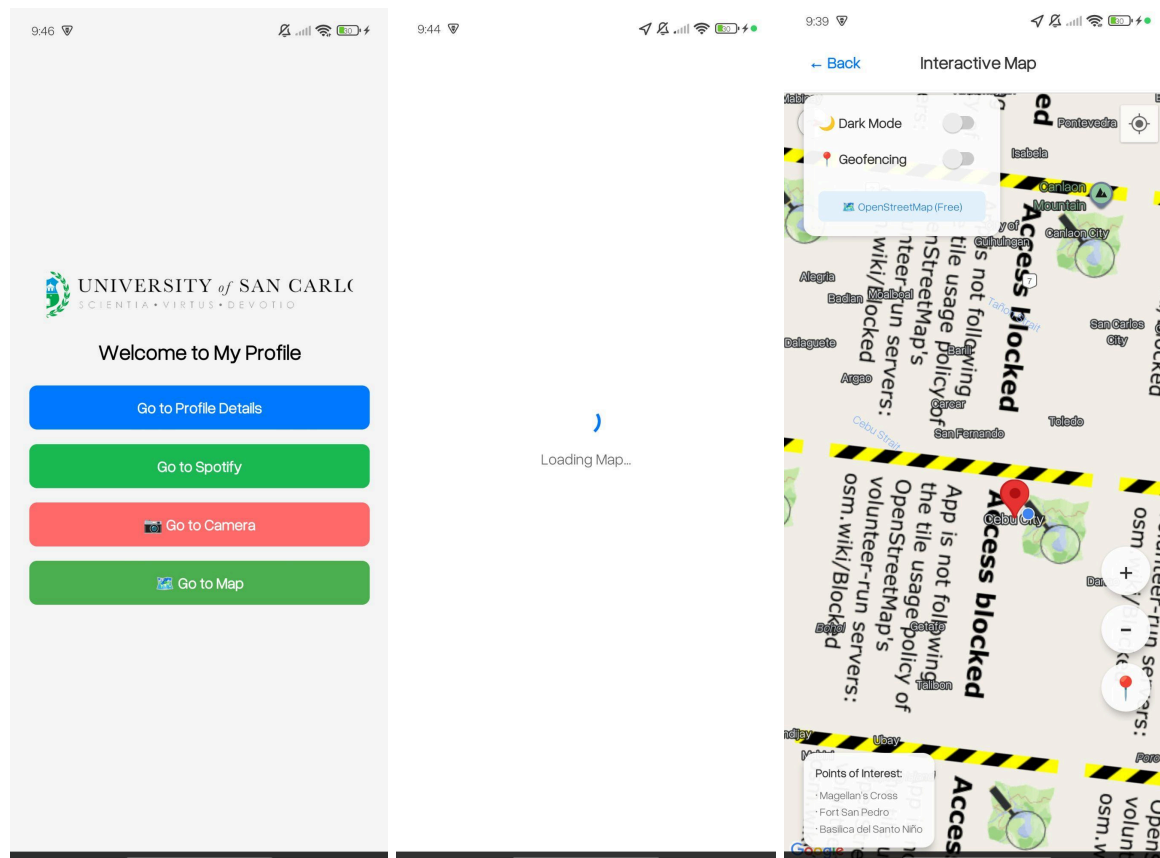**Activity 2: Enhancing Your React Native App with Location-Based Map Features**

**Integrate Map into Existing App**

Accessible from the profile screen through a "Go to Map" button. The map loads dynamically and displays a loading indicator while fetching location data. This setup establishes the foundation for adding interactive features such as markers, dark mode, and geofencing. Minor challenges involved ensuring proper configuration of API keys and dependencies for the map service.

Enhance with Map Controls and Geofencing
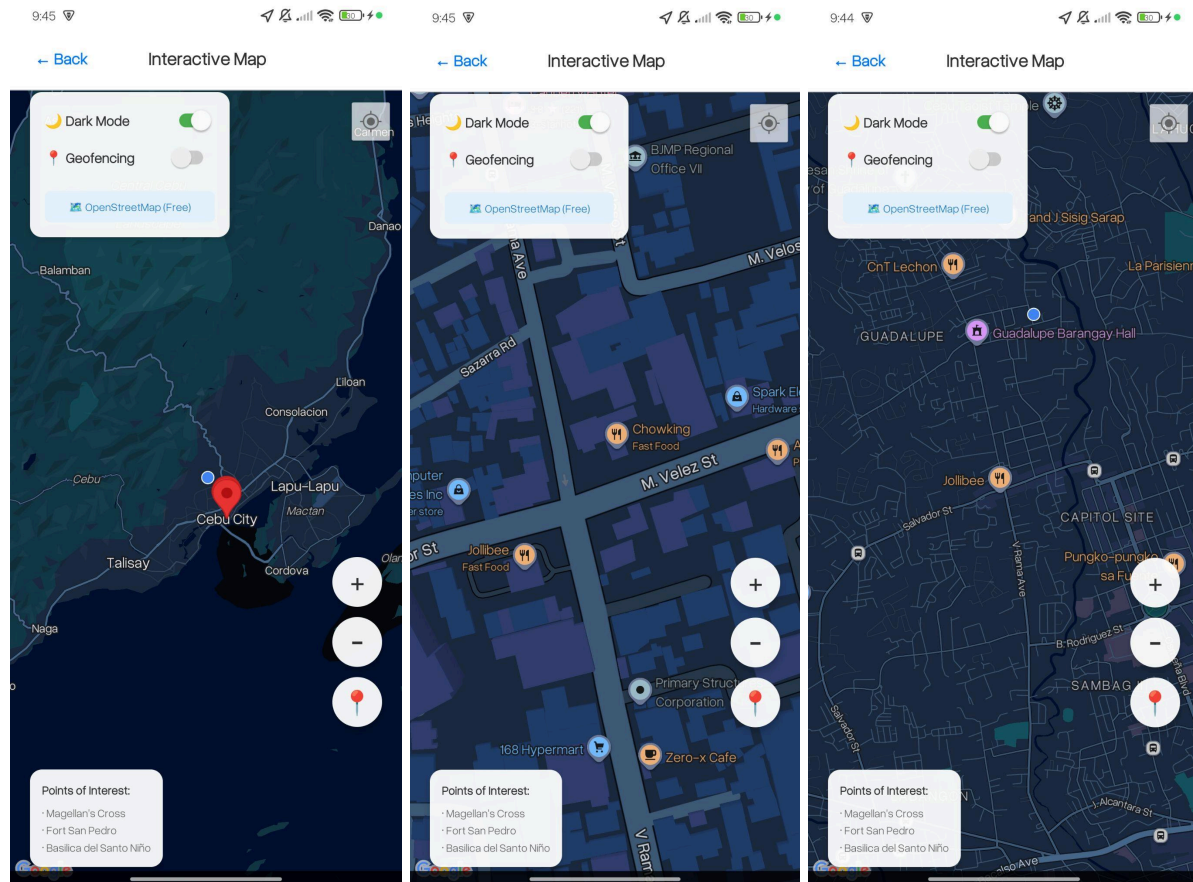
Map controls were added to enhance user interaction, including zoom buttons, a toggle for dark mode, and geofencing options. The user can now explore points of interest with smooth map navigation and switch between light and dark map styles.

Implement geofencing to trigger alerts when the user enters or leaves predefined mock regions (e.g., a 100-meter radius around a marker) using react-native-geolocation-service for location monitoring.
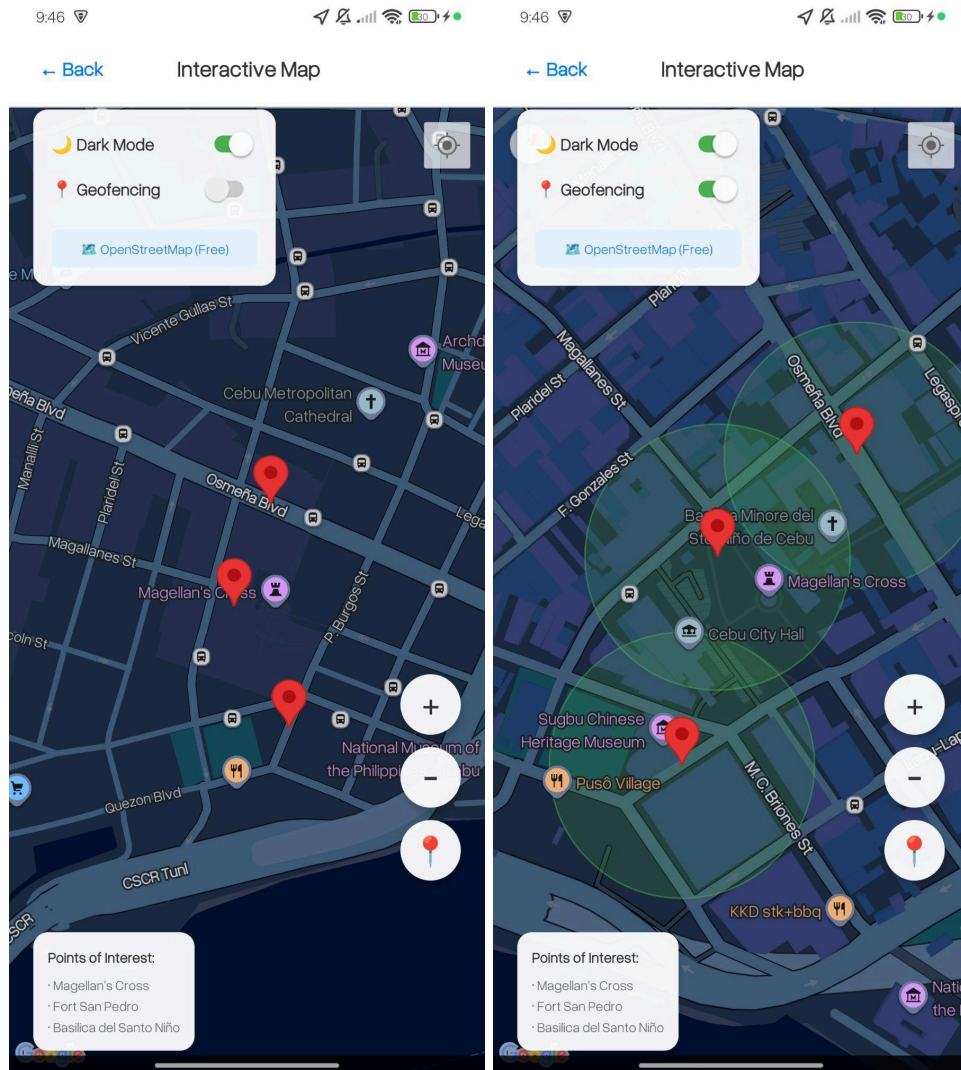
Geofencing was implemented to trigger alerts when users enter or leave predefined regions, using mock locations around Cebu City landmarks. This was achieved through the react-native-geolocation-service to track user movement in real-time. The feature enhances location awareness and demonstrates how geofencing can support context-based notifications. The main challenge was fine-tuning the radius and ensuring accurate detection on emulated devices.

Customize Map Appearance and Challenges
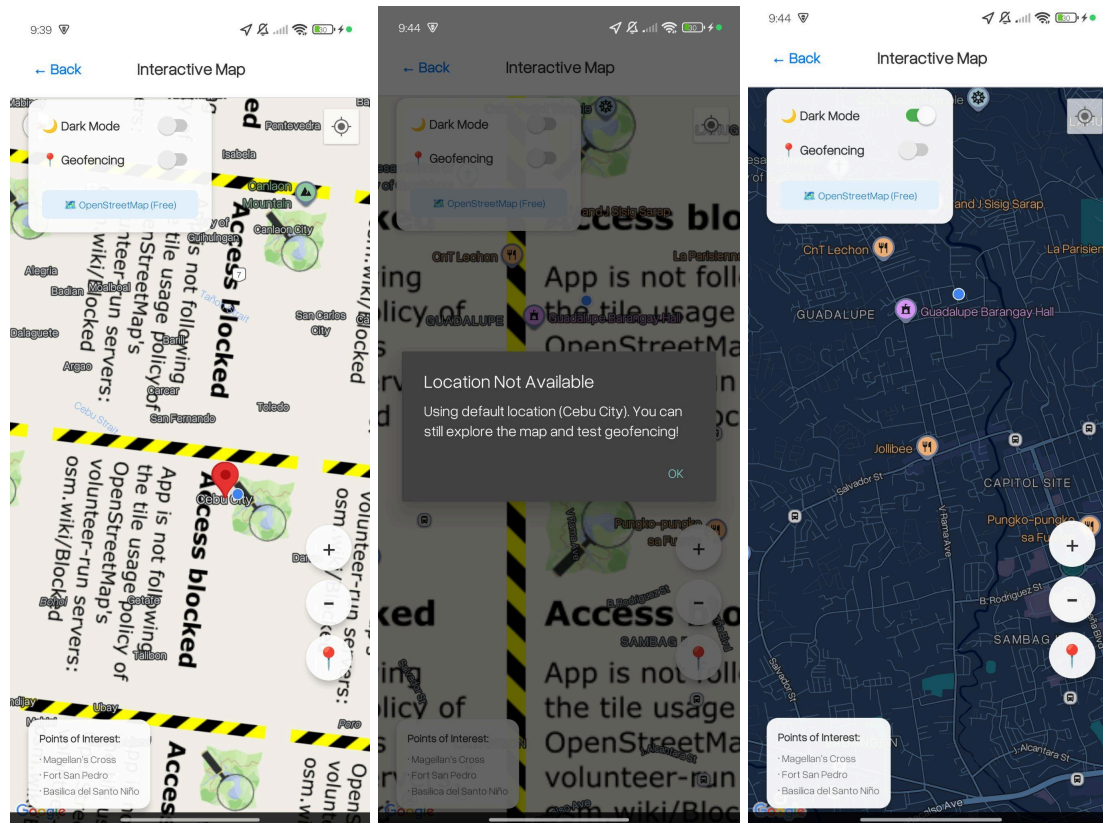
The map was customized to include a dark theme and display multiple points of interest with labeled markers. Visual adjustments improved readability and provided a more polished appearance. Challenges included blocked or unavailable map tiles, handling missing location data, and maintaining smooth rendering performance. Despite these issues, the map now provides a clean, interactive experience with both light and dark styles.