Crumbley, Victoria
Southern New Hampshire University
CS 360 Mobile Architect & Programming
May 25, 2025

Project One: App Development Proposal

I. Project Goals

A. Application Overview

The objective of this project is to develop a user-friendly, visually appealing event-tracking application that allows users to manage personal events effectively. Key functionalities include scheduling events, receiving timely notifications, and booking tickets. The app supports personal organization and aims to reduce missed events through proactive reminders and easy-to-navigate features.

B. Major Components

i. **Secure Database Structure**

a. **Users Table:** Stores login credentials and user details (user_id, username, password, email, phone)

b. **Events Table:** Stores event details (event_id, user_id, event_name, date, time, location, description, image_url, ticket_url)

C. Functionalities

i. **Login/Registration Screen** – Will handle both user authentication and new user registration in one interface, as well as verification and handling input errors.

ii. **Main Display of Upcoming Events** – Events are shown in a grid layout in chronological order as default. Filter/search functionality by location, event type, or artist/performer.

iii. **CRUD operations** – Add, remove, modify events (CRUD)

iv. **Event Notification System** – Reminds users of upcoming events. Includes custom reminder settings (e.g., 1 week before, 24 hours before)

v. **Booking Integration** – Direct link to screen for ticket purchases.

II. Target Users and Assumptions

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User Type	Description	Primary Goals
General Users	Uses the app for personal planning and occasional event tracking	Stay organized, get reminders
Avid Event-Goers	Frequently searches and attends events like concerts and comedy shows	Discover, view, book
Event Coordinators	Needs to add and manage events, promotes to others	Coordinate events, monitor attendee engagement
App Administrators	Manage app content and maintains user/event data	Ensure data accuracy

A. **Assumptions**
   i. User prefers a minimalistic interface
   ii. Reminders and notifications are critical
   iii. Interaction is frequent but brief
   iv. All data is user-generated and locally managed

III. UI Screens and Features

A. **Splash Screen (defined as the first graphical notification you receive when you visit any app)**
   i. Branding logo
   ii. Loading animation
   iii. Transitions to Login screen

B. **Login/Registration**
   i. Two-column GridLayout, input fields for username & password
   ii. Button: “Login”
      a. Authenticates user
   iii. Button: “Register”

    a. Leads to Account Creation screen

iv. Optional biometric login integration

C. Account Creation Screen

i. User input fields: full name, email, phone, username, password

ii. Permission toggle for location access

iii. Button: “Create Account”

D. Main Event View

i. Two-column grid layout showing event date and details

ii. Filters: date, location, category

iii. Search bar at the top

E. Event Details View

i. Image banner (ImageView)

ii. Event title, description, date, time, location

iii. Button: “Book Now”

iv. Display related or nearby events

F. Event Management

i. Input fields: title, date, time, location, description

ii. Image upload

iii. Button: “Save” / “Modify” / “Delete”

G. Booking Page

i. A map of event location

ii. Seat selection (if applicable)

iii. Ticket pricing and checkout interface

iv. Payment details – option to save information for future purchases

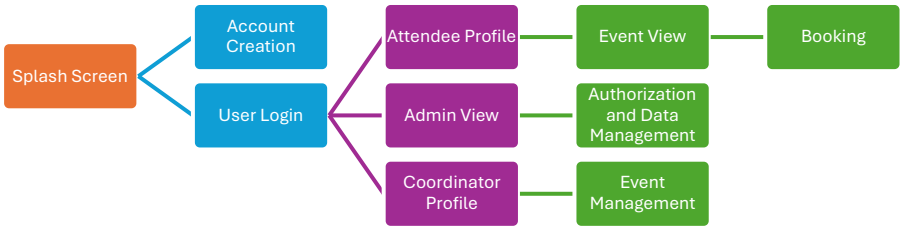
H. User Profile

i. Greeting message (“Welcome, [user first_name]!)

ii. Past attended events (CardView list)

iii. Recommendations (based on location or past related events)

iv. Settings and preferences (reminder times, profile edit)



IV. Code Design

The code will be designed to meet functional requirements using a Room Database for local storage. ViewModels manage the core logic related to saving, updating, deleting, and retrieving event data. Notifications are scheduled through either AlarmManager or WorkManager, depending on the timing and reliability needs.

The application will include several major UI components, each handling specific functions. The Login screen features EditText and Button elements for username and password input. The Main View incorporates a RecyclerView, GridLayout, and Button to display upcoming events. The Add/Edit Event screen uses EditText, DatePicker, TimePicker, ImageView, and Spinner components for entering event details. The Details View employs TextView and ImageView to present event descriptions, banners, and locations. The Reminder Settings screen includes a TimePicker and Switch for customizing notification preferences. The History View consists of a RecyclerView and CardView to display past events with tags or notes. Finally, Profile View uses TextView and Button components to show user greetings, stats, and preferences.

The UI/UX design adheres to Android Design and Quality Guidelines. Consistent navigation is maintained using a bottom navigation bar or a floating action button to facilitate user movement throughout the app. User-centered interaction is prioritized by limiting the number of screens, ensuring actions are clearly labeled, and providing visual feedback. Accessibility is also considered, with appropriate text sizing, color contrast, and well-designed touch targets to support a wide range of users.