

Campus Navigator App Development Report

Overview of Project

The goal of the Campus Navigator app is to make life easier for students on college campuses. It will function as an all-inclusive tool to assist students in navigating their campus, finding pertinent information, and remaining informed about campus events. With the help of this project, students will have access to a user-friendly and effective platform for all aspects of campus life, which will meet an immediate demand.

Group Members and Responsibilities

- Jaelen Wright (Schedule Designer): Designs the scheduler page and implements functionality.
- Samiur Rahman (Lead Developer): Leads app development, implements features, and ensures code quality.
- Brock Davidge (UX Designer): Designs the user interface (UI) and conducts user testing for optimal usability.
- Darshilkumar Patel (Researcher): Gathers requirements, conducts research, and aids in scope definition.
- Luca Lotito (Backend Developer): Focus on implementing map functionality

Objectives

The primary objectives of the Campus Navigator app are as follows:

Navigation: Give students clear, up-to-date maps and directions for getting around campus, including a list of buildings and accessible routes for people of different abilities.

Information Hub: Provide a centralised location for every important school data, such as class schedules, services available on campus, and department contact information.

Notifications: Inform students of campus events, such as lectures, workshops, club meetings, and special events.

User experience: Ensure the app's usability, accessibility, and availability on the Android mobile platform.

Scalability: The app should be made to be flexible enough to grow with the campus as it changes or expands in the future.

Backend: Create an infrastructure that can handle the requirements of the app, and being flexible enough to expand with the project

Features and Functionality

1. Navigation and maps

- Interactive Campus Map: Make available a searchable interactive campus map with walking directions and real-time GPS location services.
- Accessibility information: Include information about accessible pathways, elevators, and ramps for students who have mobility issues.
- Building directories: Extensive building directories that include department names and room numbers.
- Assistance: Offering detailed directions to locations on the campus will help with wayfinding.

2. Information Center

- Timetable: Allow students to access their class schedules, which should include the times, room numbers, and lecturers.
- Campus Resources: Details about the available cafeteria options, computer labs, libraries, and health services.
- Emergency contacts: Quick access to campus security and emergency services is provided by emergency contacts.
- Feedback and Support: A place where students can report problems, make suggestions for improvement, and ask for help.

3. Notifications

- Event calendar: Display an event calendar that lists lectures, workshops, club meetings, and campus events.
- Push Notifications: Send updates and reminders for events via push notifications to keep students informed. These notifications will include event timing and location.
- Dialog and Pickers: Displays requested information that the user needs to give permission or provide information, such as allowing geolocation data or logging in.

- Snackbars: Used to display information that the user doesn't need to remain on screen for extended periods of time, such as a successful login, or if a search for services provided no results.

4. User Experience

- Distribution of Information: Different features of the application will be split into their own pages, ensuring the user will not be overwhelmed by information. The map, upcoming events, scheduler and user profile information will be displayed on their own pages.
- Accessibility: Ensure that the application satisfies accessibility requirements for all users.
- Offline Functionality: Include an offline option for access to the map when there is a lack of internet connectivity.

5. Scalability

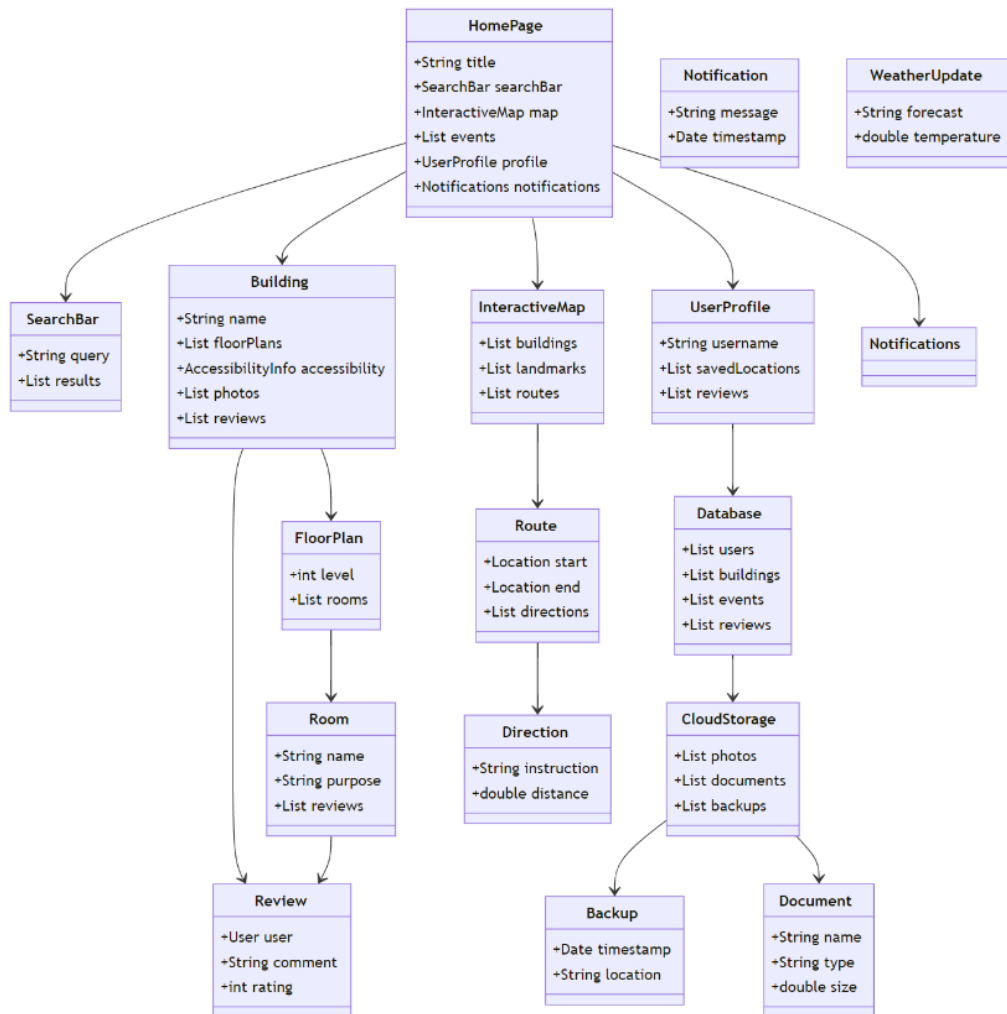
- Flexibility: Create a flexible data management system that can be readily changed as the campus changes.
- Scalable design: Create the app with a scalable architecture to provide for potential campus growth or modifications.

6. Backend

- Local Storage: Used to store locally created user data, such as events that users have registered for, along with the data and time of the event. There will be an option to download the map to local storage, for use offline.
- Cloud Storage: Used to store map information and services found on the map. This is done to reduce the size of the application on the user's device.
- HTTP Requests: To access the map and services, HTTP requests will be made to the hosting server, returning the requested information.

UML Diagrams

Initial code design



Mockup User Interface



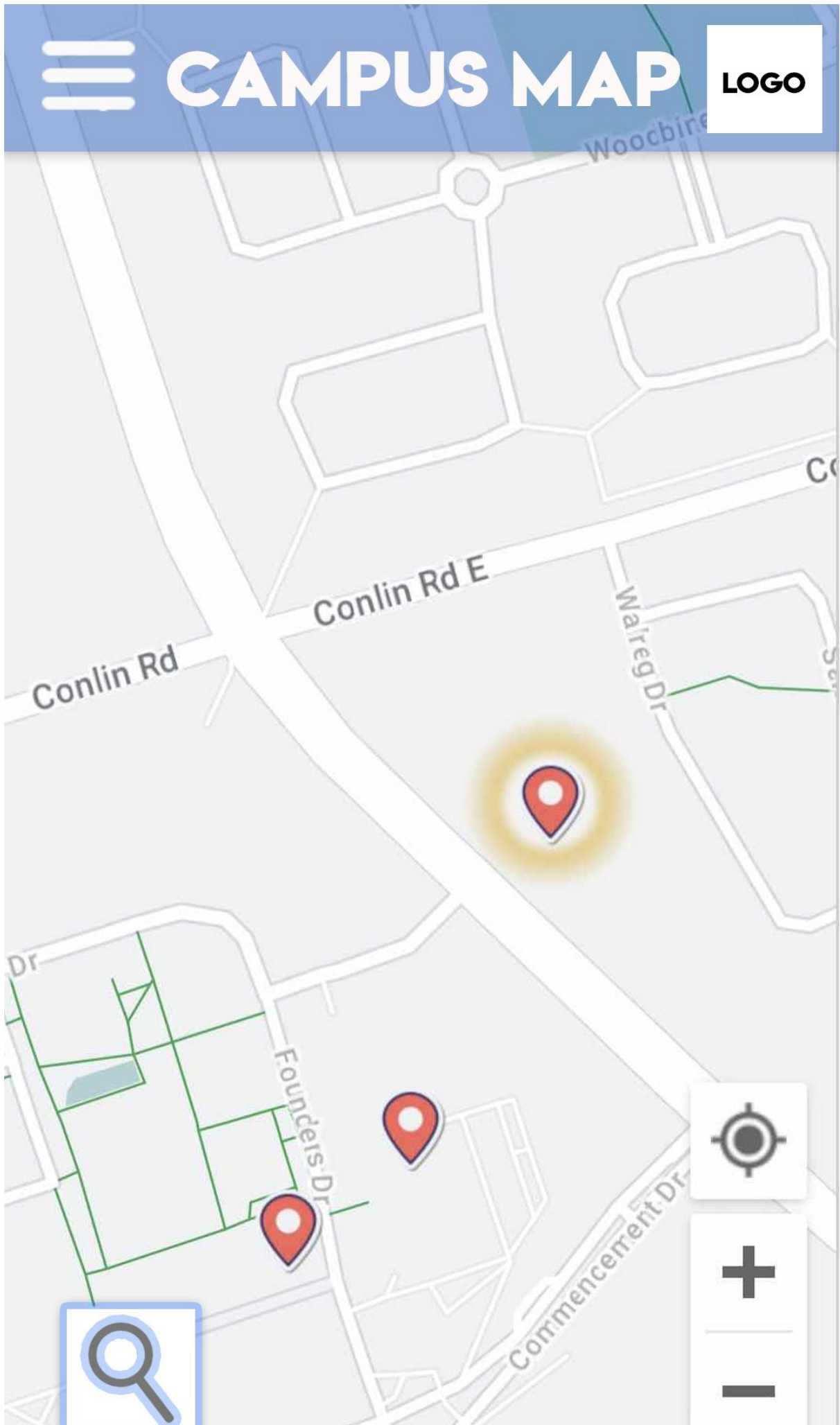
Mon	Tues	Wed
Class Name	Class Name	Class Name
Start time - end time	Start time - end time	Start time - end time
Room number	Room number	Room number

Thu	Fri
Class Name	Class Name
Start time - end time	Start time - end time
Room number	Room number



CAMPUS MAP

LOGO



Conclusion

With its improved navigation and information access, the Campus Navigator app will significantly improve the student experience on campus. We are certain that this project will considerably advance the success and well-being of the student body.

To move forward with the development and release of this crucial app, we are in need of guidance and assistance. We'll be able to provide a useful resource for our campus's existing and incoming students.