

Cleveland State University Campus Mate

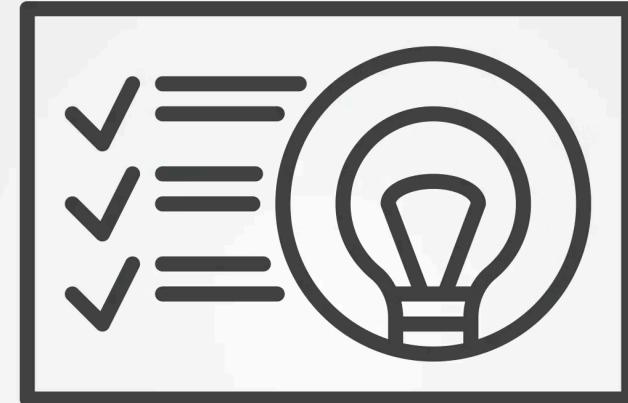
Team Lead: Sashank Singh | Members: Hitesh Kukreja,
Nithish Yenaganti, Maneesh Pasupulety

Faculty Adviser: Tiayuan Zhang



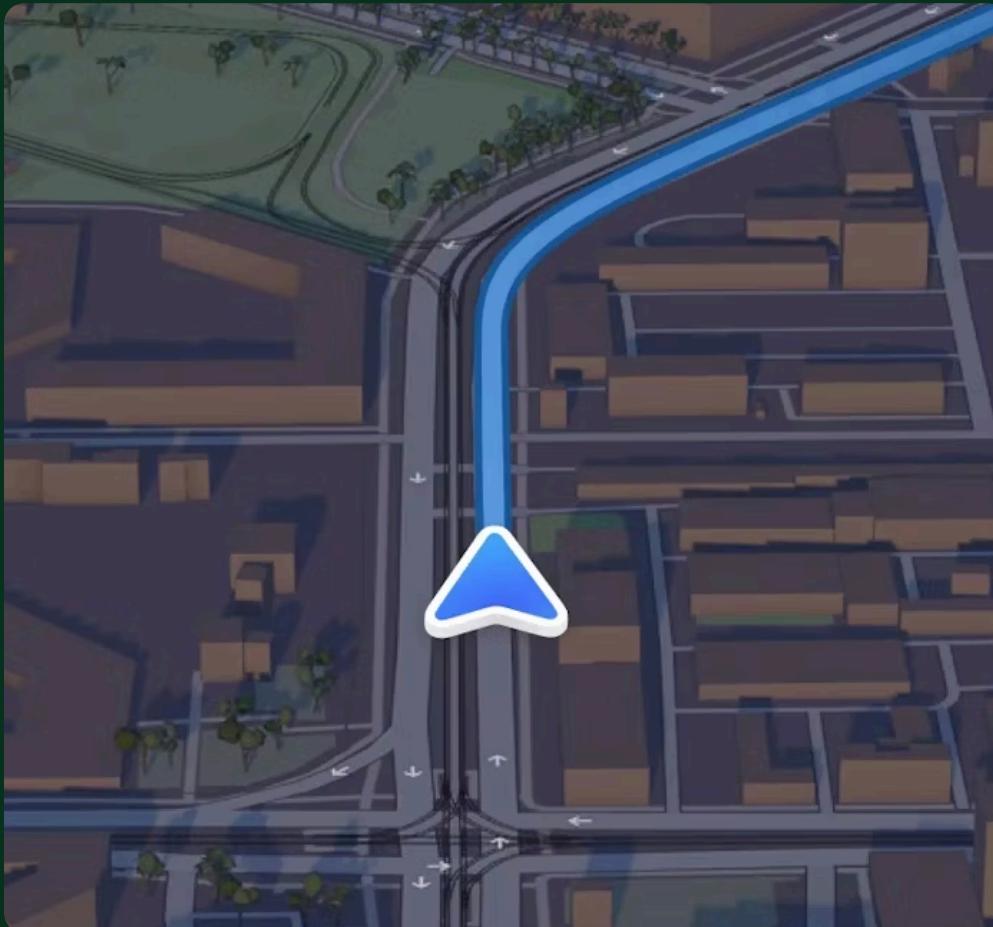
OUTLINE

- Project Title
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 - Deliverables
 - Timeline
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- Professional Awareness
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Executive Summary

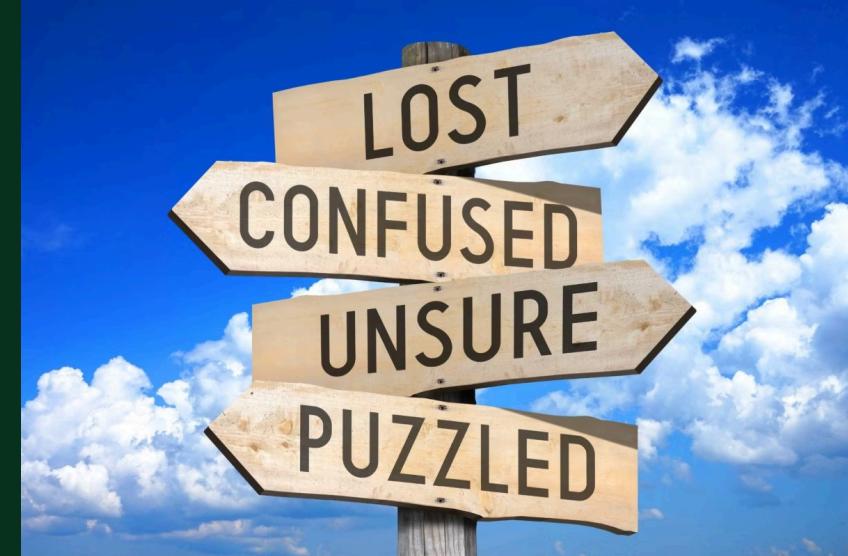
- CampusMate is a mobile app designed to enhance the experience of students, faculty, and staff at Cleveland State University. It centralizes access to campus resources and provides seamless navigation to classrooms.
- Students can manage course schedules, receive turn-by-turn directions to class, and access real-time updates like library hours, dining options, and campus facilities etc. With a user-friendly interface, CampusMate simplifies navigation and keeps users informed about events can help access all important CSU Websites.



PROBLEM STATEMENT/BACKGROUND

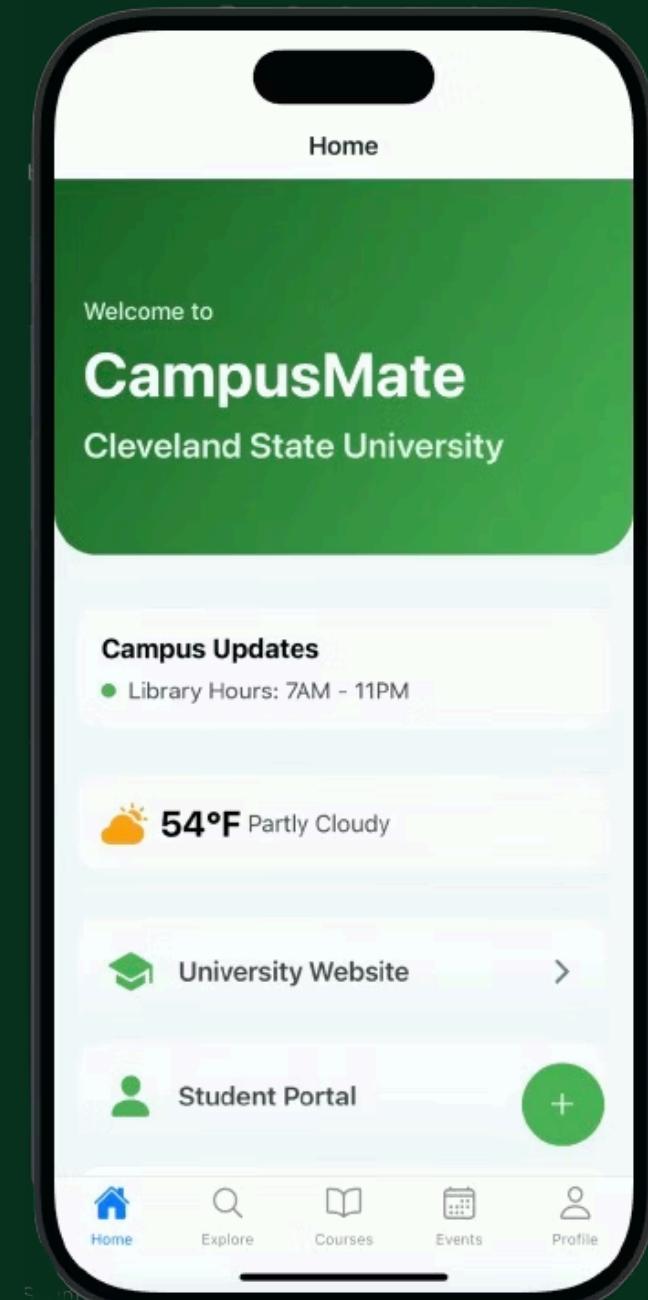
Students face challenges with:

- Navigating campus and locating resources Difficulty in finding the classrooms, library, and cafes, etc. New students often feel lost without a clear map or guidance system
- Managing schedules and staying updated on campus events Lack of centralized information about campus events, deadlines, and schedules. Challenges in prioritizing academic and social activities.
- Finding available study spaces, food options, and services Overcrowded study spaces with no real-time availability updates. Limited awareness of food options and campus services.



SOLUTION

1. A mobile App for campus navigation.
2. Real-time navigation (GPS and Indoor mapping) Precise direction for outdoor and indoor navigation accessibility for differently abled individuals.
3. Event Notification and Scheduling Assistance: notifications for upcoming events, classes, and deadlines. Tools to manage personal schedules in one place.
4. Visuals: Screenshots of a mockup app interface showing navigation, event alerts, and resource availability. Map of campus with marked locations. (Classrooms) .



OBJECTIVES

- 1. Provide accurate, real-time indoor and outdoor navigation.
- 2. Facilitate campus carpooling to enhance student mobility.
- 3. Display real-time food services availability and updates.



TECHNICAL APPROACH (1/5)

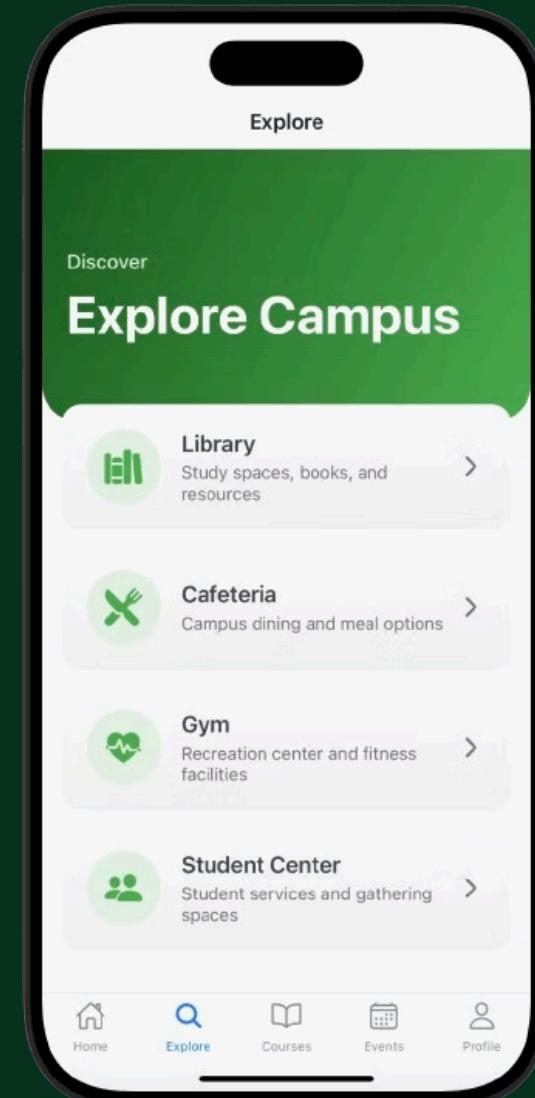
Front-End Technologies

- **React Native & Expo (with Routers for File-based Navigation):**

Leveraging React Native with Expo for rapid cross-platform development, focusing on mobile-first design. File-based navigation using Expo routers will make it easier to maintain and scale the project.

- **TypeScript:**

Ensuring type safety across the codebase to avoid runtime errors and improve code reliability with TypeScript.



TECHNICAL APPROACH (2/5)

Back-End Technologies

- PostgreSQL (via NEON):

A relational database, PostgreSQL, hosted on NEON will store key campus data, including user profiles, resource availability logs, and system logs. NEON's serverless nature will help in scaling database operations on demand.

- Node.js:

Node.js will serve as the backbone for the backend, handling all server-side operations, including API requests, data processing, and serving the front end. You can also build REST APIs using Node.js to interact with the app's front end for fetching campus data, notifications, and resources.

- Outdoor Navigation (GPS with Google Maps API):

Google Maps API, along with GPS, will provide outdoor navigation. This will allow students to find their way across campus, between buildings, or to specific points of interest.

TECHNICAL APPROACH (3/5)

Authentication and Security

- **Clerk for Authentication:**

Clerk will handle authentication and access control, allowing students to securely log in and access their personal data. This will ensure secure login flows and role-based access to campus resources.

TECHNICAL APPROACH (4/5)

User Experience (UX) and Interface (UI):

- Push Notifications (Optional, Subjected to permission):

You can build out notification systems for alerts about upcoming campus events, resource updates, or class changes. This could be managed via custom APIs or third-party notification services.

- Integration with Campus Systems:

Seamless integration with platforms like Blackboard and Pearson allows students to access course materials, check grades, and stay up to date without leaving the app.

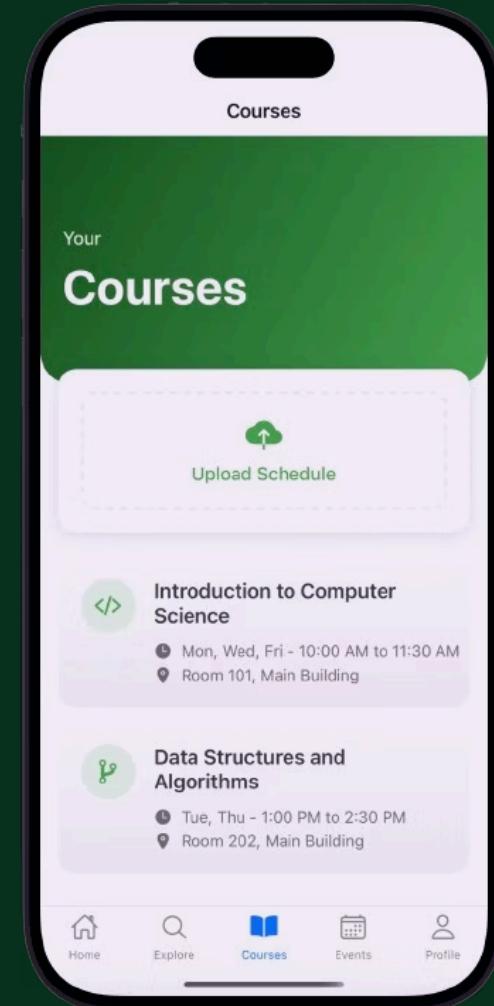
- Menu Updates: Real-time information on food services, including operational hours and menus.

TECHNICAL APPROACH (5/5)

- Real-Time API: Integration of APIs for real-time updates on campus resources.
- Testing and Deployment: Continuous integration and testing for reliable deployment.

DELIVERABLES

- Fully Functional mobile app : Compatible with both IOS and Android Platforms
- Comprehensive documentation : Detailed records of technical implementation and design choices. And Includes user manuals and developer guides for future updates.
- Testing and feedback analysis : Report summarizing user feedback and implemented improvements.
- Deployment and test environment setup : Preparation for real-world implementation and integration.



PROJECT TIMELINE/GANTT CHART

Oct 1 - Oct 7: Project Discussion

Oct 8- Oct 9: Task Assignment

Oct 10 - Oct 28: Prototype Design

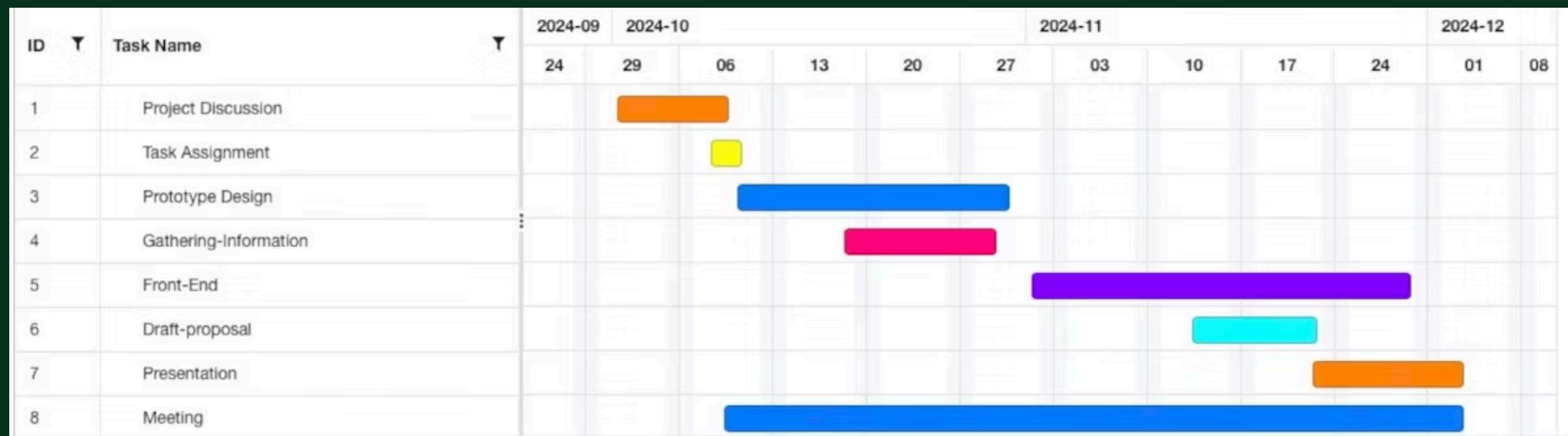
Oct 16- Oct 25: Gathering information

Nov 1 - Nov 25 : Front End

Nov 12- Nov 20: Draft Proposal

Nov 18- Dec 3: Presentation

Oct 9 - Nov 20 : Meetings (Every Wednesday)



BUDGET

- Development Tools: \$150
- Mobbin App library: 60\$
- Hosting and API Costs: \$100
- Apple Developer Publishing: 99\$
- Google App Publishing: \$25

Total: \$435



PROFESSIONAL AWARENESS

- Adherence to Professional Standards: Commitment to the ethical guidelines and professional standards set forth by IEEE and ACM, ensuring integrity and accountability in software development practice
 - 2. Ethical considerations: Privacy and security of student location data.
 - 4. Sustainability: Reducing environmental impact through carpooling features.
 - 5. Professional impact: Enhancing campus life and improving resource utilization.

CONCLUSION

CampusMate represents a comprehensive solution designed to enhance campus life through innovative technology. By integrating modern development practices with user-centered design principles, the project aims to create an accessible, efficient, and sustainable campus experience for all students.

The app not only facilitates seamless navigation across campus but also centralizes access to essential resources, empowering students to manage their academic schedules effectively. Through its interactive features and real-time updates, CampusMate addresses the challenges faced by students, fostering a more connected and informed campus community. Ultimately, this initiative aspires to transform the way students engage with their environment, making campus life more enjoyable and productive.



**ANY
QUESTIONS?**

