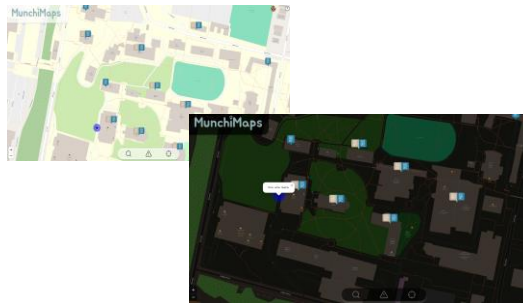


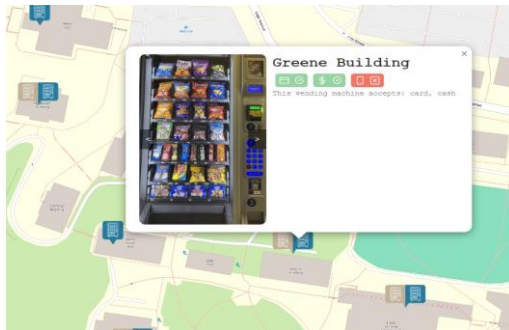
MunchiMaps

Co-leads: Ash Punia, Kevin Shreenauth | Members: Braden Lam, Kaia Lind, Laura Phan, Hanzhen "Ryan" Qin, Ansh Revankar, Aliya Yang

User Interface:



We aimed for a user friendly, clean and modern design. Many of the icons are custom design to fit our overall aesthetic. (Yes, we even have dark mode)



Custom icons on the map show locations with a drink machine (blue) or a food machine (tan) or both. Users can click on a location to find more information such as the payment type that is accepted, a space to leave reviews, and pictures corresponding to the building. We also included a dark mode (activated when 'd' is pressed).

MunchiMaps

MunchiMaps is an RPI vending machine tracker allowing users to see which machines are closest to them, report issues and review machines.

Semester Goals:

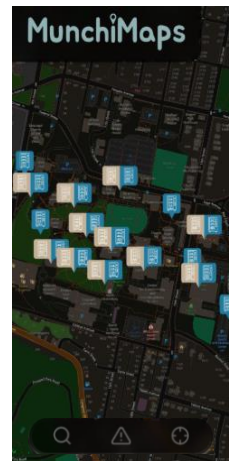
- Debugging Errors Left Last Semester on the UI
- Building a Backend to store user inputs
- Communication between backend and frontend components
- Begin mobile app production

Implementation:

HTML, CSS, Java
Script, SQL, Python,
C++



Features in Progress: Mobile App Production



The MunchiMaps app enhances the website's functionality with on-the-go convenience, offering real-time tracking of RPI vending machines through an interactive map. The app would be a more accessible and convenient version of the website for students to use, while maintaining core features like search, reviews, reporting, and dark mode. The above images are screenshots of the mobile version of the website, giving an idea of what the app would look like. The biggest change that the app would see would be bigger buttons better suited for touch screens,

Building the Backend:



This backend is a Python-based system for managing and interacting with vending machine data from a CSV file. The data includes information about building locations, amounts, drinks, foods, location descriptions, hours of operation, access information, and coordinates for each vending machine. The system allows you to load, store, and process this data, as well as check the availability of vending machines in real-time based on the current day and time. Additionally, the system provides functionalities to display vending machine locations on a map, find the nearest vending machine based on the user's current location and specific needs (food or drink), calculate the shortest path between vending machines if a single location does not meet all needs, and visualize the shortest distances between machines on a map, connecting the closest options with lines.

MunchiMaps Server:

The server for the MunchiMaps project is built using Fastify, a high-performance, low-overhead web framework for Node.js. Fastify serves as the backbone of the application, efficiently managing all server-side logic and routing. It handles HTTP requests and responses, interacting seamlessly with an SQLite database. This allowed us to create an API for handling requests related to the plotting and collecting data as part of the frontend implementation.