

**MICHIGAN STATE**  

---

**UNIVERSITY**

# Alpha Presentation

## Shared Parking Access

The Capstone Experience

Team Bedrock Detroit

Ritu Ahluwalia

Jude Jang

Will Lennon

Michelle Mao

Eric Podolsky

Department of Computer Science and Engineering  
Michigan State University

Fall 2020



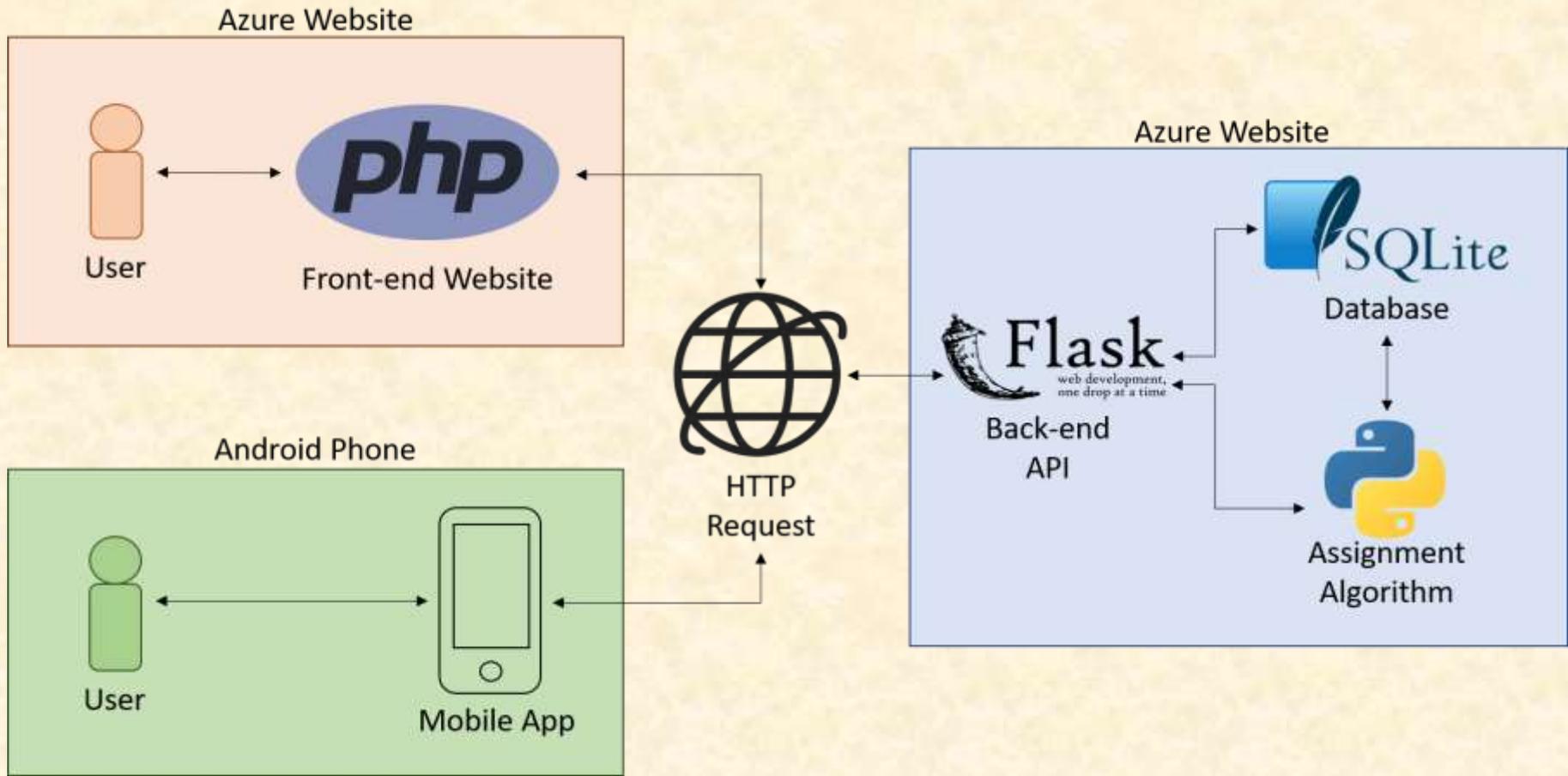
*From Students...  
...to Professionals*

# Project Overview

- Rock FOC has found that employees prefer working in a hybrid format
- Create an application that allows Bedrock administrators to manage 25,000+ employees' parking assignments
- Assign optimal parking based on each individual's schedule, tenure, and business area through a dynamic algorithm
- Build a front-end website for Bedrock administrators a mobile app for employees



# System Architecture



# Website Homepage

The screenshot shows a web browser window with the URL `https://bedrock-frontend.azurewebsites.net/homepage.php`. The page title is "SHARED PARKING ACCESS HOMEPAGE". The navigation menu includes "MANAGE PARKING FACILITIES", "MANAGE OFFICES", "MANAGE TEAM MEMBERS", and "LOGOUT".

The main content area is divided into two columns. The left column contains four sections:

- Set Rules For The Algorithm:** Three dropdown menus for "Select Priority #1: Number of Schedule Days", "Select Priority #2: Tenure", and "Select Priority #3: Business Area". A "Save Priorities" button is below.
- Upload A New Schedule:** A "Choose File" button with "no file selected" text and a "Run The Algorithm" button.
- Download An Empty Sample Schedule:** A "Download Sample" button.
- Download New Parking Assignments:** "Download Assignments" and "Inform Employees" buttons. Below them, it says "Parking Last Assigned: 2020-10-08 11:32 AM".

The right column contains a section titled "Create Report Regarding Parking Assignments" with three radio buttons for "Office:", "Parking Facility:", and "Team:". Each has an associated input field. Below these are "Disabled" (Yes/No), "Expecting" (Yes/No), and a "Generate Report" button.

# Website Garage Page

**MANAGE PARKING FACILITIES**

[HOMEPAGE](#) [MANAGE OFFICES](#) [MANAGE TEAM MEMBERS](#) [LOGOUT](#)

Search Parking Facilities By Name...

**Add New Parking Facility**

no file selected

**Garage A**

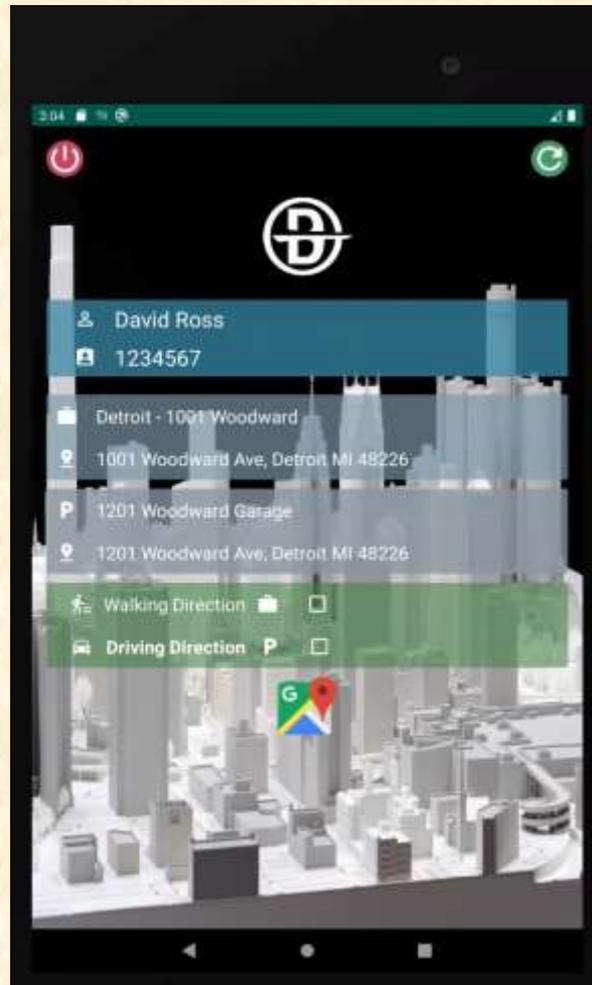
Address: 1001 Woodward Ave Detroit MI, 48226  
Total Spaces Available: 731  
Status: Open  
Number Of Reserved Spots: 5

**Garage B**

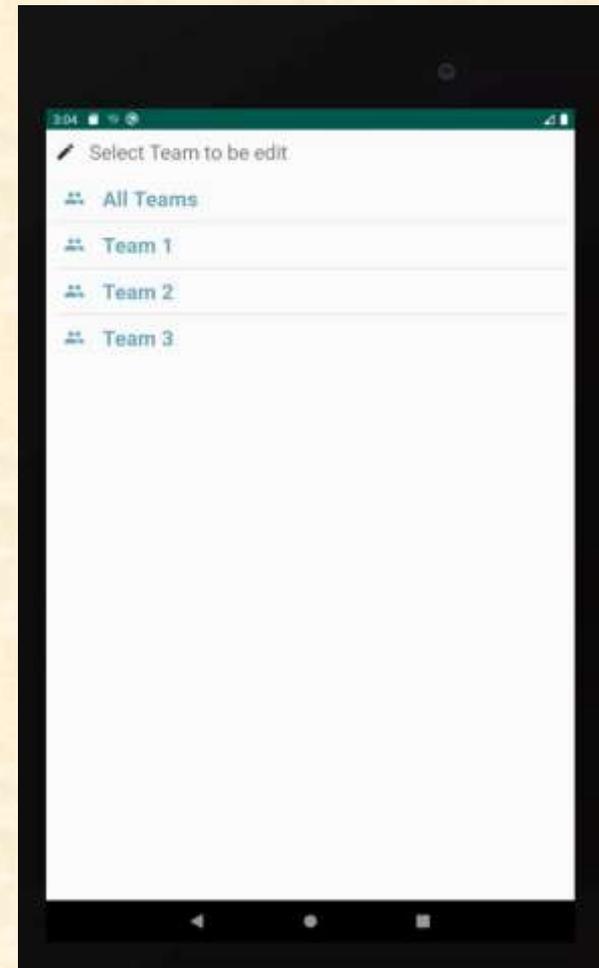
Address: 1401 1st St Detroit MI, 48226  
Total Spaces Available: 633  
Status: Open  
Number Of Reserved Spots: 5



# Employee Homepage



# Edit Employee Info



# What's left to do?

- Improve algorithm to factor in shared parking capabilities and employee details such as vehicle height clearance, injuries, etc
- Implement team member management through the front-end website
- Generate reports based on employee profiles
- Add ability for Bedrock administrators to inform employees about parking assignment changes through SMS and e-mail



# Questions?

---

?

?

?

?

?

?

?

?

?

