



Alpha Presentation Shared Parking Access

The Capstone Experience

Team Bedrock Detroit

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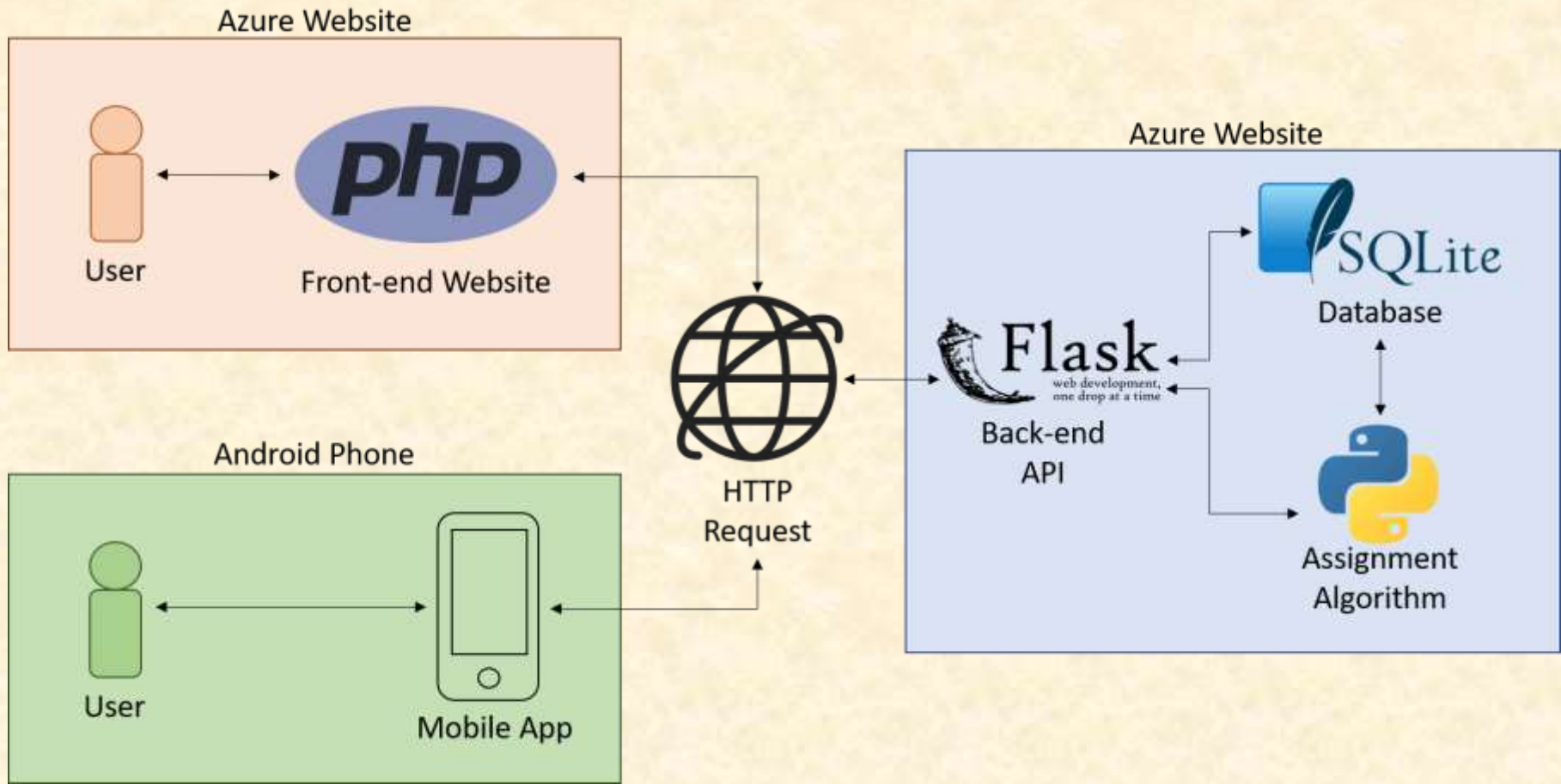
*From Students...
...to Professionals*

Department of Computer Science and Engineering
Michigan State University
Fall 2020

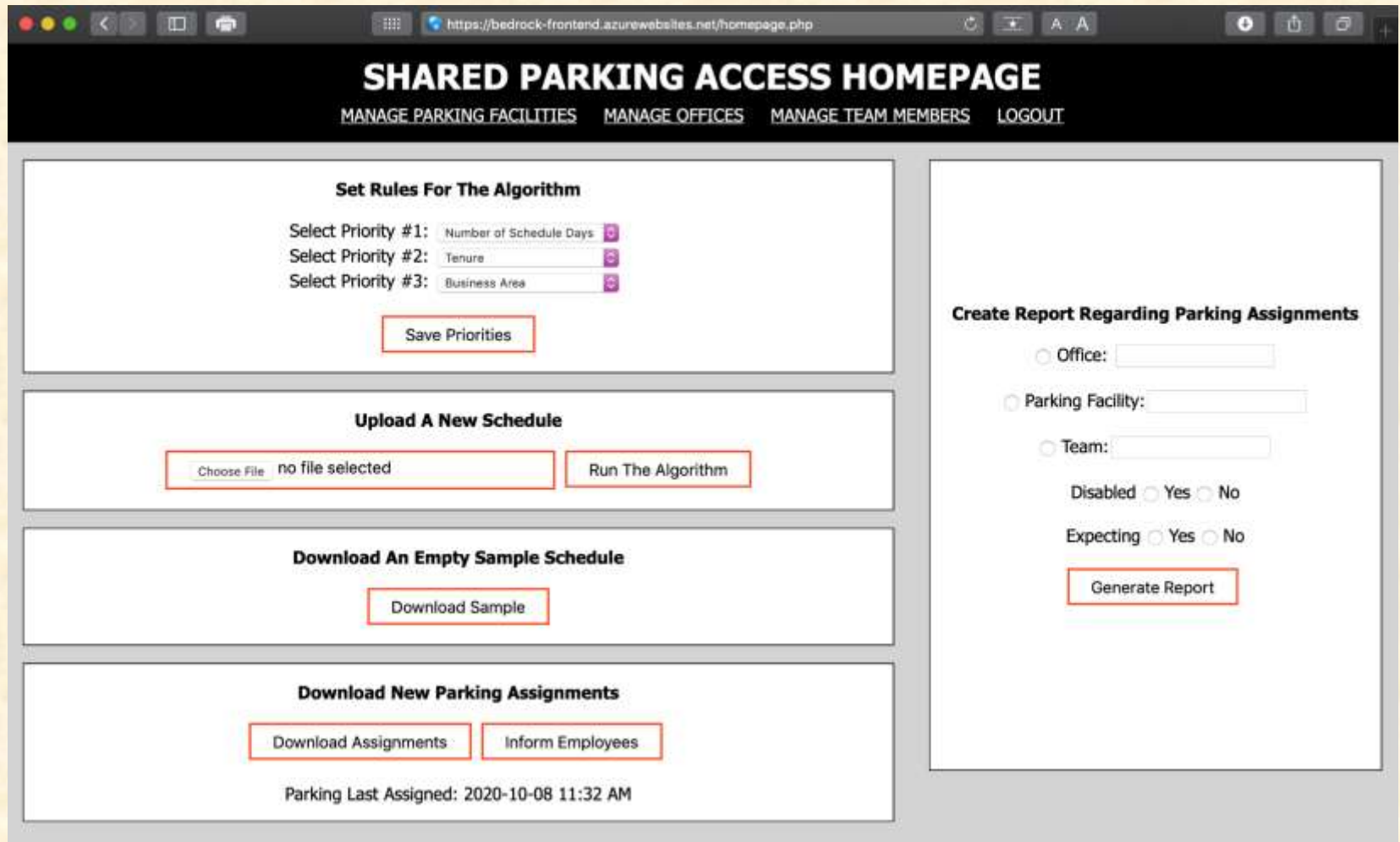
Project Overview

- 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 has a black header with the title "SHARED PARKING ACCESS HOMEPAGE" and four navigation links: "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 them.
- Upload A New Schedule**: A "Choose File" button next to a text box showing "no file selected", and a "Run The Algorithm" button.
- Download An Empty Sample Schedule**: A "Download Sample" button.
- Download New Parking Assignments**: Two buttons, "Download Assignments" and "Inform Employees". Below them is the text "Parking Last Assigned: 2020-10-08 11:32 AM".

The right column contains one section:

- Create Report Regarding Parking Assignments**: Three radio buttons for "Office:", "Parking Facility:", and "Team:", each followed by a text input field. Below these are two sets of radio buttons for "Disabled" (Yes/No) and "Expecting" (Yes/No). A "Generate Report" button is at the bottom.

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

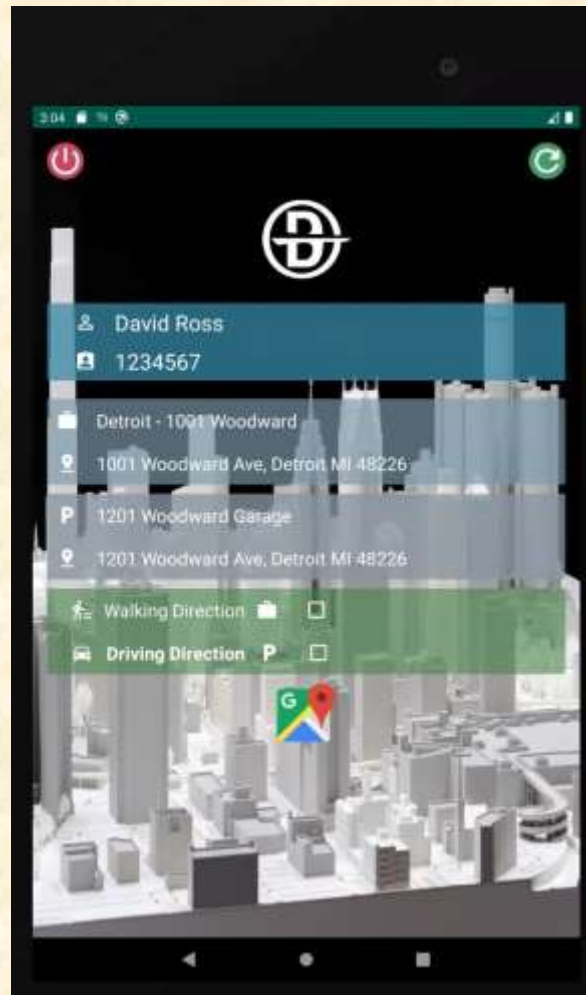
Garage A

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

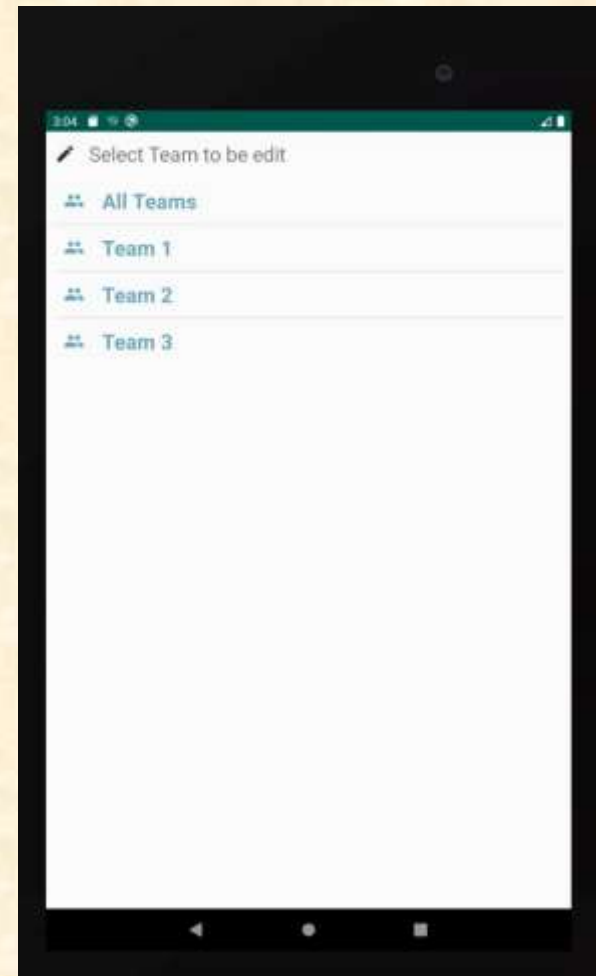


Edit Employee Info



A screenshot of a mobile application interface for editing employee information. The screen has a dark blue header with a status bar at the top showing the time 3:04. Below the header is a light blue bar with the text 'Edit Mode' and a red edit icon. The main content area is a list of form fields, each with a label on the left and a light blue input field on the right. The fields are: Team (BEDROCK), Team Member (SOME BODY), UniqueID (83415), Schedule Day (OCTOBER 30, 2026), Assigned Building (DETROIT - 1001 WOODWARD, 1001 Woodward Ave, Detroit MI 48226), Tenure Days (10962), Assigned Parking (1201 WOODWARD GARAGE, 1201 Woodward Ave, Detroit MI 48226), and Parking Level (LEVEL 1). The bottom of the screen shows a black navigation bar with three white icons.

Field	Value
Team	BEDROCK
Team Member	SOME BODY
UniqueID	83415
Schedule Day	OCTOBER 30, 2026
Assigned Building	DETROIT - 1001 WOODWARD 1001 Woodward Ave, Detroit MI 48226
Tenure Days	10962
Assigned Parking	1201 WOODWARD GARAGE 1201 Woodward Ave, Detroit MI 48226
Parking Level	LEVEL 1



A screenshot of a mobile application interface for selecting a team to edit. The screen has a dark blue header with a status bar at the top showing the time 3:04. Below the header is a light blue bar with the text 'Select Team to be edit.' and a red edit icon. The main content area is a list of team options, each with a light blue input field and a red edit icon. The options are: All Teams, Team 1, Team 2, and Team 3. The bottom of the screen shows a black navigation bar with three white icons.

Team
All Teams
Team 1
Team 2
Team 3

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?

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