MICHIGAN STATE
U N I V E R S I T Y

Project Plan Presentation
Team Member Mapping Application

The Capstone Experience

Team Rocket Companies

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From Students…
  …to Professionals

Functional Specifications

- Helps develop community between workers in a hybrid work environment

- Allows team members to search for others based on zip code location

- Support community building activities through events in the app

- Allows for communication between event attendees via a general chat
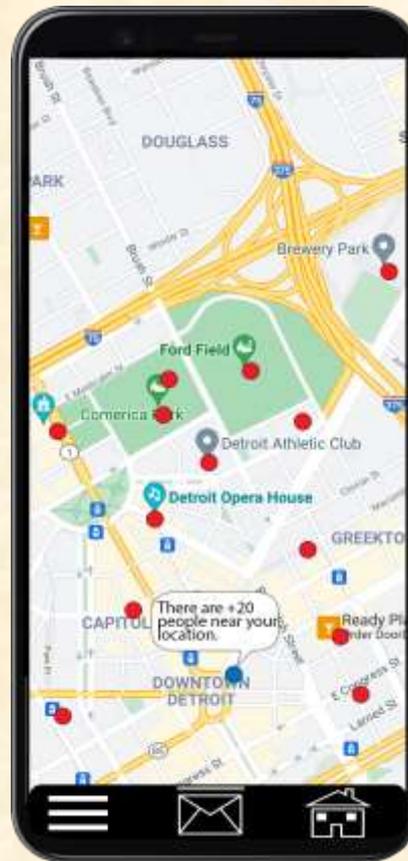
Design Specifications

- Google Maps as main interaction interface
- Filtering system to search for other employees
  - Side menu for interests
  - Search bar for location
- Markers on Google maps shows employees
  - Hovering will show public information
  - Direct messaging features
- Events
  - Business and social events
- Web application and Android functionality

Screen Mockup: Events
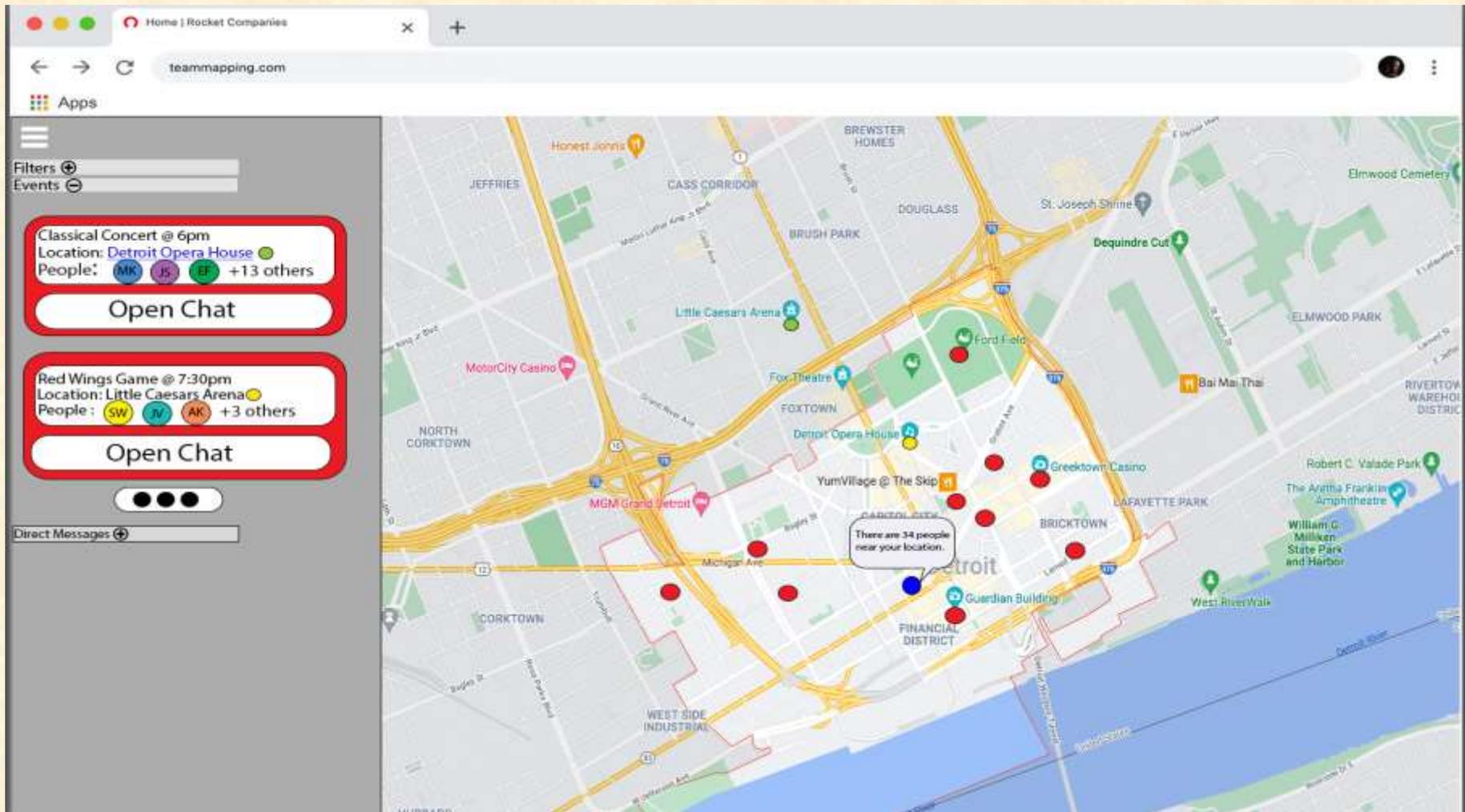
Screen Mockup: Nearby Employees

Screen Mockup: Chat Feature

Screen Mockup: Profile

Technical Specifications

- Google Maps API displayed on frontend
- Have both a front and backend – React & .NET
  - Communication between them to display data from the Sift API
  - Store necessary data with a database
- Display team member mapping with HTML, CSS, and JavaScript – React
  - Need a way for user interactions
- Cloud deployment for flexibility using AWS
  - Easier app development
    - Development for android devices to display mapping on handheld device

System Architecture
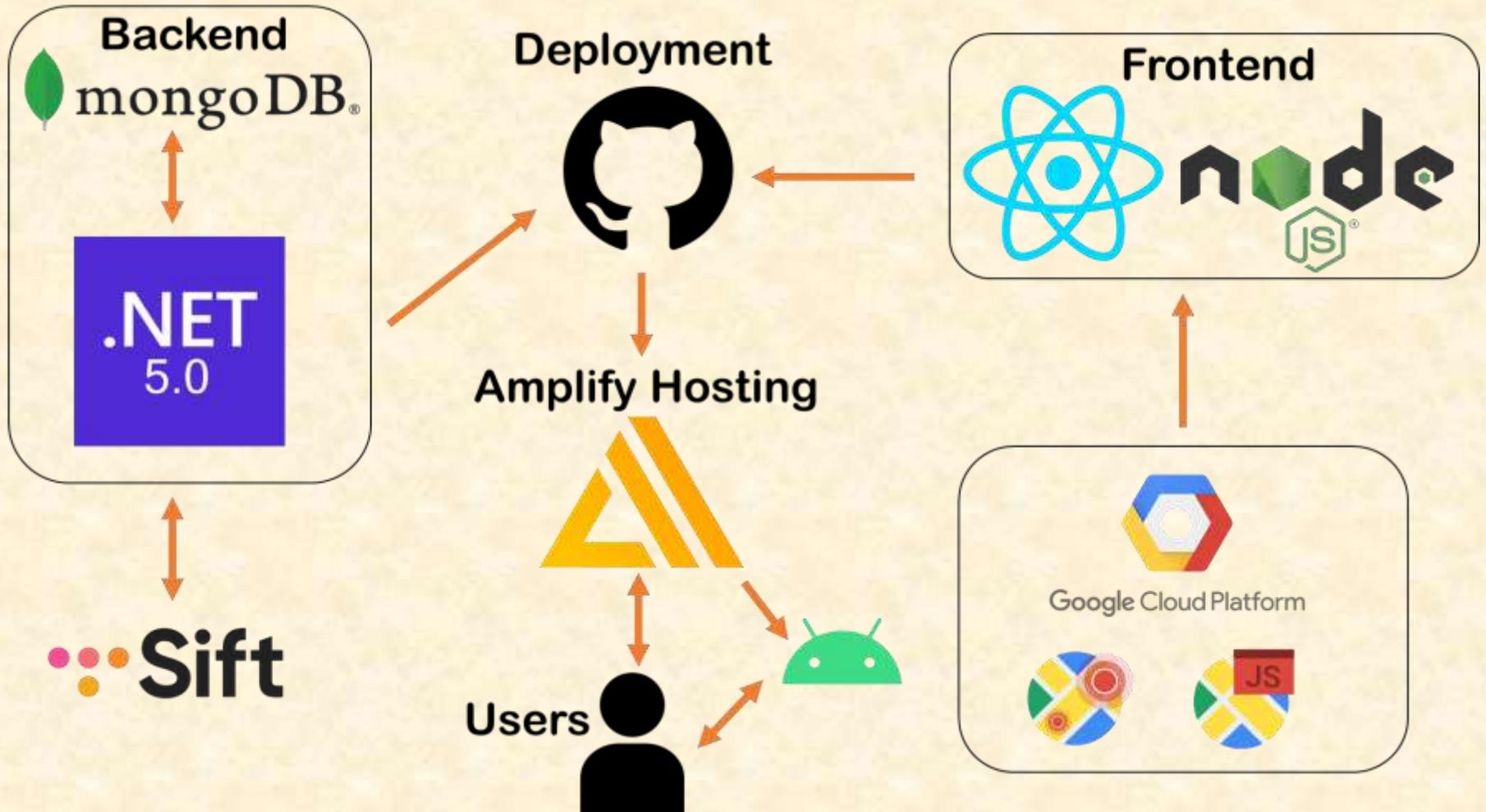
System Components

- Hardware Platforms
  - Windows – Windows computers will be used to code and test the web application
  - Android – Some team members have Android devices to test the app and mobile version
- Software Platforms / Technologies
  - Google Cloud Platform – All the API's from google including the Maps API and Geolocation API will be managed here
  - React – A JavaScript library that will create a single-Page Application taking care of the HTML, JavaScript, and CSS
  - NodeJS – Use npm to install packages to help with UI and inserting the maps API
  - MongoDB - Handle data
  - .NET 5.0 - Backend to create Web API
  - Sift API – Get employees data
  - GitHub and AWS Amplify – Deploy and collaborate with GitHub, AWS Amplify loads repos to host front and backends
  - Android SDK – Allow Android app

Risks

- Mapping Large Amounts of Data
  - Sift API will be returning large amounts of data, and it will be taxing on the interface if we do not manage resources efficiently.
  - Ensure that we are not calling the Sift API every time a user loads the map.
- Location Data Privacy
  - Sensitive location information will need to be secure.
  - Ensure that those creating an account are part of the Sift organization through e-mail verification and allow the user to opt out and just use zip code.
- Incorporating Chat Feature
  - While currently we have both a direct message and event message part of the app planned, it may come down to only having one of these
  - Use an external app such as Microsoft Teams or SMS to create group chats instead of having it in the app.

Questions?