



MoGreen

“Clean My Campus” Mobile Application

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# Big Picture

- Flagstaff is a beautiful place to live but more students and travelers means less personal responsibility
- In order to have healthy and resourceful communities, we need to cultivate a culture of sustainability
- More people, more waste, more need for green solutions

# Clients

## Ellen Vaughan

- Former manager with NAU's Office of Sustainability
- Responsible for facilitating community involvement in sustainability culture

## Brock Brothers

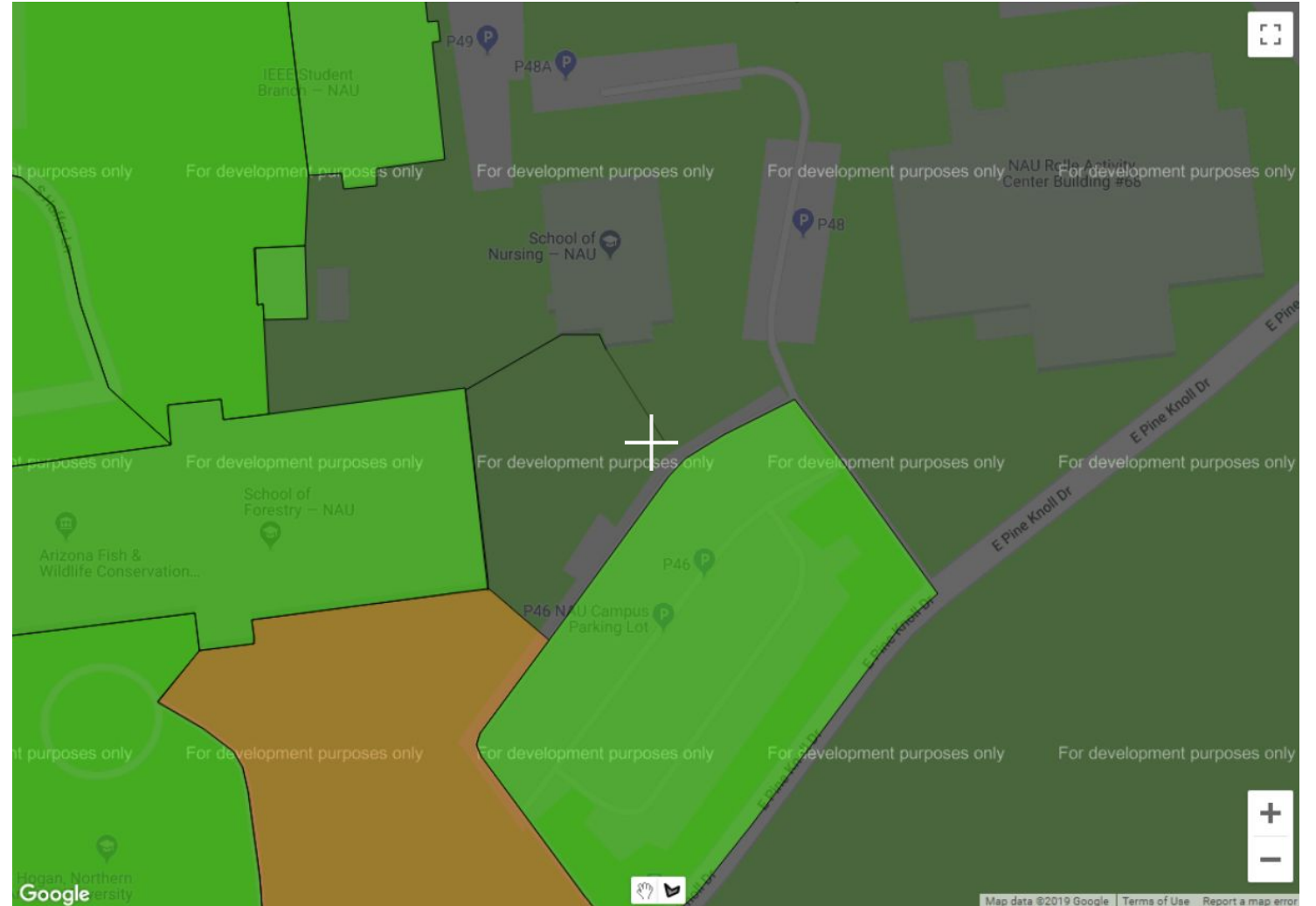
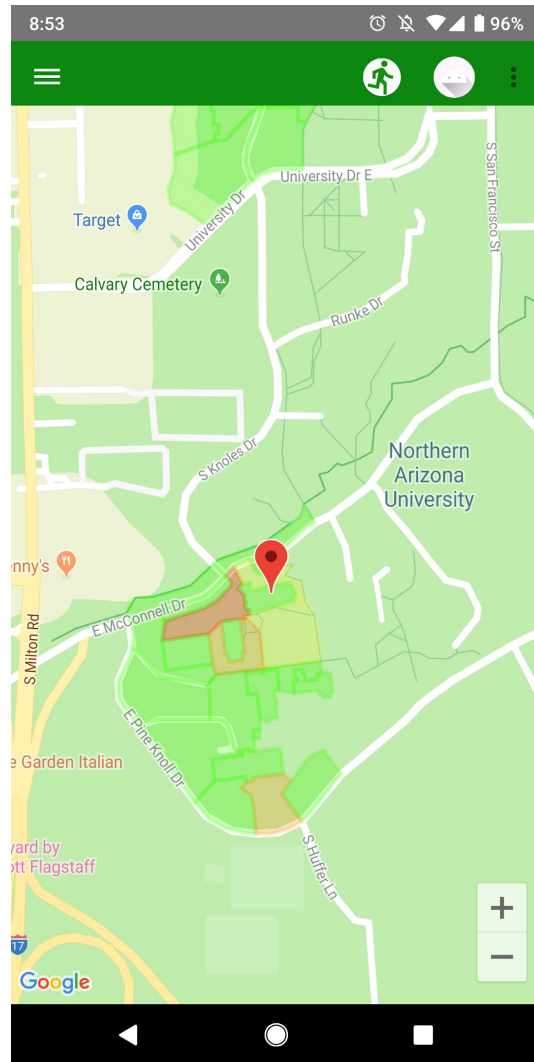
- Manages NAU's Moving and Recycling department
- Oversees trash and recycling efforts at NAU, and handles general maintenance problems

# Problem Statement

- Community involvement is difficult for those who are interested
- Current reporting method is unknown, outdated, and unintuitive
- NAU needs to utilize current technologies to solve problems

# Our Solution:

A mobile application and administrative web portal



# Key Requirements

## Mobile Application

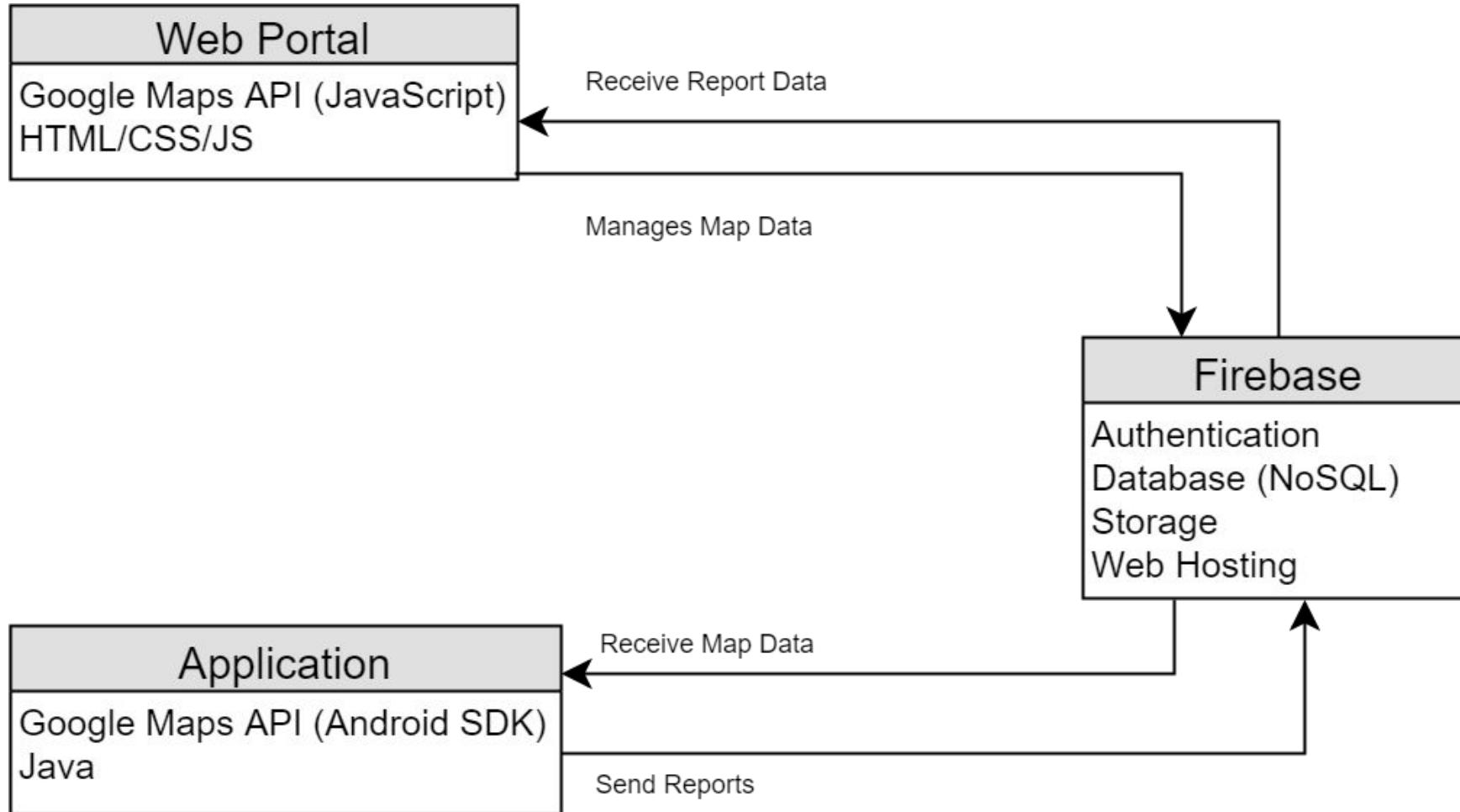
- Interpret and display map with zones and markers
- Mark the user's location
- Allow users to make quick or full reports
  - Quick report: choose from a drop down menu of predefined report types, click submit
  - Full report: choose report type, add detail, attach a photo, click submit

# Key Requirements

## Web Portal

- Draw new zones and place new markers denoting campus resources
- Display reports made from application as checkable tasks
- Display a heatmap view of reports, filterable by time period

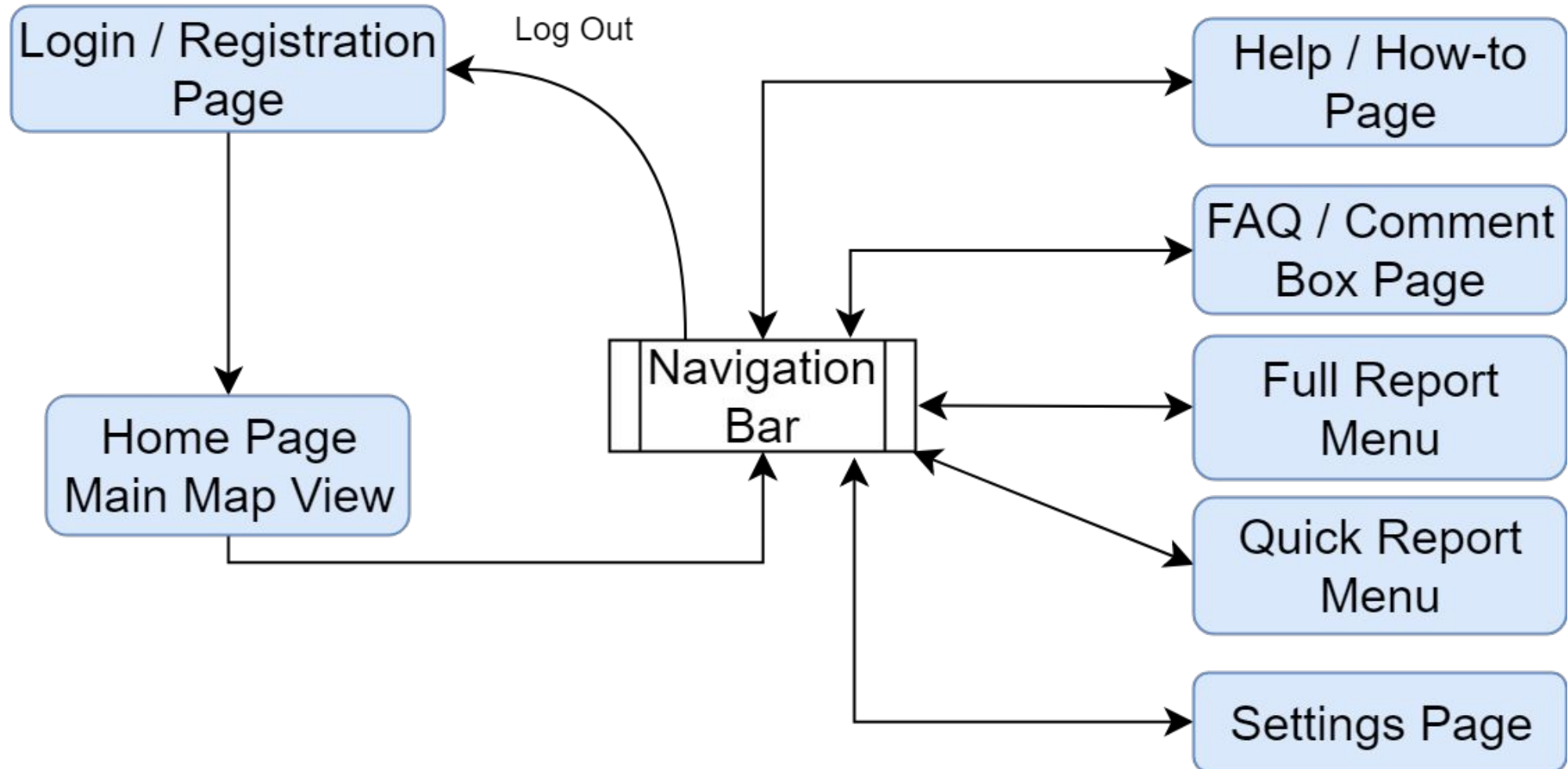
# Implementation Overview





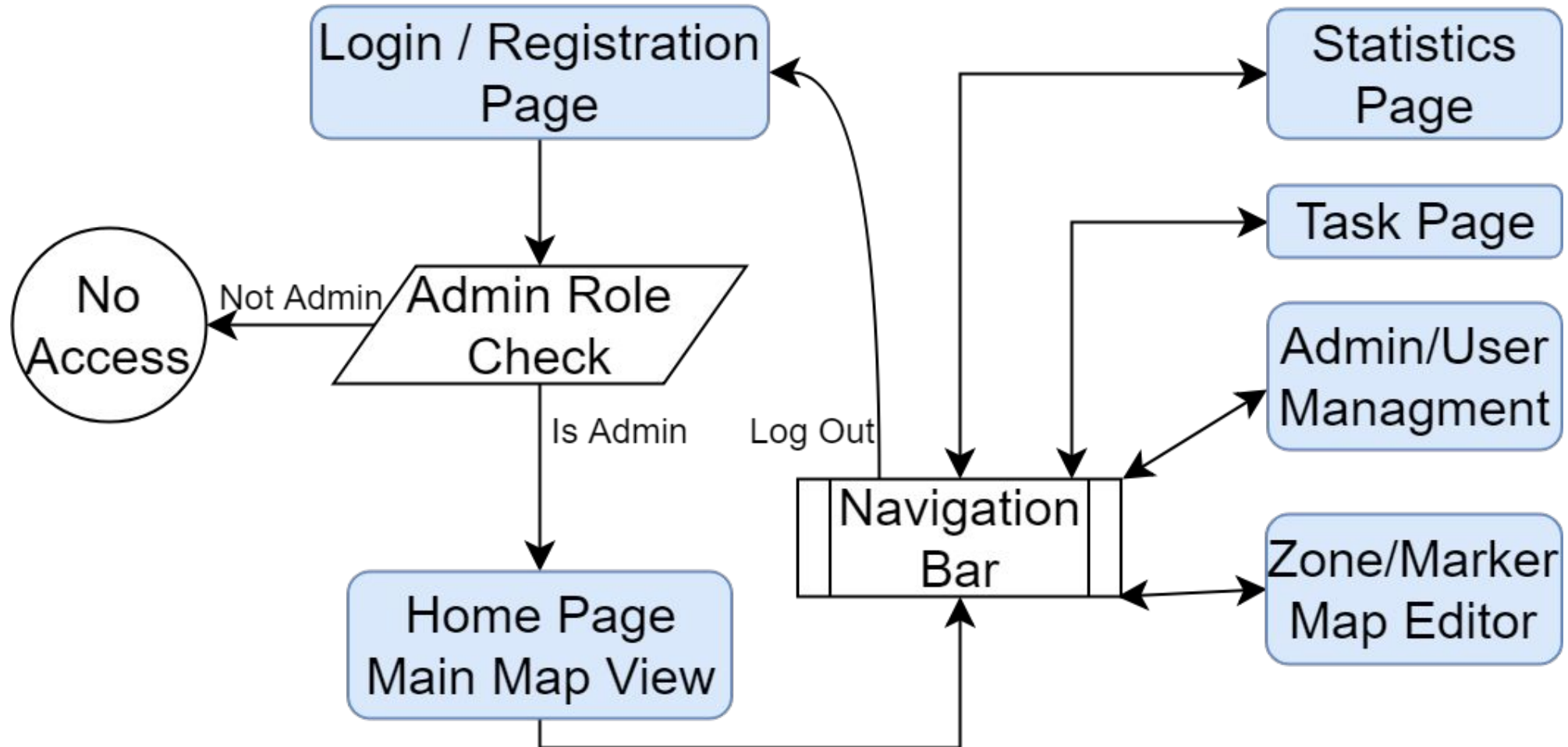
# Architecture Overview

## Application Navigational Flow



# Architecture Overview

## Web Portal Navigational Flow



# Use Case

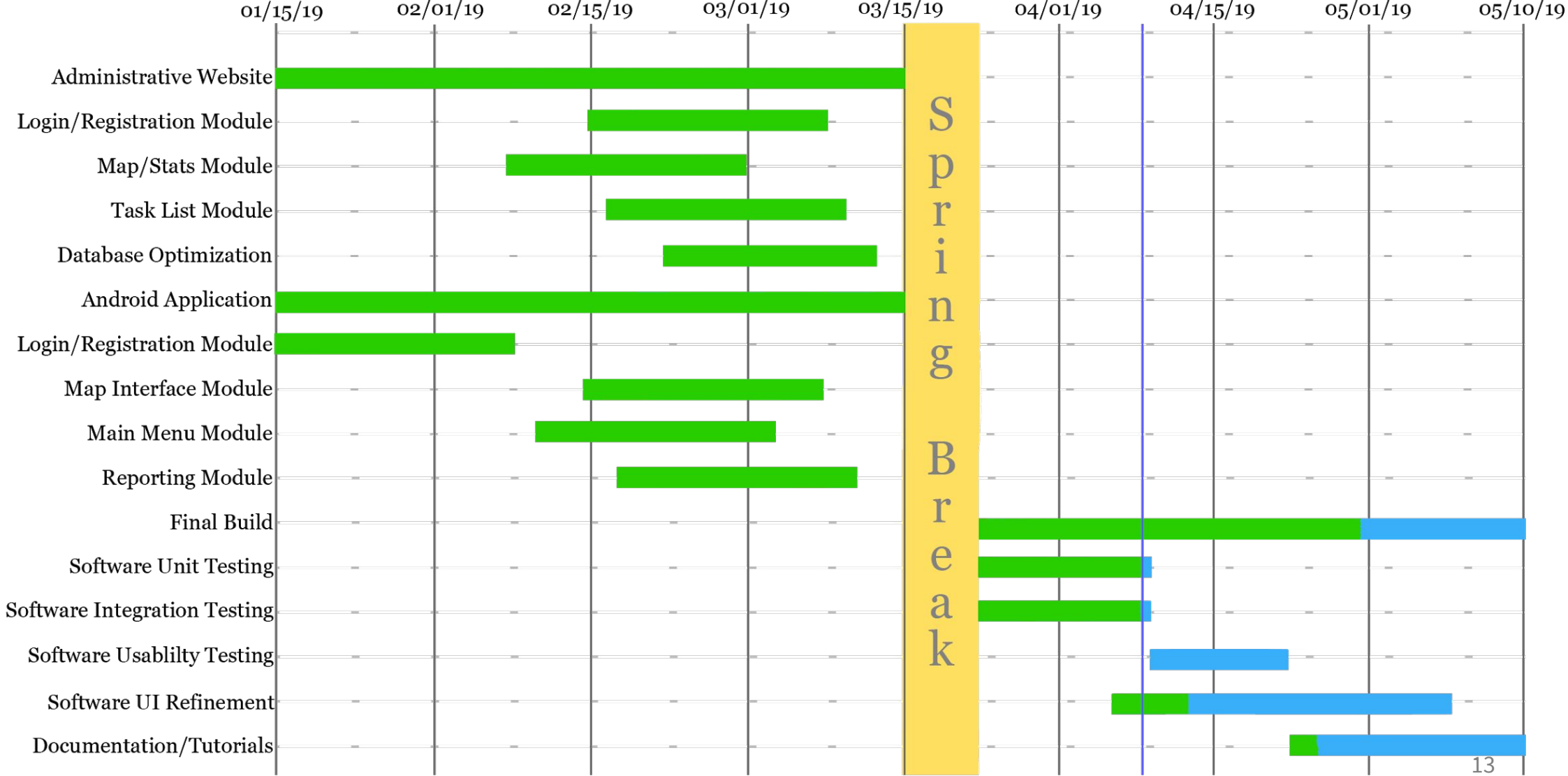
## Full Report

- User logs in application - brought to home screen
- User taps point on map to mark a location
- User taps 'full report' icon or taps 'menu' icon and chooses 'full report'
- User chooses report type, enters details, and takes a photo
- User taps 'submit' button

# Challenges & Resolutions

- Reports from multiple accounts creating tasks for the same issue
  - Group tasks together based on a radius and the type of report to minimize redundancies
- Read/Write/Delete to database affects monthly pricing for clients
  - Efficient calls to database and implementing a cache

# Schedule



# Testing Plan

- Our software components heavily rely on existing APIs
  - Unit tests are limited, causing heavier focus on integration
- Primary focus is usability testing
- 2 pronged plan:
  - General user base for mobile application- NAU students, faculty, employees
  - Specific user base for web portal- NAU Moving & Recycling department

# Conclusion

- Problems:
  - Current system unknown, outdated, and unintuitive causing a lack of community involvement
- Solution:
  - Easy and portable, new and modern
  - Enables the community to get more personally involved
- Outcomes:
  - Easier task control for maintenance employees
  - Boosted visibility of campus resources
  - Facilitate community engagement and change how people view their communities



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