

**MICHIGAN STATE**  

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**U N I V E R S I T Y**

# Beta Presentation

## Patient Service Delivery Planning

### The Capstone Experience

Team Spectrum Health

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

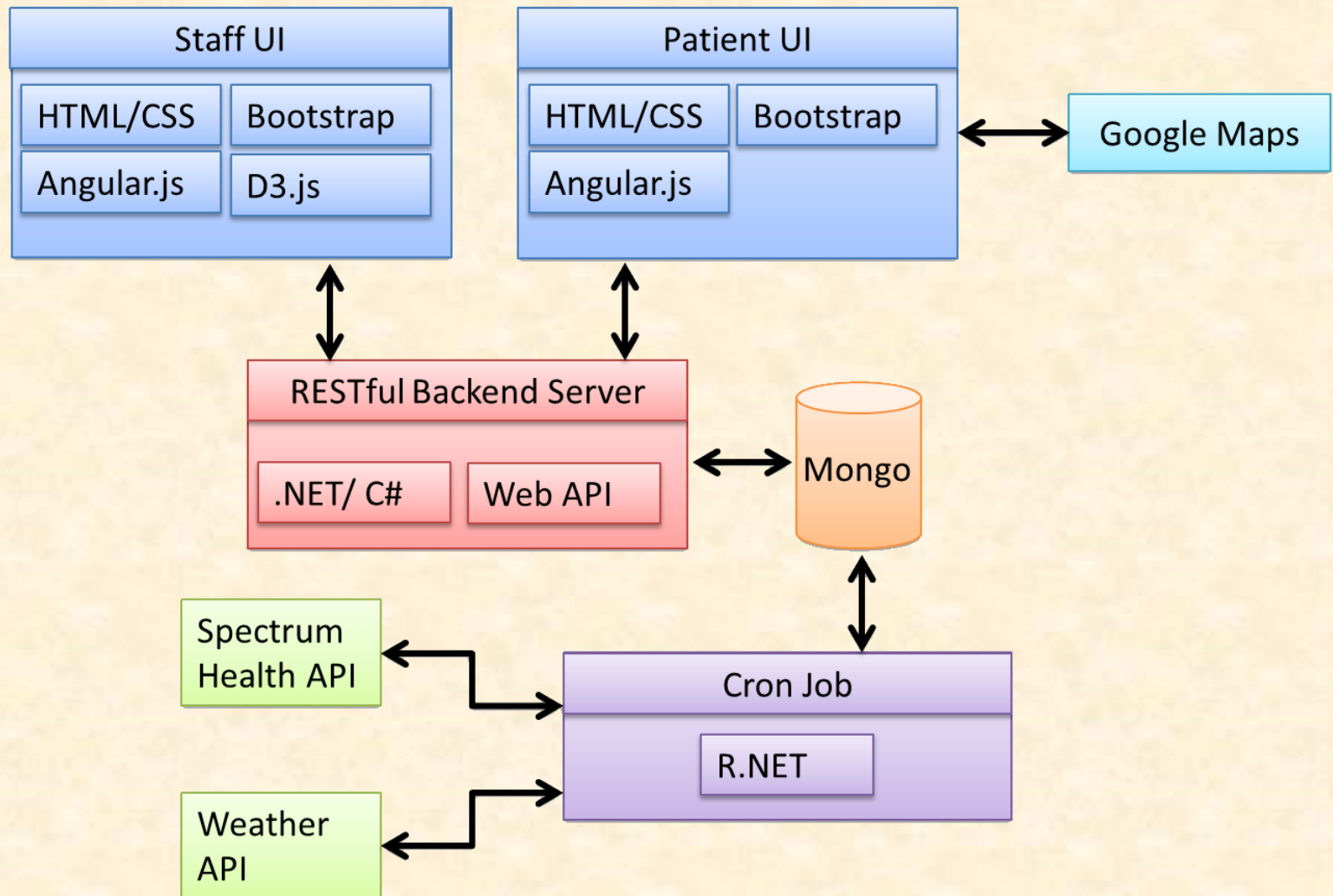
# Project Overview

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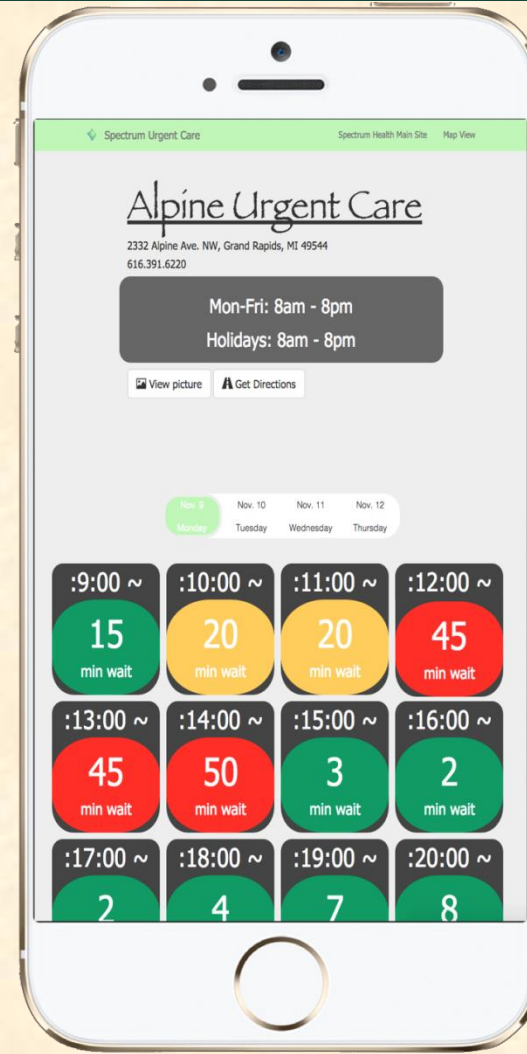
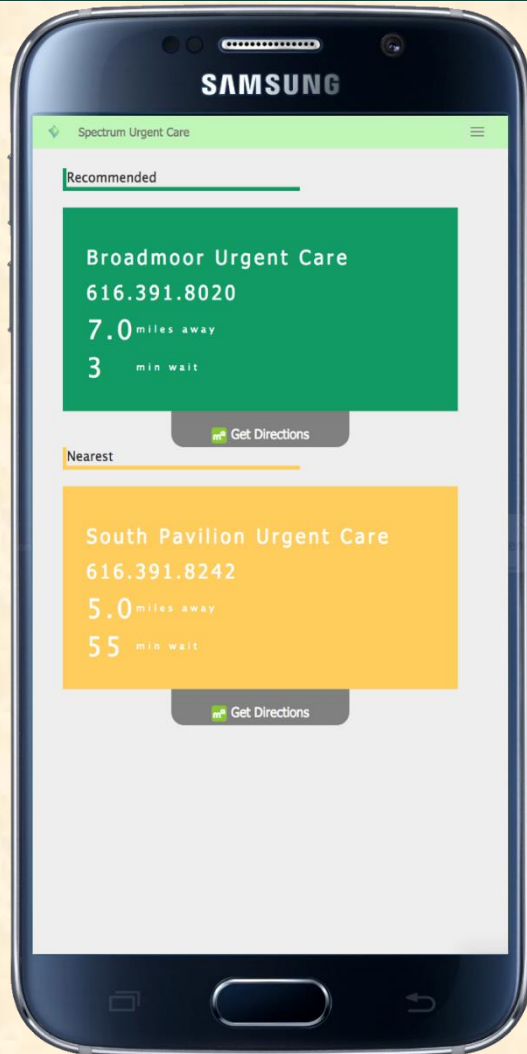
- Allows Spectrum Health to provide optimal care by predicting staff needs
- Allows patients to find the facility with the shortest estimated treatment time
- Predictions are based on
  - Past data
  - Weather forecasts



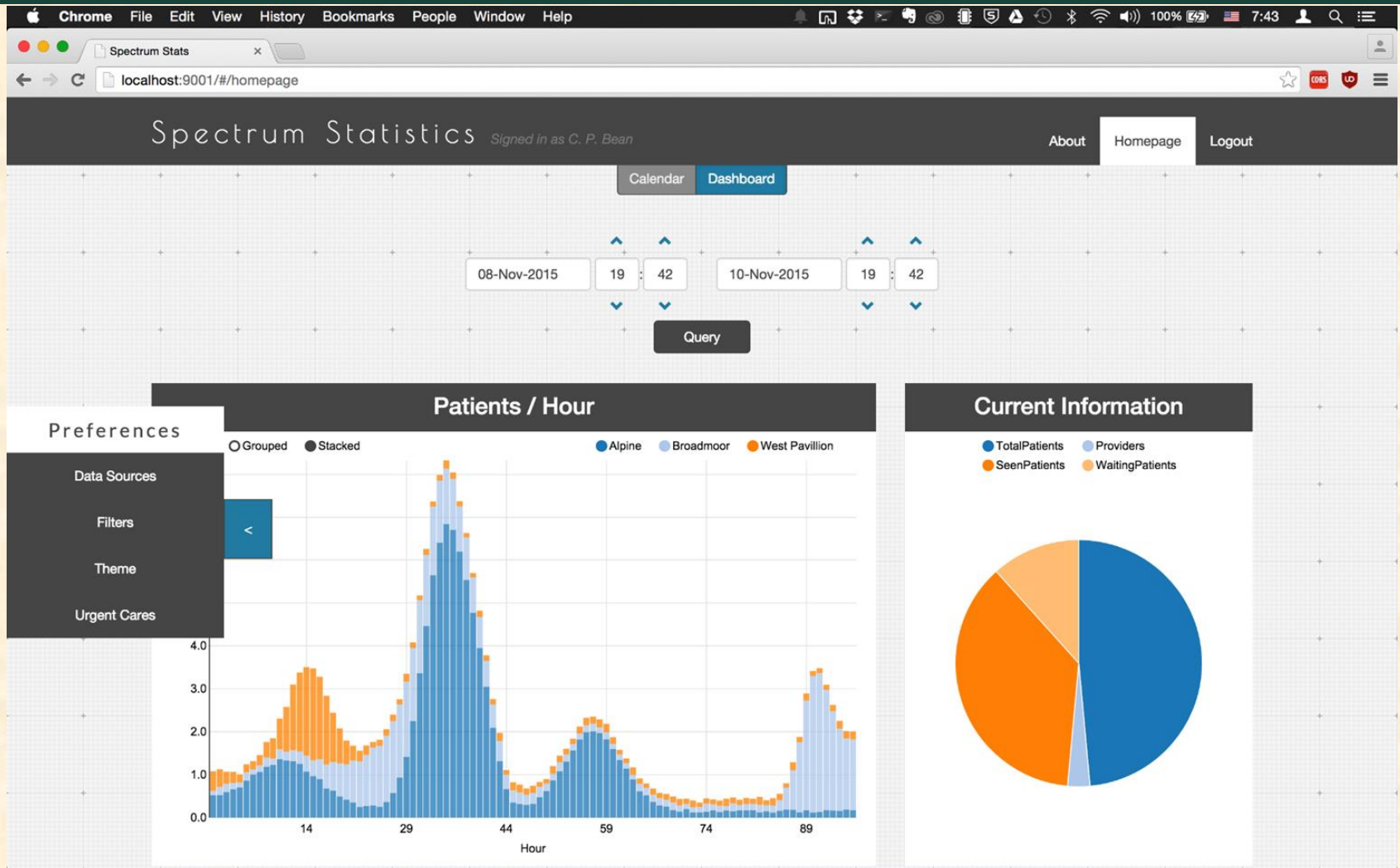
# System Architecture



# The Patient Interface



# The Staff Interface



# The Staff Interface

The screenshot displays a web browser window with the URL `localhost:9001/#/homepage`. The page title is "Spectrum Statistics" and the user is signed in as "C. P. Bean". The interface includes a navigation bar with "About", "Homepage", and "Logout" links, and a secondary bar with "Calendar" and "Dashboard" tabs. The main content area features a calendar for the month of November. A "Filters" sidebar is open on the left, containing three input fields: "Provider/Patient Ratio" (value: .2), "Total Patient Threshold" (value: 5), and "Waiting Threshold" (value: 4). The calendar grid shows dates from 1 to 14. A blue arrow points to the "1" in the first row, which is labeled "Predicted". The calendar cells contain the following text:

SUN	MON	TUE	WED	THU	FRI	SAT
1 Predicted	2 8am-4pm: There is expected to be a large number of patients.	3	4 1-2pm: Predicted understaffing.	5 3-5pm: 2-4pm: There is expected to be a large number of patients.	6 1-7pm: There is expected to be a large number of patients. 2-4pm: There is expected to be a large number of patients.	7
8	9	10	11	12	13	14



# What's left to do?

- **Patient UI**

- Optimize wait time and recommendation calculations
- Increase webpage responsiveness with the backend API
- Minor UI integration based on Spectrum Health's design team feedback

- **Staff UI**

- Refactor code to improve modularity
- Improve responsiveness of Calendar

- **Backend**

- Create data partition for 3-hour intervals
- Better incorporation of non-Spectrum APIs
- Divide cron job functionality into two applications

