MICHIGAN STATE UNIVERSITY

Alpha Presentation

Patient Service Delivery Planning

The Capstone Experience

Team Spectrum Health

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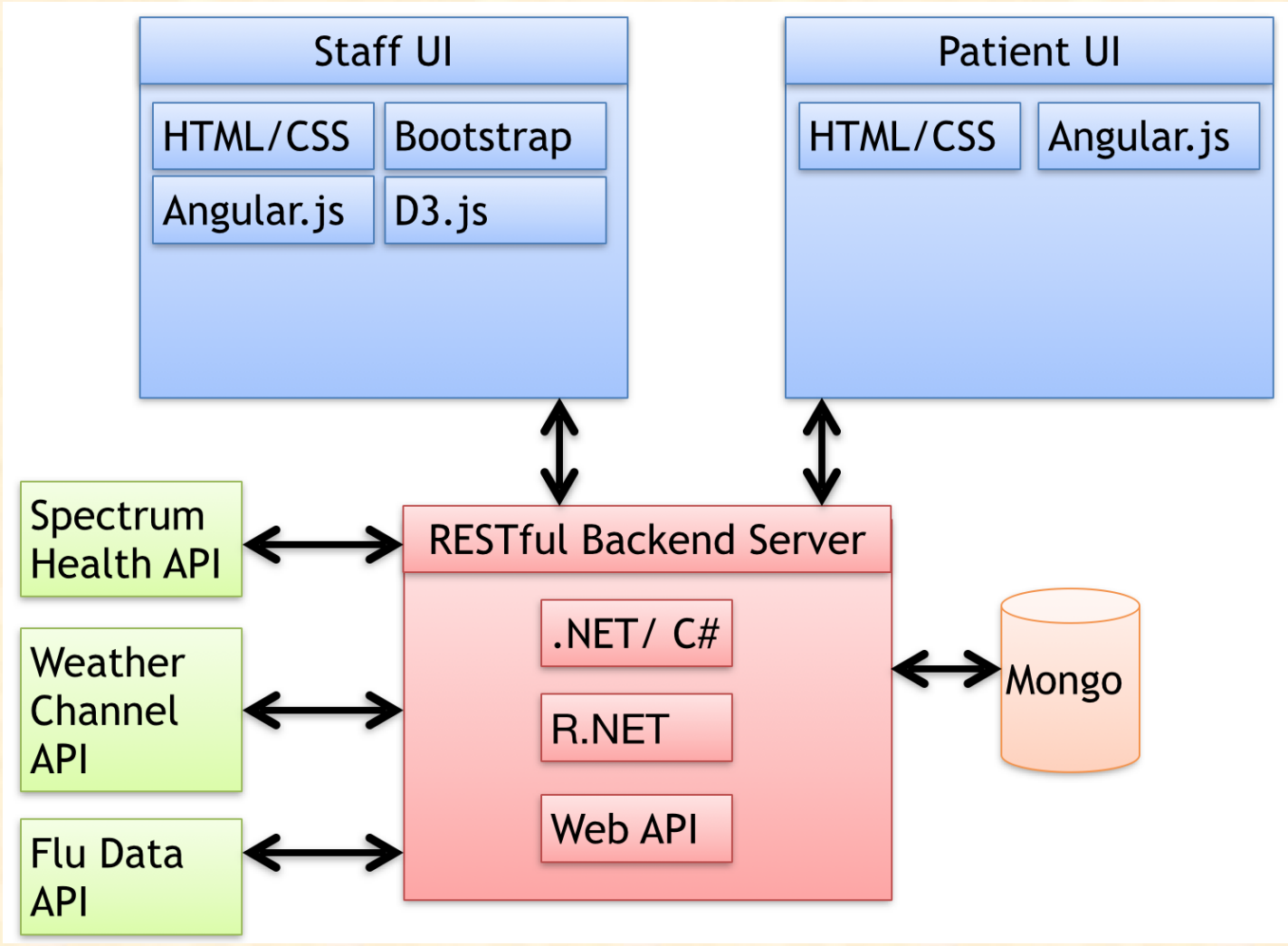
From Students…
…to Professionals

Project Overview

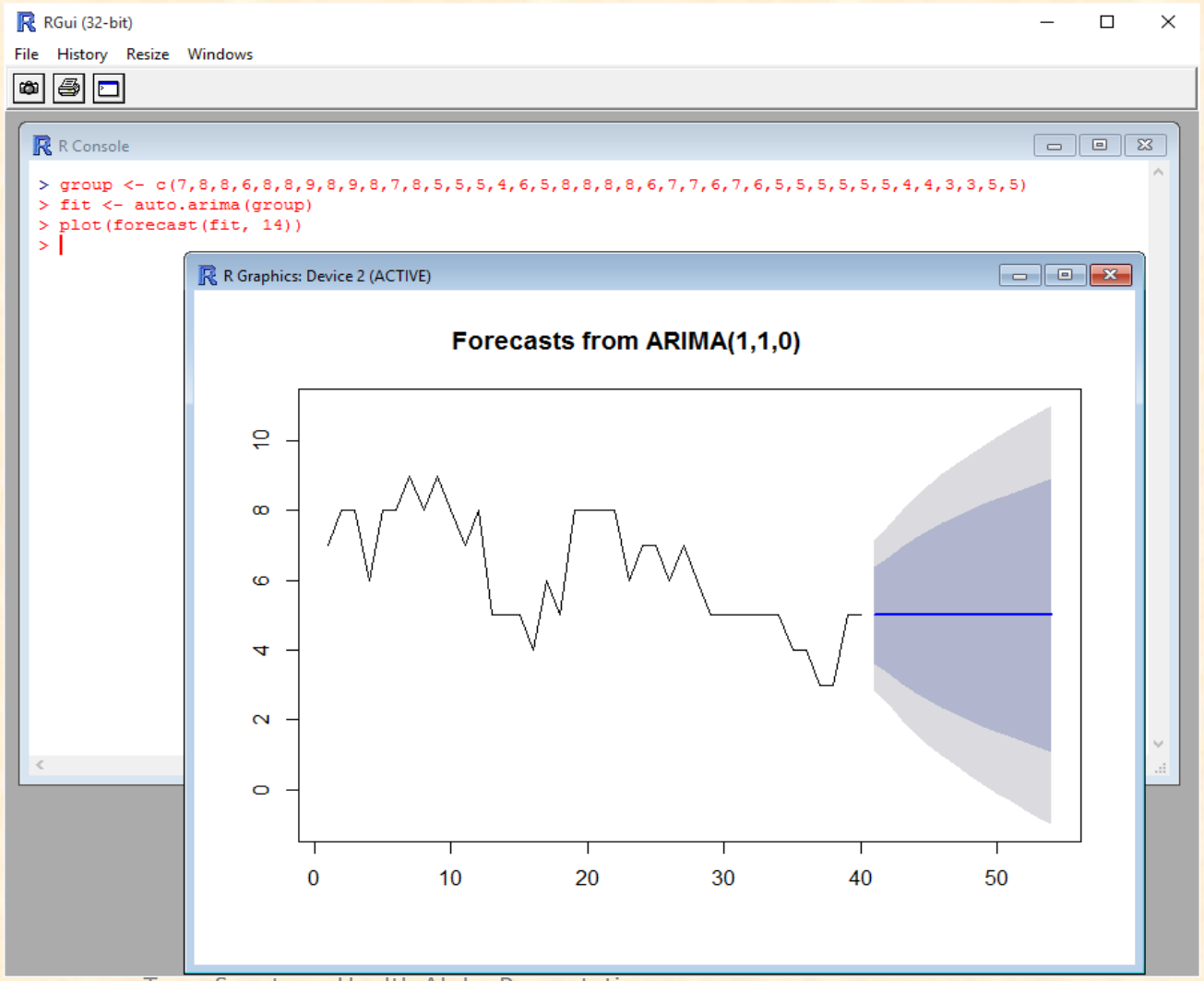
- Allows Spectrum Health to provide optimal care by predicting staff needs
- Allows patients to find the facility with the shortest estimated treatment time
- Predictions are based on
  - Past Data
  - Flu Data
  - Weather forecasts

System Architecture

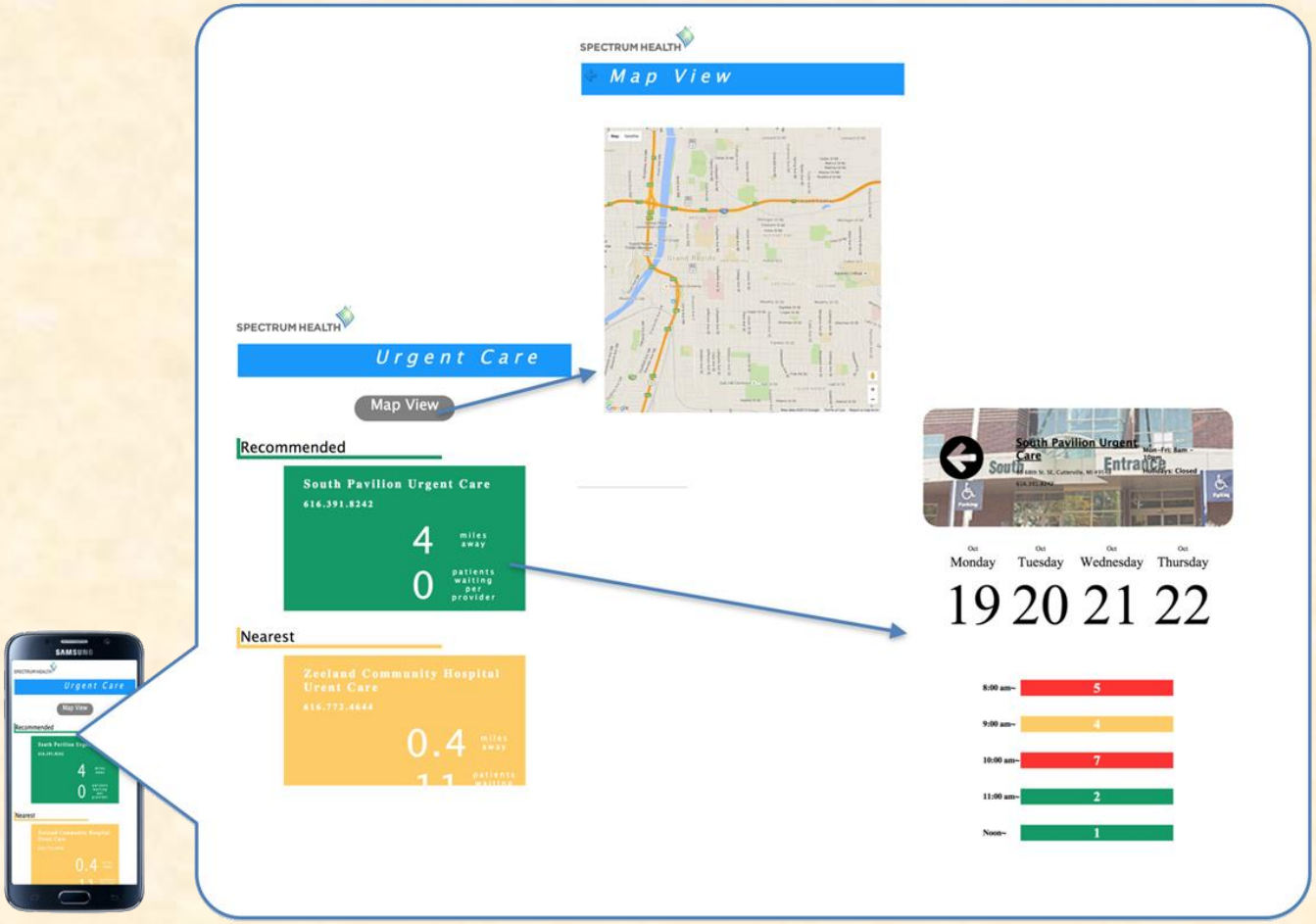


Forecast in R

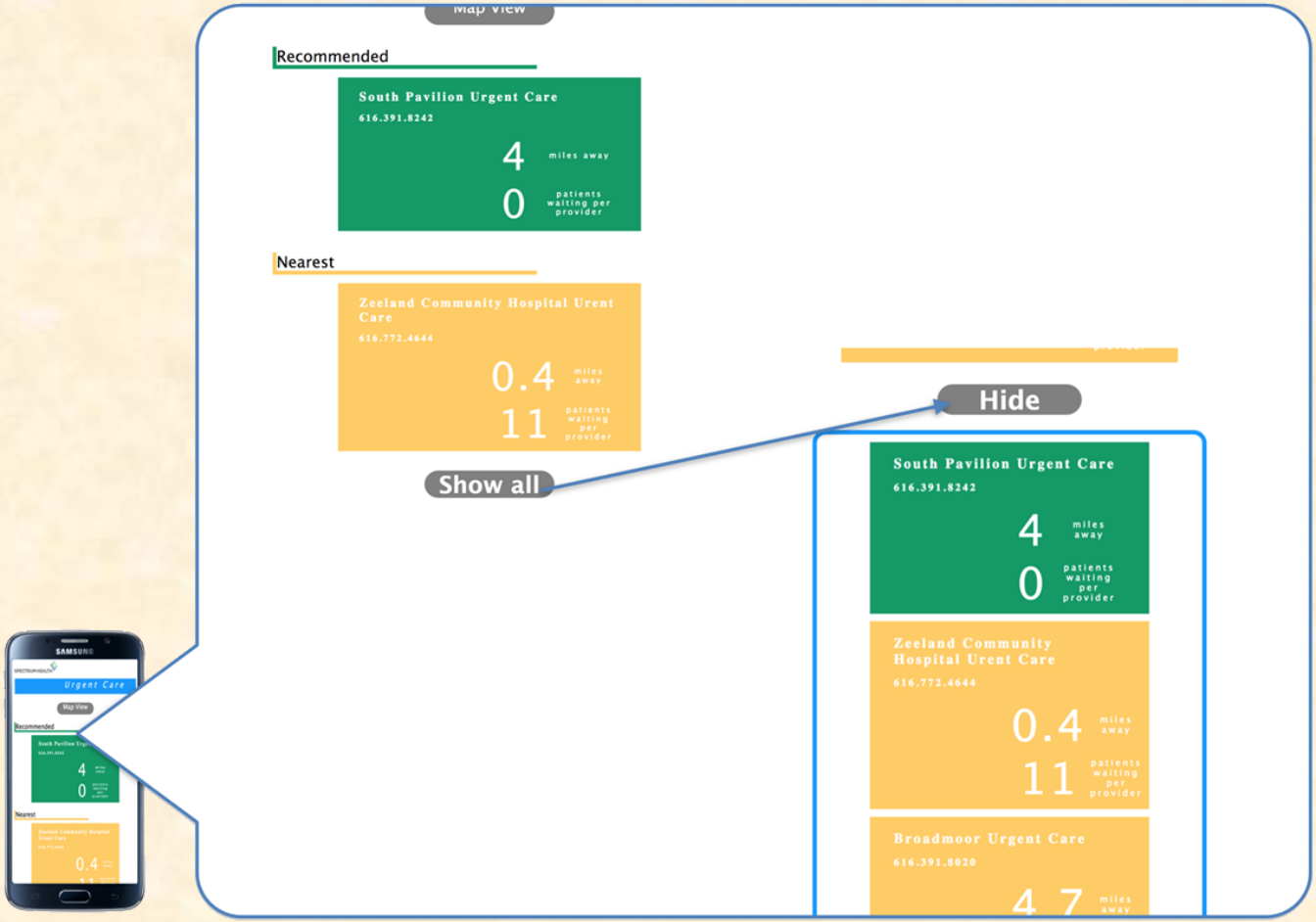
- Prediction of the patient traffic via the “auto regressive moving average model”
- Advised by MSU statistics department



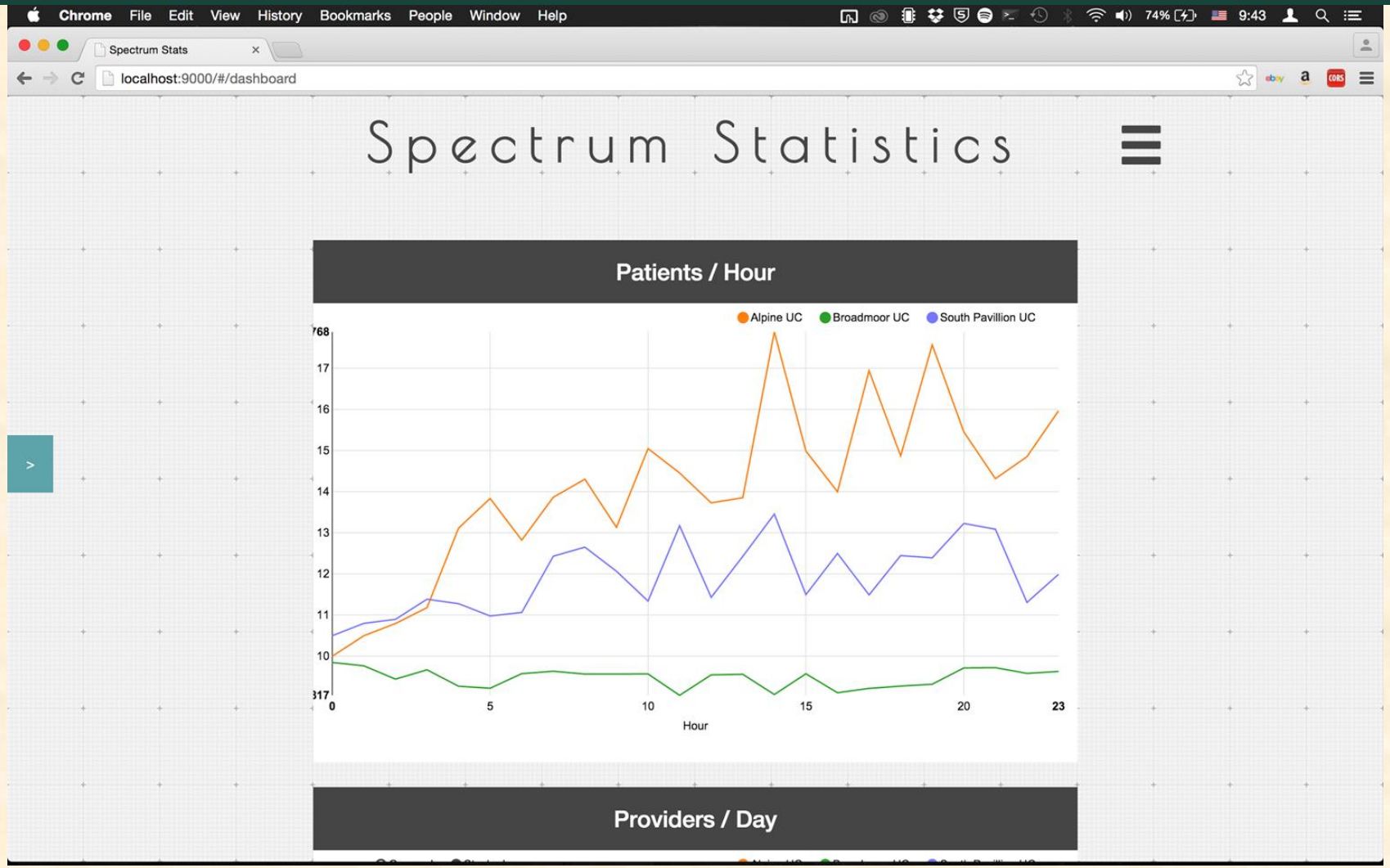
The Patient Interface



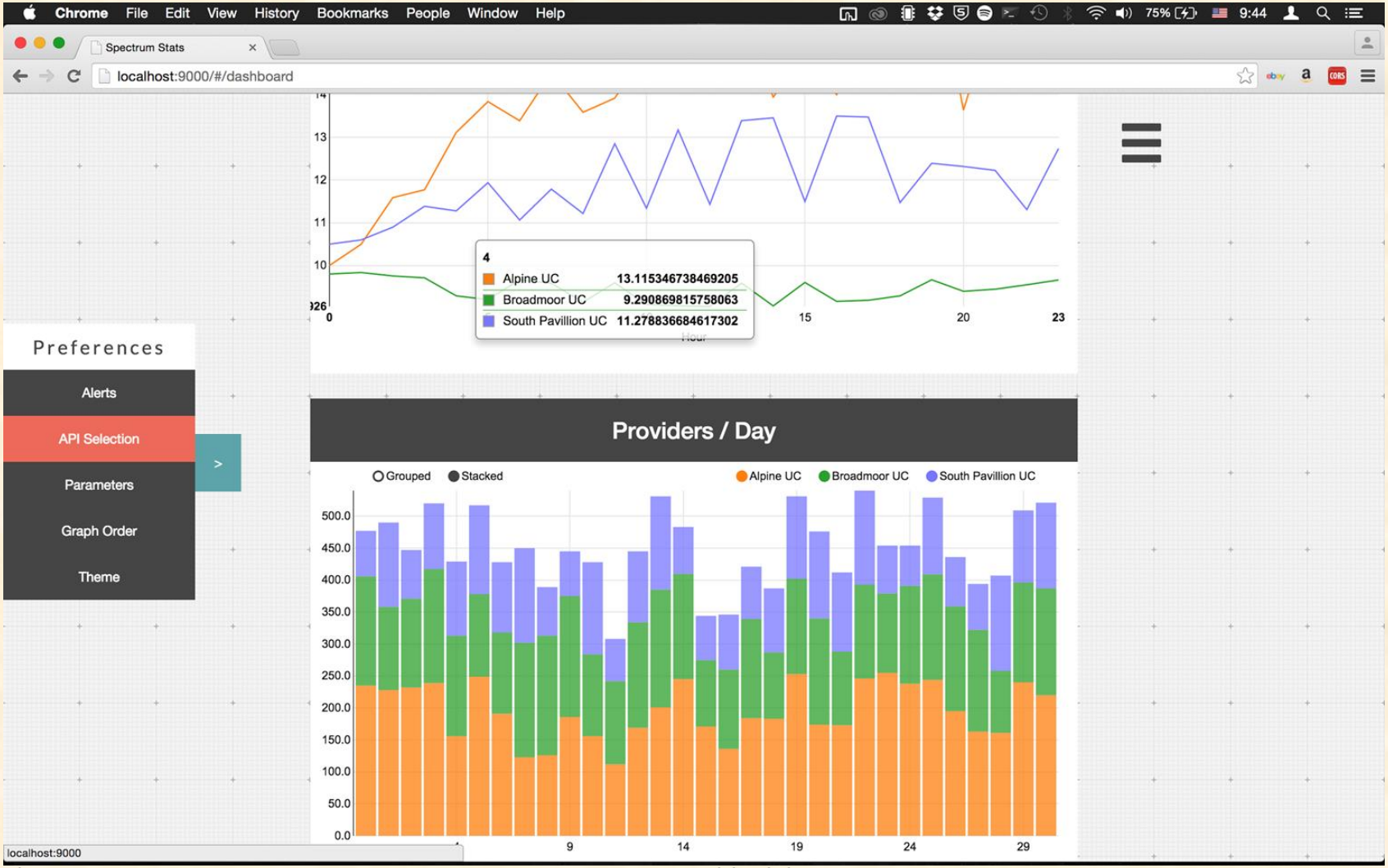
The Patient Interface



The Staff Interface



The Staff Interface



What's left to do?

- Patient UI
  - Fetch and utilize more data from the back end
  - Display the user's distances to each facility
- Staff UI
  - Implement preferences and responsivity
  - Utilize multiple graphs
- Backend
  - Use existing data for future predictions
  - Tweak performance in several areas
  - Fetch and store other public APIs