

# DementiaTrack

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\*Forget-Me-Not Flower: Representation of those affected by Dementia\*

## Introduction:

This project is the creation of a prototype telehealth system in order to bring awareness to the endlessly progressive disease that often goes unseen, Dementia. Our team investigated various symptoms and developed a strategy to track selected symptoms using current technology. We selected the following symptoms to specialize in: movement, sleep, urinary tract infection, and the daily activities of the patient. The goal of the system was to take data pertaining to dementia symptoms and from the data identify matches to symptoms of the disease and generate a report for a medical professional and guardian to receive in order for them to further evaluate the results and act if deemed necessary.

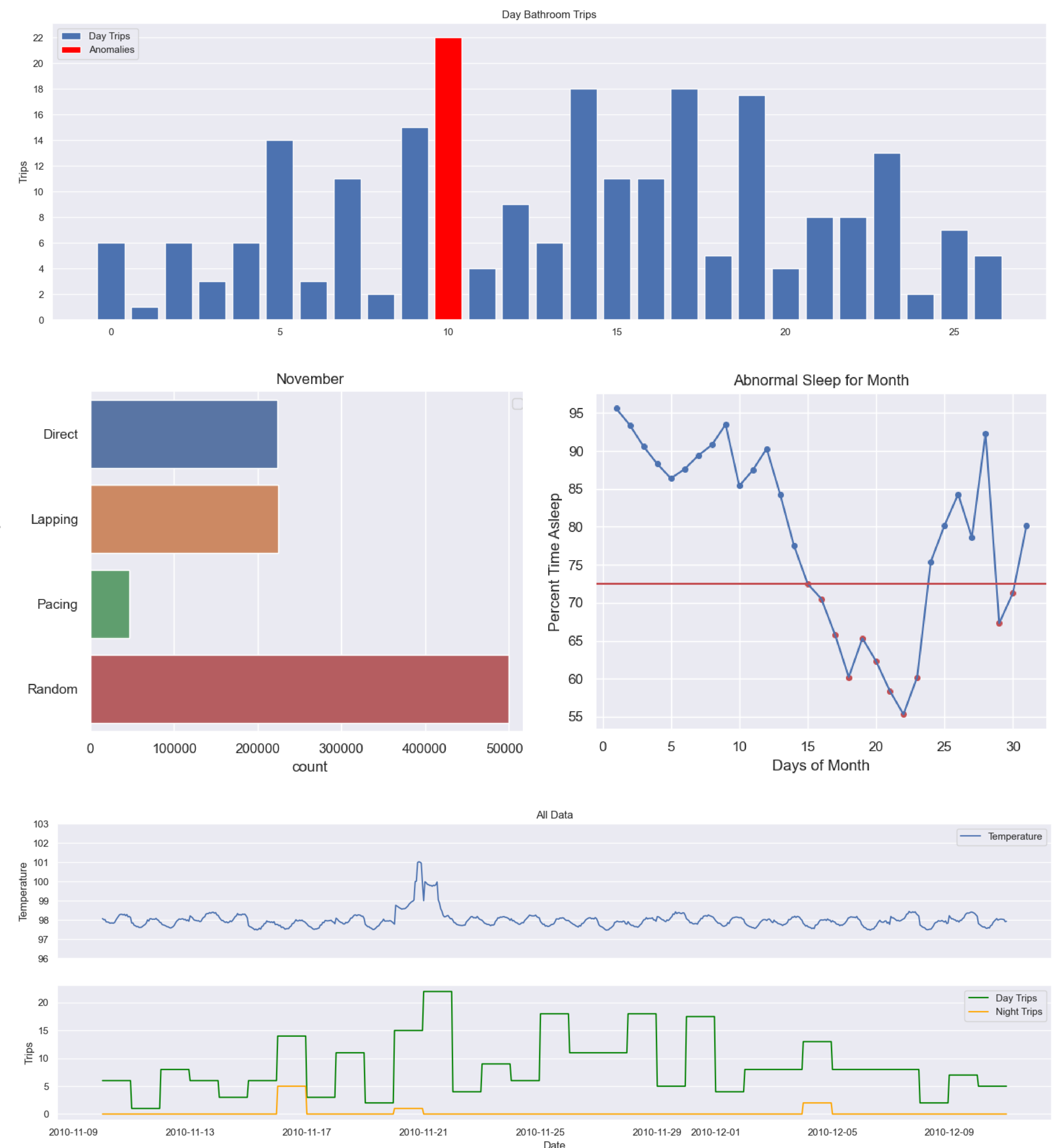
## Implementation:

As a team we researched into the four selected symptoms and discovered algorithms specialized in mapping mock and open-source data to the selected symptoms bringing us a proof to our concept and realism to our prototype. With our selected symptoms identified by the algorithms and data we then focused the creation of a prototype web application for potential use of doctors to non-invasively monitor their patients (Fig Set 1). The result is a prototype system that pulls in data specific to each symptom, processes the data through algorithms identifying matches to our symptoms and returning the results, additionally an email notification system will send an alert for abnormal behavior detected for the symptoms. All so doctors can ensure their patients stays healthy while at home. This early detection by the doctors could prevent the patient's illness progressing into unfortunate situations.

## Conclusions & Future Work:

The development team was able to successfully implement tracking and testing for the selected symptoms into a prototype telehealth system. While our team has made interesting progress, this project has future potential. It is our hope that a future research team will continue our work and improve upon our prototype system. We also hope that future improvements to IoT technology will allow future teams to analyze a wider variety of symptoms more accurately, producing a better prediction model to determine the likelihood of dementia. Finally, we had the honor to present our project at the Purdue Ft. Wayne Symposium this spring as well, to get feedback and showcase our work.

Fig Set 1: Graphs of Results from Analyzation



Tech Stack:

