

### FitByte Abstract:

Heart-related diseases are one of the leading causes of deaths in the United States. Many people have taken steps to reduce heart-related deaths. This led to the growth of products such as the use of a Fitbit, a wrist-device that provides information and notifications to ensure that the wearer is living a healthy lifestyle. Dr. Kyle Winfree (NAU) and Dr. Gregory Dominck (University of Delaware) work together analyzing the validity of Fitbit as a health-monitoring device. They give Fitbits to research participants and analyze the accuracy of data collected from the devices. To support their research, Dr. Winfree's lab has developed a web application called WearWare, which grabs data from the participants' Fitbits and performs user-defined analysis on the dataset. However, the application is currently hosted on a computer on NAU's network, which allows only limited access to the data. Additionally, data analysis is slow, the user interface is monotonous, and there is no system in place to send reminders to participants when needed. Team FitByte aims to improve WearWare by developing a new and interesting user interface. To allow remote access to WearWare, we will move the web app to an AWS server so that researchers from Dr. Dominck's lab can retrieve data in real time via a provided API. The web app will automatically send notifications to participants to remind them to wear their Fitbit. The program will be more dynamic and facilitate research on technologies that can potentially reduce the occurrences of heart-related diseases.