Team 11

Project Title: Smart Water Shutoff

Date: 10/17/2021

Members:

-Alex Murray– Embedded programming

-Tyler Denning - Motors and Valves

-Natalia Almeida - System Sensors

-John King - Mobile application development

-Augusto Savaris - Machine learning

-Andrew Fehr - Electronic devices and circuits

- Kangcheng Xu - Motors and Valves

What we've accomplished in the past week/what we've been researching

-Alex Murray– Set up meeting with professor, discussed design of app screens, began investigating using the RaspberryPi as I have not done that before

-Tyler Denning - Getting an operating system on the Raspberry Pi, Helped test transistors for simulating button press

-Natalia Almeida - Got more data from vibration sensor

-John King - Researched and found a way to chart arbitrary data

-Augusto Savaris - Fitted the first ML model (LSTM) with the available data that is labeled with time but it wasn't successful, worked on design assignment and lightning talk

-Andrew Fehr - Worked on configuring the motor with a way to activate electronically

- Kangcheng Xu - worked on microphone detector theoretical calculation

What we're planning to do in the coming week

-Alex Murray– Have meeting with professor on Monday, begin designing program to process data from the ADC

-Tyler Denning - Find a solution to the button press issue and get the ADC talking to Raspberry PI

-Natalia Almeida - setup adc to connect tp raspberry-pi

-John King - Create a graph functionality in app.

-Augusto Savaris - meet with the professor to discuss software design decisions, collect more data and further examine if the data from the vibration sensor has learnable patterns

-Andrew Fehr - Find a usable solution for the motor issue so it can be controlled by the raspberry pi

- Kangcheng Xu - try to make a simple decision on microphone detector

Issues we had in the previous week

-Alex Murray– No major issues this week

-Tyler Denning - The transistors did not act as we expected and the raspberry pi took longer to set up than expected.

-Natalia Almeida - translating data to see water flow

-John King - Been a bit busy so I didn't finish creating the graph functionality last week.

-Augusto Savaris - Data collected from vibration sensor so far shows no significant difference between leak and no leak situations

-Andrew Fehr - Confused by the motor turning turning a valve when the gate of a transistor was touched (most likely due to a pull up issue)

- Kangcheng Xu - make sure calculation right and speed of sound wave was right.