

# Lab 15.1: Building an Application: Gosh-Darn-It

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## **Introduction:**

For this project my team designed and coded a tracker for professor catch phrases. We designed it to be able to click a button to add a tally to one of two professors catch phrases or switch between professors. We also programmed it to make you hold a button for 5 seconds to send the data to ThingSpeak. This is in case you mess up the data or don't want to add it to the graphs. Besides the physical project my team worked on creating a website to show a physical graph of our data.

What did I contribute? I worked mostly on the physical side of our project. I got to work on creating a 3D model for our M5Core to be in as well as wiring up multiple wiring harnesses for both the buttons and LEDs. I also got to work with some of the very beginning code to make sure that the buttons work, LEDs turn on, and the screen changes colors (All of this code got worked on more by other students on my team)

## **Tools: Bill of Materials:**

**M5Core2** development board with onboard **MPU-6886** sensor (primary embedded platform)

- **Arduino IDE** with **M5Stack Arduino libraries** for writing and uploading code
- **Bill of Materials (BOM)** to track all parts and their specifications
- **USB-C to USB-C cable** for power, serial communication, and programming
- **ThingSpeak**, where the data is being housed,
- **ChatGPT** to highlight what features can be added to the device to make it cooler
- **Google Sheets** housed a specific piece of data, allowing us time to differentiate which phrase the Professor said with Thing Speak
- **4 Buttons**
- **M-F Jumper wires**
- **3 220 ohm resistors**
- **Magnets**
- **PETG filament**
- **Hot Glue**
- **Paint**

## **References & Demo:**

1. [Code Repository](#)
2. [Demo Video](#)
3. [Think Speak](#)
4. [Professor Catchphrase Tallies](#)
5. [CAD Files](#)

# Images:

