# Assignment 13: Personnel and Gantt Chart

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Due Date:4/27/23

## 1 Personnel

Use this section to give a brief overview of each person on your team. Make sure to include the expertise that they bring to the project and what they will be in charge of within your system. You may find it helpful to assign one person as a "team captain" who will manage the gantt chart and ensure you are staying on-top of tasks.

Sean Meals has expertise in power systems, specifically in protection and controls. He has previous experience in high-voltage system upgrades to substations and has created associated one-line diagrams, cable schedules, conduit plans, and schematics. He will be in charge of obtaining the voltage and current data for this project. This entails identifying the correct sensors and implementing these sensors into existing welding equipment in a non-invasive manner. His background in power systems will help him champion this section of the project since it relates to obtaining precise voltage and current measurements throughout a high-voltage system.

Rafael Guerrero has an expertise in control systems and mathematics. He has previous experiences in proving mathematical theories and calculating different values through different axis. The precision of the gyroscope to define the perfect angle to weld has to be calculated and proved. These calculations would be vital since the angle of a weld is one of the most important variables that factor into welding. This means that I will be championing the tasks of the gyroscope and answer the questions of what sensor has to be used in order to have the most accurate data.

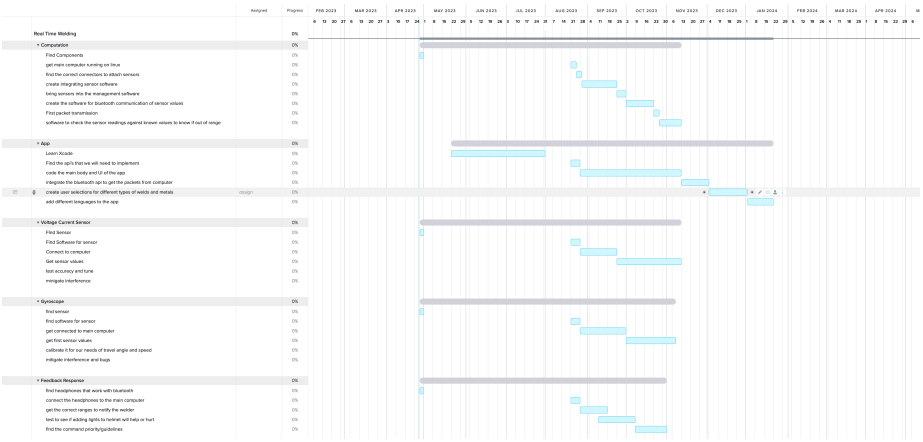
Timothy Hoo with expertise in both control systems and coding with micro controllers. Some of my previous experiences contain participating and winning sumo bot, this entailed me working with an Arduino and coding what the bot needs to do to win. These skills will be useful when using micro controllers to sample data and calculate the information for the welding feedback. Furthermore, I have done research with Professor Juretus where I am coding for cybersecurity. This base line knowledge of coding will help us code the app's fundamentals and the basics processes and how to run properly. I will championing the tasks of the feedback response and how the some of the peripherals of the micro controller talks back to the app.

Alex Rhodes is the team captain of this group. He has an expertise in programming and system interfaces. Has has had a lot of experience in signal processing and computer architecture. He has also worked in many different languages allowing him to adapt and learn new languages faster. These skills will be useful for the computation and the app development. With that being said he can also work on some of the physical aspects of the design. He has previously worked on the Formula SAE team designing the pedals for the car. This will allow him to build the brackets to attach sensors and build the enclosure for the computer.

# 2 Gantt Chart

In this section, include a link to your Gantt Chart. You may use: a template from Microsoft excel, Trello, Monday.com, or Microsoft Planner. I recommend highlight using one of the latter 3, as they will be able to give you notifications about when things are due or if you're on track.

Links:
Trello Board



Gantt Charts are typically too large and cumbersome to include as an image in reports. I recommend including a landscape screenshot of your gantt chart **and** entering a list of tasks with due dates.

- Item 1: Find Components (Apr 27-Apr 27)
- Item 2: Find Sensor(Apr 27-Apr 28
- Item 3: Find Software for sensor(Aug 21-Aug 25)
- Item 4: Connect to computer(Aug 28-Sep 22)

- Item 5: Get sensor values(Sep 25-Nov 10)
- Item 6: Get main computer running on Linux (Aug 21-Aug 23)
- Item 7: Find the correct connectors to attach sensors(Aug 24-Aug 28)
- Item 8: Create integrating sensor software(Aug 29-Sep 22)
- Item 9: Bring sensors into the management software(Sep 25-Sep 29)
- Item 10: Create the software for Bluetooth communication of sensor values(Oct 2-Oct 20)
- Item 11: First packet transmission(Oct 23-Oct 25)
- Item 12: Software to check the sensor readings against known values to know if out of range(Oct 26-Nov 10)
- Item 13:Learn Xcode(May 22-Jul 31)
- Item 14: Find the api's that we will need to implement(Aug 21-Aug 25)
- Item 15: Code the main body and UI of the app(Aug 28-Nov 10)
- Item 16:Integrate the bluetooth api to get the packets from computer(Nov 13-Dec 1)
- Item 17: Create user selections for different types of welds and metals (Dec 4 - Jan 1)
- Item 18: Add different languages to the app (Jan 2 - Jan 19)
- Item 19: Find sensor (Apr 27 - Apr 28)
- Item 20: Find software and sensor (Aug 21 - Aug 25)
- Item 21: Get connected to main computer (Aug 28 - Sep 29)
- Item 22: Get first sensor values (Oct 2 - Nov 7)
- Item 23: Calibrate it for our needs to travel angle and travel (Nov 8 - Dec 8)
- Item 24: Mitigate interference and bugs (Dec 11 - Jan 12)
- Item 25: Mitigate interference (Dec 11 - Jan 19)
- Item 26: Find headphones that work with Bluetooth (Apr 27 - Apr 28)
- Item 27: Connect the headphones to the main computer (Aug 21 - Aug 25)
- Item 28: Get the correct ranges to notify the welder (Aug 28 - Sept 15)

- Item 29: Test to see if adding lights to helmet will help or hurt (Sept 11 - Oct 6)
- Item 30: Find the command priority/guidelines (Oct 9 - Oct 31)
- Item 31: Test Accuracy and Tune (Nov 13 - Dec 8)