Sumo Robot Project Summary
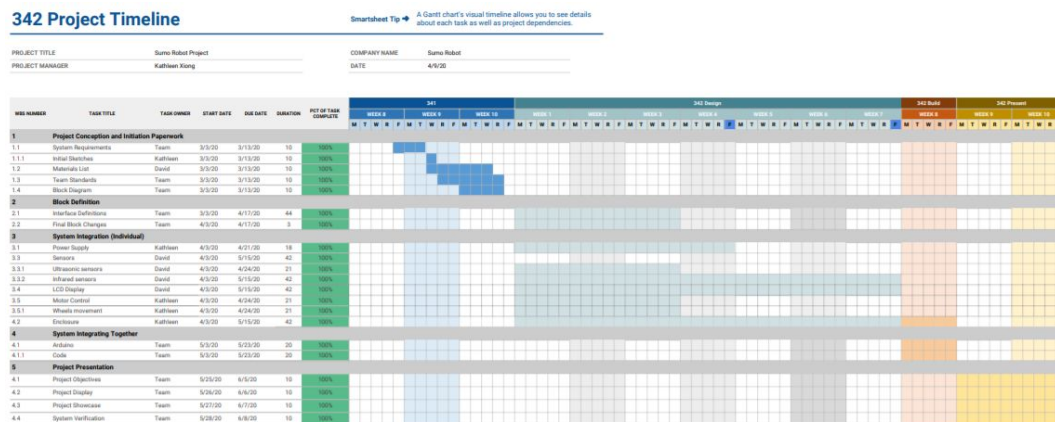
Original Design Problem:

The original design problem that is given for the sumo robot, is that a customer needs a robot to compete in the Robo Games. The sumo robot must meet all of the customers requirements and standards (the robot must detect an object 9/10 times, be aesthetically pleasing, must have reasonable battery life, etc.) and must be a winning robot, while following the Robo Games Regulations. The Sumo robot also has many real world applications because it has basic movements that can be found throughout the electronic industry. The basic concepts are very similar to the robotic vacuum cleaner; however, instead of maintaining direction till it hits an obstacle, our system design must detect an object, and push the object out of the white line.

Team Approach:

As a team, our approach to this problem was to divide and conquer. One major set back was the impact of COVID-19. Our team was cut in half by the third week of designing. After some revisions on the requirements and adjusting each member's tasks, we started working on the design one block at a time and created each block with the customers requirements in mind. The overall design of the sumo robot should satisfy and follow all of the requirements. We met each week to ensure that everyone was on the same page and working on something.

Project Timeline:

Original: https://drive.google.com/open?id=1tMNI5mJSehSqw8ZHo5163SeqWGI-I1Kj]

Lessons Learned:

One specific and important lesson that we learned as a team was to be flexible with the process. As problems arose, like COVID-19 and team members resigning from the group, the team had to learn to roll with the punches. Many of the members had to change their original plans or were even given totally different blocks that they anticipated. However, as a team, we worked together and learned to be flexible with everything. We also learned that communication, especially during these times, are vital for a team dynamic. We learned to virtually keep in touch with one another so that we were always on the same page. Overall, we learned to work together by being flexible when problems arise and communicating constantly with one another.