



ROBO RALLY ENGINEERING PROCESS

# 1. PROBLEM

We need to build and design an arena for a robot to drive through. We also need to build the robot and make sure it functions properly. We need to do these two things in order to get a good grade in this class.

## 2. BRAINSTORM

To build the robot we will have to follow the instructions we were given and make sure they are followed thoroughly to avoid any mistakes. We will have to gather our ideas and create an original and functional arena for the robot to drive through.





### 3. RESEARCH

We could research possible designs we could incorporate into our original arena design to make it more challenging. After we are done building the robot, we could also research how to program the robot.



## 4. CONSTRAINTS

Some constraints would be the inability to turn wheels left or right; you must rotate the entire robot instead. For the arena we must use mostly cardboard for the walls and the foundation. To hold it together we use tape. We could use other materials which is all recycled, besides the tape.

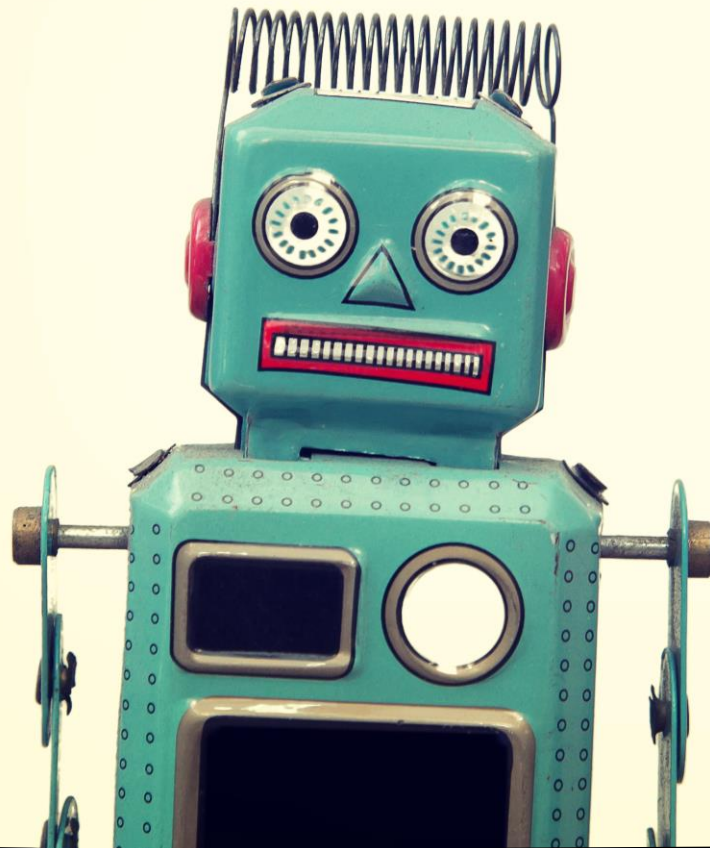


## 5. PLAN

We will decide on the final design of our arena by putting together the best of our ideas. We will also build our robot to go through the arena.

## 6. DEVELOP

We finished designing and building our arena and are now ready to test the robot drive through the arena. We also had to design a distinguishable team flag to put on our robot.



## 7. TEST

We tested to see if the robot could drive through the arena without any implications and it did run into some problems, but it was able to go through the arena despite these implications. Both the arena and robot held up.





## 8. ANALYSIS AND IMPROVEMENT

Overall, the robot and arena worked out well, but we could still improve the arena to be more compatible with the robots in my opinion. We were inconsistent with our arena design as we changed the design almost every class. Even then the final product wasn't what we had planned and wasn't anything too spectacular. To be honest the final arena design wasn't a finished product.