It must include what is your project and goal(s). What was the design process? use things such as sketches, CAD, pics of the design, schematics and diagrams to show this. What were the results of your project? Conclusion: whether you met your goals, challenges, next steps if your were to continue.

\*\*\* Make a folder/powerpoint all all our pictures used in the presentation so that we have them to present as well\*\*\*aar

Project

Build a robot that can climb a set of stairs

Robot should be autonomous and hold its own power source

Robot should be able to handle stairs of different sizes

Goals

1. Drive on a level surface
2. Drive on a ramp
3. Drive up and down a set of stairs
4. Operate the Robot with Bluetooth

Design Process:

Concept Design - Narrowed down to two

* Pictures: Sketches of both designs

CAD Designs - Initial concepts of both

* Pictures: CAD of both

Build Designs - Caelan and Noah working in lab

* Pictures: Noah/Caelan Working

Build Electronics - Schematics

* Pictures: Valentina’s electrical schematic

Program - Pseudocode then actual

* Pictures: code (at bottom)

Assemble - Put it all together

* Pictures: Wood design

Test

* Pictures: Us testing

Model 2 - Acryllic

* Pictures: of acryllic bot

Test

* Pictures: More test pictures

Final Design

Conclusion

What we achieved

Robot was fully built and functional

All goals stated above

Challenges:

Choosing the right design

Making the robot powerful enough while minimizing the overall weight

Getting enough power to run the whole style

Building alternate set of stairs when our original design wasn’t working

Next Steps:

Make all motors 12 Volt, 100 rpm motors

Switch out batteries to 12 Volts (currently 18 Volts) to avoid damaging Hbridges

Switch wheel material to rubber to get more traction

Add sensors and accelerometers to get more feedback from robot

Get to point it can climb human-sized stairs

Put on poster:

Stronger Motors

Add Sensors

18V -> 12V Batteries

Pictures

