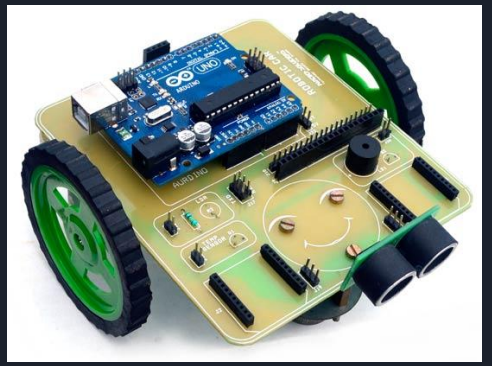
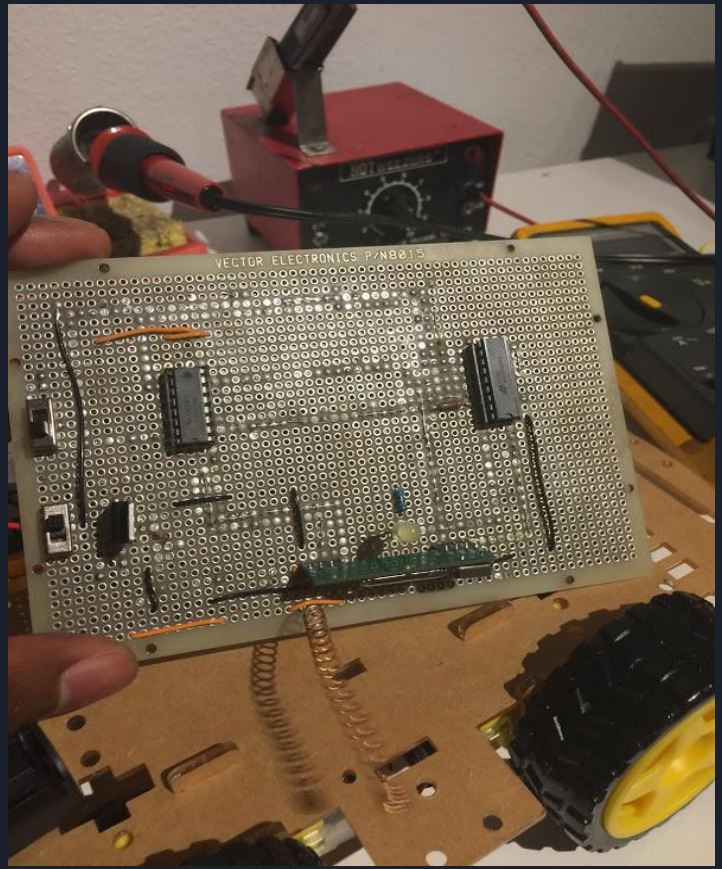
Probot



The best project to introduce you to the world of Electrical Engineering.

Temiloluwa Adeniyi-Ipadeola, Sophia Salazar, Francisco Castillo

Overview/ Problem



- This product is targeted to be marketed and advertised to the students age 14-above who are interested in pursuing a career in the Electrical & Computer engineering.

- We have built a robot kit that teaches students the basic of reading, building and troubleshooting circuits for educational purpose.

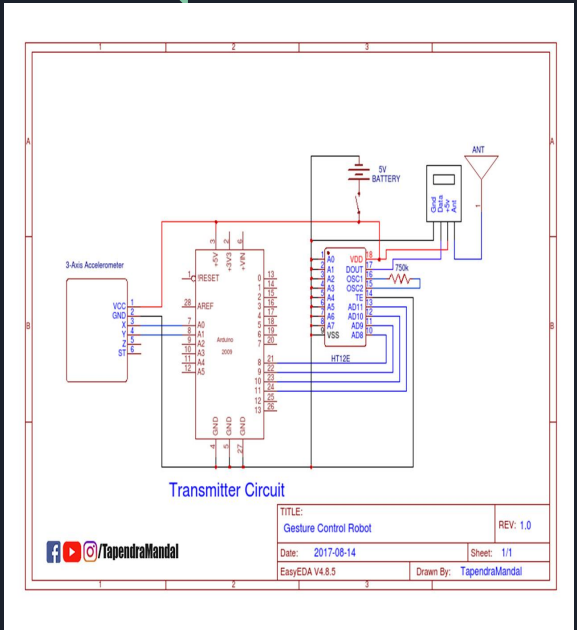
Working Criteria and Goals

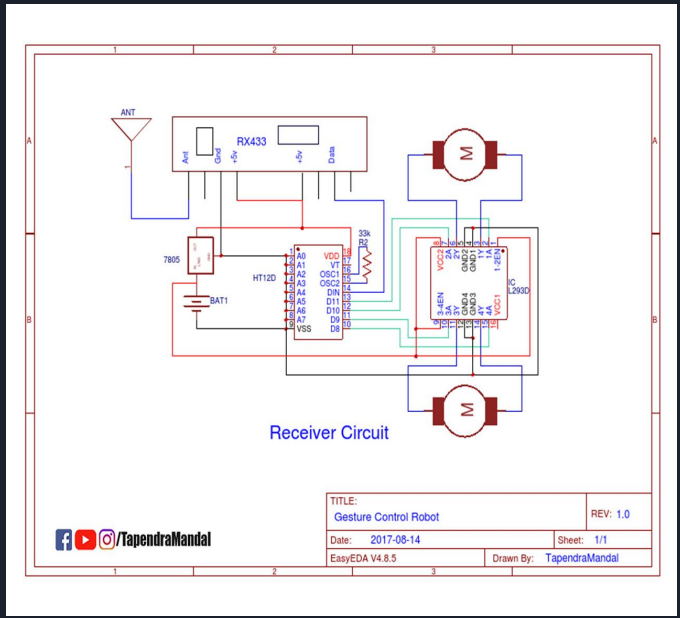
The goal for our robot is for the car to be able to move accordingly to given commands by a glove worn by the user.

We will work towards a goal in educating others about how different components work together to create a functioning electronic system.

This project will teach students and adults the terminology of electronics and how they all work together.

Research and Gather Data



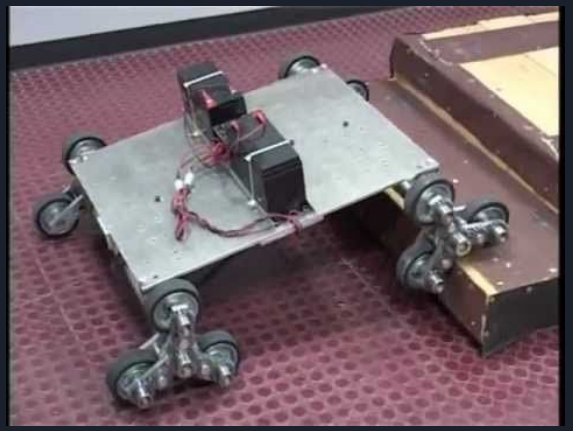


We altered the schematics to include a separate battery to ground the circuit.

This project is being created to educate students, having statistics show the lack of access to the knowledge this technology could bring.

Our project includes information on electrical engineering while bringing the experience of getting hands-on with the subject.

Brainstorm/ Potential Solutions

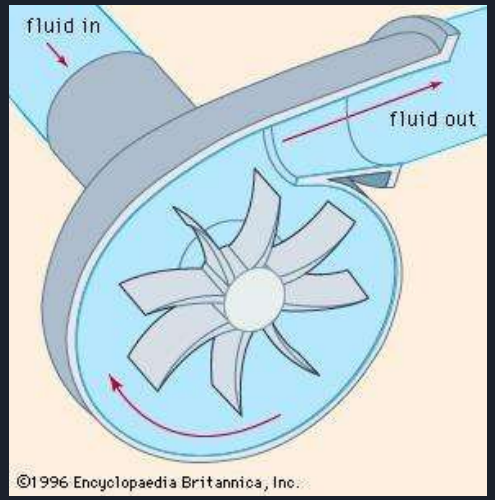


Stair Climbing Robot

- Remote controlled, repetitive movements
- Hard to design to specific stairs
- Expensive

Centrifugal Water Pump

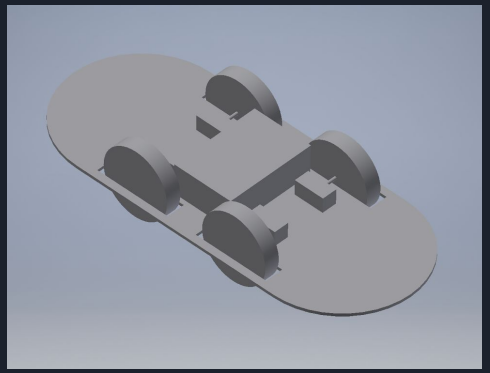
- Easy to design
- Not easily transportable
- Takes a long time to 3D print

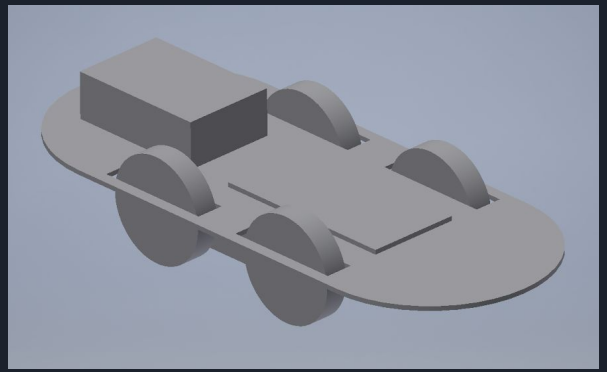


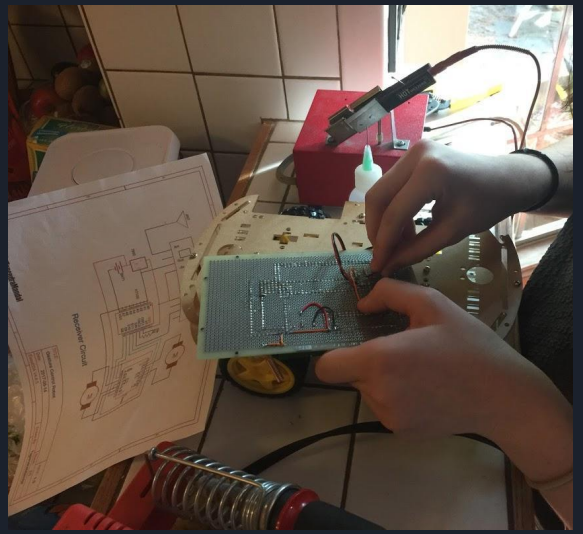
Brainstorm/ Potential Solutions

Voice Activated Dog Feeder

- Easy to build
- Need to learn how to program using Arduino and an Amazon Echo Dot
- Expensive





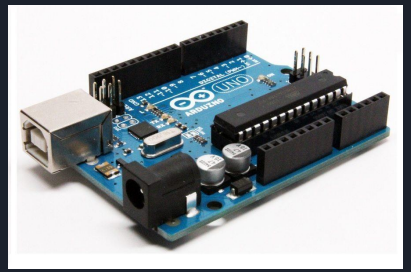


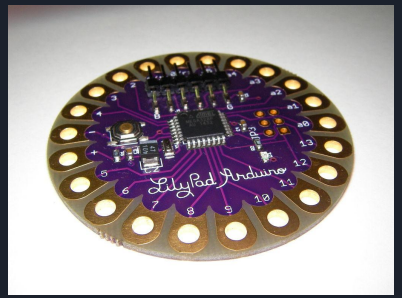
Gesture Control Robot

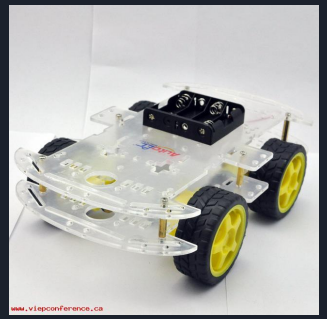
- Can teach students about circuits
- Basic arduino programming skills required
- Super EXPENSIVE!! If you don't budget.

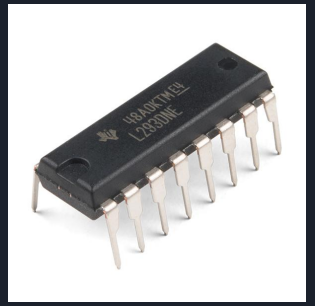
Component Listing

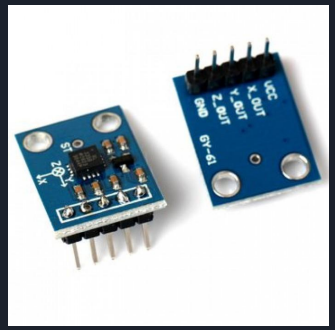
Lilypad Arduino
Arduino Uno
Accelerometer
RF 433 Module
BO Motor
HT12E and HT12D
Motor driver L293DNE
Prototyping Board
Battery (9v, 15v, 3.7v)

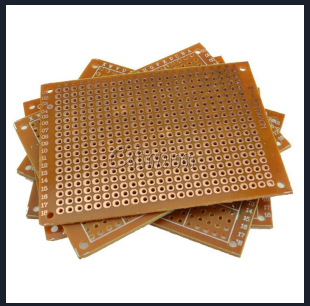










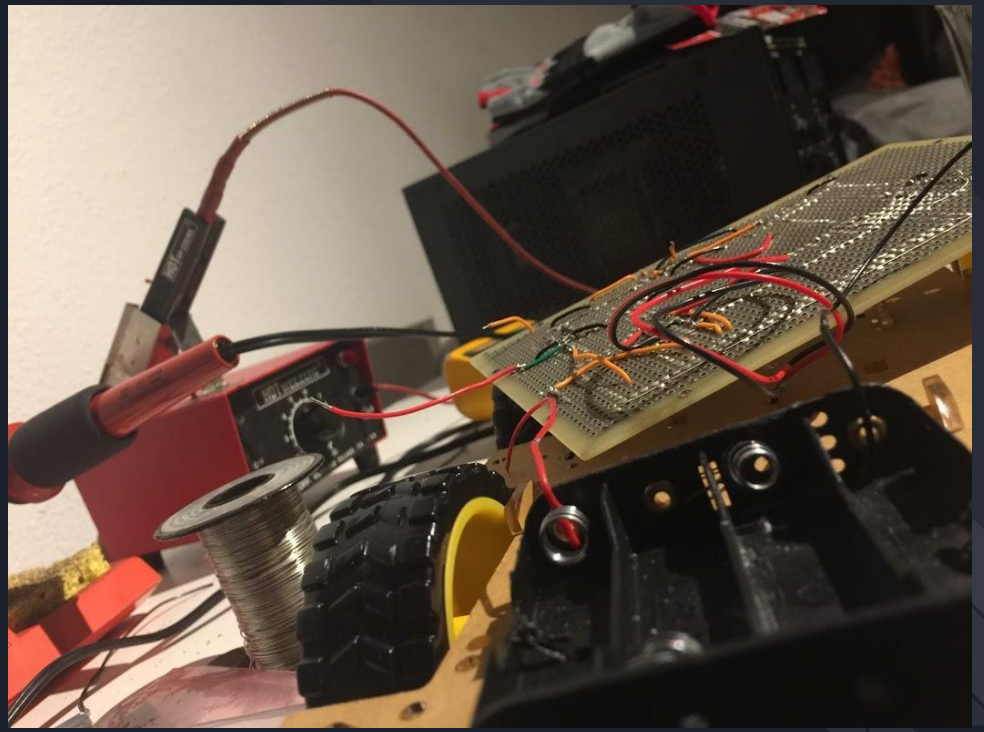


Develop and Test Model

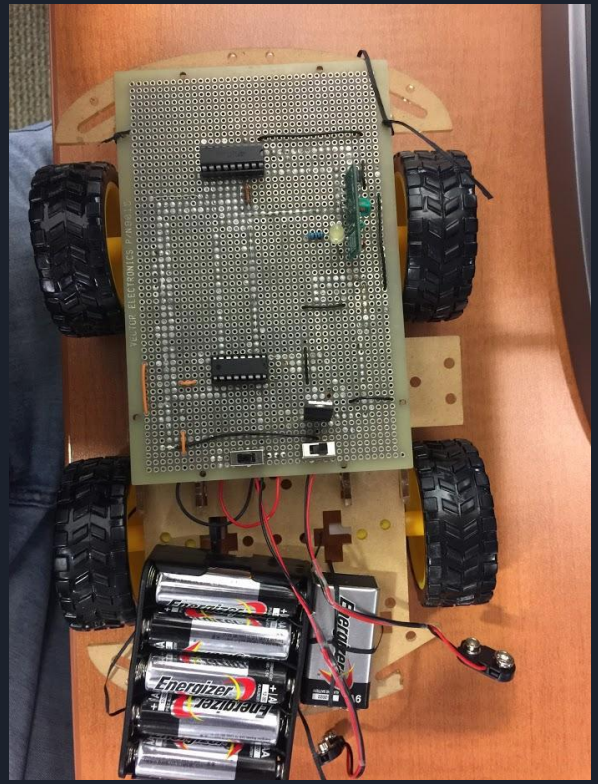
Once built, the receiver circuit was not responding correctly to the programming because actual build of the circuit.

The parts we ordered were slightly different than references that were used, and causing our circuits to be incorrect.

We faced difficulties difficulties using the glove,



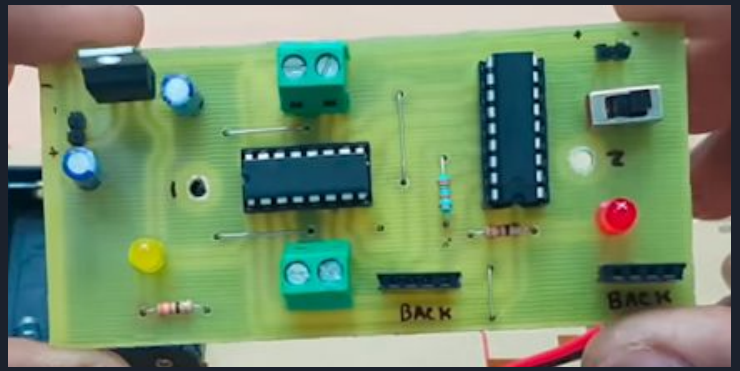
Communicate and Specify



- Our final completed project includes a small car built from two plexiglass pieces, and four motors and wheels
- Included on the car is the transmitter receiver circuit, and two sets of batteries for the motors and circuits
- The second part of our project consists of a glove, with the Arduino Lilypad and transmitter circuit attached

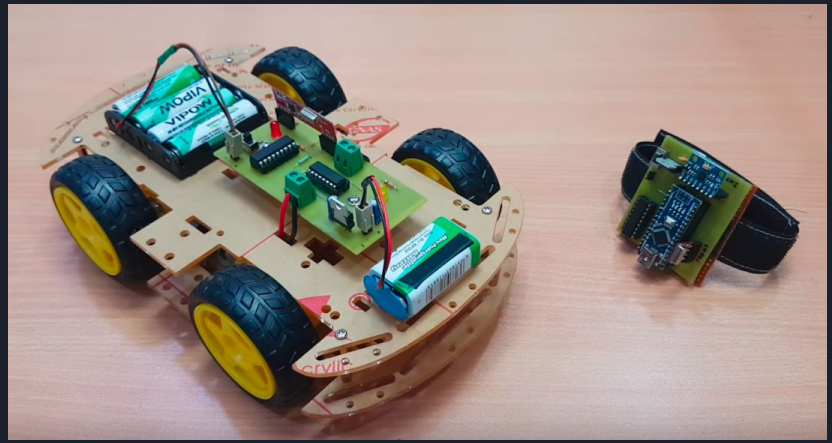
Implement and Commercialize

- We would sell our project as plans including the schematics and instructions on where to purchase materials, and how to assemble it
- We could create a pre programmed circuit board that would only require the assembly
- We would need to make sure the credibility of whom we are buying the Arduino Lilypads from is official



Post-Implementation Review

- Use stronger, less fragile heat wires
- Don’t use cardboard circuit boards they are very fragile and difficult to work with
- We faced difficulties when it came to the functionality of the programmed Arduino Lilypad
- Purchase materials from official creators



What could you build next?