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Computer Programming

Period 3

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**Final Project Proposal**

We are planning to download and use Arduino to program a small robot. The robot will be made with circuit boards and sensors telling the robot where it is. We will be working to build the robot primarily in an engineering classroom while installing the Arduino software and programming the robot in this class.

**There are five main steps to constructing this robot:**

* assemble the robot
* wire the robot
* wire the power
* install the Arduino software
* program the robot using this Arduino software

We will code the robot to turn based on its location. This project is original and difficult because it uses a program my partner and I have never come in contact with. At the end of our project we hope to have a small robot that can drive through a small course without crashing into anything. We will work primarily on the fourth and fifth steps of the robot in this class while the first three steps will be completed in the engineering class. One primary difficulty is that there are many parts to the robot that need to work in unison to have a successful final product. We will need to order several parts on Amazon to assemble the robot, but Mr. Belyea was able to get us some materials to get going.

**So far, we have:**

* 1 Arduiono Uno
* 1 Small solderless breadboard
* 1 mini push button switch
* 1 10k ohm resistor
* 1 pack of jumper wires
* hot glue.

**We will need to order:**

* 2 continuous rotation servos
* 2 wheels that fit the servos
* 1 caster roller
* 1 distance sensor
* 1 USB A to B cable
* 1 set of breakaway headers
* 1 6 x AA battery holder with 9V DC power jack.

The parts that we will need to order will end up costing us about $54 which we will split between us two and one other partner from the engineering class costing us each $18.