Arduino Vending Machine

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Group Members

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Project Idea

The idea with this project is to build a functioning vending machine that will dispense items based on user input. Each of our 3 Arduino's will control an aspect of the project. One will control the button input, another the motors/photoresistor, and the third will output to the LCD/LED display. The user will enter a button combination that is displayed on a particular item. The arduino that controls the buttons will send the entered combination to the arduino that controls the motor and the one that controls the LCD/LED display. The LCD will output the user's order, and an LED will light up inside the machine to alert the user that the item is being dispensed. The motor inside the machine will start to run and will rotate the item's helix holder causing the item to be pushed out of the compartment. A photoresistor will be placed underneath the coil and will be used to shut off the motor if there has been a dark to light change, indicating that the item has passed over the resistor and into the bottom of the machine. If no item passes over the resistor the motor will shut off after a few seconds, and the LCD display will tell the user that the item is out of stock and will mark the combination as such for future reference.

Materials

-Cardboard

-Duct Tape

-Motors

-Buttons

-Photoresistors

-LCD Display

-3 Arduinos

-communication device (up for debate)

-Wires (a lot)

-Coat hangers to bend into the helix

-LED's to go in the machine for lighting (optional)

Tutorials

1.VENDUINO IS A DIY ARDUINO VENDING MACHINE

https://blog.arduino.cc/2016/06/29/venduino-is-a-diy-arduino-vending-machine/

2.Snacks vending machine powered by Arduino

https://create.arduino.cc/projecthub/Sevenmojoe/snacks-vending-machine-powered-by-arduino-f03296

3.Control a DC Motor with an Arduino

https://www.allaboutcircuits.com/projects/control-a-motor-with-an-arduino/

Schedule

Week 1 (10/9)	- Complete 2 page summary (Due 10/16)
Week2 (10/16)	- Gather supplies necessary to complete project
Week3 (10/23)	- Construct the shell and internal parts of the vending machine
Week4 (10/30)	- Complete the circuits and code for the buttons, lights, and motors
Week5 (11/6)	- Complete 4 page write up (Due 11/10)
Week6(11/13)	- Finish coding and final assembly
Week7(11/20)	- Begin testing and work on final video
Week8(11/27)	- Finish testing and final video (Due 12/1). Work on final report
Week9 (12/4)	- Finish final report (Due 12/8)