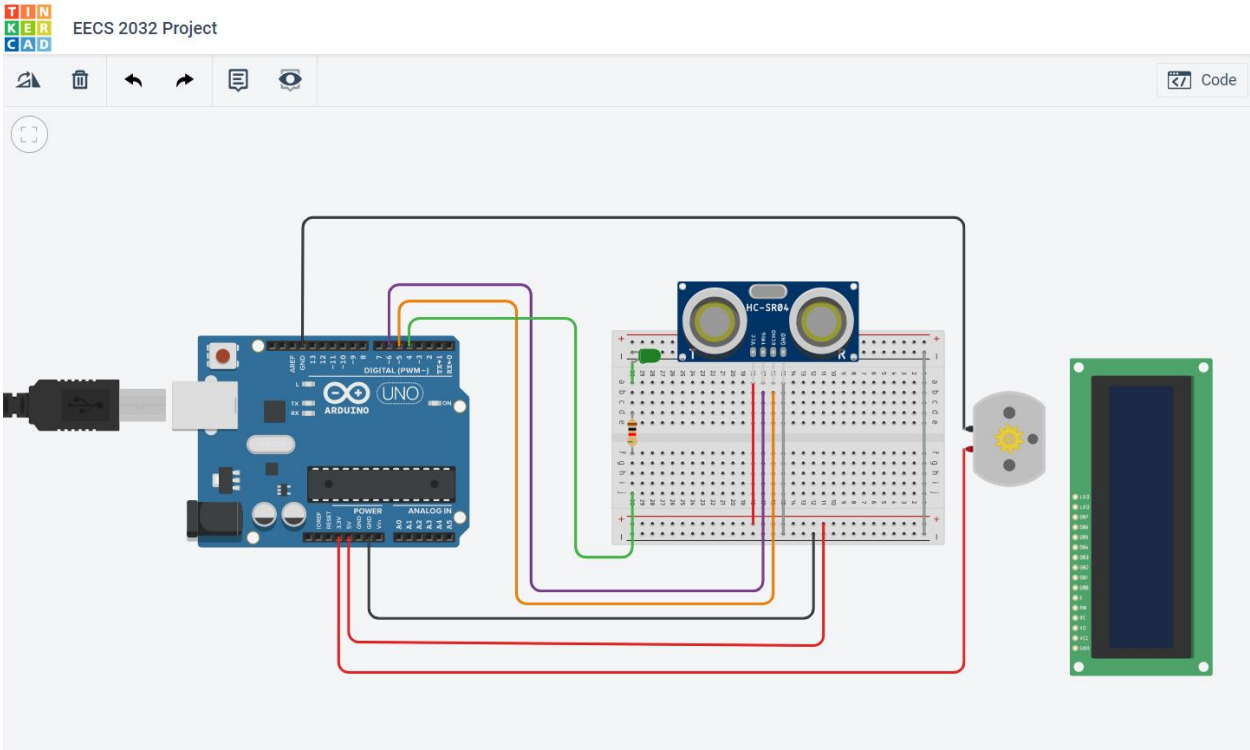
Name of Student: Kevin Nguyen

Student #: 217228255

Email: kn2001@my.yorku.ca

Submission 2

1. This is the main diagram of my project:



This is how the LED motion sensor will look like using the ultrasonic sensor. I have also added one LEDs so that it can light up when I wave my hand. I have also added a DC motor for the implementation of my fan and an LCD display.(Noted since I used TINKERCAD to make this diagram, the Arduino Due was not available so I made use of the Arduino UNO which should achieve similar results.

2. Elements

The list of components	Cost	Where I got the items	Main Role of that element in the project
Arduino Due	$51.73	Digi-Key: A000062	The main board I will be using to code on Arduino IDE.
LEDs	Bundle cost ($41.99)	Amazon: ELEGOO UNO Project Super Starter Kit	The LED is used to light up when I wave my hand at the ultrasonic sensor.

Bread board	Bundle cost ($41.99)	Amazon: ELEGOO UNO Project Super Starter Kit	The bread board will be the main component where I will do the wiring.
Jumper wires	Bundle cost ($41.99)	Amazon: ELEGOO UNO Project Super Starter Kit	I will use these jumper wires to wire the components for this project.
Ultrasonic sensor	Bundle cost ($41.99)	Amazon: ELEGOO UNO Project Super Starter Kit	This will be the main sensor for the project that will sense movement.
DC motor	Bundle cost ($41.99)	Amazon: ELEGOO UNO Project Super Starter Kit	This motor will be used to turn on my fan
1kΩ Resistor	Bundle cost ($41.99)	Amazon: ELEGOO UNO Project Super Starter Kit	Resistors needed to control the flow of current on my devices.
LCD display	Bundle cost ($41.99)	Amazon: ELEGOO UNO Project Super Starter Kit	The LCD display will be use to display the distance that my ultrasonic sensor will sense.

3. Practical considerations:

The practical difficulties of the project would be trying to implement the LCD screen on to my device as that itself adds lots of problems on my project. The main expected problem in this hardware project would be the coding of the LCD display as that's not my main strength which is coding. The alternative solutions would be trying to simplify the project and the code for this device.