Narrative

* Problem Analysed

1. External Interrupt

The interruption took a lot of time because all the movements of my robot used a loop, such as moving, which allowed the robot to move forward and there were four servos that needed to change the angle: left foot, left leg, right foot and Right foot.

I think that interrupts can break the process of moving, not actually because the movement is cyclic. After this while loop, the interrupt will interrupt the inventory.

1. Servo shake

The servo sometimes shakes when changing the angle. The problem is that the angle changes too fast, for example, the angle is from 10 to 70. The solution is to use the for loop to change the angle, add 5 to each angle and reach the target angle.

1. Sports disorder

Robots can't keep their own balance, I don't know how to solve this problem.

The reason is that it is too light, and if I put something in the head it might solve it.

* Project design

I am going to build a robot; I found some example in instructables.com.

My robot has seven servos that can control two foot, two legs, two arms and head.

There have four buttons in the breadboard that move forward, turn left, turn right and wave the arms, another small button is interrupt that can turn on the led or turn off.

Also, I use serial to monitor the button pressed or not, the default baud rate is 9600 band

* Hardware choice

I bought ten servos from TradeMe, and printed some part use our 3D print

The component lists

1. Seven servos – SG90
2. Some 3d printed parts
3. Five buttons (four function and one interrupt)
4. LED (Show the interrupt)
5. Two Bluetooth (did not use)
6. One Joystick

* Insights

The most important thing is that the robot needs power support, which means it needs to connect the Arduino board and the breadboard.

I told Vaughn that I wanted to build a robot that could use the console to control it. Of course, it requires a built-in battery and uses Bluetooth to connect the robot to the console.

However, I did not finish this, it is too difficult for me, I don't have a small battery like a lithium battery, I don't know how to solder the PCB and put it inside the robot's head.

The other thing is that I borrowed the joystick. I think I can control the robot like a remote-control car. This is completely wrong.

The car can change direction and move on, and the motor continues to work while turning the direction. But the robot can't, I mean my robot can't, it doesn't have an ankle, it's impossible to complete this difficult action.

I hope I can fix all the issues when I do the robot paper next semester

