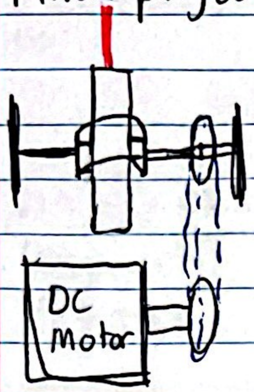
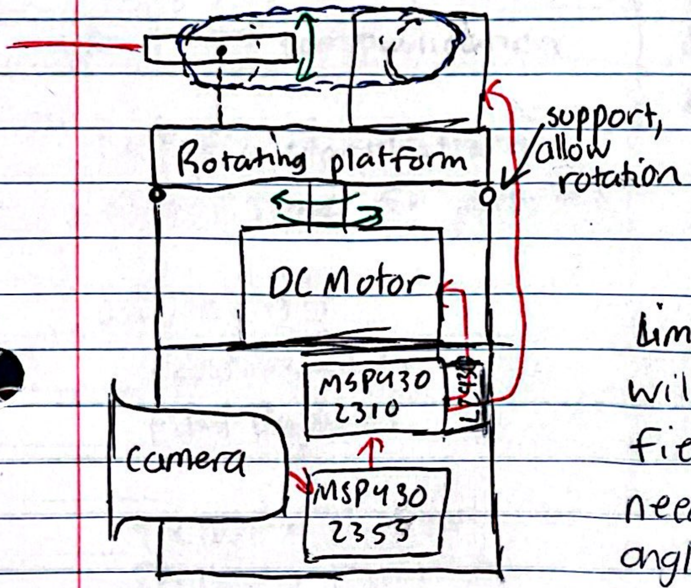
Final project proposal turret design sketch



Motor rotates, rotating wheel, pulling on belt (rubber band?) twisting other wheel, adjusting elevation.



Elevation mechanism on rotating turret powered by another DC motor, allowing for traverse in X and Y directions.

Limited camera angle will restrict detection field of view, limiting needed turret rotation angles. This allows us to get away with exterior cables for elevation motor

```
MSP430FR2355
Main.c
#include camera.h

setupCamera()
Setup uART for
 frames

Setup I2C for (master)
MSP-MSP communication

TXBUF = startPattern
delay(time for pattern)

while(1) {
   readFrame()
   find Bright()

  TXBUF= BrightX
  TX BUF = Bright Y
}
```

```
Camera.h
~~Setup~~
Void setupCamera() {
 Init pins
}

~~Void~~
Int pixels[][]

Void readFrame() {
   for (row) (from uART) {
     ~~Pixels[i]~~
     for (col) {
     Pixels [i][j] = ~
     }
   }
}

Int BrightX, BrightY

void
~~Void~~ findBright() {
 ~~for (Pixels x) {~~
   ~~Brightest~~
   ~~current = Pixels[0][0]~~
 current = pixels[0][0]
 for ( Pixels X ) {
     for (Pixels Y) {
      if (Pixels[x][Y] > current) {
       current = Pixels[x][Y]
      }
     }
 }
 BrightX = current(X)
       Y          (Y) }
       FR
MSP4302310
Main.c
# inclode motor.h

setup I2C slave
to recieve
Int RXData
while(1) { }

ISR I2C {
  RX Data
}

Timer ISR {
  Switch (RXData)
  case (x) start pattern
  case( BrightX - curentX)
                        Y
     right or left for X
     up    or down for Y
  }
```

```
Motor.h
Init motors() {
  setup pins
}

Void up(int) {
    up for int
}

Void down(int){
    down for int
}

Void left (int){
  down for int
}

Void right (int) {
    right for int
}

Void startPattern() (
   Pattern
}
```