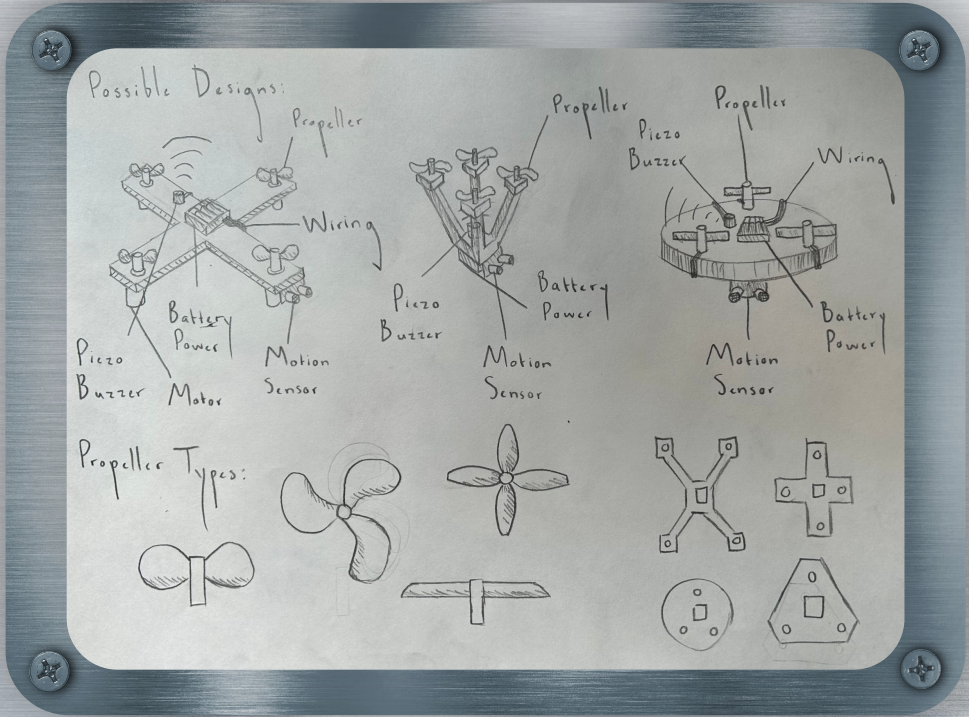
Noah Drone



Arduino Components:

Motors
Motor Drivers
Piezo Buzzer
Motion Sensor
Wires

Household Items:

3D-Printed Base
3D-Printed Propellers
9 Volt Battery
Duct Tape

Meet the Team

Drew

(Production Designer)

Assembled drone

3D printed parts

Programming

Shrenik

(CAD Design Manager)

Designed drone body

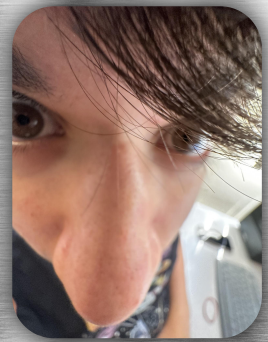
Conducted stress test

Max

(Documentation Expert)

Created visuals of preliminary designs

Designed slideshow

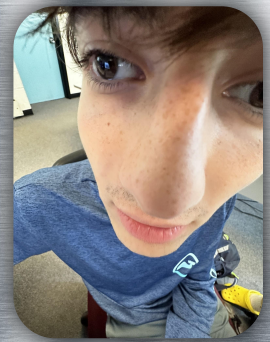


Bijan

(Secretary)

Created propellers

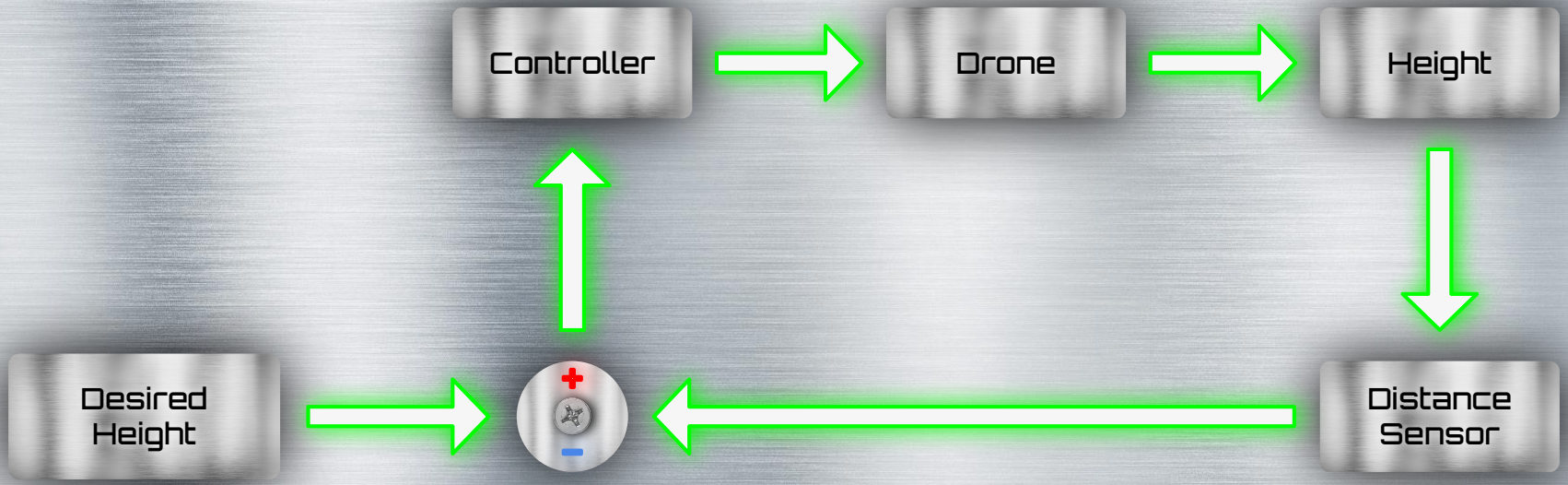
Created a replica of the motors on CAD

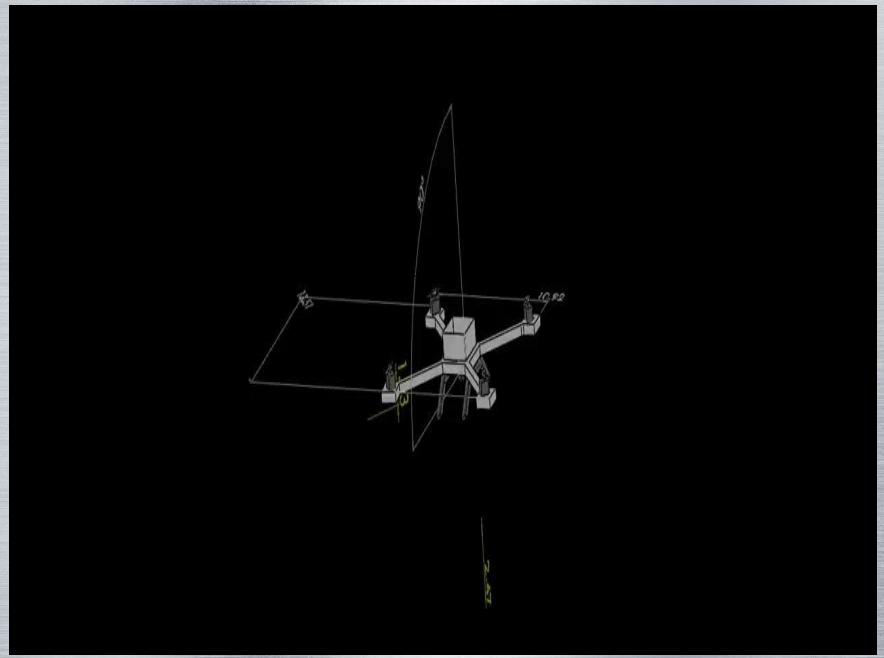


Group 3: Bijan, Drew, Max, and Shrenik

Our Noah Drone has two main purposes: carrying objects and detecting people or objects in range of the motion sensor. We first started the process of making our drone by creating a motor rendering on Solidworks; next, we found the dimensions of all the components that we required for the drone, such as the motion sensor, circuit board, and propellers. Once everything was properly measured, we started making a drone body design that would both hold all the components and provide enough room for each propeller. When we finished the original design of the body, we started designing the propellers. After everything was designed and put through stress tests, we printed each component and assembled the final drone, including the proper wiring on the circuit board.

Input-Output Diagram



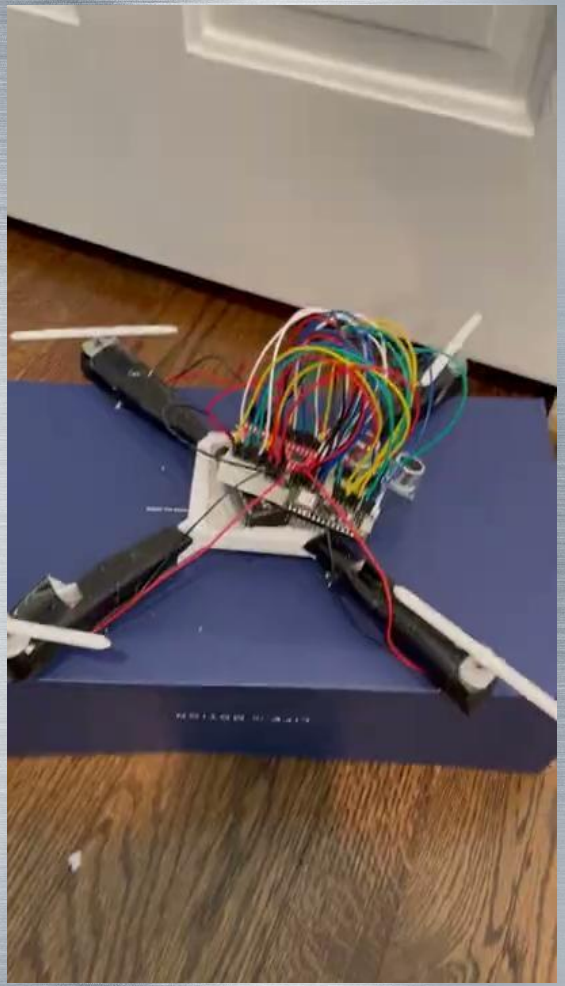


Assembly Video

Code For Flight

```
float dist;

void setup() {

void loop() {
 dist = getDist();

 if (dist < 8) {
   lift();
 }
 else if (dist == 8) {
   hover();
 }
 else {
   drop();
 }
}
void lift() {
 analogWrite(14, 255);
 analogWrite(15, 255);
 analogWrite(16, 255);
 analogWrite(17, 255);
}
void hover() {
 analogWrite(14, 128);
 analogWrite(15, 128);
 analogWrite(16, 128);
 analogWrite(17, 128);
}
```

```
void drop {
 analogWrite(14, 0);
 analogWrite(15, 0);
 analogWrite(16, 0);
 analogWrite(17, 0);
}
float getDist() {
 digitalWrite(13, HIGH);
 delayMicroseconds(10);
 digitalWrite(13, LOW);

 return(pulseIn(18,HIGH) / 148.0 );
}
```



Noah Drone At Work

Creation and Results