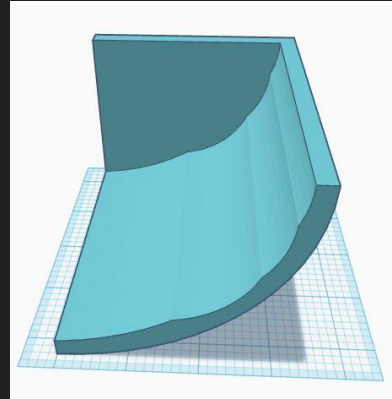
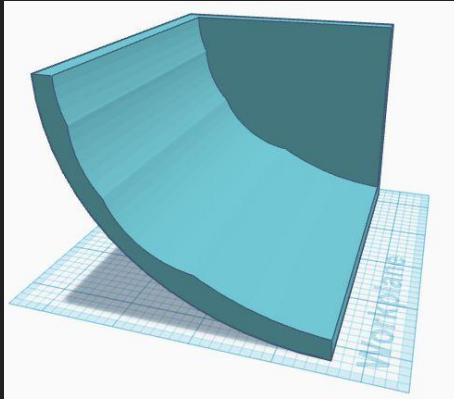


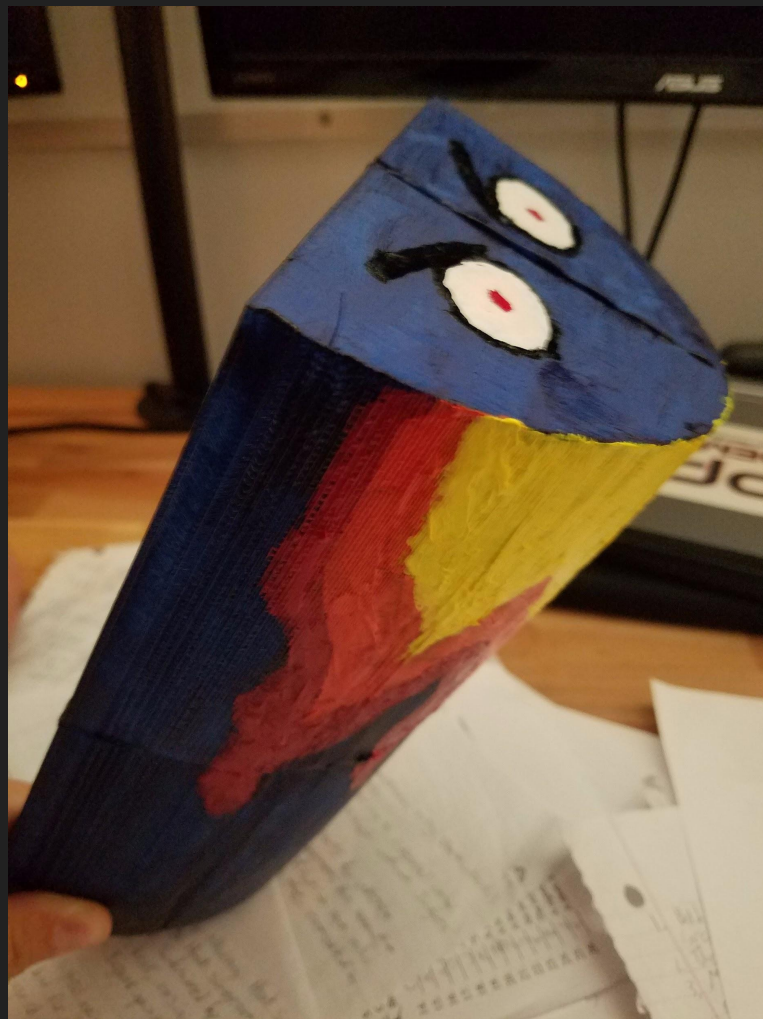
# TankBoat

By Tristan Whitaker  
& Max

# Hull

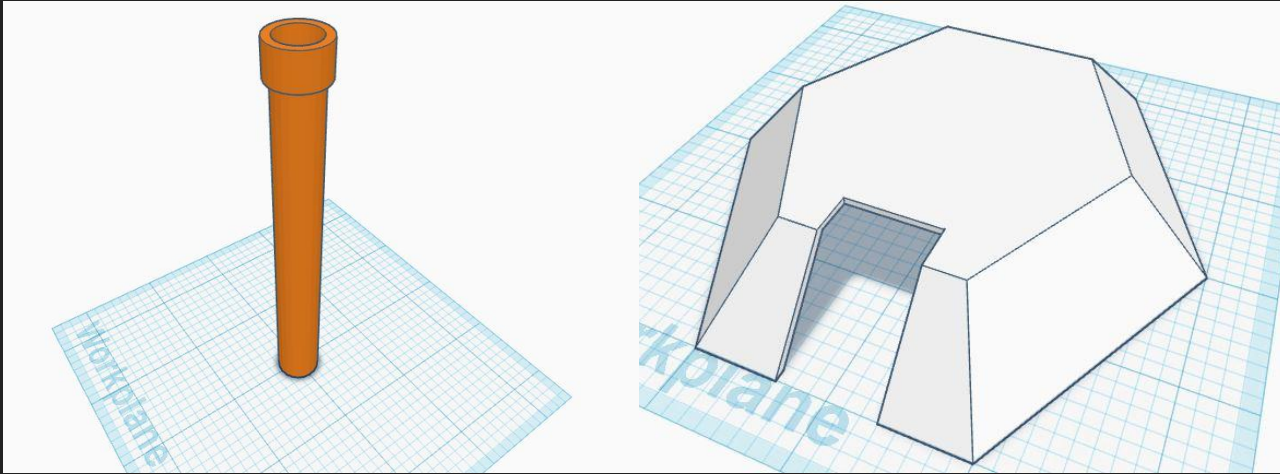
The hull of the TankBoat will be 3d printed. The objects are designed in TinkerCad, then ported to the Afinia program and printed, this process usually takes hours per part. The hull will be split into 4 parts as the printer is not large enough to create the entire hull in just one print

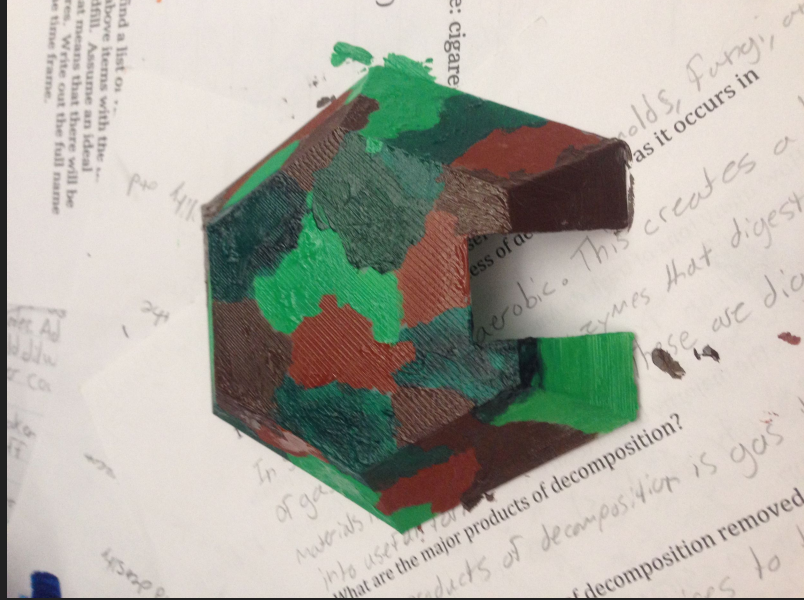




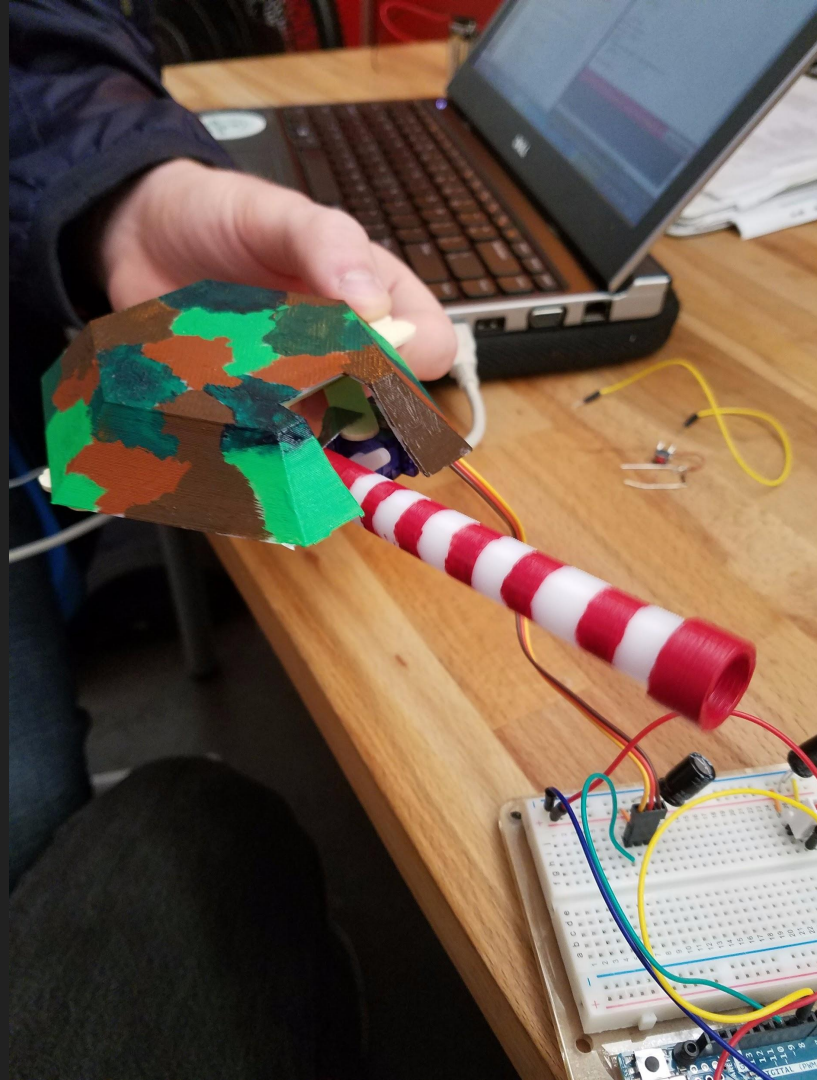
# Tank Head

The tank head will be printed in two different parts, the first part will be the head and the second will be the barrel that holds the laser.



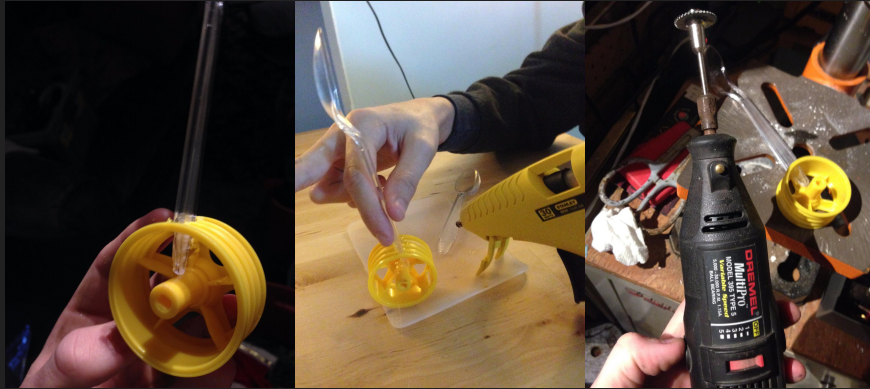






# Paddles

The paddles that will propel the boat are made from plastic spoons and a plastic wheel. We have drilled holes in the wheel where the spoons are hot glued to the wheels which are attached to the motors. These paddles are controlled remotely.

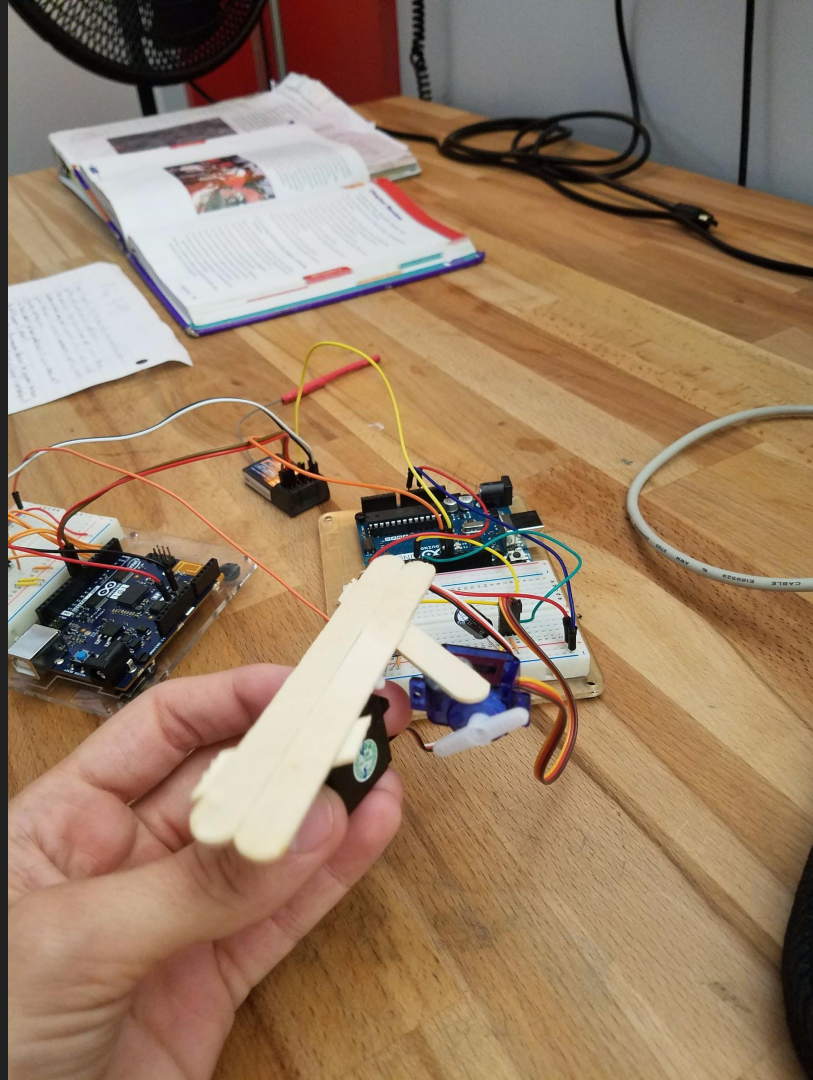


# Servos

We are using servos to rotate the tank head horizontally in a 180 degree angle and to raise the barrel vertically. Popsicle sticks are attached to the servo to provide a stable platform for the tankhead. The servos are controlled remotely.







# Remote

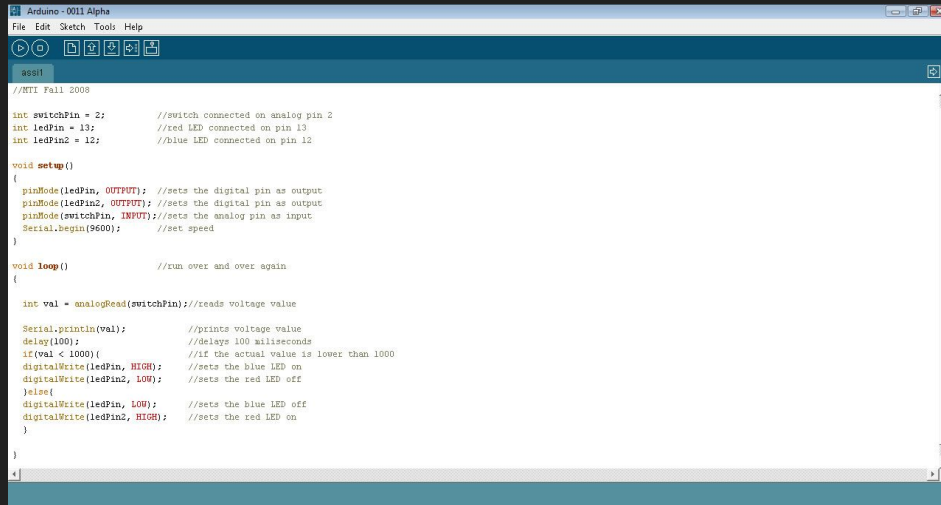
The Boat is remote controlled using a Hobby King 2.4Ghz 6Ch Tx & Rx V2 (Mode 1) and receiver. From the remote you can control the throttle, tank head swivel, and barrel height. Using the remote you are also able to direct and steer the TankBoat.





# Code

All the code for the motors, remote, and servos was done in the arduino coding program and is run through breadboards and arduinos. We programmed the remote frequencies into the arduino code.



```
Arduino - 0011 Alpha
File Edit Sketch Tools Help

//NTI Fall 2008

int switchPin = 2;           //switch connected on analog pin 2
int ledPin = 13;             //red LED connected on pin 13
int ledPin2 = 12;           //blue LED connected on pin 12

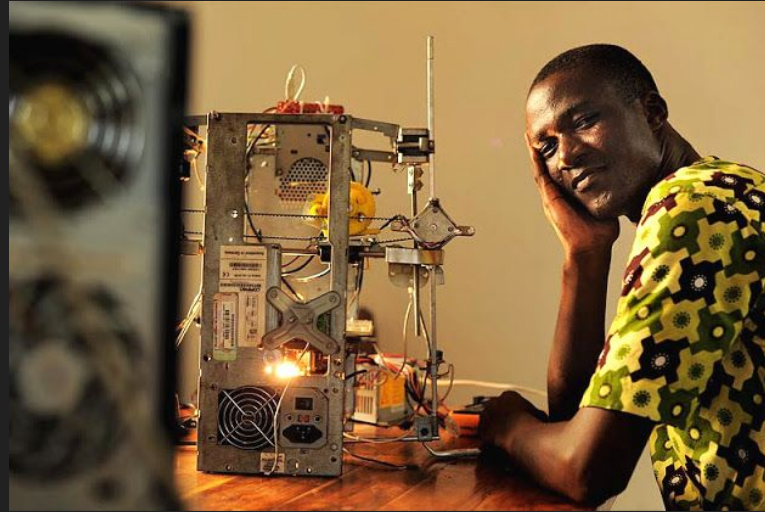
void setup()
{
  pinMode(ledPin, OUTPUT);   //sets the digital pin as output
  pinMode(ledPin2, OUTPUT);  //sets the digital pin as output
  pinMode(switchPin, INPUT); //sets the analog pin as input
  Serial.begin(9600);        //set speed
}

void loop()                  //run over and over again
{
  int val = analogRead(switchPin); //reads voltage value

  Serial.println(val);        //prints voltage value
  delay(100);                //delays 100 milliseconds
  if(val < 1000){              //if the actual value is lower than 1000
    digitalWrite(ledPin, HIGH); //sets the blue LED on
    digitalWrite(ledPin2, LOW);  //sets the red LED off
  }else{
    digitalWrite(ledPin, LOW);   //sets the blue LED off
    digitalWrite(ledPin2, HIGH); //sets the red LED on
  }
}
```

# Issues

Some issues we encountered was stable construction of the boat. We overcame this using popsicle sticks for support and a ballast in the hull of the boat.



Thank You

