Journal Report 5
9/30/19-10/7/19
David Cha
Computer Systems Research Lab
Period 2, White

Daily Log

Detail for each day about what you researched, coded, debug, designed, created, etc. Informal style is OK.

Monday September 30

Solidified supplies list with partner (specific xylophone model, servos, etc.)

Tuesday October 1

Constructed 2-d data array in Processing IDE to store MIDI data where each note is one array, and each notes' data (pitch, velocity, duration) is another array
The goal will be to loop through this 2-d array and have the robot play each note

Thursday October 3

Made ramen
Successfully had Processing IDE and Arduino IDE communicate in order to coordinate LED with MIDI data file (ie. the LED flashes whenever a note is being played)

Timeline

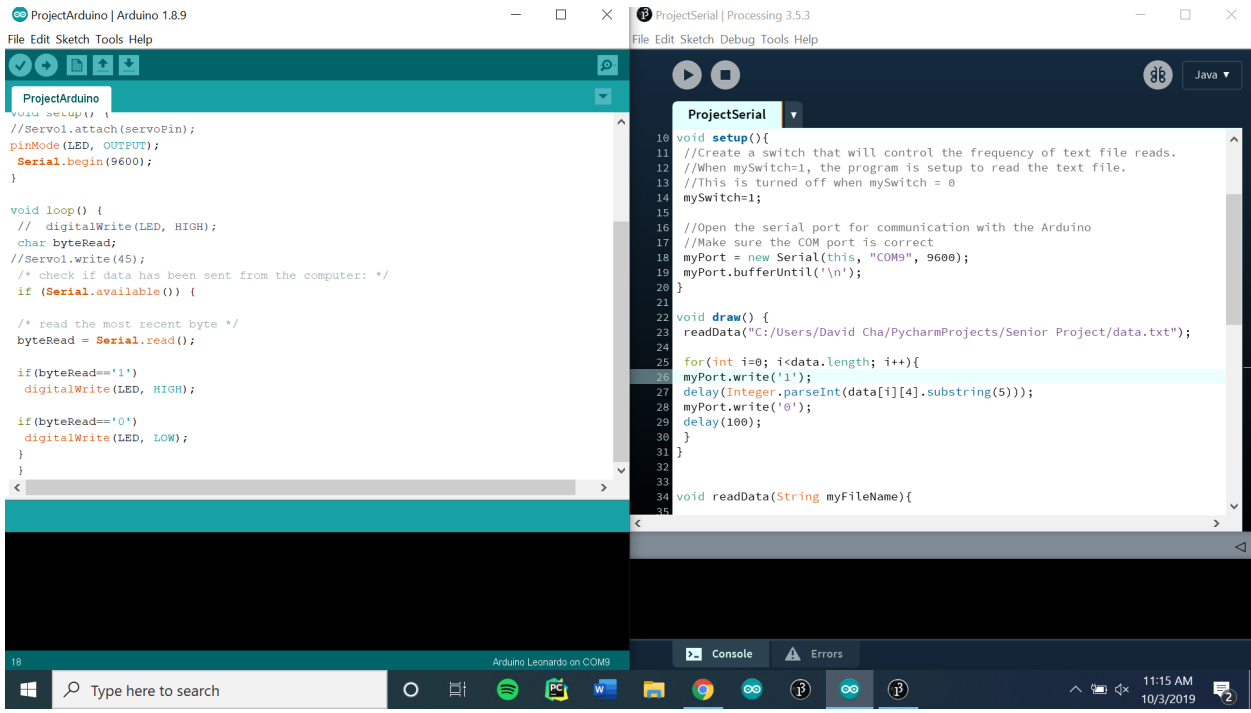
Date	Goal	Met
September 23	Find and test my code on an actual Arduino board	partially met; part of my code successfully uploads to the board but I do not know if it is doing what it is supposed to be doing
September 30	See if robot can successfully play a note	not met; my partner did not have a robot ready for me to test
October 7	Coordinate single LED with MIDI music file	Yes; goal successfully met
October 14	Coordinate multiple LEDs with MIDI music file (one LED per note)	
October 21	Successfully play a single note on Jason's robot	

Reflection

In narrative style, talk about your work this week. Successes, failures, changes to timeline, goals. This should also include concrete data, e.g. snippets of code, screenshots, output, analysis, graphs, etc.

Overall, I am satisfied with my accomplishments this week. I met this weeks goal of coordinating an LED with the MIDI file. This was achieved by having the port "write" numbers, which the Arduino then received and interpreted (as shown below). It took a while to first understand, but I finally realized that one has to upload the Arduino code first, then the processing code. I believe an appropriate next step is to implement the same algorithm, except this time with multiple LEDs. This will probably require me having to learn how to use a breadboard, as this is the only way to light up multiple LEDs. I may or may not have to rearrange deadlines to account for this re-learning of bread boarding.

With this major step having been taken, I am feeling more confident in the success of our project. A large portion of my coding part has been finished, and as I progress further, my weekly work should only be minor tweaks/improvements to better improve the quality of our project.

(6).png (6).png 
ProjectArduino | Arduino 1.8.9
File Edit Sketch Tools Help
ProjectArduino
//Servo1.attach(servoPin);
pinMode(LED, OUTPUT);
Serial.begin(9600);
}
void loop() {
// digitalWrite(LED, HIGH);
char byteRead;
//Servo1.write(45);
/* check if data has been sent from the computer: */
if (Serial.available()) {
/* read the most recent byte */
byteRead = Serial.read();
if(byteRead=='1')
digitalWrite(LED, HIGH);
if(byteRead=='0')
digitalWrite(LED, LOW);
}
}
18
Arduino Leonardo on COM9
ProjectSerial | Processing 3.5.3
File Edit Sketch Debug Tools Help
Java
ProjectSerial
void setup(){
//Create a switch that will control the frequency of text file reads.
//When mySwitch=1, the program is setup to read the text file.
//This is turned off when mySwitch = 0
mySwitch=1;
//Open the serial port for communication with the Arduino
//Make sure the COM port is correct
myPort = new Serial(this, "COM9", 9600);
myPort.bufferUntil('\n');
}
void draw() {
readData("C:/Users/David Cha/PycharmProjects/Senior Project/data.txt");
for(int i=0; i<data.length; i++){
myPort.write('1');
delay(Integer.parseInt(data[i][4].substring(5)));
myPort.write('0');
delay(100);
}
}
void readData(String myFileName){
Console
Errors
Type here to search
11:15 AM
10/3/2019