Journal 1

Computer Systems Research Lab
Period 4, White

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9/2/19-9/9/19

1 Daily Log

1.1 Tuesday September 3

Met with Dr. White to discuss Journal 0 and next short-term project goal.

Downloaded necessary software (Pycharm, Arduino/Processing IDEs, and a basic music studio to compose MIDI files).

Found three suitable songs to eventually test our robot on (Yankee Doodle, the Mii theme song from Wii, and Fantaisie Impromptu by Chopin).

1.2 Thursday September 5

Wrote Python code that converts MIDI input data into an output text file using Python's MIDO library.

Started looking into intermediary data form to go between Python and Arduino.

Attempted to find one last pop song MIDI file, but was unable to find one for free; will continue search next week.

2 Timeline

Date	**Goal**	**Met**
September 9	Start project	Yes, started project
September 16	Find fourth sample song and transfer data file to Arduino IDE	
September 23	Find and test my code on an actual arduino	

3 Reflection

Overall, I am satisfied with my accomplishments this week. I am on schedule, having established a solid foundation for my project by downloading all of the necessary software and sample songs. And as seen in the screenshots below, I was able to complete the first step in transmitting MIDI data to an Arduino Serial port, with the next step being an Arduino IDE being able to access this text file.

Although not necessary, I would like to find a fourth pop song for our robot to play. While the music choices I currently have are relatively diverse in style, a pop song would probably result in the greatest audience engagement when our project is complete.

midi reader.py × data.txt ×

```
1   from mido import MidiFile
2
3   mid = MidiFile('Yankee Doodle.mid')
4   file = open("data.txt", "w")
5
6   for i, track in enumerate(mid.tracks):
7       for msg in track:
8           if str(msg)[:5]=="note_":
9               file.write(str(msg))
10              file.write("\n")
11  file.close()
```

(2).png (2).png

midi reader.py × data.txt ×

```
1  note_on channel=0 note=60 velocity=64 time=0
2  note_off channel=0 note=60 velocity=0 time=960
3  note_on channel=0 note=60 velocity=64 time=0
4  note_off channel=0 note=60 velocity=0 time=960
5  note_on channel=0 note=62 velocity=64 time=0
6  note_off channel=0 note=62 velocity=0 time=960
7  note_on channel=0 note=64 velocity=64 time=0
8  note off channel=0 note=64 velocity=0 time=960
```