Weekly Report

By: Yadverinder Singh
Week # 8
03/21/07 – 03/29/07

Work Completed:

This week I worked on the overall circuit for the game. Previously, I was able to get a PWM signal to show up on the oscilloscope using the Quick start board and my program. However, now that I have moved the chip from the quick start board to the protoboard, I am having difficulties to get the circuit working. The first thing limiting my circuit is the fact that the Quick start board uses 7 MHz oscillator, where as the only oscillator available to me is 4 MHz. So, I had to change the PWM part of the program to work with this oscillator. But, I didn’t have oscillator available till late in the week, so I was not able to test if my program works with the circuit. However, I will be able to do this some time in the near future and make sure that it works. The other problem was with the sensor we using. This spot detect sensor is very sensitive and it were hard to sense at one time. So, we might have to make a casing for the sensor so that it can detect any side movements, but rather only when there is movement directly above it. Hopefully, the whole motor circuit will be done soon, so we can test it with the wheel.

I also worked on designing the amplifying circuit for SP03 and was able to find LM386 pin in the lab room that can work as a low voltage amplifier. The circuit design used to build the amplifier is shown in figure one. I have not been able to test the design, since we didn’t upload the commands onto the Sp03.

![Amplifier with Gain = 200](image)

Figure 1: Amplifying circuit used for the Sp03.
Lastly, I was able to use the motor shaft combined wheel shaft unit to make test if our motor will be able to provide enough power to spin the wheel. This was done with using 12 VDC directly out of the power supply, since our circuit is not done yet. I was able to determine that the motor runs on an average current supply and will not cause my batteries to drain as fast I thought it will drain.

Future Work:

In terms of what needs to be completed by end of this week and start of the next week, the most important thing is the overall circuit. Until this is not complete, I can’t order the PCB board that I was intending on doing by starting of next week. Hopefully, this will happen. Also, we are going to upload the Sp03 commands so that can we can test our amplifying circuit to make sure that it works and the volume is sufficient with no distortion. Lastly, attach the protoboard circuit to the motor to see if the design will work.

Progress Report:

We are slightly behind our plans; we will be well ahead as soon as the circuit works. So, by next we will be most likely done with the overall design and work on the casing the week after.

Hours Worked:

Yadverinder Singh- 13 hours