This week I worked on the voice playback of the SP03 text-to-speech voice module. The module arrived on Thursday by itself with no other peripherals so I had to make an RS232 connection in order to interface it with a PC.

I downloaded the SP03 program for free from the Acroname Inc. website. It is a simple program that communicates with the SP03 module from a PC’s com port, so programming the SP03 was very simple to do. To program the SP03 with the desired voice responses, I simply typed in “Shampoo” and “Conditioner”, clicked the “Test” button to hear it live on the SP03’s built in speaker, then clicked the “Program” button.

I noticed that even through the SP03’s volume setting was at its maximum, I still wasn’t satisfied with the volume that came through the speaker. I will have to apply an amplifier to the speaker output in order to adequately hear the voice playback. The sound quality of the module’s speakers are not too bad, however, they leave something to be desired. Since I am the SP03 module has audio filters built in, the sound quality could likely be improved by using our bigger, more powerful waterproof speaker.
I also began writing the subroutine that will call the audio playback from the SP03 module, and I chose to use the PIC’s parallel port to communicate with the SP03 module because it requires a little bit less code than I2C. Currently I am debugging and troubleshooting the subroutine.

**Future Work**

Coming up next in this project is the completion of the voice playback subroutine. The code required to perform this task seems very simple, and hopefully debugging will be complete in the coming week.

Once code debugging is complete, then I will make a simple amplifier for the voice playback to be heard through our waterproof speaker. This will also be a brief task, and hopefully will also be complete within the next week.

After the playback subroutine and speaker amplifier are completed, then it will be time to get a PC board fabricated that will hold the speaker amplifier, SP03 module, PIC and related circuit elements. The aim is to make the PC board as compact as possible, reducing unnecessary space usage within the device casing. This should take at least a week to obtain and solder on the parts.

The last phase of the project of course is the device casing. This is the last task of the project because the internal dimensions of the casing cannot be accurately determined until we have all of the internal electronic components. The stickers for the bottles should be purchased as well.

**Project Review**

At this point, we are about 60% of the way to completion of this project with about 5 weeks left to finish. A good push will be required, but a solid finish is anticipated within the remaining time.

Hours Worked: 13