Work Completed

Several hours were spent this week again working on wireless. We received our EB505 transceivers. First we read the user manual for the parts. Then Zack and I each built a MAX232 circuit for a transceiver. This circuit, which is shown below in Figure 1, is supposed to regulate the voltage coming from the RS232 cable and into the wireless transceiver. The picture below shows the circuit in the correct configuration, but with the incorrect size capacitors. They are 10 micro-Farads in the picture, and should be either 0.1 or 1 micro-Farad each.

Zack and I each spent some time working on wireless this past week but we are still unable to establish a connection. It is possible that some of the parts in our circuits are not functioning because we are re-using them. It is also possible, but less likely since we received help on this, that our settings in HyperTerminal are incorrect.

In addition to working on wireless, I designed a test set-up for the artificial bladder. Although the bladder has not been working well, we have a few ideas we are going to try. In the event that we can make the bladder work I designed a metal frame that will support the bladder, the stretch sensor, and even the small model kidneys we will use to pump water into the fake bladder. The frame will be made of scraps from 8020 and will be built in the machine shop in the upcoming week or two.

The necessary sphincter parts, manual pump and fluid reservoir, also arrived. Work was done, mostly by Zack, to set up the sphincter and get it operational. He had some success with this, but the final configuration has not been built yet. The tubing between components is too long, and the connections between are not great. I ordered some Y-connectors and some straight connectors from smallparts.com so that we could attach all of the components as well as include the manual pump as a safety feature. The current sphincter set-up is shown below in Figure 2.
Future Work

Future work again centers on the wireless. Besides establishing wireless communication we need to build the final version of the artificial sphincter. We also need to design and order a PCB board.

There is also a considerable amount of cosmetic work that can be done on our project after it is functional to make it look better for presentation purposes.

Project Review

Wireless has proven to be the biggest obstacle preventing our group from finishing our project. We really need to have the wireless working by the end of this coming week or we are in danger of not completing our project on time. The earlier part of this week, like the later part of last week, was spent waiting for parts to arrive and not very much work was accomplished.

Hours Worked

I worked 12.5 hours this past week.