Accessible Syringe Dosing Device
Week of 1/18/05-1/21/05
Karen Young

**Work Completed:**

During the week of January 10 to January 14 Megan and I became Machine Shop Certified where we learned to use the lathe, the milling machine, welding, braising, drilling, and how to bend sheet metal. I also aided in the purchase ordering for the microprocessor and purchase quote for the linear actuator from a vendor. We submitted a purchase quote online from HSI for a size 14 linear actuator, a decoder, and a driver. We are still waiting for the quote to be faxed to the department. During this week, we tried to get in contact with the linear actuator vendor on Monday but there was no progress. Finalization of the microprocessor purchase order was also submitted with the changes in the packaging to a DIP40. During the week I also updated the timeline and set up the website to be able to post weekly reports. Megan and I went to the machine shop and talked to Serge and Rich about what type of material would be best to design the case out of. We decided that 1/2 inch thick clear plexi-glass would be the best solution. In making this decision, we may not have to order any materials because the machine shop already has pieces of plexi-glass that we would be able to use and start the fabrication of the case. This material is best because it allows us to use many different pieces and adhere them together with the proper adhesive, glue. Once this was determined I began rough drawings of what the casing should look like both external and internal using Visio. We also received the digital display and keypad from Jameco Electronics.
Keypad Received

LCD Display Received

Current Status:

Currently, I am continuing with the pictures of the case and making a model out of cardboard to make sure the design is feasible and able to be machined properly, and the completion of the timeline with references of the task to the members of the group. Next week the linear actuator and devices to accommodate the device should be chosen and a quote and purchase order submitted. Once the final dimensions of the PC board and the actuator are known the drawings can be finalized and machining can begin.
**Future Work:**

During the weekly meeting with Dr. Enderle we realized what we need to improve on and what needs to be modified in the final report, such as the timeline updated and referenced, flow diagram of microprocessor program, and linear actuator information and vendor updated. The final report is to be reposted by February 2, 2005

**Project Review:**

After discussion about whether to build our own or purchase a linear actuator we decided that it would be best to purchase the parts needed. The reason for this is that in purchasing the parts it decrease the amount of fabrication need and lowers the amount of errors that may occur if we tried to build a similar mechanism ourselves. The budget that we have been funded is in excess of what we predict the project calls for therefore it is best if we purchase the part instead of manufacturing it. The price for the prototype maybe higher than we hoped but if the product was to be put on the market it would be manufactured in bulk therefore reducing the cost of manufacturing and the overall cost.

**Hours Worked:**

Many hours were put into this week and last week, including the machine certification 50hrs of work has been performed.