**Work Completed**

This week our team received the 24VDC-2.5A power supply that we will incorporate into our device’s design. The receipt of this power supply allowed work on the PC Board layout and the circuit testing to move significantly forward.

The use of this power supply, instead of a battery power supply, may make room for our device’s case to be smaller. The panel used to support the syringe in the picture below is also the panel on which the batteries were going to rest if incorporated. We will now be able to either hide most of the 24VDC power supply in that same space, or make the power supply completely external and use the remaining space for anything that we may need to add to our device at the last minute.

While the device will not be completely portable without batteries, we feel that it is still very practical. Users of the device are not expected to move the device often, so this design decision will not decrease the practicality of the device.

This week I continued to work to produce a test code for programming the LCD display. Several things are still unclear to me about the design of the user interface. I still have some questions regarding how the user interface program will receive user input from the keypad, and I am unsure exactly how the program’s loops and cases should be
constructed. I plan to discuss these issues with Gabe during this week’s lab time. A portion of the test code that has been written so far is shown below.

//user interface program for Doser 100
//Version 3-3-05
//Megan Bowers
//written in C++ code to later convert to assembly language

#include <pic.h>
#include <lcd.h>
#include <delay.h>
#include <stdio.h>
#include <stdlib.h>

main()
{
    TRISB=0b00000000;
    lcd_init(); //initialize LCD display

    int input;
    dose=0;
    2ND;
    N1,N0,S1,S0,M1,M0; //S1,S0: dosage amount/patient label
    //M1,M0: "CC" for 2nd=0 and "." for 2nd=1
    //N1,N0: "0." for 2nd=0 and "P#" for 2nd=1

    cout<< "WELCOME_TO_DOSER_100"; //LCD outputs <=20 characters
    cout<< "PRESS_HELP_IF_NEEDED"; //assign # to HELP button (ex. help=9)
    cin>> input;
    if (input==9)
        //go to help menu
    else
    {
        cout<< "MAIN_MENU";
        cout<< "1:_DOSING";
        cout<< "2:_PRESETS";
        cout<< "3:_PATIENT_LOGS";
        cin>> input;
    }

    switch (input)
    { case 1:
        cout<< "2ND_TO_ENTER_PRESET";
        if (2ND==1)
            //2ND subroutine
        else
        {
            cout<< "ENTER_DOSE_IN_CC";
            cin>> N1, N0, S1, S0, M1, M0;
            cout<< "_" N1, N0, S1, S0, M1, M0;
        }

        The projected timeline for this week’s work is shown below.
Current Status

Currently, I am continuing work on the test code in both C and assembly languages. I am working on the details of receiving user input from the keypad and LCD display, and I am also continuing work on the flow charts and code for the subroutines of the user interface program. I am also working to keep up with the documentation of the design process, including the notes for the user’s manual and the expenses spreadsheet. Occasionally, I have been assisting Karen in the machine shop with the design of the device’s case.

Future Work

During the coming week, I plan to purchase a material, such as 100% silicone glue, from Mansfield Supply in order to stabilize the syringe plunger in the actuator-syringe connector piece. Aside from the case construction, I plan to work with Gabe on the C code and assembly code for the user interface program. I will need to figure out the mechanics of the LCD’s input and output in order to fully code the user interface. I also plan to continue constructing flow charts for the subroutines of the user interface program. Over the week-long break, I plan to work on all of these things, in addition to some of the paperwork for which our team is responsible. A summary of Team #1’s near-future tasks is shown below.

<table>
<thead>
<tr>
<th>Task Description</th>
<th>Duration</th>
<th>Start Date</th>
<th>End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin construction and analysis of circuit</td>
<td>5 days</td>
<td>Mon 2/21/05</td>
<td>Fri 2/25/05</td>
</tr>
<tr>
<td>Continue case construction in machine shop</td>
<td>5 days</td>
<td>Mon 2/21/05</td>
<td>Fri 2/25/05</td>
</tr>
<tr>
<td>Add to notes for user's manual</td>
<td>2 days</td>
<td>Mon 2/28/05</td>
<td>Tue 3/1/05</td>
</tr>
<tr>
<td>Integrate all tested parts into working circuit</td>
<td>5 days</td>
<td>Mon 2/28/05</td>
<td>Fri 3/4/05</td>
</tr>
<tr>
<td>Order any additional parts that may be needed</td>
<td>4 days</td>
<td>Sat 3/5/05</td>
<td>Wed 3/9/05</td>
</tr>
<tr>
<td>Continue case construction</td>
<td>5 days</td>
<td>Mon 2/28/05</td>
<td>Fri 3/4/05</td>
</tr>
</tbody>
</table>
Project Review

At this point in the design process, we have made significant progress. We are hoping to be able to show evidence of a fully functioning circuit during this week’s lab time so that we may place our order for the PC Boards over spring break. At this time, all of our device’s components are functioning as expected. We need to continue to work as hard as we have been working during recent weeks.

Total hours worked: 12