Patient Positioning Aid
Week 11
04/11/06
Christen Thomsen

Work Completed:

During the 11\textsuperscript{th} week of senior design 2 we did a lot as a team. We finally received the pad we had custom ordered (figure 1).

![Figure 1: Pad for board](image)

It is in blue which matches our layout and will fit perfectly. It also seems to be of a higher quality than the pad we previously had as well. We were then able to find the desired locations for the Velcro that will attach the pad to our board and stick them to the board with their adhesive backing (figure 2).
Figure 2: Velcro on board

Next we glued the other side of the Velcro to the pad itself and allowed it to set (figure 3).
Figure 3: Velcro on pad

The glue held well where we applied it liberally, and not well where we didn’t so we added more glue to those areas. This effectively finished all physical aspects of our design, leaving only some small cosmetic things to be done. We also did testing this week, especially that of the mechanical strength of the board when lifting a patient. Our group lifted myself (weighing ~ 225 lbs clothed), along with both the leg and arm stabilizers (weighing ~ 25 lbs) attached (not to be done during normal lifting), which gives us a load of ~ 250 lbs (Figure 4).

Figure 4: Weight testing

The board supported this weight with very minimal bending of the board (to be expected). This was also our first test of the handles, which worked perfectly supporting
the load. We have not had any replies to our fliers for volunteers to test our device. However our testing shows that the device should work well with patients suffering from mild tremors and limited muscle strength. This week we also ordered wall hooks (figure 5) that will allow our device to be stored on a wall, and a case (figure 6) that will fit all the components of our project neatly and compactly.

**Figure 5:** Wall brackets

Along with this we ordered adhesive backed scales (figure 7) to go along the board near the tracks so users can evenly move the stabilizers on both sides of the board.
**Future Work:**

For the next week I plan on attaching the adhesive backed scales when they arrive, along with fitting the components in the case if it arrives. Also, I plan on creating a pillow case for the head rest, and possibly adding a logo to our board. Also, I would like to attach a warning label under the arm bar stating not to lift by the bar. This week I will also be redoing the optimal design section of our final report, including any new drawings, analysis, tables and charts since it has drastically changed from last semester.

**Project Review:**

We are currently on time, we are only waiting on the storage components of the design which are additions and should not take long to add to the design. No last minute action is required. This week we are finishing up our Final paper and the User’s manual. We are also starting our PowerPoint presentation and poster. Following is a picture of the completed design so far.
Figure 8: Completed Project so far

Hours Worked:

Lab Hours – 6
Independent Hours – 3
Total Hours – 9 hrs