EDSGN 100- Sec 004
Fall 2010
Instructor: Liz Kisenwether

Team Four presents:

The Wave

Team Members: Samantha Summers, Charlie Garlisi, Zack Rutstein , Melanie Frank

(Team photo will be updated soon)

Problem Statement: Design a cardboard chair that:

1. Must be stowable under a bed-- can be disassembled into pieces that fit in a 12" vertical space
2. Our half-scale chair must support at least 80 lbs
3. Built out of only two materials: corrugated cardboard and water-based glue.
4. Should be ergonomically appropriate, aesthetically pleasing, and safe

Concept Development:

1. Developing ideas- Each group member surveyed four people to get design ideas for our chair

2. Developing prototypes- Each group member constructed a small model of a chair that we felt could satisfy the problem statement

3. Surveying- Each group member surveyed 4 people and asked them for their feedback on our design

4. Finalizing design- We used the feedback we received to draw up a design of our project and make it to scale

5. Costing- We used the layout provided to determine how much our chair would cost in order to cover materials and labor, and then provide a profit

6. Construction- We started our task in the workshop to develop our half-sized chair

7. Product Positioning Statement- Developed ways to advertise our product

8. Presentation- Presenting our product to the class

Testing:

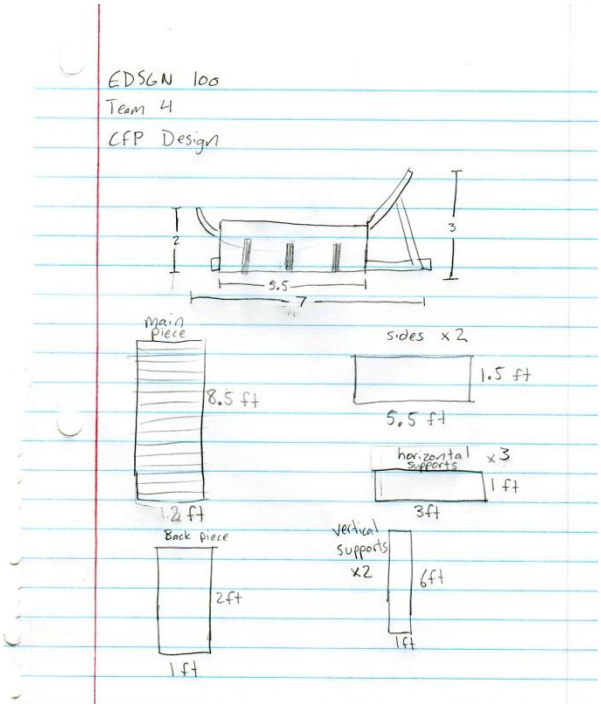
Our team was assigned to test triangle column; our structure held maxium of 121.5 lbs. This was about average in the crush testing, not the worst, but not the best type of column (out of O, square, triangle, and X)

Since we built a chair low to the ground, this didn't impact our choice of support too much, but we chose a base similar to interconnected X structures. This held up well in our end product.

Final Design:

Design features: can be assembled and disassembled, headrest, relaxed fitting, inexpensive.

Costing: Adding up materials and labor, then adding an extra 50%, out final cost was $158.22



Lessons Learned:

If we had more time to build the chair, we would have used more layers of cardboard, spent more time on design and less time on manufacturing, done more testing to make sure it is stable, and added a few design features. We each had individual preferences on how to design the chair. Our team worked well together and had good time management. We did not plan our ideas very far ahead, and our team members did not have specific roles, which hurt us when putting it all together.