March 25, 2010

We formed an indestructible team.

Members: Brian Slakter, Kyle Srivastava, Barzin Nabet

March 27, 2010

We decided on a basic concept for our project. Initially, we had aimed for a pinball machine, with a motorized fan in the back to make the game “more difficult.” This represented an initial concept, and not any specific parts.

April 1, 2010

Brainstorming for the entire assembly included the following features:

Box containing two levels of angled inserts. The first level was the playing surface, while the bottom level returned the ball to the user. We all agreed that the top insert should be clear acrylic so the user can see the ball returning to him or her.

Initially, we had two ideas for ways to propel the ball. The first involved a hanging mallet that would be swung in order to strike the ball. The second involved a side flipper more closely imitating pinball. In order to “separate” ourselves from pre-existing games such as pinball, we moved our game idea to a hybrid of miniature golf and pinball. With this, we adopted the overhanging “golf club” idea.

In the rear of the miniature golf machine would be a rotating fan to obstruct the final “hole” on the top insert. This would require a simple hole in the back of the box with a fan and axle. While original thoughts were to control this part with a motor, we revamped this idea to use a mechanical hand crank, so the game could involve multiple players (if necessary).

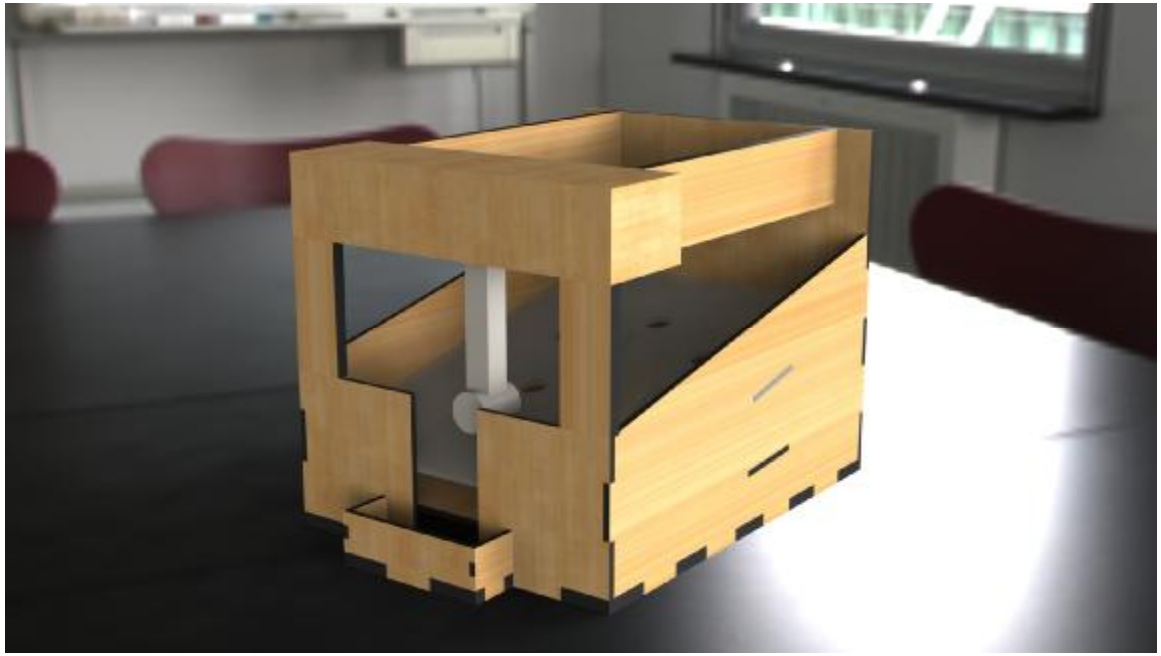
The basic overhang to hold the golf club was made up of a simple box to hold the club but also allow for side-to-side rotation. This was important so the user could aim for holes that were not directly in the middle.

In order to make the game a little more complicated, we decided to incorporate flags to cover up the holes that the user has already “sunk.” These flags would also double as bumpers to make reaching the other holes more difficult.

Because the top insert was at an angle, it was necessary to create a ball platform to strike the ball off of.

An attached bin was added to the front of the machine in order to catch the ball as they come down the chute.

Finally, diagonal pieces were added to each insert in order to funnel the ball to the center when it returns to the user.

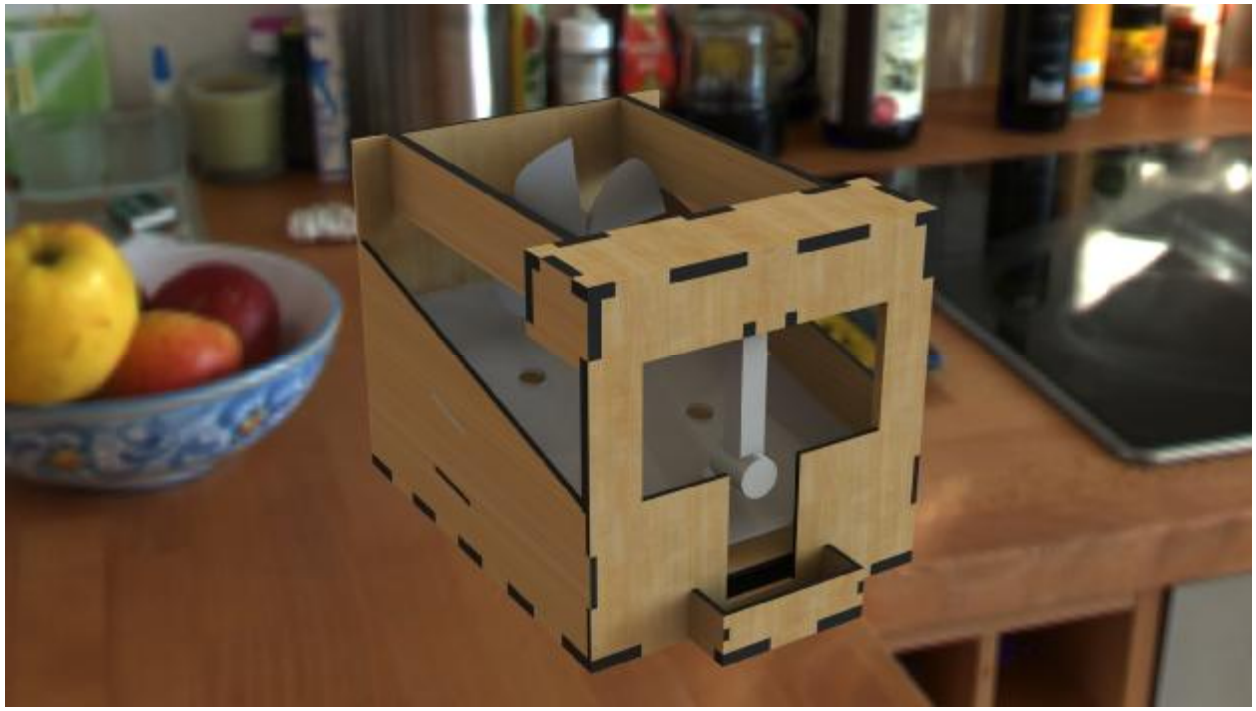


April 8

We decided to start making parts in the middle of the week when the laser cutter was not too busy. We cut all of our parts with some scrap materials in order to see how they would fit together/if there were any inherent design problems. We noticed that the inserts were not designed well enough so we needed to go back and redesign them/

April 15

We redesigned all the parts with hopes that they would work this time. It was important for us to test them as we did before in order to not waste as many materials

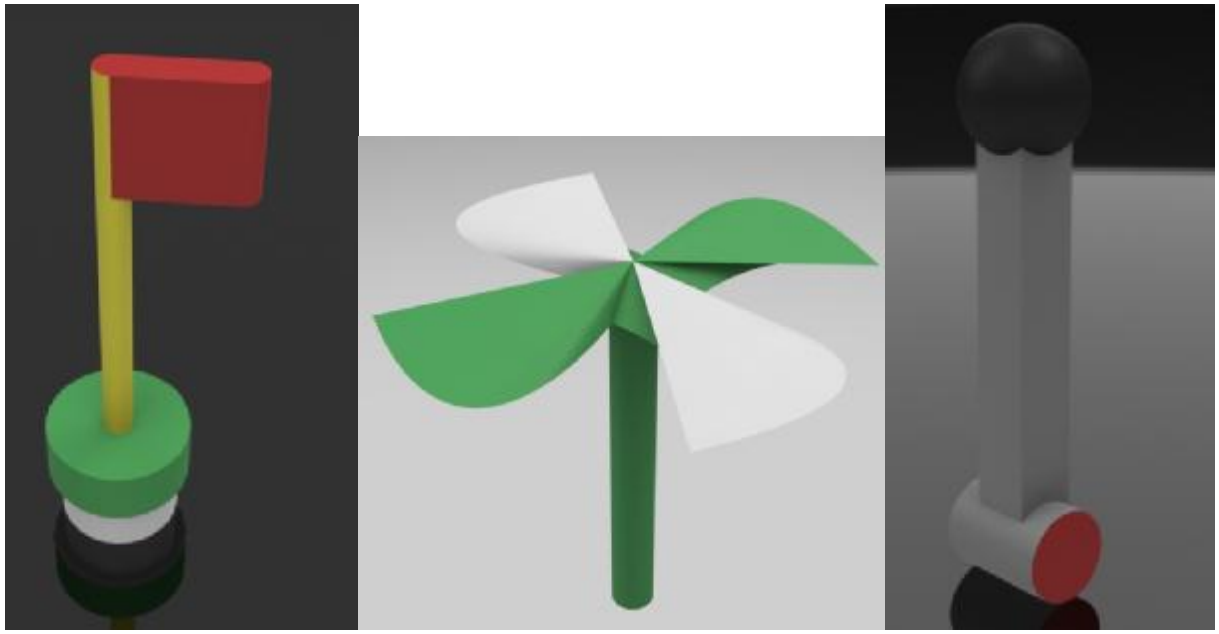


April 19

We ordered the laser cutting materials we needed for the final project so that we could cut our final parts

April 20

We submitted all of our parts to be 3D printed (fan, crank, 4 flags, ball platform, and the “golf club”) We also laser cut all of our parts except for the top overhang that carries the “golf club” because we ran out of materials. The parts we cut fit together well, but we held off on assembly until we had all of our parts.

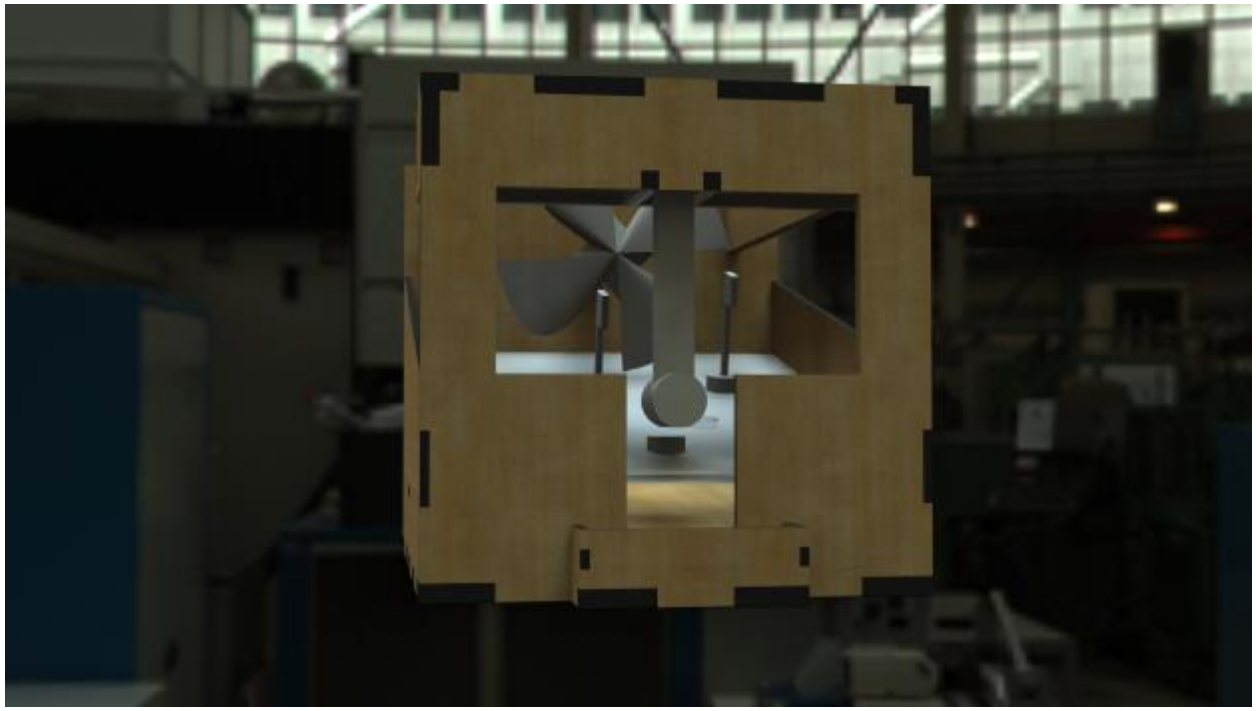


April 21

We ordered more materials for our top overhang compartment in order to cut them.

April 22

We finished cutting our entire laser cutting parts and began assembly. The parts that did not press fit well assembled using gorilla glue. The diagonal portions on the acrylic insert were attached using hot glue.



April 24

Our 3D printed parts were finished and we were able to assemble our final project as shown below in several different angles.

Figure 1: Picture 1 of final project

Figure 2: Picture 2 of our final project

Figure 3: Picture 3 of our final project

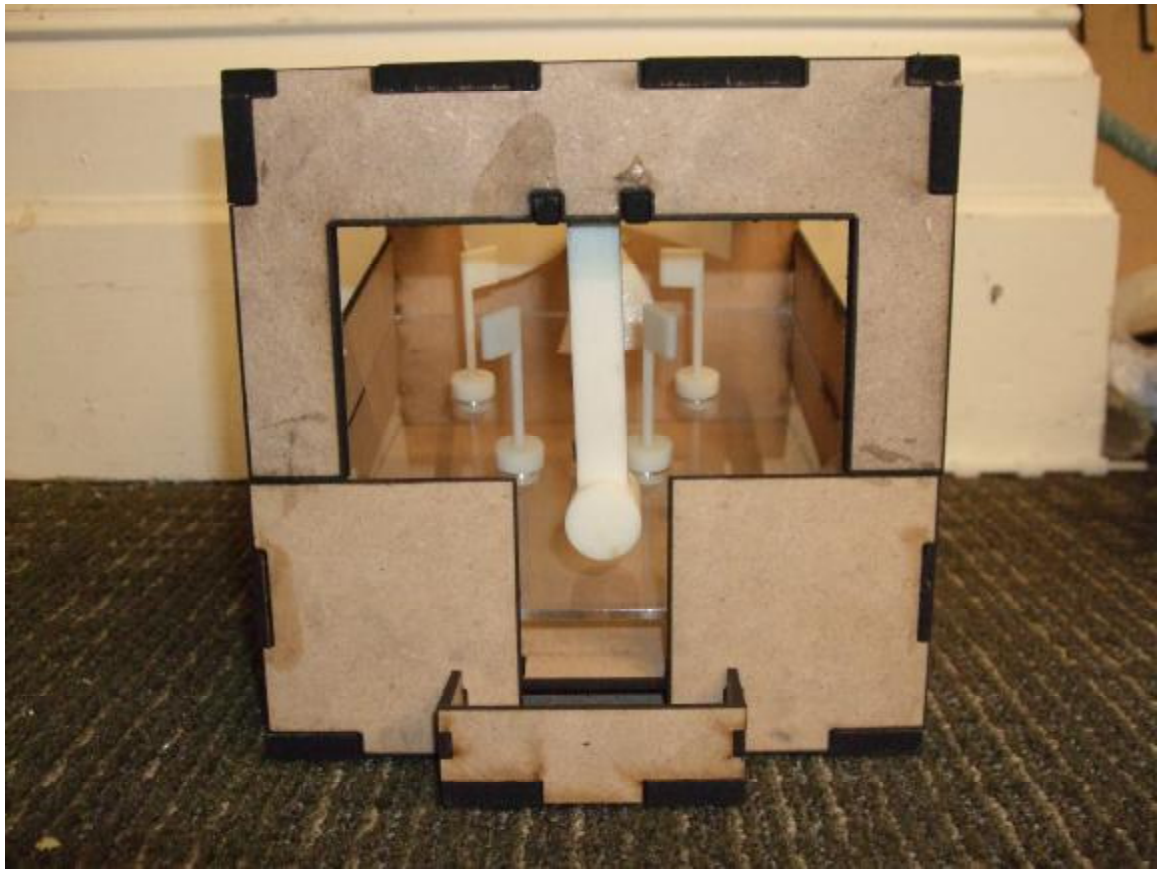


Figure 4: Picture 4 of our final project

Figure 5: Picture 5 of our final project