Work Completed

This week began by continuing with the painting test. After the PVC had been cleaned it needed to be sanded. The purpose of sanding the PVC is to increase the surface area of the PVC and allow for the epoxy to bond to more of the PVC. The PVC was sanded with 150 grit sand paper. It was recommended to use this grit size online where the painting method was found. After the PVC was sanded it was again cleaned off with a wet rag to remove the sanding debris and dust. The epoxy could then be applied. The epoxy was squeezed onto a piece of paper and mixed. The epoxy is a very tough material to work with. As it is unworkable in fifteen minutes, it needs to be applied fast. Meghan and I found the epoxy very hard to spread on the rough PVC. We found that using a microwave heated the epoxy a little and made it much easier to spread around. The epoxy was spread using a foam paint brush. The PVC was then left alone for over twenty-four hours to allow the epoxy time to adhere to the PVC. After over twenty-four hours we went back into the lab to assess how the epoxy had adhered to the PVC. The finish was very rough. Figure 1 shows the epoxy painted PVC. The epoxy was translucent amber colored thus making the original white PVC look slightly brownish. Meghan and I then decided that the epoxy should not be layered on top of the spray paint (as recommended for additional protection) due to the roughness and different color. The additional layer of epoxy would not provide visual appeal that is intended for the wheel. Instead a top coat will be looked into.

Figure 1: Epoxy coated PVC

The epoxy coated PVC was then sanded to smooth out any roughness. After sanding Meghan and I examined the testing. We were able to see that even after sanding much of the epoxy was still left on the PVC. The test piece could then be spray painted. The spray paint used was Krylon Interior/Exterior spray paint. This spray paint was recommended online where the painting method was found. The spray paint was applied
in a number of coats. It was applied at a distance of ten to twelve inches away from the PVC. Figure 2 displays a picture of the first applied coat.

![Figure 2: First applied coat of spray paint](image)

As one can see another coat is necessary. The PVC is not covered evenly and is overall not very visually appealing. The spray paint dries in twelve minutes and can be handled in one hour. We waited the full hour to be able to apply the second coat. Figure 3 shows the second coat.

![Figure 3: Second applied coat of spray paint](image)

As one can now see the spray paint is much more even and covers the entire tested region. Permanent marker was used to outline the area that was tested. The paint was then allowed to dry for another hour before we tested the adherence. After the hour Meghan and I scratched both the tested area (cleaned, sanded, epoxy, sanded and painted) and the non-tested area (PVC and spray paint). The paint was easily scratched off in the non-tested area while the paint did not scratch off in the tested area. Figure 4 shows the scratch test results.
The painting test proved to be a success. The paint did not scratch off of the epoxy coated area. Due to this success it was decided that this method will be used to fabricate the wheel.

Contact was again made with Mike Zenker. He is still trying to get in contact with the supplier of the lazy susan pieces. He will be contacting us early next week with an update of dimensions and possible ship date. No further work can be done on cutting and constructing the wheel until we have dimensions and/or a technical drawing sent to us.

All problems with the website were fixed. The X drive was properly installed so that all team members are able to work on the website and have access. Authorization problems were fixed with the help of the Help Desk. Uploading is now done in local view and not remote view. When done in remote view all page content is lost. To upload one must be properly connected to the X drive by logging in with their information. Dreamweaver can then be opened and uploading can be done through saving from the local view.

Purchasing problems with Mansfield Supply was also fixed. We are not able to go to Mansfield Supply and purchase items. This can be done by making sure that Jen is at her desk at the time we are at Mansfield Supply, getting items then going to the cash register where Mansfield Supply will call Jen at her desk and she can read the credit card information over the phone. The proper purchase order form can then be filled out so there is record of what was purchased. Mansfield Supply was visited on Tuesday. A total of $24.18 was spent.

Future Work

Construction will begin on the base and support system. Contact will again be made with Mike Zenker so there is more information on the wheel size. Pieces of the wheel can be prepared while waiting for technical information based on the success of the painting test.
Project Review

This week proved to be a great success. There was headway made with the website, painting method and purchasing. Next week will begin overall construction of the game so that game testing can take place as soon as possible. There was some time lost due to difficulties with the website. However now that many odds and ends have been fixed and figured out there are many tasks that can begin next week to make up for any lost time.

Hours Worked
11 hours