Project Identity
Interactive Wheel of Fortune Game
Week 8
March 29, 2007
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Work Completed

Painting and completing the wheel was top priority for this week. The end of last week left the group with only the two green pie pieces being painted. On Thursday March 22, 2007 Meghan and Kristen applied the first coat of paint for each pie piece. The coats appeared very shear. This proved that more than one coat must be applied to be as visually appealing as possible. This first coat was allowed to dry overnight. Meghan and Kristen finished painting the wheel on Friday March 23, 2007. On some pie pieces two coats would suffice. However on other pie pieces more coats were needed. As we painted it was found that the primer would start to bubble and peel in some areas. This area was not picked at but simply more paint was applied to try to cover this area. The cause of this could be that too much primer was applied in some areas. It is not thought that the primer and paint are not meant to be used together because the paint that is being used on the wheel was recommended on the label of the primer. If there are some areas that cannot be painted over then they will be covered by visually appealing items such as LED’s or stickers. One of the main concerns of the project is to ensure that the game is as visually appealing as possible. The colors chosen on the wheel are very vibrant.

A visit to the machine shop took place on Tuesday March 27, 2007. One priority was to attach the dowels to the top of the wheel. The main purpose of these dowels is to provide the clicking noise as the wheel spins. The initial design of this system would be to drill a hole at the end of the pie piece and then screw in the dowel. However after considering this, the dowel is only 5/16” in diameter, any type of screw would easily split the wood. After some consideration a new design was thought up. There is a crevice between the actual pie piece and outer ridge of the wheel. The dowel would be held in place in this crevice. This was done by drilling a hole, not all the way through, of a diameter slightly smaller than 5/16”. The dowel was the press fitted into the crevice. To ensure that the dowel would not move when the wheel is spinning a hammer was used to pound the dowel down as far as it would go. Please see Fig. 1 for the complete wheel.
After the dowel work was completed, the shaft of the wheel was drilled in order to attach the motor. The motor’s shaft had a diameter of 0.157”. Using the lathe machine, a small hole could be drilled directly into the center of the shaft. One problem when the game would be operating is that the motor’s shaft could slip out of the shaft coming from the wheel. To ensure that this does not happen, the motor’s shaft was screwed into the wheel’s shaft. This was done using the miller machine to drill a small hole in shaft at a distance 0.25” from the end. A different bit was then used to put threads into the drilled hole. Please see Fig. 2 for the attachment.

Future Work

Now that the dowels are attached and the wheel is completely painted, the finishing touches to the wheel can be applied. The numbers indicating the point values of each pie piece can be applied. Also a top clear coat can be applied. This top coat will ensure that the paint does not flake off after wear and tear of the game. Before this is applied, some areas need additional paint added. These areas are some that may have gotten damaged in the machine shop when attaching the dowels. This is a quick fix.
Now that the motor is attached to the shaft testing can begin. This will show if the motor has adequate power to spin the wheel. This will also give an idea of how the entire game will work. If the motor functions ways in which to attach the motor to the game need to be analyzed. There are ways in which the motor can be attached to the wooden block. However, due to the fact that the shaft of the motor is off-set it may be a challenge on the positioning of the motor in the game. However this is all dependent on the motor being adequate to spin the wheel.

Project Review

Many things were accomplished this week. The completion of the wheel was very helpful in the scheme of putting the entire game together. This puts the project directly on the timeline and will assist in developing the rest of the game. Having no problem attaching the motor to the shaft was a great accomplishment. The group thought this to be more a difficulty than it came out to be. This helps in putting this part of the project ahead of the time.

Hours Worked
13 hours