Work Completed

During the sixth week, there are many tasks and priorities to accomplish such as building and modifying the exterior and interior casing, as seen in table 1. Other tasks beside the exterior and interior casing are installing hinges on the base of the casing and finish fabricating the aerosol spray cans holders.

<table>
<thead>
<tr>
<th>Week</th>
<th>Task Description</th>
<th>Days</th>
<th>Mon 2/20/06</th>
<th>Wed 2/22/06</th>
<th>Fri 2/24/06</th>
<th>Pearl</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Measure/Cut PVC Sheets</td>
<td>2 days</td>
<td>Mon 2/20/06</td>
<td>Tue 2/21/06</td>
<td>Pearl</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Measure/Cut 2 Dispersion Holes</td>
<td>1 day</td>
<td>Wed 2/22/06</td>
<td>Wed 2/22/06</td>
<td>Pearl</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Measure/Cut 2 Fan Holes</td>
<td>1 day</td>
<td>Wed 2/22/06</td>
<td>Wed 2/22/06</td>
<td>Pearl</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Measure/Cut Access Panels</td>
<td>1 day</td>
<td>Wed 2/22/06</td>
<td>Wed 2/22/06</td>
<td>Pearl</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Measure/Cut 2 Can Lock Holes</td>
<td>1 day</td>
<td>Thu 2/23/06</td>
<td>Thu 2/23/06</td>
<td>Pearl</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Cut Out Holes for LEDS</td>
<td>1 day</td>
<td>Thu 2/23/06</td>
<td>Thu 2/23/06</td>
<td>Pearl</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Cut Out Speaker Holes</td>
<td>1 day</td>
<td>Thu 2/23/06</td>
<td>Thu 2/23/06</td>
<td>Pearl</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td><strong>Interior Casing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pearl</td>
</tr>
<tr>
<td>17</td>
<td>Measure/Cut PVC Sheets</td>
<td>1 day</td>
<td>Fri 2/24/06</td>
<td>Fri 2/24/06</td>
<td>Pearl</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Measure/Cut Cluster Plate Holes</td>
<td>1 day</td>
<td>Fri 2/24/06</td>
<td>Fri 2/24/06</td>
<td>Pearl</td>
<td></td>
</tr>
</tbody>
</table>

Since last week, I wasn’t able to finish fabricating the aerosol spray cans holder due to the lack of time available in the machine shop, so this task was extended to the sixth week. In order to make the holder a perfect fit for the cans, a thick PVC sheet was installed in the other side of holder for additional support (figure 1). Therefore, this allows individuals to slide the can into the holder perfectly, where all four sides of the PVC sheets support and closely holds the aerosol spray can.

Figure 1: Final Aerosol Spray Can Holders
After successfully making the aerosol spray can holders, I am able to find the right location to install the cam-locks on each access panels. On each panels, three holders are evenly place and glue on the back portion of the panels. Then the free space between the two holders will contain the \( \frac{3}{4}'' \) diameter cam-lock (figure 2). The cam-locks weren’t fully installed on the panels due to the machine shop, however this task will be accomplish in the following week.

*Figure 2: Cam-lock installment on the panels*

In the beginning of the week, the first task completed was to measure and cut all the require pieces for the exterior casing. These sheets were important to begin installing the hinges onto the panels and the base of the casing. As seen in figure 3, a total of 10 flat-headed screws were use on each hinges to provide efficient support on the panel and the base. The hinges were installed inside the casing to provide a decorative and stable design.

*Figure 3: Hinges installment*
The next task was to fabricate the back panel of the casing by measuring and cutting the fan holes for ventilation. In figure 4, the center hole for the fan place 1.5” from the top edge and 3.375” from the side edge. The diameter of the hole is 1.75” that matches the diameter of the fan grill. The hole was perfectly cut with a drill press and a hole bit. Burs were easily removed with sand papers, and filer that provides a smooth interior around the circle.

Figure 4: Back Panel - Fan Holes

The last task accomplished was measuring and drilling holes for the indicator LEDs and the pattern LEDs. In figure 5, you could see the six holes are for the red indicator LEDs along the top portion of the panel and the rest of the holes (18) are for the decorative LEDs pattern. So far we only purchased six yellow LEDs, which can be seen installed. The rest of the 12 LEDs would be green and red.

Figure 5: LEDs front panel
Future Work

For the next following weeks, I am hoping to finish assembling the exterior casing and start measuring and building the base, and the interior casing. From the timeline (Table 2), the base and exterior casing should be assembled before spring break. The rate that I am going with installing everything, it would be impossible to finish building the interior casing. Therefore, the interior casing won’t be done before spring break and would continue after spring break. There’s still a lot of work to be accomplished for the exterior casing such as cutting the dispersion holes and the speaker holes but I am still designing a creative pattern for the speakers and the dispersion hole. This task is delayed till after spring break or whenever we come up with a creative design.

Table 2: Timeline for the following weeks

<table>
<thead>
<tr>
<th></th>
<th>Work</th>
<th>Hours</th>
<th>Day</th>
<th>Date</th>
<th>Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>Base</td>
<td>1 day</td>
<td>Tue 2/20/08</td>
<td>Tue 2/20/08</td>
<td></td>
</tr>
<tr>
<td>25</td>
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<td>1 day</td>
<td>Tue 2/20/08</td>
<td>Tue 2/20/08</td>
<td>Pearl</td>
</tr>
<tr>
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<td>Tue 2/20/08</td>
<td>Pearl</td>
</tr>
<tr>
<td>27</td>
<td>Measure/Cut On/Off Switch Hole</td>
<td>1 day</td>
<td>Tue 2/20/08</td>
<td>Tue 2/20/08</td>
<td>Pearl</td>
</tr>
<tr>
<td>28</td>
<td>Measure/Cut Battery Access Panel</td>
<td>1 day</td>
<td>Tue 2/20/08</td>
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<td>Pearl</td>
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<tr>
<td>29</td>
<td>Measure/Cut PVC Sheets</td>
<td>1 day</td>
<td>Tue 2/20/08</td>
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<td>Pearl</td>
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<tr>
<td>30</td>
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<tr>
<td>31</td>
<td>Assemble Exterior Casing</td>
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<td>Wed 3/1/08</td>
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<tr>
<td>32</td>
<td>Assemble Interior Casing</td>
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<td>Wed 3/1/08</td>
<td>Pearl</td>
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<tr>
<td>33</td>
<td>Fix Schematic and Spray Holders</td>
<td>1 day</td>
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<td>Pearl</td>
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<td>34</td>
<td>Assemble Base</td>
<td>1 day</td>
<td>Wed 3/1/08</td>
<td>Wed 3/1/08</td>
<td>Pearl</td>
</tr>
</tbody>
</table>

Project Overview

Overall, the structural fabrication of the project has been in high speed to catch up with the setbacks we had in the previous weeks. There are still minor setbacks with the dispersion and speaker holes, as mentioned in the future work section. However, I am very confident that before spring break, we’ll assemble the base and most of the exterior casing besides the front panel due to the setbacks. And after spring break the tasks would be to fabricate and modify the interior casing such as the lever system and integrating the circuit and microprocessor with the structure.

Hours Worked

Pearl – 13 hrs