Work Completed

During the week since the last progress report, I obtained measurements of the gear as well as the handle. The important things that were measured were the diameter inside the gear as well as the diameter of the hole to where the handle will be connected. It was crucial to find these measurements due to the fact that they will greatly affect how the shaft will be constructed. I also came to the conclusion that the length of the shaft should not have to exceed six inches. When talking to Rick and Serge in the machine shop, it was decided that I could make the shaft out of tool steel since they have an abundance of this in the machine shop. It would also not take a dime out of the budget since I would only need six inches of it for the gear shaft. A diagram of the preliminary gear shaft design can be seen below.

Another piece of metal which will be needed from the machine shop would be used to mount the gear rack to the vertical leg of the table. This would most likely be made out of the same tool steel as the shaft for the gear. To see exactly how much of the steel I would need, I am going to construct a drawing for Rick and Serge so they give me some advice on a good and efficient possible gear setup. On Friday, I searched through the 80/20 catalog to obtain parts which would be used to build the base. At first it was determined that ordering from the 10 series extrusions would be the best way to go. It was a very cost efficient method. After meeting with the 80/20 representatives, it was thought that 15 series extrusions could possibly be used since the 10 series was so cost efficient. The 15 series would give the table much more stability. When the materials for the 15 series were priced out, the cost turned out to be much more than expected. The cost was almost double than that of the 10 series order. This would put us over our budget when shipping was included. Finally it was unanimously decided that the 10 series extrusions would be used. It would be the most cost efficient way to go. Stability was also compensated in the base with the 10 series extrusions. Originally, we were planning to go with just a 1X1” extrusion in the 10 series. After some further research, it was decided that a 1X3” 10 series extrusion could be used for the base instead. This would still be cheaper and more stable than a 1.5X1.5” 15
series extrusion. A diagram of the 1X3’ 10 series extrusion being used for the base can be seen below.

At the end of Friday, the parts order was finally finished up. The framework for the entire table not including the base will consist of 1X1” 10 series extrusion. An example of what a piece of this will actually look like can be seen below.

Future Work

During this upcoming week, the rest of our parts are expected to arrive. This should happen sometime on Tuesday. Once the parts are in, I will be measuring them, so Kristen will know the exact lengths to cut the extrusions for the base. I will also be able to obtain exact dimensions for the gear shaft. Later in the week, Bruce and I will put together as much of the base and vertical leg as possible. A lot of testing will have to be done for stability purposes as well.
Project review

As of now, there seem to be no difficulties for the design of the art table. Getting the parts order out this past week is going to help the continued progress of the construction of the art table. The parts will arrive in a few days. Many preliminary designs are already drawn up for other parts of the table such as the gear shaft, and the mounts for the gas springs. Everyone seems to be meeting their objectives as well as completing their tasks in accordance with the timeline. The tracking of the gas spring order still has to be monitored closely. The revised timeline appears below.

<table>
<thead>
<tr>
<th></th>
<th>Task Name</th>
<th>Duration</th>
<th>Start</th>
<th>Finish</th>
<th>Pre Names</th>
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<tbody>
<tr>
<td>1</td>
<td>Machine shop certified</td>
<td>4 days?</td>
<td>Tue 1/3/06</td>
<td>Fri 1/6/06</td>
<td>Rick</td>
</tr>
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<td>2</td>
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<td>4 days?</td>
<td>Tue 1/3/06</td>
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<td>Kristen</td>
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<td>3</td>
<td>Load autocad and 8020 software onto compu</td>
<td>3 days?</td>
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<td>Wed 1/11/06</td>
<td>Bruce</td>
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<td>4</td>
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<td>1 day?</td>
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<td>Fri 1/20/06</td>
<td>All</td>
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<td>Measure base requirements</td>
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<td>Design base on autocad</td>
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<td>Create visio drawing of base</td>
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<td>Bruce</td>
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<td>12</td>
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<td>Wed 2/1/06</td>
<td>11 Rick</td>
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<td>15</td>
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<td>Wed 2/22/06</td>
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<td>Tue 2/21/06</td>
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<td>1 day?</td>
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<td>Mon 2/20/06</td>
<td>Bruce</td>
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Hours Worked

Week 2 – 10 hours