MEDSense:
An Accessible Pill Cap Dispensing/Cutting Device

Week 4 (02/08/08-02/15/08) Report

Team Members:
Ashley Martin
Timothy Coons
Christopher Falkner
Ryan Pogemiller
Work Completed - Materials

- Machined:
  - Cutting mechanism
  - Turning disks

Cutting Mechanism

Turning Disks
Work Completed - Motors

- Low-Side BDC Motor Drive Circuit
- Control Brushed DC Rotational Motor
Work Completed - Motors

- Completed Stepper Motor Driving Circuit
- Voltage Regulator Provides +5V
- MOSFET Half Bridges are Temporary…

Circuit to Drive Linear Actuator
Work Completed - Bluetooth

- Finished programming commands through serial connection
- Established wireless connection with computer through Bluetooth dongle

When the LED is on the module has made a connection.
Future Work

- Write code for motor control (C++)
- Write code for PIC interaction with Bluetooth (C++)
- Select and order materials for enclosure
- Finish machining rotating discs
<table>
<thead>
<tr>
<th>Task Name</th>
<th>Duration</th>
<th>Start</th>
<th>Finish</th>
<th>Predecessors</th>
<th>Resource Names</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write Source Code for Linear Actuator</td>
<td>14 days</td>
<td>Thu 2/14/08</td>
<td>Tue 3/4/08</td>
<td>Ryan</td>
<td></td>
</tr>
<tr>
<td>Write Source Code for BDC Rotational Motor</td>
<td>14 days</td>
<td>Thu 2/14/08</td>
<td>Tue 3/4/08</td>
<td>Ryan and Ashley</td>
<td></td>
</tr>
<tr>
<td>Test Linear Actuator Motor Motion</td>
<td>5 days</td>
<td>Tue 3/4/08</td>
<td>Mon 3/10/08</td>
<td>Chris</td>
<td></td>
</tr>
<tr>
<td>Test BDC Rotational Motor</td>
<td>5 days</td>
<td>Tue 3/4/08</td>
<td>Mon 3/10/08</td>
<td>Ashley and Chris</td>
<td></td>
</tr>
<tr>
<td>Interaction between microcontroller and computer via Bluetooth</td>
<td>14 days</td>
<td>Thu 2/14/08</td>
<td>Tue 3/4/08</td>
<td>Ryan</td>
<td></td>
</tr>
<tr>
<td>Machine Rotating Discs</td>
<td>1 day?</td>
<td>Thu 2/14/08</td>
<td>Thu 2/14/08</td>
<td>Tim and Ashley</td>
<td></td>
</tr>
<tr>
<td>Machine Rotating Axis</td>
<td>1 day</td>
<td>Thu 2/14/08</td>
<td>Thu 2/14/08</td>
<td>Tim</td>
<td></td>
</tr>
<tr>
<td>Attach Axis and Discs</td>
<td>1 day</td>
<td>Fri 2/15/08</td>
<td>Fri 2/15/08</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Test motion of discs with rotational motor</td>
<td>2 days</td>
<td>Mon 2/18/08</td>
<td>Tue 2/19/08</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Build Circuit for Vibrating Motor</td>
<td>2 days</td>
<td>Wed 2/20/08</td>
<td>Thu 2/21/08</td>
<td>Chris</td>
<td></td>
</tr>
<tr>
<td>Order springs for cutting device</td>
<td>1 day</td>
<td>Mon 2/18/08</td>
<td>Mon 2/18/08</td>
<td>Ashley</td>
<td></td>
</tr>
<tr>
<td>Write code for RTC</td>
<td>7 days</td>
<td>Mon 2/25/08</td>
<td>Tue 3/4/08</td>
<td>Ryan</td>
<td></td>
</tr>
</tbody>
</table>
Hours Worked

- Ashley - 12
- Tim - 14
- Christopher - 15
- Ryan - 13