Week #8 Progress Report

Team 9: Accessible Weight Scale for Seated Users
James I. Johnson
Patrick Tschilenge
Gregory Whitehouse
Overall Design

- Wireless handheld console
- Three load cells
- Adjustable foot support
Program
Block
Diagram

Scale Powers On

Output Question
"Would you like to
take a
measurement
Press Y/N"

Call A/D
Conversion Program

Output and
Store New
Value

Output Question
"Would you like to
view previous
readings? Press Y/
N"

Output Statement
"To view readings in
order from newest to
oldest Press Y to
Quit Press N"

Export Previous
Readings
Program

Output Question
"Would you like to
export previous
readings to a
nearby computer?"

Output Statement
"In order to Tare
the scale it must be
vacant."  "Are you
ready to Tare the
scale now?" Press
Y/N

Output Question
"Would you like to
Tare the scale?"
Press Y/N

Export Previous
Reading

Turn off Scale

Output Question
"Would you like to
turn off the scale
now?" Press Y/N

Store Tare
Reading

To view readings in
order from newest to
oldest Press Y to
Quit Press N

Y

N

Y

N

Y

N

Y

N

Y

N
Protoboard Testing

- Amplification
  - Signal amplified with difference amplifiers
- Filter
  - Low pass filter
    - Noise removal
- Offset
  - Will be completed this week
Load Cell fastening

- Fastening
  - 2 pins drilled to bottom plate on side
  - Load foot on opposite to generate the required bending
Foot Support

Diagram:
- Side View
- Elevated Compartment
- Holding Pins
- Channels
- Upper Foot support
- Foot Support Bracket
- Fastening Plate
- Lower Foot Support
- Foot Panel
- Toilet Seat
Foot support (contd.)
Hours Worked

- James: 15 hours
- Gregory: 15 hours
- Patrick: 15 hours
<table>
<thead>
<tr>
<th>Task Description</th>
<th>Days Left</th>
<th>Start Date</th>
<th>End Date</th>
<th>Person(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cut rounded edges into top and bottom panel</td>
<td>1 clay</td>
<td>Tue 2/5/08</td>
<td>Tue 2/5/08</td>
<td>Greg</td>
</tr>
<tr>
<td>Deburr rounded edges for top and bottom panel</td>
<td>1 clay</td>
<td>Tue 2/5/08</td>
<td>Tue 2/5/08</td>
<td>Greg</td>
</tr>
<tr>
<td>Weekly Group Meeting</td>
<td>0 days</td>
<td>Wed 2/6/08</td>
<td>Wed 2/6/08</td>
<td>Greg</td>
</tr>
<tr>
<td>Cut and thread columns</td>
<td>2 days</td>
<td>Wed 2/6/08</td>
<td>Thu 2/7/08</td>
<td>Greg</td>
</tr>
<tr>
<td>Drill Load Cell holes</td>
<td>1 clay</td>
<td>Wed 2/6/08</td>
<td>Wed 2/6/08</td>
<td>Greg</td>
</tr>
<tr>
<td>Make sure PIC can be programmed</td>
<td>1 clay</td>
<td>Wed 2/6/08</td>
<td>Wed 2/6/08</td>
<td>Ian</td>
</tr>
<tr>
<td>Wire LCD into PIC circuit</td>
<td>2 days</td>
<td>Thu 2/7/08</td>
<td>Fri 2/8/08</td>
<td>Ian</td>
</tr>
<tr>
<td>Write modify code to test LCD</td>
<td>1 clay</td>
<td>Mon 2/11/08</td>
<td>Mon 2/11/08</td>
<td>Ian</td>
</tr>
<tr>
<td>Test Load Cells</td>
<td>2 days</td>
<td>Tue 2/11/08</td>
<td>Wed 2/13/08</td>
<td>Ian</td>
</tr>
<tr>
<td>Weekly Group Meeting</td>
<td>0 days</td>
<td>Wed 2/13/08</td>
<td>Wed 2/13/08</td>
<td>Patrick</td>
</tr>
<tr>
<td>Weld Columns</td>
<td>5 days</td>
<td>Fri 2/15/08</td>
<td>Thu 2/21/08</td>
<td>Greg</td>
</tr>
<tr>
<td>Cut Side Panels</td>
<td>1 clay</td>
<td>Fri 2/15/08</td>
<td>Fri 2/15/08</td>
<td>Greg</td>
</tr>
<tr>
<td>Cut front panel</td>
<td>1 clay</td>
<td>Fri 2/15/08</td>
<td>Fri 2/15/08</td>
<td>Greg</td>
</tr>
<tr>
<td>Cut and Lathe fastening columns</td>
<td>2 days</td>
<td>Fri 2/15/08</td>
<td>Mon 2/18/08</td>
<td>Patrick</td>
</tr>
<tr>
<td>Cut welded Columns</td>
<td>1 clay</td>
<td>Mon 2/18/08</td>
<td>Mon 2/18/08</td>
<td>Greg</td>
</tr>
<tr>
<td>Redrill and Rethread welded columns</td>
<td>1 clay</td>
<td>Tue 2/19/08</td>
<td>Tue 2/19/08</td>
<td>Greg</td>
</tr>
<tr>
<td>Thread Fastening Columns</td>
<td>1 clay</td>
<td>Wed 2/20/08</td>
<td>Wed 2/20/08</td>
<td>Greg</td>
</tr>
<tr>
<td>Write code for push button recognition</td>
<td>4 days</td>
<td>Wed 2/20/08</td>
<td>Mon 2/25/08</td>
<td>Ian</td>
</tr>
<tr>
<td>Weekly Group Meeting</td>
<td>0 days</td>
<td>Wed 2/22/08</td>
<td>Wed 2/22/08</td>
<td>Ian</td>
</tr>
<tr>
<td>Write A/D Conversion code for Load Cells</td>
<td>2 days</td>
<td>Thu 2/21/08</td>
<td>Fri 2/22/08</td>
<td>Ian</td>
</tr>
<tr>
<td>Wire Push Buttons into circuit</td>
<td>4 days</td>
<td>Mon 2/25/08</td>
<td>Thu 2/28/08</td>
<td>Ian</td>
</tr>
<tr>
<td>Wire battery holders into circuit for battery power</td>
<td>2 days</td>
<td>Tue 2/26/08</td>
<td>Wed 2/27/08</td>
<td>Ian</td>
</tr>
<tr>
<td>Cut New Bottom Panel</td>
<td>1 clay</td>
<td>Wed 2/27/08</td>
<td>Wed 2/27/08</td>
<td>Patrick</td>
</tr>
<tr>
<td>Cut New Support Columns</td>
<td>3 days</td>
<td>Wed 2/27/08</td>
<td>Fri 2/29/08</td>
<td>Patrick</td>
</tr>
<tr>
<td>Weekly Group Meeting</td>
<td>0 days</td>
<td>Wed 2/27/08</td>
<td>Wed 2/27/08</td>
<td>Greg</td>
</tr>
<tr>
<td>Make sure PIC receives proper voltage thru batteries</td>
<td>1 clay</td>
<td>Thu 2/20/00</td>
<td>Thu 2/20/00</td>
<td>Ian</td>
</tr>
<tr>
<td>Drill holes in top panel for toilet mounting, column mounting</td>
<td>1 clay</td>
<td>Fri 2/29/08</td>
<td>Fri 2/29/08</td>
<td>Greg</td>
</tr>
<tr>
<td>Thread New Support Columns</td>
<td>1 clay</td>
<td>Mon 3/3/08</td>
<td>Mon 3/3/08</td>
<td>Patrick</td>
</tr>
<tr>
<td>Wire and Test Text-to-Speech Device</td>
<td>4 days</td>
<td>Mon 3/3/08</td>
<td>Thu 3/6/08</td>
<td>Ian</td>
</tr>
<tr>
<td>Weekly Group Meeting</td>
<td>0 days</td>
<td>Wed 3/5/08</td>
<td>Wed 3/5/08</td>
<td>Patrick</td>
</tr>
<tr>
<td>Wire and Test Wireless Communications</td>
<td>4 days</td>
<td>Fri 3/7/08</td>
<td>Wed 3/12/08</td>
<td>Ian</td>
</tr>
<tr>
<td>Weld Side and Black Panels</td>
<td>5 days</td>
<td>Mon 3/10/08</td>
<td>Fri 3/14/08</td>
<td>Greg</td>
</tr>
<tr>
<td>Weld front panel</td>
<td>1 clay</td>
<td>Mon 3/10/08</td>
<td>Mon 3/10/08</td>
<td>Greg</td>
</tr>
<tr>
<td>Weld Channels for foot support</td>
<td>2 days</td>
<td>Tue 3/11/08</td>
<td>Wed 3/12/08</td>
<td>Greg</td>
</tr>
<tr>
<td>Cut upper leg support</td>
<td>1 clay</td>
<td>Wed 3/12/08</td>
<td>Wed 3/12/08</td>
<td>Greg</td>
</tr>
<tr>
<td>Cut lower leg support</td>
<td>1 clay</td>
<td>Thu 3/13/08</td>
<td>Thu 3/13/08</td>
<td>Greg</td>
</tr>
<tr>
<td>Drill connecting pin holes for foot support</td>
<td>1 clay</td>
<td>Thu 3/13/08</td>
<td>Thu 3/13/08</td>
<td>Patrick</td>
</tr>
<tr>
<td>Weld upper leg with lower leg support</td>
<td>1 clay</td>
<td>Fri 3/14/08</td>
<td>Fri 3/14/08</td>
<td>Greg</td>
</tr>
<tr>
<td>Begin Testing Elevated toilet compartment</td>
<td>5 days</td>
<td>Fri 3/14/08</td>
<td>Thu 3/20/08</td>
<td>Ian, Patrick</td>
</tr>
<tr>
<td>Cut Channels for foot support</td>
<td>1 clay</td>
<td>Mon 3/17/08</td>
<td>Mon 3/17/08</td>
<td>Greg, Patrick</td>
</tr>
<tr>
<td>Build Fastening Mechanism for Elevated Toilet Compartment</td>
<td>3 days</td>
<td>Mon 3/17/08</td>
<td>Wed 3/19/08</td>
<td>Greg, Patrick</td>
</tr>
</tbody>
</table>