E-Racer

Kevin Arpin, Michael Marquis, Allison Meisner, Travis Ward

Client Contact:
Gregg and Laura McClement,
Calgary, AB, Canada
E-Racer as of Week 5
Work Completed - Summary

- Seat supports
- Design of mounting hardware for seat and actuator
- AutoDesk training
- Design of braking modifications
- A/D conversion, mode switch program and PWM output are working
- Incorporation of several programs in a single main program
- DC motor controller box
- Checked up on braking linear actuator
Work Completed - Allison

- Began attaching side supports to seat with purchased brackets – minor issue with aligning the supports; will be resolved in the next week
- Designed mounting of actuator, including welding sheet metal to the frame for additional mounting space
- Design of modified brake cables and their integration with the braking actuator
- Began to work on design specifics for mounting the bottom of the seat
Completed Work - Mike

- AutoDesk training – began making full model of go-kart
- Design of braking modifications and integration of braking system with actuator
- Design of seat mounting on the go-kart frame
Completed Work - Kevin

- A/D conversion working
- Mode switch program working
- PWM output working
- Focused on incorporating the above programs in a main program
- Still some bugs, but almost complete
- Steering system will be done separately from this PIC (with Travis)
Completed Work - Travis

- Researched and ordered a box to house the DC motor controller
- Found a grommet which would fit out application
- Built a cardboard model of the steering wheel box and its internal components
- Search for alternatives to steering control hardware – issue with overcompensation
- Spoke with the company giving us the braking linear actuator to see when it would be delivered (early next week)
Future Work – Next Few Weeks

- **Allison**
  - Finish side support attachment
  - Manufacture/buy hardware for seat attachment
  - Create and weld mounting plate for the bottom of the seat
  - Make and install mounting for steering actuator
  - Modify brake cables

- **Mike**
  - Finish model in AutoDesk
  - Continue working in machine shop on seat attachment, braking modification and restraint integration
Future Work - Next Few Weeks

- **Kevin**
  - Make main.c functional for acceleration/braking in both modes
  - Work with Travis on the steering system issue

- **Travis**
  - Work to resolve steering system issue (find an alternative if necessary)
  - Find a way to compare signals from the motor controller to signals that will be sent to the linear actuator (only want the actuator to move certain distances)
## Schedule

<table>
<thead>
<tr>
<th>Task Name</th>
<th>Duration</th>
<th>Start</th>
<th>Finish</th>
<th>Resource Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3 hrs</td>
<td>Wed 2/27/08</td>
<td>Wed 2/27/08</td>
<td>Allison</td>
</tr>
<tr>
<td>2</td>
<td>4 days</td>
<td>Thu 2/28/08</td>
<td>Tue 3/4/08</td>
<td>Allison &amp; Mike</td>
</tr>
<tr>
<td>3</td>
<td>2 days</td>
<td>Wed 3/5/08</td>
<td>Thu 3/6/08</td>
<td>Allison &amp; Mike</td>
</tr>
<tr>
<td>4</td>
<td>3 days</td>
<td>Mon 3/1/08</td>
<td>Wed 3/19/08</td>
<td>Allison &amp; Mike</td>
</tr>
<tr>
<td>5</td>
<td>3 days</td>
<td>Wed 2/27/08</td>
<td>Fri 3/2/08</td>
<td>Mike</td>
</tr>
<tr>
<td>6</td>
<td>4 days</td>
<td>Wed 2/27/08</td>
<td>Mon 3/3/08</td>
<td>Kevin</td>
</tr>
<tr>
<td>7</td>
<td>4 days</td>
<td>Tue 3/4/08</td>
<td>Fri 3/7/08</td>
<td>Kevin &amp; Travis</td>
</tr>
<tr>
<td>8</td>
<td>4 days</td>
<td>Wed 2/27/08</td>
<td>Mon 3/3/08</td>
<td>Travis</td>
</tr>
</tbody>
</table>

Remaining Budget: $540.00
Hours Worked

- Allison: 13 hours
- Michael: 12 hours
- Kevin: 16 hours
- Travis: 15 hours
Questions, Comments, Concerns?