Project: A Child Passenger Safety Seat (Child Seat)

Team Members:
1. Ross Gerber—Team Leader
   Email: rgerber@wisc.edu
2. Aman Ghotra—Communication
   Email: asghotra@wisc.edu
3. Erik Bieging—BWIG
   Email: etbieging@wisc.edu
4. Karim Mahamud—BSAC
   Email: ammahamud@wisc.edu
5. Miguel Benson—BSAC
   Email: miguelbenson@wisc.edu

Advisor:
Mitch Tyler, PhD
Department of Biomedical
Phone: (608) 262-5112
Email: metyler1@facstaff.wisc.edu

Client:
Tom Brazelton, MD
Department of Pediatrics
Phone: (608) 263-8901
Email: brazeltonii@facstaff.wisc.edu

Date of Progress Report: 11/17/05

Problem Statement:
The goal of our project is to develop or improve the current method of transporting a child or infant in an ambulance on a stretcher. The method or device developed must be better than the current methods. A new method or device must be collapsible, and compatible with current ambulatory stretchers. Most importantly, the final device must meet all federal safety child seat guidelines.

Restatement of Team Goals from Last Week:
This week we are going to finish the large components of the design and hopefully begin tweaking different features. If all goes well, we may be able to add fabric and padding for aesthetics.

Summary of Accomplishments This Week:
This week we began putting our prototype together. We completely finished the sliding shoulder strap mechanism, the sliding back rest, and the recline lock mechanism. For the most part, the
upper section of the seat is finished. We also contacted Terry Frick to get a stretcher for the final presentation and for testing.

**Individual Goals for this week:**

1. Ross: Construction  
2. Aman: Locate fabric and padding  
3. Erik: Finish up base.  
5. Miguel: Determine how to connect straps to mechanism

**Statement of Team Goals for this week:**

This week we will completely finish the leg rest and attach the base to the back rest. We will also try to cover the unit with fabric and padding.

**Tentative Project Schedule:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>09/02/05</td>
<td>Formed teams and assigned roles</td>
</tr>
<tr>
<td>09/08/05</td>
<td>Met our client</td>
</tr>
<tr>
<td>09/16/05</td>
<td>Develop PDS; Brainstorm possible designs</td>
</tr>
<tr>
<td>09/23/05</td>
<td>Start writing mid-semester reports</td>
</tr>
<tr>
<td>10/01/05</td>
<td>Evaluate Ideas and work on power point; Peer review mid-semester reports</td>
</tr>
<tr>
<td>10/08/05</td>
<td>Mid-Semester Presentation; Design notebooks, PDS, mid-semester reports due</td>
</tr>
<tr>
<td>10/15/05</td>
<td>Choose a final design</td>
</tr>
<tr>
<td>10/15/05 – 11/26/05</td>
<td>Work on the final design; Testing; Modifications</td>
</tr>
<tr>
<td>11/26/05</td>
<td>Work on the final power point, paper and PDS</td>
</tr>
<tr>
<td>12/15/05</td>
<td>Poster Presentation; Final paper, PDS, evaluations and design notebooks due</td>
</tr>
</tbody>
</table>

**Difficulties:** No stretchers are available at this time.

**Activities/Accomplishments:**

<table>
<thead>
<tr>
<th>Names</th>
<th>Activities</th>
<th>Time (hrs)</th>
<th>Running Total (hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ross</td>
<td>Construction</td>
<td>8</td>
<td>51</td>
</tr>
<tr>
<td>Aman</td>
<td>Construction</td>
<td>4</td>
<td>35</td>
</tr>
<tr>
<td>Erik</td>
<td>Construction</td>
<td>6</td>
<td>28</td>
</tr>
<tr>
<td>Karim</td>
<td>Construction</td>
<td>6</td>
<td>28</td>
</tr>
<tr>
<td>Miguel</td>
<td>Construction</td>
<td>5</td>
<td>29</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>29</td>
<td>171</td>
</tr>
</tbody>
</table>
Weekly Goals for Fall 2005:

**Week 1 (9/2/05-9/4/05)**
- Form Teams, Assign Roles, Make an appointment with client

**Week 2 (9/5/05-9/11/05)**
- Meet Client, Do background research, Set up team website, Begin working on PDS,

**Week 3 (9/12/05-9/18/05)**
- Finish rough draft of PDS, Meet client for demonstrations, Discuss PDS with advisor, Finish up any remaining research, Email researchers Levine and Bull

**Week 4 (9/19/05-9/25/05)**
- Discuss PDS with client, Begin brainstorming design ideas, Collect estimates for designs brainstormed (i.e. cost, dimensions, safety tests to be used, pros and cons)

**Week 5 (9/26/05-10/2/05)**
- Finish brainstorming, Finalize a Design as a group, Show designs to Client, Get consent from client and decide on one Design, Order pertinent supplies (i.e. materials), Research materials and companies if needed, Look for various prototype tests and facilities

**Week 6 (10/3/05-10/9/05)**
- Begin constructing prototype, Prepare for Mid-semester presentations and begin writing the Mid-semester reports

**Week 7 (10/10/05-10/16/05)**
- Mid-semester Presentation, Invite Client, Keep building prototype

**Week 8 (10/17/05-10/24/05)**
- Work on the prototype

**Week 9 (10/25/05-10/30/05)**
- Finish the prototype, Test prototype, gather data, make observations

**Week 10 (10/31/05-11/6/05)**
- Modify prototype based on testing

**Week 11 (11/7/05-11/13/05)**
- Finish Building the prototype

**Week 12 (11/14/05-11/20/05)**
- Collect data and retest the prototype

**Week 13 (11/21/05-11/27/05)**
- Make last minute adjustments to the prototype, Begin preparing for poster presentation and Final Paper

**Week 14 (11/28/05-12/4/05)**
- Final Presentation, Invite Client for poster session

**Week 15 (12/5/05-12/10/05)**
- Turn in notebooks, final report and evaluation form, Give the Prototype to client, Meet Client