Project: A Child Passenger Safety Seat (Child Seat)

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Date of Progress Report: 10/27/05

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 focus on laying out our exact design and finding materials to produce it. We will also meet with experts in different areas to get our questions about manufacturing answered.

Summary of Accomplishments This Week:

This week we started building the prototype. On Monday, we met to discuss how we were going to construct the prototype. We spoke with people at the shop and decided that our best bet would
be to build the seat ourselves rather than to try to modify the current seat. We then viewed the supplies that were available to us at the machine shop and picked out a piece of plywood that we are going to use as the frame. We then made a list of materials that we would need to pick up at a local hardware store. We also have been communicating to our client about possible assistance in material purchaser. The client notified us that the construction company working at the hospital is willing to donate materials if we’d like. We also took a trip to Home Depot to get a few supplies.

**Individual Goals for this week:**

1. Ross: Begin making frame and start work on sliding leg rest.
2. Aman: Make contact with metal shop worker at hospital and show design.
3. Erik: Plan out design for sliding back rest and start construction
4. Karim: Plan out design for locking mechanism and start construction
5. Miguel: Plan out design for sliding shoulder strap and start construction

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

This week we are actually going to start constructing the prototype and ordering additional materials.

**Tentative Project Schedule:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
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<tbody>
<tr>
<td>09/02/05</td>
<td>Formed teams and assigned roles</td>
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<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>
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<tr>
<td>09/23/05</td>
<td>Start writing mid-semester reports</td>
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<tr>
<td>10/01/05</td>
<td>Evaluate Ideas and work on power point; Peer review mid-semester reports</td>
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<tr>
<td>10/08/05</td>
<td>Mid-Semester Presentation; Design notebooks, PDS, mid-semester reports due</td>
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<tr>
<td>10/15/05</td>
<td>Choose a final design</td>
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<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>
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</tbody>
</table>

**Difficulties:** Metal shop worker at hospital has been difficult to contact.

**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>Meeting, progress report, emails</td>
<td>2</td>
<td>30</td>
</tr>
<tr>
<td>Aman</td>
<td>Meeting, contacts, material pick up</td>
<td>4</td>
<td>26</td>
</tr>
<tr>
<td>Erik</td>
<td>Meeting, material pick up</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>Karim</td>
<td>Meeting, material pick up</td>
<td>2</td>
<td>17</td>
</tr>
<tr>
<td>Miguel</td>
<td>Meeting</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>11</td>
<td>111</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