Title: Device for acute rehabilitation of the paretic hand after stroke (Project #20)

Team: Medical College of Wisconsin: Dr. Michelle Johnson (client)
       Sasha Cai Lesher-Perez (Leader)
       Mike Socie (Leader)
       Carly Brown (Communicator)
       Karissa Thoma (BSAC)
       Justin Lundell (BWIG)

Date: September 22 – September 28, 2006

Project Design Statement:
   We will design a portable device that will facilitate hand rehabilitation in the acute phase (first three months) after stroke; the device will consist of a simple attachment to the impaired arm, comfort for the user and accommodations for almost complete universal use.

Restatement of Team Goals:
   • Gather Background Information
   • Familiarize Selves with Strokes
   • Begin In-Depth Individual Research
   • Initial Brainstorming
   • Contact Dominique Nathan
   • Update PDS
   • Begin Initial Design Options
   • Familiarize Selves with Solidworks

Individual Goals:
   • Sasha Cai- Individual Research (measurements/tests for physical therapy), brainstorming
   • Mike- Individual Research (existing hand rehabilitation practices, devices), brainstorming
   • Carly- Individual Research (acute paretic stroke, wheelchair specs), brainstorming
   • Karissa- Individual Research (FES function), brainstorming, contact UW hospital about visiting physical therapy there
   • Justin- Individual Research (patient engagement), brainstorming

Summary of Accomplishments:
   1) Gathered information on muscles used in arm
   2) Team meeting to discuss individual research and work on PDS
   3) Finished second draft of PDS
   4) Team brainstorming on primitive aspects of design
   5) Contact with UW hospital pending (we were redirected to another person than the original person we contacted)
Team Goals:

- Continue individual research
- Get a few primitive design ideas down on paper
- Make visit to UW hospital physical therapy unit
- Obtain wheelchair to get ideas for mounting device, get measurements
- Obtain TENS unit to familiarize ourselves with (from advisor)
- Put most recent version of PDS up on the team website
- Send client most recent version of PDS and alert them to the website
- Group brainstorming about design ideas

Difficulties:

- We were referred to another contact at UW hospital from the first person Karissa talked to so we have not been able to visit the hospital yet

Activities:

09/22/2006 Team Meeting: establish goals for the week, individual research topics 1 hour

09/25/2006 Team Work: Individual Research 1 hour

09/26/2006 Team Meeting: Discuss individual research results, work on second draft of PDS 1.5 hour

09/27/2006 Team Meeting: With Advisor 1 hour

Project Timeline:

<table>
<thead>
<tr>
<th>DATES</th>
<th>Day of the Week</th>
<th>Goals</th>
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<tbody>
<tr>
<td>15-Sep-06 Friday</td>
<td>Contact Client; Meeting Set; Research on Given Websites; Find Outside Resources; Questions for Client; Group Picture</td>
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<tr>
<td>20-Sep-06 Wednesday</td>
<td>Initial PDS; Research on Subject (Individual) - Stroke, market designs, Possible Components; Regulations ; Solidworks</td>
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<tr>
<td>22-Sep-06 Friday</td>
<td>Initial Brainstorming; Solidworks; Compiled what client wants/needs;</td>
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<td>29-Sep-06 Friday</td>
<td>Team Brainstorming; Revise PDS</td>
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<td>4-Oct-06 Wednesday</td>
<td>Contact Client with Team Proposals; Solidworks of Team Proposals</td>
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<td>6-Oct-06 Friday</td>
<td>Rough Team Paper; Powerpoint laid out; Midterm Presentation Begun</td>
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<td>11-Oct-06 Wednesday</td>
<td>Midterm Fully Prepared; Design Chosen</td>
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<tr>
<td>13-Oct-06 Friday</td>
<td>Midterm Presentations</td>
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20-Oct-06 Friday Components purchased

27-Oct-06 Friday Construction of Prototype(s)

3-Nov-06 Friday Construction of Prototype(s)

10-Nov-06 Friday Construction of Prototype(s)

17-Nov-06 Friday Construction of Prototype(s); Testing

24-Nov-06 Friday Prototype(s) Finalized; Testing Finalized; Final Paper Done for Review; Powerpoint Done

8-Dec-06 Friday Final Presentations

Expense Report:

Initial Budget: $750.00

- Amount spent before September 22, 2006: $0.00

- Amount spent during September 22, 2006 – September 28, 2006: $0.00

remaining budget: $750.00