

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

Team: Medical College of Wisconsin: Dr. Michelle Johnson (client)
Sasha Cai Leshner-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:

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

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