Progress Report #8: EEG Biofeedback System

BME 400
October 26, 2006 – November 2, 2006

Client: Daniel Muller, MD, PhD

Team Members: Cullen Rotroff (Leader/Communicator)
Prakash Rao (Leader/Communicator)
Joe Hippensteel (BSAC)
Andrew Eley (BWIG)

Problem Statement

The goal of our project is to design and build an inexpensive, portable electroencephalogram (EEG - brain wave monitor) that teaches meditation practitioners to achieve optimal meditation by indicating the presence of EEG alpha and theta waves. This shall be achieved through a relatively inexpensive, minimally distracting, and potentially portable device intended for commercial use.

Last Week's Goals

- Finalize and present midsemester presentation
- Continue Pspice simulations
- Look into small components for PCB fabrication
- Begin fabricating active electrodes

Summary of Team Accomplishments

- Finished midsemester presentation. Presented to advisors on 10/27.
- Continued simulating our circuit design on Pspice
- Tested several active electrode designs on breadboard; Continued during research on what would be an optimal design for the amplification at the electrode level

This Week's Goals

- Meet with client on 11/3 and give update on our progress.
- Finish Pspice simulations of amplifier/filter and start building something on a breadboard
- Continue testing active electrode designs on breadboards and decide which design would be appropriate.
- Start planning for the integration of the electrodes and amplifier

Difficulties

none

Activities

Team Member	Activities	Time
Cullen Rotroff	Thursday meeting (1.5), Friday meeting (1.5), work on electrodes (2.5)	**5.50**
Prakash Rao	Thursday meeting (1.5), Friday meeting (1.5), Pspice simulations (1.0), independent research (1.0)	**5.00**
Andrew Eley	Thursday meeting (1.5), Friday meeting (1.5), Pspice simulations (4.0), independent research (1.0)	**8.00**
Joe Hippensteel	Thursday meeting (1.5), Friday meeting (1.5), work on electrodes (2.5)	**5.50**
	Total	**25.00**

Expenses

Product	Quantity	supplier	price

Project Schedule

Task	September				October					November				December			
	8	15	22	29	6	13	20	25	27	3	10	17	24	1	8	13	15
Preliminary Designs																	
Meeting with client																	
circuit design																	
literature research																	
Friday Team meetings																	
circuit construction																	
Deliverables																	
Progress Report																	
Mid semester presentation																	
Mid semester paper																	
End Semester Presentation																	
End Semester Paper																	
Web site																	
Semester Wrap-up with Advisor																	
Prototyping																	
acounting/budgeting																	
final design developments																	
analysis/testing																	
final prototype manufacturing																	