

*** Progress Report 7**

*** Title:** Measurement of Pulse Transit Time

*** Names:** Blake Hondl (Team Leader)
Anna Karas (Communications)
Zak Cohen (BWIG)
Meghan Olson (BSAC)

*** Client:** Christopher G. Green, M.D.

*** Advisor:** Mitch Tyler

*** Date:** 10/14/05 – 10/20/05

*** Problem Statement:** Develop a device/method to measure pulse transit time (PTT) in pediatric patients using signals from an ECG monitor and an oximeter. This will allow a physician to monitor whether a patient is being aroused from REMS sleep and help the physician determine if the patient has obstructive sleep apnea.

*** Restatement of Team Goals:**

- Team meeting to understand our current software capabilities
- Organize our approach to prototyping
- Begin coding to manipulate data

*** Summary of Accomplishments:**

- Team collaboratively defined current software knowledge/capabilities
- Separated team responsibilities
 - Anna: pulse oximetry circuit
 - Meghan: ECG circuit and software
 - Blake: software
 - Zak: software
- Researched ECG and oximetry circuits

*** Statement of Team Goals:**

- Continue researching software
 - Biosig's potential usefulness
- Build ECG and oximetry circuits
 - Buy parts/materials
- Code input .edf file as input

*** Project Schedule:**

Week		Activities
1	09/02/05	Assign team roles, contact client to set up meeting
2	09/09/05	Research design topics, define questions for meeting with client, start PDS
3	09/16/05	Meet with client, continue research on design topics, complete PDS
4	09/23/05	Meet with sleep lab neurophysiologist, establish possible design solutions
5	09/30/05	Choose the best design solution, research resources to help in the

		implementation of the design, start detailed design specification
6	10/07/05	Complete detailed design specification, possible work on prototype, work on midsemester presentation,
7	10/14/05	Midsemester presentation
8	10/21/05	Begin work on prototype
9	10/28/05	Build ECG and oximetry circuits Software code to take in .edf file
10	11/04/05	Test ECG and oximetry circuits Software code to calculate PTT
11	11/11/05	Software code to display PTT to user Research hardware for extra circuit capability
12	11/18/05	Complete prototype: Hardware appropriate for presentation Complete software for displaying PTT from .edf file
13	11/25/05	Work on poster presentation Minor modifications to hardware and software Thanksgiving
14	12/02/05	Complete poster presentation Work on final report Final poster presentations
15	12/07/05	Complete final report Final report and notebooks due
15	12/09/05	Final meeting with advisor

* **Difficulties:** Understanding Biosig code

* **Activities:**

Group:

Midsemester presentations:	2.0 hrs
Team meeting:	1.0 hr
Meeting with client:	1.0 hr

Individual:

Blake Hondl

Preparation for client meeting:	0.5 hr
Updating design notebook:	1.0 hr
Software research:	2.0 hrs

Anna Karas

Midsemester presentation preparation:	0.5 hr
Writing emails/contacting FLAGA:	0.5 hr
Researching pulse oximetry:	2.0 hrs

Meghan Olson

Updating design notebook:	0.5 hr
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Zak Cohen

Updating design notebook:	1.0 hr
Midsemester presentation PowerPoint:	6.0 hr

Researching computer interface: 0.5 hr

Weekly Total: 30.5 hrs

Semester Total: 98.25 hours

*** Expenses:**

	Item	Cost
Fall 2005		\$
		\$
Total		\$0