

# Pulse Oximeter Team

## Progress Report #6

2/27/09 – 2/6/09

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### Team Members

Bogdan Dzyubak – Communicator  
Joe Helfenberger—BWIG  
Jonathan Meyer—Leader  
Matthew Parlato—BSAC

### Clients

Amit Nimunkar  
Jonathan Baran

### Advisor

Dr. John Webster PhD.

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## Problem Statement

The purpose of this project is to develop a low-cost pulse oximeter for use in developing countries. It will be integrated with an innovative medical technology platform which uses a handheld processing device to record and display patient data. The oximeter must be rugged, durable, inexpensive, and must deliver data to the handheld processing device as an analog signal.

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## Team Goals

### Previous goals for this week

- Finalize design
- Develop and deliver the midsemester presentation

### Goals for next week

- Write midsemester paper
- Finish initial ear probe design

### This week's accomplishments

- Finalized design concept (ear transmittance probe)
- Developed and delivered midsemester presentation

## Project Schedule

The table below is a Gantt chart of the projected timeline. Dark colors are used for completed stages, and light colors for incomplete stages.

Tasks	January		February				March				April				May	
	23	30	6	13	20	27	6	13	20	27	3	13	17	24	1	8
<b>Project Development</b>																
Research	█	█	█	█												
Brainstorm				█	█											
Design					█	█	█	█	█	█						
Prototype										█	█	█	█	█	█	
<b>Deliverables</b>																
Progress reports	█															
Midsemester presentation																
Midsemester report											█					
Final presentation																█
Final report																█
<b>Communication</b>																
Advisor Meetings																
Client Meetings	█	█														
Website																

## Difficulties

We did not encounter any unusual difficulties this week.

## Activities

Date	Time	Team member(s)	Activities
2.27.09	2 h	Team	Discussed the project with Dr. Webster.
3.1.09	1 h	Bogdan, Matt, Joe	Tested signal resolution of ear transmittance, and reflectance probe with a ring of LEDs around a central photodiode
3.3.09	2 h	Jonathan	Constructed a reflectance test probe with 4 photodiodes surrounding a central LED
3.3/4.09	2 h	Team	Reviewed test results, developed design matrix, decided to use ear probe design
3.4.09	1.5 h	Joe	Developed presentation portion
3.4.09	0.5 h	Jonathan	Developed presentation portion
3.4.09	1 h	Bogdan	Developed presentation portion
3.4.09	~	Matt	Developed presentation portion
3.4.09	3 h	Bogdan, Matt, Joe	Compiled midsemester presentation
3.5.09	2 h	Bogdan, Matt, Jonathan	Developed ear probe design options
3.5.09	3 h	Team	Practiced midsemester presentation
3.6.09	0.5 h ~ 1 h	Team	Individual practice
3.6.09	2 h	Team	Midsemester presentation

## Expenses

Items	Cost
4 photodiodes (2mm×2mm)	< \$20