

Quad Rat Vitals Monitor

Week 9 – October 30 to November 5

Team Members: Rob Bjerregaard – Team Leader
Derek Klavas – Communicator
Caitlyn Collins – BSAC
Matthew Bollom– BWIG

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Problem Statement:

The aim of this project is to continue designing and constructing a quad rat vitals monitor to be used during PET imaging experiments in order to maintain appropriate anesthesia dosages on each of the four rats independently. The device will monitor heart rates, SpO₂ levels, respiratory rates, and rectal temperatures. Two main goals for this semester are to design and implement a fully functioning pulse oximeter into the current design, while improving the existing prototype by expanding the graphical user interface to incorporate displays of all four vital signals for each of the four rats.

Restatement of Last Week's Goals:

- Continue construction of new breathing rate devices
- Test new breathing rate monitoring devices

Summary of Accomplishments:

- Continued work on LabVIEW GUI
- Constructed rat model for breathing rate monitor tests
- Constructed improved breathing rate monitor prototype
- Successfully tested breathing rate monitor on rat model

Team Goals:

- Test breathing rate monitor on rats
- Construct pulse oximeter probe prototype

Activities:

Rob	Work on breathing rate monitor	10/30/09	2.5 hr
	Team Meeting – pulse oximeter designs	11/2/09	1 hr
Derek	Work on breathing rate monitor	10/30/09	2.5 hr
	Team Meeting – pulse oximeter designs	11/2/09	1 hr
	Meeting with client	11/3/09	0.75 hr
Caitlyn	Work on breathing rate monitor	10/30/09	2.5 hr
	Team Meeting – pulse oximeter designs	11/2/09	1 hr
Matt	GUI work on project computer	10/29/09	2.5 hr
	Work on breathing rate monitor	10/30/09	2.5 hr
	Team Meeting – pulse oximeter designs	11/2/09	1 hr
	GUI building	11/4/09	2 hr

Difficulties:

Pulse oximeter probe construction

Project Timeline:

	September			October				November				December	
Tasks	11	18	25	2	9	16	23	30	6	13	20	27	4
Project research	█	█	█	█									
Brainstorming	█	█	█	█									
PDS	█	█	█	█									
Design			█	█	█	█	█						
Ordering					█	█	█	█					
Expected shipping						█	█	█	█				
Device manufacturing							█	█	█	█			
Testing										█	█	█	
Re-designing										█	█	█	
Re-testing											█	█	
Presentation							█						█
Progress report	█	█	█	█	█	█	█	█	█	█	█	█	█
Website	█	█	█	█	█	█	█	█	█	█	█	█	█

Expenses:

Currently there are no additional expenses.