

Testing System for Pressure Sensitive Cardiovascular Catheter

Client: Colette Wagner
Nancy Sweitzer, M.D., Ph.D.

Team Members: Danielle Ebben, team leader
Anthony Wampole, communications
Erik Yusko, BWIG
Anita Zarebi, BSAC

Date: *Friday, Oct. 27th to Thursday, Nov. 2nd*

Problem Statement:

In order to accurately measure internal blood pressures, a properly calibrated pressure sensitive cardiovascular catheter may be used. The current techniques for calibrating the catheter are unreliable, which causes concern about the validity of the test results. The goal of the project is to devise a testing system which more reliably calibrates and verifies the accuracy of the catheter in both atmospheric tests and tests which simulate internal bodily conditions.

Last Week's Team Goals:

- Determine ideal location of pressure sensor
- Analyze production cost of two designs
- Meet with client to decide on a design

Individual Goals:

Danielle: look for info on air pumps
Tony: Schedule meeting with client, look for info on air tight seals
Erik: look for info on linear actuators
Anita: look for info on microprocessors

Summary of Accomplishments:

- Gave midsemester presentation
- Analyzed remaining two designs for effectiveness and cost
- Held team meeting to discuss designs
- Scheduled meeting with client to present designs

This Week's Goals:

- Research time response of pressurized gas/liquid equilibrium
- Decide on final design
- Begin searching for parts

Project Difficulties: We are still uncertain about how the gas/liquid interface will respond in regards to a change in pressure and gas solubility. We will try to talk to some experts in this area very soon.

Activities:

Team: Met to discuss designs, did cost research	1 hour
Danielle: progress report, notebook, looked for info on air pump.	4 hours
Tony: Notebook, set up client meeting, research	4.5 hours
Erik: Solidworks, notebook, searching for parts	5 hours
Anita: notebook, A/D converters/microcontrollers, talk with Dan Yee	6.5 hours

Running Total

<i>Name</i>	<i>Hours</i>
Danielle Ebben	40
Anthony Wampole	35
Erik Yusko	31.5
Anita Zarebi	35
Team total	141.5

Project Timeline:

<i>Week starting:</i>	<i>Accomplishment/Goal</i>	<i>Completed</i>
Sept. 8 th , 2006	Assemble team, exchange contact info, establish roles	✓
	Meet with client	✓
	Begin researching topic	✓
Sept. 15 th , 2006	Continue research	✓
	start PDS draft	✓
Sept. 22 nd , 2006	Finish PDS	✓
	Create list of questions to ask client	✓
Sept. 29 th , 2006	Meet with client and Divay Vj	✓
	Brainstorm	✓
Oct. 6 th , 2006	Choose three design alternatives	✓
	Split up midsemester presentation	✓
Oct. 13 th , 2006	Work on midsemester presentation	✓
	Analyze design alternatives	✓
Oct. 20 th , 2006	Discuss design with client	✓
Oct. 27 th , 2006	Give midsemester presentation	✓
	Hand in notebooks	✓
	Meet with client to discuss designs	
Nov. 3 rd , 2006	Gather materials	
	Work on prototype	
Nov. 10 th , 2006	Work on prototype	
Nov. 17 th , 2006	Work on prototype	
	Begin testing prototype	
Nov. 24 th , 2006	Finish building prototype	
	Prepare for final presentation	
	Begin final report	
Dec. 8 th , 2006	Give final presentation	
Dec. 13 th , 2006	Hand in final paper and notebooks	

	Meet with advisor	
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Expenses: none