

BME 402 - Heart Phantom
Progress Report Week 3 – 2/7/09 to 2/13/07

Team Members:

Jessica Hause (Co-Team Leader)
Erin Main (Co-Team Leader)
Lacey Halfen (Communicator)
Peter Strohm (BSAC)
Fan Wu (BWIG)

Client:

Orhan Unal

Advisor:

Willis Tompkins

Problem Statement:

This project consists of designing a heart phantom to be used for the initial testing of a new, solenoid-tipped catheter awaiting FDA approval. This catheter will ultimately be used to treat atrial fibrillation under MRI guidance. The transparent phantom will be used to test the maneuverability of the catheter under MRI guidance as well as the high resolution imaging capabilities in the vicinity of the solenoid tip. It will consist of clear tubing of various sizes representing tortuous vasculature leading to a single heart chamber. All “veins” must terminate at one end of the phantom and be sealed so they may be filled with a saline solution in either a static or dynamic state without risk of leaking.

Goals last Week:

- Order parts
- Finalize layout of vasculature and heart
- Take apart prototype from last semester and salvage any parts
- PDS
- Get client approval on proposed phantom design

Summary of Accomplishments:

- Finalized parts list to send to client
- Took apart prototype from last semester
- PDS
- Decided on final vasculature layout with client
- Researched other options for heart (polymer molding)

Goals this Week:

- Order parts
- Finalize PDS
- Solidworks drawing of vasculature layout
- Drill holes into heart chamber
- Begin working on prototype for this semester once parts arrive

Project Difficulties:

- None this week.

Activities:

Date	Person	Activity	Time Spent
2/06/09	Team	Client Meeting	1 hr
	Individual	Made changes and edited individual portion of the PDS	0.5 hr each
2/9/09	Team	Developed preliminary parts list	1.5 hr
2/12/09	Team	Took apart prototype from last semester and finalized parts list	2 hr

Team Hours:

Weekly..... 7 hrs
 Total..... 24.75 hrs

Project Timeline:

Jan. 18 - Jan.24		Project Selection	x
		Contact Client	x
Jan. 25 - Jan. 31		Individual Research	x
		Client Meeting	x
		Brainstorm	x
		PDS	x
Feb. 1 - Feb. 7		Finalize Design	x
		Order Parts	
Feb. 8 - Feb. 14		Construction	
Feb. 15 - Feb. 21		Construction	
Feb. 22 - Feb. 28		Construction	
Mar. 1 - Mar. 7	Midsemester Presentations (Mar. 6)	Midsemester Powerpoint	
Mar. 8 - Mar. 14	Design Notebooks (Mar.11)	Construction/Testing	
Mar. 15 - Mar. 21	Spring Break	Spring Break	
Mar. 22 - Mar. 28		Construction/Testing	
Mar. 29 - Apr. 4		Construction/Testing	
Apr. 5 - Apr. 11		Testing	
Apr. 12 - Apr. 18	Engineering Expo	Testing	
Apr. 19 - Apr. 25		Testing	
		Poster	
Apr. 26 - May 2	Poster Presentation (May 1)	Poster	
		Final Report	
May 3 - May 9	Design Notebooks (May 6)	Final Report	
	Final Report (May 6)		
	Peer and Self Evals (May 6)		

