

Calibrated Eye Dropper

Week 7: March 6, 2009 – March 12, 2009

Team: Sarah Switalski – Co-Leader
Michelle Tutkowski – Co-Leader
Brooke Sampone – Communicator
Jim Mott – BWIG
Eamon Bernardoni – BSAC

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Problem Statement:

A lab in the Department of Ophthalmology and Visual Sciences needs a device to accurately and efficiently deliver 5 μ L drops of experimental drugs into the cornea of the eye for glaucoma therapy testing in animals. Currently, the client uses standard micropipettes which deliver exactly 5 μ L drops, but this method is time consuming, poses a danger to the safety of the animal and makes drop placement difficult. The objective is to optimize accuracy, efficiency, and animal safety in optical drug delivery.

Previous Week's Goals:

- Practice and deliver midsemester presentation
- Prepare midsemester paper and design notebooks
- Research commercially available pipette components

Week 7 Activities:

Individual	Activity	Time (hours)	Weekly Total (hours)	Overall Total (hours)
Michelle	Independent	1.00	3.25	28.75
	Team Meeting	2.25		
	Client Meeting	0		
Eamon	Independent Work	4.00	6.25	42.00
	Team Meeting	2.25		
	Client Meeting	0		
Sarah	Independent Work	4.00	6.25	33.75
	Team Meeting	2.25		
	Client Meeting	0		
Brooke	Independent Work	2.50	4.75	33.50
	Team Meeting	2.25		
	Client Meeting	0		
Jim	Independent Work	7.00	9.25	35.75
	Team Meeting	2.25		
	Client Meeting	0		

Summary of Accomplishments:

The team delivered the midsemester presentation at the scheduled time in class. The team completed the midsemester paper, and each team member completed his or her design notebook for grading. The team also disassembled the two pipettes donated from VWR International to observe and compare the internal layout of the pipettes.

Next Week's Goals:

Individual Goals:

- Brooke: Research commercially available pipette parts and fabrication materials, keep in contact with client
- Eamon: Research commercially available pipette parts and fabrication materials, BSAC
- Jim: Research commercially available pipette parts and fabrication materials, maintain website
- Michelle: Research commercially available pipette parts and fabrication materials
- Sarah: Research commercially available pipette parts and fabrication materials

Team Goals:

- Finalize dimensions of Eppendorf clip design
- Decide on location of clip on body of pipette
- Research and order pipette piston, spring, and other commercially available pipette parts
- Obtain Eppendorfs and micropipette tips
- Research and decide on material for fabricating Eppendorf clip and pipette casing

Difficulties:

There are no difficulties at this time.

Project Schedule:

Tasks	Jan		Feb				Mar					Apr				May		
	23	29	6	13	20	27	6	11	13	20	27	3	10	17	24	1	6	8
Research	X	X	X	X														
Brainstorming	X	X	X	X	X													
PDS			X															
Prototype Design				X	X	X	X											
Prototype Fabrication								X										
Testing																		
Meeting with Client		X		X														
Team Meeting	X	X	X	X	X	X	X											
Presentation							X											
Written Reports								X										
Peer/Self Evaluations																		

Expenses:

There are no expenses at this time.