

Olfactory Conditioning Apparatus for Fruit Flies

Week 8 – March 26 to April 1, 2009

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Problem Statement:

The aim of this project is to improve or completely re-design a device that is currently used to test fruit flies' olfactory sense, memory, and ability to learn. The current device is producing some inaccurate results because the fruit flies experience changes in air pressure and airflow. Airflow and pressure change need to be kept at a minimum while odors are introduced and cleared from the device.

Restatement of Last Week's Goals:

The team's goals from last week were to talk to the client about imminent purchases, analyze odor sources, order the center sliding component, and purchase tubing components.

Summary of Accomplishments:

- Price estimates have been acquired for the center sliding piece
- Mineral oil has been confirmed to be odor source (the odor is dissolved in the mineral oil)

Team Goals:

- Research pumps
- Set up a time for airflow testing with smoke
- Research conductive paint

Activities:

Rob	3.29.2009	Permanent electric shocking tube – Solidworks model	2 hr	3 hr
	4.1.2009	Client meeting	1 hr	
Graham	4.1.2009	Client meeting	1 hr	2 hr
	4.1.2009	Individual Research	1 hr	
Chuck	4.1.2009	Client meeting	1 hr	1 hr
Scott	4.1.2009	Client meeting	1 hr	1 hr

Difficulties:

We are having a difficult time figuring out what pumps to order.

Project Timeline:

	February				March				April				
Tasks	4	11	18	25	4	11	18	25	1	8	15	22	29
Project research	█	█	█	█	█	█	█	█					
Brainstorming	█	█	█	█	█	█	█	█					
PDS		█	█	█	█	█	█	█					
Prototype design				█	█	█	█	█					
Prototype building						█	█	█	█				
Actual device design						█	█	█	█	█			
Ordering							█	█	█	█	█		
Expected shipping								█	█	█	█		
Device manufacturing										█	█	█	█
Testing											█	█	█
Re-designing											█	█	█
Re-testing												█	█
Presentation					█								█
Progress report	█	█	█	█	█	█	█	█	█	█	█	█	█
Website	█	█	█	█	█	█	█	█	█	█	█	█	█

Expenses:

Tubing and connections have been estimated to cost just under \$200, and the new center piece will cost around \$320.