

## **Olfactory Conditioning Apparatus for Fruit Flies**

**Week 6** – March 5 to March 11, 2009

**Team Members:** Rob Bjerregaard – Team Leader  
Graham Bousley – Communicator  
Chuck Donaldson – BSAC  
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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 test the current model for airflow and to design a way to measure pressure in the testing tubes in real time.

### **Summary of Accomplishments:**

- The team presented the design to the class with the client in attendance.
- Completed the mid-semester report

### **Team Goals:**

- Design a way to measure pressure in the testing tubes in real time
- Begin acquiring necessary parts
- Test current model for airflow and air mixture

**Activities:**

Rob	3.5.2009	Team Meeting: Finished ppt, finished preparations, completed Solidworks sketches	4hr 30 min	8hr 30 min
	3.7.2009	Team Meeting: Begin writing mid-semester report	2hr 30 min	
	3.9.2009	Team Meeting: Finish mid-semester report	1hr 30 min	
Graham	3.5.2009	Team Meeting: Finished ppt, finished preparations	4hr 30 min	8hr 30 min
	3.7.2009	Team Meeting: Begin writing mid-semester report	2hr 30 min	
	3.9.2009	Team Meeting: Finish mid-semester report	1hr 30 min	
Chuck	3.5.2009	Team Meeting: Finished ppt, finished preparations	4hr 30 min	7 hrs
	3.7.2009	Team Meeting: Begin writing mid-semester report	2hr 30 min	
Scott	3.5.2009	Team Meeting: Finished ppt, finished preparations	4hr 30 min	9hr 30 min
	3.7.2009	Team Meeting: Begin writing mid-semester report	2hr 30 min	
	3.8.2009	Editing and formatting mid-semester report	1 hr	
	3.9.2009	Team Meeting: Finish mid-semester report	1hr 30 min	

**Difficulties:**

Time has been the limiting factor for progress this week, but the most difficult portions of constructing the device will most likely be incorporating pressure gauges, possibly displaying pressures in real-time and recording the data. *This is not a design requirement*, but in an attempt to make a more versatile apparatus, the design team feels it is worthwhile to include this component as a secondary goal.

Another difficult portion of construction will be etching in a permanent electric grid. The team really needs to focus on this aspect of the design.

**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:**

Currently there are no expenses.