Olfactory Conditioning Apparatus for Fruit Flies

Week 2 – February 26 to March 4, 2009

Team Members: Rob Bjerregaard – Team Leader

Graham Bousley – Communicator

Chuck Donaldson – BSAC

Scott Carpenter – BWIG

Client: Jerry Yin
Phone: (608) 262-5014
Email: jcyin@wisc.edu

Advisor: Paul Thompson
Phone: (608) 628-8816
Email: pdthompson@wisc.edu

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 come up with multiple ways to improve the current design and to design a way to measure pressure in the testing tubes in real time.

Summary of Accomplishments:

- The team began working on and preparing for the PowerPoint presentation.
- The team chose to focus mainly on incorporating odor pushing, tube simplifications (including valves), pressure gauges, and a permanent training tube for the final design.

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	3.2.2009	Team Meeting: completed design matrix, worked on powerpoint, prepared for presentation	2 hr	2 hr
Graham	3.2.2009	Team Meeting: completed design matrix, worked on powerpoint, prepared for presentation	2 hr	3 hr
	3.5.2009	Individual Research	1 hr	
Chuck	3.2.2009	Team Meeting: completed design matrix, worked on powerpoint, prepared for presentation	2 hr	2 hr
Scott	3.2.2009	Team Meeting: completed design matrix, worked on powerpoint, prepared for presentation	2 hr	2 hr

Difficulties:

Contacting the client to set up a time to test airflow in the current apparatus has been difficult, and designing a way to measure pressure in real time has also been difficult.

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.