Microscope Manipulator for Zebrafish Analysis

Week – October 7th, 2005 – October 13th, 2005

Team Members : Joe Hippensteel – Team Leader
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Client :

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Problem Statement

Our goal is to develop required devices and techniques for a zebrafish embryo imaging and irradiation research project. The initial stage is developing and constructing a working prototype of a digital micromanipulator to move the Petri dish of zebrafish embryos at a reasonable speed and precision to be able to develop a composite image of the entire dish. In addition, the zebrafish must be localized during the initial scan using standard digital imaging techniques. This information will be used to irradiate the fish and determine the presence of cell apoptosis and inflammation due to this radiation.

Last Week's Goals

- Finish mid-semester report and presentation.
- Finalize designs.
- Discuss best designs.
- Determine costs of parts and labor.

Accomplishments

- Finished mid-semester presentation
- Determined appropriate parts for design
- Began mid-semester report
- Finished Product Design Specifications (PDS)

This Week's Goals

- Go to machine shop for estimate
- Determine most efficient system
- Give mid-semester presentation
- Finish mid-semester report

Difficulties

- Determining different design possibilities

Activities/Accomplishments

Group Member	Weekly Accomplishments	Time (hrs)	Running Total (hrs)
Joe Hippensteel	Group meeting, class time, client meeting, micromanipulator research, PDS work, progress report, design brainstorming, mid-semester report/presentation work, minutes for client meeting	7	32.5
Evan Rogers	Group meeting, client meeting, imaging research, email correspondence, PDS work, design brainstorming, mid-semester report and presentation work	7	32
Chris Webster	Group meeting, class time, client meeting, imaging research, design brainstorming mid-semester report and presentation work, minutes for client meeting	7	32.5
Jonathan Baran	BWIG meeting, group meeting, class time, client meeting, PDS work, commercial micromanipulator research, design	7	34

	brainstorming, mid-semester report and presentation work		