

**Canine Stereotactic Head Frame System**  
**September 5 – September 11, 2008**  
**Progress Report 1**

**Client:** Michael Deveau  
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**Team Members:** Lein Ma (Team Leader)  
Leon Corbeille (Communicator)  
Ali Johnson (BWIG)  
Kim Kamer (BSAC)

**Problem Statement:**

Intensity-modulated radiation therapy (IMRT) is used to deliver very precise amounts of radiation to treat tumors. Since the IMRT is able to release sharp dosage gradients, subjects should have the same position each time they are set up in the machine. Incorrect positioning can lead to harmful radiation being delivered to healthy tissues or incorrect dosages of radiation reaching the tumor. While several devices are available for head immobilization, they are mostly invasive. The goal of this project is to develop a non-invasive stereotactic head frame to immobilize or fix canines' head during an IMRT procedure. The device should also be safe to use in the machine and pose no health risks to the canine subjects.

**Last Week's Goals:**

- Schedule meeting with client
- Designate team positions (team leader, communicator, BWIG, BSAC)
- Research project and any necessary background information
- Prepare questions to ask the client
- Identify current design competition

**Summary of Accomplishments:**

- Researched IMRT to gain a better understanding of the project
- Established contact with the client
- Discussed team goals for the semester

**Next Week's Goals:**

- Meet with the client and obtain a better understanding of the project requirements
- Continue background research about the project
- Brainstorm possible design options for the semester
- Write initial Product Design Specifications (PDS)

**Project Difficulties:**

The initial client meeting was cancelled; however, the meeting is in the process of being rescheduled.

**Activities:**

The whole team met for 2 hours during class and discussed our roles and the project.

Lein: 1.0 hour, background research and progress report

Leon: 1.0 hour, background research and communication

Ali: 1.0 hour, background research, questions for client

Kim: 1.0 hour, background research, questions for client

**Team total hours for the week: 12.0 hours**

**Cumulative team hours: 12.0 hours**

**Project Timeline:**

9/5/08 – Choose team and project, email client

9/12/08 – Meet with client, background research, preliminary design ideas, start PDS

9/19/08 – Finish PDS, continue background research and preliminary design ideas

9/26/08 – Brainstorm different design alternatives

10/3/08 – Finalize design options, start evaluating ideas

10/10/08 – Decide on design option, prepare for mid-semester presentation, write report

10/17/08 – Give mid-semester presentation, finalize mid-semester report

10/24/08 – Order parts and begin developing

10/31/08 – Construct prototype

11/7/08 – Construct prototype

11/14/08 – Finish construction on project, beginning testing

11/24/08 – Continue testing prototype and make necessary changes

11/28/08 – Finalize final presentation and report, get prototype ready

12/5/08 – Give final presentation, finish final report

12/12/08 – Meet with advisor for final meeting

**Expenses:**

There were no expenses this week.