

# Heated Diagnostic Radiology Examination Table

Week 3 – February 6 to February 13, 2009

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## Problem Statement

A frequent patient complaint is that current x-ray tables are hard and cold. A pad can be used to eliminate the first complaint; however the temperature of the table cannot be altered on standard tables. A heated exam table or attachment that has a temperature control to give patients added comfort during exams, needs to be developed. The materials used need to be radiolucent and may not obscure the body part being imaged. A mechanism must be implemented that eliminates the possibility of patient injury such as burn.

## Last Week's Team Goals

- i. Research based off of notes from client meeting, focusing on challenges presented.
- ii. Update problem statement and PDS.
- iii. Meet with advisor.
- iv. Brainstorm ideas.
- v. Resolve/discuss funding issues with advisor.
- vi. Apply for student shop permit.

## **Summary of Accomplishments**

- i. All members of our team have been conducting general research including research on radiolucent materials. Due to the many general considerations that must be accounted for in our design our group has split up the research to have a better understanding of specific problems. The research was split up accordingly: Joel, heat transfer; Tyler, tubing; Joey, liquids/matting; Paul, pumping. At our group meeting this Friday we will continue to discuss design possibilities.
- ii. At our meeting last Friday (Feb. 5) we met as a group and brainstorm several ideas taking into consideration the “blue sky” approach. Ideas include but are not limited to radiant heating through the use of liquid filled tubing, chemical thermo pads, and a hollow supported box with liquid, air or steam heating. At our meeting this Friday (Feb. 13) we will try to decide on three basic ideas.
- iii. At our meeting last Friday (Feb. 5) we met with our advisor, Mitch Tyler. Mr. Tyler provided very thought provoking questions and considerations with regards to our design. It was also suggested that we meet with Wally Block concerning x-ray imaging. Many of the questions and considerations raised by Mr. Tyler are being taken into consideration as we research and have been included in our PDS.
- iv. The PDS and problem statement were updated at our meeting last Friday (Feb. 5), our updated problem statement and PDS outline client expectations and design challenges, this will guide our research.
- v. Student shop applications were picked up from the shop; all team members will be applying for shop permits. This will allow us the opportunity to use the student shop in the development of our prototype.

## **This Week’s Goals**

- i. Complete and submit shop applications.
- ii. Resolve funding issues with the client.
- iii. Meet with advisor.
- iv. Brainstorm ideas.
- v. Arrange date with client to test various materials for radiolucency.
- vi. Decide on three designs.
- vii. Arrange a meeting with Wally Block to discuss x-ray imaging and problems associated with various materials/ideas.

## **Project Difficulties**

During our client meeting we were informed that she did not anticipate funding our project. We will need to find a way to fund our prototype before we begin buying parts for prototype. Joel has contacted the client concerning this issue and we are waiting to hear back.

## Activities

1.6.2009	Team: Meeting with advisor, brainstorming, and task assignments.	2.5 hours
2.12.2009	Joey: General research with focus on heating liquids and mats.	1.5 hours
2.12.2009	Joel: General research with focus on heat transfer.	1.5 hours
2.12.2009	Paul: Update website.	.5 hours
2.12.2009	Paul: General research with focus on pumping systems.	1.5 hour
2.10.2009	Joel: Contact with client regarding funding.	.25 hours
2.5.2009	Tyler: General research with focus on tubing systems.	1.5 hours
2.5.2009	Tyler: Write progress report	.75 hours

