

EE 491 Weekly Report

DEC15-10 iVend Product Delivery Sensor Design Analysis

Advisor: Dr. Zhengdao Wang

Client: Fawn Engineering

Members (roles):

Tyler Westberg (Team Leader)

Jacob Olstad (Communication Leader)

Tim Howell (Webmaster)

Steve Dorenkamp (Webmaster)

Seth Schmidt (Concepts Holder)

Weekly Summary:

This week we continued our testing to find the problem plaguing the iVend system. We found that it was unlikely that reflections were the main problem and that our original solution of using narrow beam LED's may not work.

Group Meeting 3/5:

Duration: 20min

Members: Jacob Olstad, Steve Dorenkamp, Tyler Westberg, Tim Howell, Seth Schmidt, Dr. Wang

Notes:

This meeting was held with Dr. Wang to discuss our progress on our testing. He suggested that possible problems would include firmware issues, sensor issues, or detection issues. We decided to test each of these independently.

Group Meeting 3/5:

Duration: 3 hours

Members: Jacob Olstad, Steve Dorenkamp, Tyler Westberg, Tim Howell, Seth Schmidt

Notes:

This meeting was held to continue our work on finding the problem. We lined the vending machine box with a black T-shirt to block IR light from reflecting. We were still able to find holes in the IR mesh and concluded that reflections may not be our primary concern. We then split up tasks to accomplish for our next meeting so we could continue testing the items Dr. Wang had suggested.

Plans for next week:

1. Finish Design Document
2. Test Dr. Wang's Suggestions

Members Contributions:

Tyler Westberg: Three hours spent Thursday with team testing and working on test boards. Three hours spent working on test board design and fabrication.

Jacob Olstad: 3 Hour team meeting thursday testing solutions. 3.5 hours spent on schematic work. 20min meeting with Dr. Wang. 20min working on weekly report

Tim Howell: Team meeting on Thursday for 3 hours. Two more hours researching and dissecting the code for the iVend that was given to us.

Steve Dorenkamp: 30 min with Dr Kim testing IR card on vending IR system to try and determine if there are any holes in the IR array. 3.25 hrs testing different solutions in senior design lab. 15 min meeting with advisor. 1 hr Sunday attempting to adjust our IR detector.

Seth Schmidt: Team meeting Thursday, researched irradiance and what causes detectors to be more sensitive than others, did reflection testing on the IR sensors (in the machine and the portable delivery bin), looked at various components for parts list

Project Contributions:

<u>Member</u>	<u>Time this week (hrs)</u>	<u>Time to date (hrs)</u>
Tyler Westberg	6	22
Jacob Olstad	7	26
Tim Howell	5	20.5
Seth Schmidt	5	20.5
Steve Dorenkamp:	5	15.75