ECE 492 Weekly Report MAY 1607 Week 6 (2/16/2016-2/22/2016)

Advisor: Jaeyoun Kim   Client: Honeywell, FM&T
Members (roles): Gregory Kuhn (Weekly Report), Noah Bergman (Team Leader) Michael Kelly (Key Concept Holder), Garret Hembry (Webmaster)
Project Title: Microscope Embedded Display for Assembly Work Instructions

Weekly Summary: This week we managed to accomplish much both in terms of the electrical and mechanical components of our system, yet we focused most of our attention on the continued design of the mini-projector circuit. However one problem which we had previously not taken into consideration came up. The optical engine used to power the circuit needs a holder to attach from the circuit to the eyepiece lenses. Therefore we spent time this week designing one using AUDOCAD software.

2/18/16/Group Meeting in TLA

Duration: 240 min **Members Present:** All
Purpose and Goals: There were two objectives of this week.
1) The first was to build a mechanism to attach both the eyepiece and the optical engine circuit.
2) The second was to continue to work on the mini-projector circuit.
 Achievements:
 1) We managed to design this mechanism using AutoCAD. The mechanism was slightly wider than the eyepiece lenses (which fit into the port of the microscope) and had a hole at its midpoint to attach to the optical engine.
 2) We continued to work on the design of the projector circuit using software. Previously we had only designed the circuit with the correct input and output pins. We managed to successfully finish designing the entire circuit and added the necessary ports and buses.

Pending issues

> 1) Continue building the circuit with Multi-Sim software.
> 2 Fabricate the holder for the optical engine using AUTOCAD software.
> 3) Use the embedded circuit software to adjust the properties of the mini-projector circuit.

Plans for next week

There are three main tasks we are planning to work on next week. We would like to begin to fabricate other components of the projector circuit; they are the DLPA 2005 (the LED driver) and DLPC3438 (the display controller for the DMD 3010). We would also like to fabricate and implement the device to attach the optical engine to the microscope. And finally we would like to begin to use the embedded circuit software to alter the properties of the DMD 3010.

Individual Contributions (this week)

Gregory Kuhn-Built the DMD 3010 component of the projector circuit using Multi-sim software, and designed the mechanism to hold the optical engine in place.

Noah Bergman -Built the DMD 3010 component of the projector circuit using Multi-sim software, and designed the mechanism to hold the optical engine in place.
Garret Hembry -Built the DMD 3010 component of the projector circuit using Multi-sim software, and designed the mechanism to hold the optical engine in place.
Matthew Kelly - Built the DMD 3010 component of the projector circuit using Multi-sim software, and designed the mechanism to hold the optical engine in place.

Total contributions for the project

Noah Bergman-50hrs
Gregory Kuhn–50hrs
Matthew Kelly–50hrs
Garret Hembry-50hrs