

Bi-Weekly Report 2

Group: sddec20-08

Summary:

During the period of 2/3/2020 to 2/16/2020 we primarily researched existing trimmable resistors. This gave us a better understanding of the scope of our project and what has/hasn't been done yet. We created a slideshow for both the lightning talk as well as one for our meeting with Dr. Geiger. We added personal information into the website including a picture and a brief bio about ourselves. We met with Dr. Geiger to present our research and discussed a bit of the project scope in terms of implementation level.

Accomplishments of each team member...

Clark Reimers:

For the second biweekly portion of our project, our group worked on setting up our website. Updating the team information as well as current documentation was a part of this. We had a meeting with our faculty advisor to go over things that we had found throughout the week and to discuss the pertinency of what we had found to our project. Specifically, I worked on reviewing the basics of resistors and mosfet devices since these will be our primary focus. I also looked into different patents for trimmable resistors to see if I could glean any architectural information from existing technologies and expand on them. I also worked with the team on our Lightning talk. In the future, I would like to continue looking into some of the interesting things that I found to come up with an initial design. I would like to be able to run a simulation soon. I attended the career fair so I spent a little less time on our project this week. I would estimate that I spent about 6 hours last week and 5 hours this week for a total of 11 hours.

Alek Benson:

For this period of our project, I mostly did research about previous methods of trimming resistors. I looked into both digitally trimmable as well as other methods of trimming to learn about what is currently used. I found some information about digital potentiometers and their advantages and disadvantages and learned more about their design. I looked into some types of resistor materials that are used to reduce thermal coefficient of resistors and looked into some ways to reduce the differentiation of thermal coefficient of the resistors and switches. I compiled this information into a slideshow to report to Dr. Geiger at our weekly meeting. I spent a bit of time updating my portion of the website with my personal information. I also spent time creating a presentation for the lightning talk and spent time recording with my team. I spent a lot of time looking into employment opportunities with the career fair going on during this period and so I only spent about 11 hrs during this period on senior design work.

Oluwatosin Oyenekan:

For this period, I researched deeply on where trimmable resistors are used in order to give me a better understanding on what was required of us. I also found a couple methods that a resistor could be trimmed digitally, which I discussed with my team members during our weekly meetings. Earlier in the period, I worked on the lightning talk with my team members where we briefly talked about our project and how we plan on doing it. We also updated our websites appropriately adding my bio and a picture. In total, I only put 12 hours this period, which was because we didn't have class for the second week of this period.

Pierce Nablo:

During the second period of EE491 I dived into researching existing methods to adjust resistor values after they have been manufactured. One common method is to use a laser to cut into the resistor material in order to change its value. Another method is to build the resistor inside an oven and if one wanted to adjust the resistor value they one could use the oven to heat up or cool down the resistor. I presented my findings to the team during our weekly meeting and I actively participated in the meeting to learn about what they found during their research. I also edited the lighting talk video that was assigned during this period and put up a small bio on the team's website. All in all I put in about 10 hours during the 2 weeks. The hours I put in dropped a couple due to the career fair canceling class which affected the number of hours I worked on EE491 stuff.

Pending Issues:

No issues right now to report, although our website got messed up by accident a few days ago, I believe it is in working order at the moment.

Plan:

For the next reporting period, we will continue our research by finding existing architecture that align with our scope discussed in the previous week. We will make another presentation to present to Dr. Geiger during our weekly meeting. Hopefully near the end of the period we will try and simulate a researched design in virtuoso. Lastly we will work on the design document and turn in the parts required to be done during the next reporting period.