

EE 491 WEEKLY REPORT 7

Project title: Fast, Compact, High, Strength, Magnetic Pulse Generator

Group number: DEC1622

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Team Leader: Wei Shen Theh

Team Webmaster: Wing Yi Lwe

Team Communication Leaders: Jia yu Hong

Key Concept Holder: Aqila-Sarah Zulkifli

Weekly Summary

This is a relatively busy week for the team. The team had been split into three separate units working on three different aspects. The team's webmaster is still working on updating the team's website. On the other hand, simulation works will be focused on the previous team's design and trying out new parts such as Darlington. The team is still gathering data as the week ends but recent result shows the Darlington might not be the best choice due to high power consumption. The team did receive some important pointers from our adviser who also provided several important files belonged to the previous team. Arrangement was also made so as the team get to meet with a former member of that team for a quick Q&A. It was a very informative meeting and we understand the circuit better thanks to his explanations.

Meanwhile, the team also met up on Friday evening to work on more simulation as well soldering the previous team's boards. Since the team is reusing the previous team's leftover parts, there are several key components that are missing and will require purchase. The team then worked on its first shopping list that totaled more than a hundred dollars. The team decided to do a more economical way by purchasing more components to get a cheaper price. After all, the components are mostly key parts that will still be of use for any new designs.

Finally, the team also met up briefly to work together on homework 2 which is about standards. The team also tried to work on the design documents during the weekend but there was problem with the servers making it impossible to log in to our respective accounts. Hence, the team had to push the design document to the next week.

Past week accomplishments

This week, we got more progress. Jiayu worked on the Darlington BJT structure as a switch and simulated the circuit. She found out that Darlington structure's performance is similar to the MOSFET, but it costs more power. Wei Shen helped Aqila and Wing Yi on SPICE, so they could simulate previous team's circuit. We collaborated together on Friday afternoon. Aqila and Wing Yi continuously worked on simulation. After simulation, they moved on to website design. Wei Shen soldered the previous team's circuit design and Jiayu helped him to find components. Meanwhile, she checked which components were out, and made a list and ordered it. Neelam helped us send out the list to the parts-shop manager, Lee. Jiayu removed components from the old circuit so that we can recycle the components. As long as we understand how the circuit works, we can start on testing right away.

Pending issues

We realized that we need read more relative material such as communicating with magnetism from MTI.

Individual contributions

NAME	Individual Contributions	Hours this week	HOURS cumulative
Wei Shen Theh	Simulation using Multisim.Soldered board based on previous team's design.	5	26
Wing Yi Lwe	Helped with the weekly report, learned more about MultiSim importing libraries	4	20
Jiayu Hong	simulation in Multisim, removed component from old circuit ,find missing parts, made order list, made sure members contributed on the weekly report and submitted the report	6	23
Aqila-Sarah Zulkifli	Did simulation using PSpice, researched on how camera flashes work and helped with the weekly report	6	21

Summary of weekly advisor meeting

This week, Neelam helped us with organizing a week-to-week plan that will help us keep track of our progress in more detail. We also had a short meeting on Friday afternoon where we were divided into two teams, one for soldering and one for simulation. Wei Shen and Jiayu managed to do a great job soldering the old circuit design while Shannon and Aqila played around with the simulations. Neelam helped us to check on our website and pointed out mistakes that were quickly modified as well as chaperone our soldering activities. We shall be proceeding with next week's plan of getting started with the layout and more work on simulation.

Plan for coming week

Our plan for this coming week is to start on the design documents assignment which will be due this Friday. We are also going to compare our simulation results which are the Darlington and the old circuit simulation and observe which one is the better one. Besides, we will also try to figure out and understand more about the old circuit and why the previous group decided to go with all of those components and values. We will be working on the layout of the simulation and we will try to do it within one hour if possible. Other than that, we will be having our regular group meeting on Monday evening to discuss more about the project and finish our design document as soon as possible.