EE 491 WEEKLY REPORT 8

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

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Key Concept Holder: Aqila-Sarah Zulkifli

Weekly Summary

Since we just had our spring break, this report will cover activities the team had done over the course of two weeks. For the first week, some team members were very busy with other commitments and were not able to spend a lot of time working on the project. Even after all things had been settled, the team had to focus on the design document which was due on the Friday before spring break begun. Certain team members also had to leave early due to pre scheduled trips so the team had trouble completing the document. It was well over the wee hours when the document was finally done.

Meanwhile, the team also managed to finish soldering two practice PCBs. The boards will be used to better understand our circuit and to set a performance benchmark which we will work on improving over the course of this semester. The team also spent time working on a different circuit design which used two MOSFETs. The initial result wasn't stellar but we managed to gather more information which will be useful for our final design.

Finally, the team had stumbled upon a wall as the MOSFET model we initially used for our design ran out of stock on Digikey and will not be available for the foreseen future. The team need to look for other models for our circuit instead. Meanwhile, the team will remove MOSFETs from old boards and place it in the two new boards to run tests.

Past week accomplishments

Although we split two teams to simulate circuits with different switches, BJT and MOSFET, we did not use the same controlling variables. Thus we could not compare the BJT's performances and MOSFET performances and had to re-simulate the circuits with setting the same control variables, and draw a conclusion.

When Aqila and Jiayu re-simulated the circuits, they learned how to export simulation results and plotted the results in MATLAB because MATLAB figures have a white background and it would be easy to read. Wing Yi continuously worked on the website and tried to help with the design document.

We worked on our design document on Friday, but we could not finish in time due to pre-scheduled spring break plans. Wei Shen took up the responsibility to finish the leftover parts of the design document. Aqila helped to submit the design document as the rest of us had no access to the internet while on holiday.

During spring break week, Wei Shen disordered MOFESTs from old circuits for recycling, finished soldering the first board and simulated a new design circuit with two MOFESTs. Jiayu soldered a second board that is the previous team's circuit design.

Individual contributions

NAME	Individual Contributions	Hours this week	HOURS cumulative
Wei Shen Theh	Worked on design document, soldered boards, removed component from old circuit, and designed new circuit.	12	38
Wing Yi Lwe	Helped with the weekly report and design document	4	24
Jiayu Hong	simulation in Multisim, removed component from old circuit, soldered boards, worked on design document, made sure members contributed on the weekly report and submitted the report	7	30
Aqila-Sarah Zulkifli	Did simulation using PSpice, helped with the weekly report and design document	7	28

Summary of weekly advisor meeting

There were no meetings this week as it was spring break. Two members of the team managed to do some soldering to finish up a board and is ready for simulations.

Plan for coming week

Our plan for this coming week is to start working on the layout of the simulation. We will divide our group into 2 small teams. The first team will do the layout and the second team will do more soldering and testing on the circuit. Besides, we will also start preparing PowerPoint slides for the class presentation. Other than that, we will be having our regular group meeting on Monday evening to discuss more about the project.