Last week we made a lot of progress for our project.

On Monday we met as a group to start working on the skeleton for the FDR paper. Afterward, Johnny and I went to see Mr. Breedlove about our parts and to tell him where we all were, and we also scheduled a meeting in which we could all attend for Tuesday.

On Tuesday I disassembled the mop bucket in order to get the shaft piece separated from the bucket and brought that to our meeting. During the meeting, we all updated Mr. Breedlove on what we expected for each of our parts and how the whole project should fit together. He also took the shaft and bucket and assembled that back together with the lever to see how fast it would spin, and said that he felt that he would be able to get that part done fairly quickly so he and I could meet Thursday to work on it. He also scheduled different days to meet with each of the other members of our group. After the meeting, I went with Bradley to ERAD to help him de-solder the components from his last PCB, as there were some errors and it needs to be refabricated.

On Thursday, I met with Mr. Breedlove and he had already come up with an awesome idea and had made great progress on the spin lever. He came up with the idea of using a grinding cup wheel from a side-grinder (see picture) to use as a flywheel in order to get the shaft spinning very quickly to spin the dynamo due to there being more weight toward the outside of the grinding wheel. In order to do this, he used the lathe to turn a piece of aluminum into the perfect size to connect the dynamo directly to the shaft (by tapping holes to use set screws), and also made some pieces out of brass and plastic to reduce the friction (see pictures). I held the dynamo with the bicycle light attached while he cranked the lever up and down very quickly, and it lit up!! We were very excited and he says now he mainly just needs to fabricate the enclosure and then that part will be complete.

On Friday, I came up with some rough rectifier circuits with capacitors and a load resistor for our AC sources to be measurable by our INA219s by converting them to DC.