ECE Senior Design Weekly Report

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Week’s Task: Perform research and analysis on the different technologies for image processing and modification to find the best option for implementing the rotation algorithms. Alongside this research, there is also the task of beginning planning said rotation functions. Another task was to help with deciding what microcontroller to use on the levitation side of the project. Finally, it was also necessary to finalize the setup of my personal Linux development environment.

Results: After thorough research, the most viable option for the image projection and manipulation seems to be the open-source software “Splash”. This software has been installed in my Linux environment and I can begin experimenting with this solution. As for the rotation algorithms, I believe the best way to implement these is through python scripts using the open-source image manipulation software “OpenCV”, which has also been installed. I will begin designing and writing these functions immediately, with the goal of having a demonstration ready for next week’s presentation. As of the moment I right this report, no decision has been made with regards to the microcontroller that will be used to implement the controls for the globe’s levitation. Further analysis and team collaboration is required for the decision to be derived. Finally, as mentioned before, my Linux development environment has been successfully setup using a RaspberryPi 2, a somewhat similar environment to the agreed upon final product environment that will be implemented on a RaspberryPi 3.