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Personal Statement

My name is Jerry Lee and I am a 3rd year Computer Engineering Major are the University of California, Irvine. I wish to pursue this research in developing a decentralized mapping system as it follows closely with the career goals I have and I believe this idea of a new mapping system could have numerous applications that many would greatly benefit from. This research project is very ambitious and I would not only like to see it become a reality, but also take part in the development of it. This research will require a great deal of knowledge with hardware, firmware, and especially software. Pursuing this research would allow me to learn about various subjects such as machine learning, machine vision, embedded systems, databases, different communication protocols, electrical circuit design, and more, all of which would contribute to my aspirations of working as an engineer post graduation.

This research is a new idea we are looking to pursue, thus we have accomplished little research specific to this field. We have done high level research as to how we will build the hardware and the firmware that will operate it. I already have a large initial understanding of how to use microcontrollers and electrical sensors/components to compliment them. We have also started research on what software will implemented and how that will be used with our hardware. Classes that may benefit us are Machine Vision, Processor Hardware/ Software Interface, Databases, and Computer Networks. I have completed half of these courses and look to either complete the others as we continue this project or self study and learn the subject to satisfy our implementation requirements.

I have chosen this topic as my research because I believe there are numerous applications in which this idea could benefit and if developed, will generate large interest in adopting this technology. I believe our research should receive funding as it requires a large amount of costly components just to have the proper hardware for our implementation. Above the cost of hardware, it requires a great deal of time to learn about and implement the various engineering subjects. Some ideas we are looking to implement have been previously developed, but not to the degree in which we wish to pursue. Having sufficient support in cost for materials is crucial to our research.

I am also part of several other research projects, such as the Energy Management in Projectors and Display Technology project and a new project, the Solar Vehicle Telemetry System. Although I am participating in many other research projects, I do not believe they will hinder my progress in each. Rather, the research conducted for each project may help development of the other projects as many engineering concepts behind each are very similar. Encountering errors in one project could help to avoid the same errors in other projects, as well as finding a solution for one project could reveal solutions in the others.