Thesis Project Portfolio

Powershare App Development Technical Report

(Technical Report)

Analysis of Autonomous Vehicle Adoption Through Niche-Level Technology Transitions

(STS Research Paper)

An Undergraduate Thesis

Presented to the Faculty of the School of Engineering and Applied Science

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In Fulfillment of the Requirements for the Degree

Bachelor of Science, School of Engineering

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Sociotechnical Synthesis

Change is often hard to achieve, whether institutional or trivial. When change does occur, it is often the result of a dedicated group of inspired individuals who will it into existence. This year, both my technical capstone and my STS research project deal with elevating the power of the collective. The capstone is PowerShare, an application that connects community leaders with their constituencies in real time. The STS research paper explores open-source software and the onset of autonomous vehicles using the multi-level perspective framework.

PowerShare is the idea of the customer for our capstone group who expressed frustration with the current political ecosystem. In his mind was a system focused on the people and the issues of the common man, as opposed to one that serves corporations and lobbyists first. In any case, his step to breach this gap is a mobile application that puts politicians a tap away from the concerns and ideas of the people who put them in office. My group and myself have carried out his vision, building a mobile application that accomplishes these goals.

The STS research project researches how open source software can have an effect on the autonomous vehicle industry. The overwhelming pace of innovation matched with the haste of government preparation makes autonomous vehicles something of an eventuality. This reality coupled with recent shady practices from technology giants has created an avenue for the collective to make their mark. Open source software will potentially enable the (technology literate) common person to have a say in important decisions such as the algorithms by which the car operates. Analysis is done through the multi-level perspective framework for a holistic view of this exciting technology transition.