Thesis Portfolio

Cost Effective Solar Powered Fan
(Technical Report)

The Volkswagen Emissions Scandal: An Ethics Case Study
(STS Research Paper)

An Undergraduate Thesis

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Kelsi Loudenslager
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Department of Electrical and Computer Engineering

Table of Contents

Sociotechnical Synthesis

Sustainability is an ever-growing concern in today's society. As climate change continues to accelerate the need for technology to reduce the emissions of greenhouse gasses. The following thesis focuses on two sides of this issue.

First, a technical report details one alternative to traditional cooling. Traditional HVAC systems release over 100 million tons of carbon dioxide yearly within the US. Additionally, the electricity required to run these systems can cost roughly $200 per month. Therefore, there is a need for a cleaner source of cooling. One solution to this problem is a low cost solar powered fan. The goal of the completed fan was to cost about $150 dollars to manufacture. Additionally, the fan would be powered by solar in order to limit greenhouse gas emissions. The completed fan accomplished both of the goals. The following report details exactly how these goals were achieved.

On the other hand, this thesis includes a detailed case study of the Volkswagen emissions scandal. This scandal revealed a company that capitalized on the need for clean technology by advertising the creation of a clean diesel engine. However, the company was not able to create and engine that met US environmental standards. Therefore, VW created a software to cheat the emissions tests. The following paper examines the case to determine the reason for this unethical behavior.

The combination of these reports shows the two sides of the creation of clean technology. In the technical report the focus of creating the fan was to create sustainable cleaning. In contrast, VW focused on increasing sales and let their environmental initiative fail.