

Thesis Project Portfolio

A Universal Health Tracker: How People can Gain Big Picture Health Insights on Atomic Data

(Technical Report)

Lenient Ingredients: Why America Needs Stricter Legislation for Products

(STS Research Paper)

An Undergraduate Thesis

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

University of Virginia • Charlottesville, Virginia

In Fulfillment of the Requirements for the Degree

Bachelor of Science, School of Engineering

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Sociotechnical Synthesis

My capstone research addresses the flaws in food, drug, and cosmetic ingredient legislation in America. To address this issue, I am proposing an app idea that tracks an individual's health statistics using a phone, which will provide people with the proper environment for safe and healthy products. Alongside this app idea will include my STS research in which I will conduct a literature review of papers that capture different parts of the problem, such as food legislation history, legislation review, cigarette and opiates studies, and food labels, I will explore how the variables synergize and affect one another.

It is essential to consider the human and social dimensions of this technology because food, drug, and cosmetic legislation impacts millions of citizens of America, and it can have a significant effect on public health. As seen in present-day America, when this legislation is not considered seriously, the prevalence of chronic diseases and obesity is widespread. Theories of STS, such as Actor-Network Theory, apply to analyze my problem-solving approach by creating a framework for understanding how all the different variables such as the government, legislation, people, and even the product all affect one another. I plan to conduct my STS research using a qualitative research method, analyzing data from surveys, and observational studies. Through my STS research, I expect to find information that provides a big-picture idea of how the flaws in food legislation arise and how to prevent them in the future. The implications of my capstone project and STS research, when considered in concert, could lead to both a better environment for citizens to buy food, drugs, and cosmetics, while also having the ability to stay informed optimally with their phones. Ultimately, my capstone project and STS research could contribute to a healthier, more informed society.