

Thesis Project Portfolio

**ACQ-SYNC: A Novel Framework for Increasing Workplace Productivity and
Collaboration for Contract Acquisition Personnel**

(Technical Report)

**Analyzing Charlottesville Transit: Investigating Modes of Public Transit in Charlottesville
and Their Effect on Resident Mobility**

(STS Research Paper)

An Undergraduate Thesis

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

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Sociotechnical Synthesis

From the late 1990s leading into the start of the current decade, a large portion of the developed world experienced a technological revolution of sorts. The number of ways to increase productivity and entertainment multiplied yearly in the form of new devices. However, despite the stark uptick in technological innovation and its presence in the common household and office, society arrived at a point where it became fair to question the usefulness of all these devices (Barrett, 2009). If the amount of technology available increases, but the level of productivity and satisfaction from it begins to decrease, then is our technology truly as intelligent as we think it is? How can we leverage innovation and the use of technology in a way that interacts with people?

This document investigates the usefulness of ergonomics in the application of technology through two different projects. In the technical report, there is a greater focus on the development of a user-friendly and interactive project management interface to increase productivity, reduce worker stress, and create an environment for a more collaborative work setting. In my STS Thesis, I begin to examine the inner workings of public transit in Charlottesville, investigating whether the social construction of the system is leading to a decline in ridership. The design, efficiency, and usage of the various transit systems available to students and residents of Charlottesville are compared to that of similar municipalities and universities. In addition, this study begins to examine the use of smart city and people-centric designs in transit and routing along with their potential integration into the Charlottesville area.