

The Robottoman

(Technical Report)

Standardized Testing and Its Current Uses

(STS Research Paper)

An Undergraduate Thesis Portfolio
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Sociotechnical Synthesis

The Robottoman is a device to automate the process of getting up and manually moving an ottoman. It involved the design and construction of a wheeled ottoman that upon receiving signals from an android phone app, and moves accordingly. The use cases include both those who cannot physically move their ottoman, as well as those who value the convenience of avoiding the tedious task of retrieving the ottoman after sitting down. The core functionality of this project required mobile app development, printed circuit board design, embedded coding, and a general understanding of the fundamentals of electrical engineering.

Standardized tests are administered to students all across the country every year, but little is known about how schools use the large amounts of score data. We are creating a web application that allows a school administrator to analyze student score data with graphs. This application also links students to their teachers so the user can evaluate teacher and student performance over the years. Only one person will have access to protect the privacy of the students and teachers in the database. When making decisions after analysis, administrators are cautioned to consider that students could have had a bad test day influenced by outside factors. The theory of soft technological determinism applies to this application. The application only shows score data in graphs and charts, but it is up to the user to make a decision based on it. I will be conducting a survey of school teachers and administrators to determine how schools use the standardized test scores to inform decisions. In my research I expect to find what decisions schools make using the standardized test scores of their students. Our application offers a middle ground which I expect few schools currently take. Entering the data for every student can be a time-consuming task that large schools may have difficulties completing, but the payoffs could be great. Adding a new way to analyze standardized test scores could lead to educational reform.

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