EDUCATIONAL TOOL FOR STUDENTS

CHARTING A PATH FOR PRIVACY AFTER CLASSROOM GOOGLEFICATION

An Undergraduate Thesis Portfolio
Presented to the Faculty of the
School of Engineering and Applied Science
In Partial Fulfillment of the Requirements for the Degree
Bachelor of Science in Computer Science

By

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August 6, 2020

EXECUTIVE SUMMARY

In the last decade, the combination of technology and education resulted in the rise of monolithic corporate entities and their power to exercise control over students and teachers. Currently, education technology culture prioritizes appealing to gatekeepers and excessively collecting student data. The technical team combats the culture of educational technology by developing power-conscious, privacy considerate, and interchangeable software applications. The STS research changes education technology culture by identifying a path to change the privacy policies of Google educational products. Through using SCOT, the power of each relevant social group is demonstrated and finds that end-users have sufficient sway to reform Google. To change existing practices, the technical project and STS research work to provide a solution against the existing culture and the largest education technology provider. The STS research paper informs the technical project on acting more ethically and consideration of users.

By developing ethical software applications for students, the technical project opposes existing practices of educational technology. By reflecting on experiences in the classroom, perspective as immigrants, and how COVID-19 influenced office hours, the technical team selected three applications to build: Practikal Exams, Word Assistant, and Queue Dispatch. Through the combination of the applications, the technical team aimed to add more ethical tools and choices for students and teachers to use.

The technical project originally intended to develop solely Practikal Exams. However, as work commenced the team's capabilities demonstrated the ability to add one more project, Word Assitant. However, with the COVID-19 pandemic. instructors moving online had to simulate office hours in varied implementations. As a result, the technical team focused its efforts on

developing an application for virtual office hours. The technical work resulted in prototypes for Practical Exams and Word Assistant. Furthermore, Queue-Dispatch became near fully functional and is in discussion to receive approval from the University IT department.

The STS research paper examines how Google's educational products rose in prominence and identify a method to change how Google conducts its privacy policies. Through using SCOT, the STS research paper identifies relevant social groups and what social pressure each group places on Google Education products. To identify the social pressure correctly, the STS research paper used blogs, newspapers, and documents created by Google advocates. The STS research paper concludes that end-users have sufficient social pressure to change how Google operates its educational product suite.

While lawsuits are a potentially effective attempt to change Google's policies, Google relies heavily on user feedback. They are keen to teacher and student needs. As a result, students and teachers can advocate transparency requirements and quickly change Google policies. However, the satisfaction that end users have with the utility of Google products cloud the ability to advocate for changes. To change privacy requirements, end-users need to supersede the utility bias and consolidate their power.

The technical project and STS research paper reduce the effect of technology companies on education through changing the culture of software development and identifying actions the public can take against Google. As technology and education become further intertwined, more ethically designed applications are needed to combat unethical applications. Furthermore, Google products while useful in education need to be restricted to prevent privacy abuses.

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