

Thesis Project Portfolio

Frontend Internship Experience: UI Interfaces and Functionality

(Technical Report)

How Online Services Companies Earn the Trust of Their Customers

(STS Research Paper)

An Undergraduate Thesis

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Introduction

All commerce depends on trust. Trust may be established formally or informally, socially or digitally. The nature of the relationship between my technical report and my STS research was trust-focused, but in different aspects. While my technical report focused on building trust through reliable technology and a pleasant online UI experience, my STS research focused on building trust through social elements such as different forms of communication. Both projects focused on digital companies that offered their services online instead of in-person. A general research problem that both projects pursue could be: *How is trust established, maintained, and strengthened in digital market exchanges?*

Technical Report Summary

For students studying computer science this year, one of the capstone options was to write about a prior experience (outside of academia) that was related to computer science in any way. Therefore, my technical report was a paper that detailed my internship experience at a company called Thumbtack. Thumbtack is an online services company that matches customers with local professionals in order to complete a service that the customer needs. The internship was entirely remote, and I did not work with any collaborators in my internship projects. The goals of all the projects I worked on were to increase the rate of contact between professionals and customers, in order for customers to complete more projects. The leading research problem that I focused on during this internship was therefore: *How may a program more optimally match clients' needs to the vendors and services that provide them?* To reach these goals, I did front-end software engineering to design comfortable UIs and accurate queries in order to improve the customer experience on Thumbtack's web app.

The technical report included 4 projects that were completed during my internship. The first was a remake of the filters UI in the Thumbtack web app. Working with a product designer, I coded the filters sidebar to be more visually appealing and easier to understand/use in hopes that customers would be more willing to use them to find the right professional. The second project was an option to open a professional's profile picture in a new window. This was in hopes of letting customers see profile pictures in more detail for customers to become more comfortable contacting a professional for a job. The third project was a feature that would allow customers to save their progress when selecting information to contact the professional, in case they cannot at the time and want to pick it back up later. Finally, the last project was to add a new component to Thumbtack's UI and include proper documentation of how/when the component is supposed to be used, so that future engineers can reuse the component easily.

STS Research Paper Summary

The STS Research Paper was focused on answering the question: *How do digital online service companies earn, strengthen, and maintain their customers' trust?* To answer this question, research was done on companies that were widely considered as successful and trustworthy. Some criteria that were used to determine a company's success was the value of their stock and their popularity levels in polls. When these companies were identified, research was done on how the companies grew their loyal customer-base. The most prominent answer amongst all companies researched was a strong level of communication. Companies that grew popular did so by listening to the demands of their customers and communicating with them back. For example, Zoom was able to listen to customers' desires for higher quality video streaming (while Skype didn't, and worked on other features that customers didn't value as much instead), and was therefore able to overcome Skype very quickly. Other forms of strong

communication existed in corporate blogs, which gave customers a relaxed and informal form of company news, and Electronic Frontier Foundation (EFF) blog posts, which highlighted customer concerns that companies could read about and accommodate for, strengthening the communication between companies and customers.

Concluding Reflection

Although the internship itself was conducted over the past summer (and concluded before STS 4500 began), the technical report's reflection of the internship was done simultaneously with the STS research project. Working on both reports at the same time was valuable because it helped me realize that the point of the internship was beyond just coding cool features on an application. The internship was entire technical in nature, but the intent/reason behind the coded features was very human. The internship's underlying goal was to strengthen the level of trust that customers of Thumbtack had while using the web app, even if the company had never stated that as the real goal.