Thesis Project Portfolio

Navigating Real-World Software Development at WillowTree

(Technical Report)

Examining Remote-First Processes And Practices On The Operational Efficiency And Employee Integration In Small Technology Companies Post-Covid-19

(STS Research Paper)

An Undergraduate Thesis

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Bachelor of Science, School of Engineering

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Sociotechnical Synthesis

Enhancing Onboarding and Understanding Remote Work: Navigating Remote Work In Small Technology Companies

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Abstract:
The thesis will be divided into two portions: the technical project and a sociotechnical STS analysis. The technical project involved building an augmented reality (AR) scavenger hunt application that will be used to improve the onboarding process at WillowTree, a software development consultancy. The STS analysis delves into the broader implications of remote-first policies on operational efficiency and employee integration in small technology companies post-COVID-19, with a specific focus on Sabres Media LLC. The technical report and the STS paper tackle different aspects enhancing remote work. The technical project displays a direct application of technology in the facilitation of paperwork onboarding in a remote setting, while on the other hand, the STS paper provides insight into a broader perspective regarding social dynamics and challenges faced by small technology firms when integrating remote work policies. Both come together to outline a comprehensive view of how technological solutions and social-technical insights can improve remote work practices and policy frameworks.

WillowTree aimed to streamline the onboarding process of new hires while also implementing methods for remote and geographically dispersed workers to gain a better understanding of the office culture and their in person co-workers. The project developed was an Android mobile application scavenger hunt using AR and gamification. The app was built with Kotlin and Jetpack Compose; new hires can get an interactive and dynamic introduction to gain familiarity with the office environment. The goal was to have dynamic prompts that would let users gain access to different parts of the offices, while also gaining camaraderie by interacting with workers during the games. The project was partially implemented, with future iterations aiming to include more gamification elements like a global leaderboard, AI generated prompts, and scalability so different office locations can participate.

COVID-19 has resulted in a massive shift towards remote work, significantly disrupting various industries. The paper, however, focuses on small technology firms in order to address the gap in literature regarding how remote work affects these firms. The paper revolves around a case study of Sabres Media LLC, a student-led software consultancy that has adopted a remote-first and asynchronous approach since its founding. The influence of remote-first policies on operational efficiency and employee integration is outlined through the examination of company practices, challenges, and adaptations. The paper presents actionable insights that can be utilized by similar companies in the ever-growing remote work landscape.

From a technical perspective, the project leverages new technologies to enhance the onboarding processes for effective remote work. This goes to indicate how digital tools can be used in the creation and establishment of a welcoming and integrated work environment. Likewise, the STS analysis shows how remote-first policies, as a form of organizational strategy enabled by technology, challenge the structural and efficient characteristics of small tech firms, providing both issues and opportunities.

Taken together, these studies point to an important relationship between technological innovations and organizational policies against the shape of work practices in modern times. The integration of AR in the onboarding processes does much more than provide an interesting entry phase for recruits; it is one example of a very practical application to everyday business practices of current technology companies.

Understanding how remote-first policies affect companies can greatly help businesses looking to make remote work more streamlined and productive while keeping their employees happy. This thesis provides a fuller picture of how technology shapes the way organizations behave, offering valuable tips for tech experts and business managers. The insights gained from both the technical project and the in-depth analysis could be potentially useful for companies wanting to improve their hiring processes and remote work policies to match today's technological and societal landscape.

Degree:
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Augmented Reality, Remote Work, Onboarding, Operational Efficiency, Employee Integration, Small Technology Companies

Notes:
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