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Fighting Human Trafficking During and Post COVID-19: A Design Science-based Approach

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TREO Talk Paper

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Abstract

Human trafficking and especially sex trafficking-related activities touch nearly every city in the United States and continue to be a growing social problem worldwide. Mounting job loss and social inequality stemming from the COVID-19 pandemic has amplified its devastating effect on vulnerable populations and sex trafficking is expected to exacerbate in a post-pandemic world (Todres et al., 2020). The pervasive nature of digital technologies has been a great benefit to the sex trafficking industry, with many key activities moving to the digital space (Petter et al., 2020). Unfortunately, the sheer volume of ads, tweets, and posts as well as the variety and the frequency with which they are posted makes manual analysis virtually impossible. In addition, traffickers engage in deceptive practices to avoid attracting the attention of law enforcement. This includes using aliases, disguising their phone numbers, and using emojis, to communicate with customers clandestinely. Our project began when state law enforcement agencies asked us to build a repository to facilitate collecting and integrating digital trace data to generate insights for field agents.

The research uses design science methods (Hevner et al., 2004) to address these challenges by developing an intelligent decision support system for law enforcement. We employ two specific instantiations. The first is a customized system that automatically extracts online data each day and applies information retrieval, information integration, entity recognition methods, and database management techniques to construct a data warehouse on AWS cloud infrastructure. Data collection for major U.S. southern trafficking hubs started in March 2020, with a total volume of unique posts reaching over 1,130,976 to date. The second instantiation, an app, gives investigators in the field the ability to quickly and flexibly search the database using mobile phones or tablets for rapid access to sex trafficking-related information. It uses natural language processing and semantic similarity analysis to find similar posts, map trafficking network structures, and evaluate traffickers' behavior over time. As a next step, we plan to conduct field studies with the current app prototype to obtain feedback from law enforcement experts. Then we will iterate over the design and build cycle to refine the app needed to uncover trafficking organizations that are operating just below the surface.

References (optional)

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