



# UNT College of **ENGINEERING**

Senior Design Day 2023



# CYBERSECURITY

Senior Design Day 2023

# Korero.io

## Team Members:

- Omar Issa
- Harper Huff
- Justin Breedlove
- Skandha Prakash

## External Sponsors/Mentors:

- N/A

## Internal Sponsors/Mentors:

- Dr. Pradhumna Shrestha, Faculty Mentor

## Abstract:

In today's digital age, privacy and security are top concerns for users of online communication tools. To address this, our team of cyber security students has created Korero, a web application that provides a secure and private chat experience. Our application is built with Node.js and hosted on an Ubuntu 20.04 server, and we prioritize user privacy and security with end-to-end RSA encryption for all messages, encrypted database storage, and secure key storage using Hashicorp Vault. Our team has also implemented additional security measures, such as Static Application Security Testing (SAST) and firewalls, to ensure the security of the application. The user-friendly interface allows for easy registration and login, and once logged in, users can create private chat rooms and invite others to join. Our primary goal with Korero is to provide a reliable and secure solution for users who value their privacy in online communication. We believe that our application offers a trustworthy and effective solution that prioritizes user privacy and security. Our team's expertise in cyber security and web development has allowed us to create a solution that reflects our commitment to these values. In conclusion, Korero is a secure and private chat application that employs end-to-end RSA encryption, encrypted database storage, and additional security measures such as SAST testing and firewalls. Our team's knowledge and skills in cyber security and web development have allowed us to create a solution that prioritizes user privacy and security.



WHERE YOUR PRIVACY MATTERS



# E-Thrift Store

## Team Members:

Colton Gross  
Chloe Hancock  
Pooja Patel  
Kevin Rangel Gutierrez



## External Sponsors/Mentors:

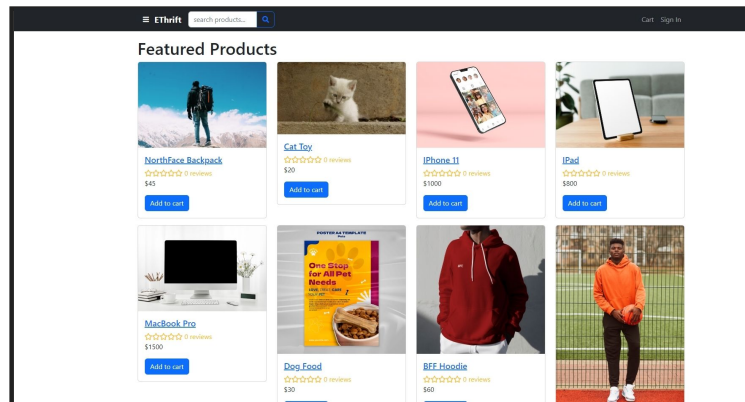
None

## Internal Sponsors/Mentors:

Dr. Pradhumna Shrestha

## Abstract:

For this project, our team has designed an e-commerce website with the goal of complete system security. With the increasing popularity of online shopping, e-commerce security has become a top priority for both businesses and consumers. Our team has built a website from scratch to ensure data security from as many angles as possible from a secure cloud-based server to an encrypted database. Once testing was completed, we were able to see the security vulnerabilities in real-time, so if any issues arise we can patch them quickly.





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engineering.unt.edu  
940.565.4300