UC-248 GTRI IT Web Management Application

Abstract

This application was part of an industry Capstone project with Georgia Tech Research Institute. The team worked closely with the industry sponsor Matthew Pinkston, Capstone coordinator Alison Boyle and the professor for this Capstone Donald Privitera.

Introduction

The purpose of this project was to create the baseline code and design framework for an opensource IT management web application. The goal of this application is to create a structure that is easily extensible so that future developers can add sub-applications for specific management purposes, such as issue management and ticketing, license tracking, etc.
The coding stack used was Bootstrap and jQuery for frontend development. For backend development, we used the PHP Laravel framework. A database with encryption has been created for user registration using MySQL. In addition to the baseline structure, we created a user management system and an asset management system as examples of sub-applications and how they would work.

Research Question(s)

The main questions addressed in our project were:
- **How is encryption implemented on the backend for user registration?**
- **What does the user experience entail?**
- **How is a collapsible navigation bar created using Bootstrap?**
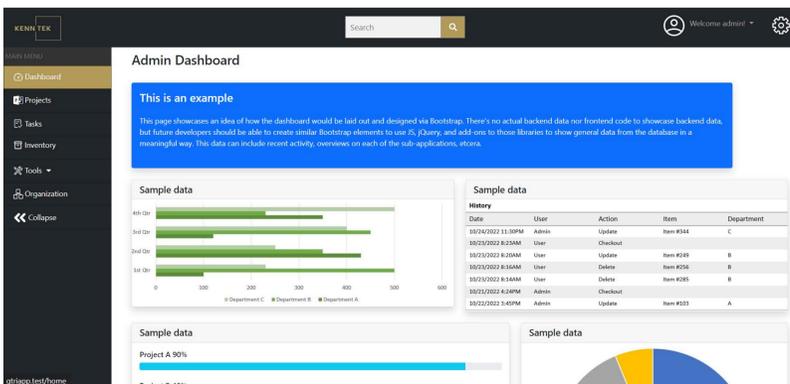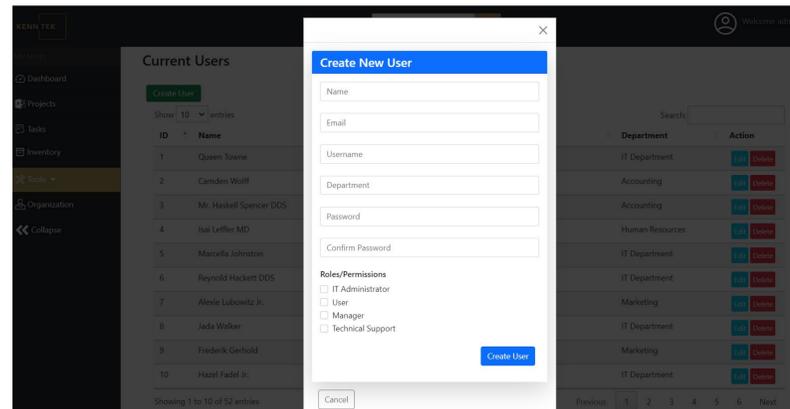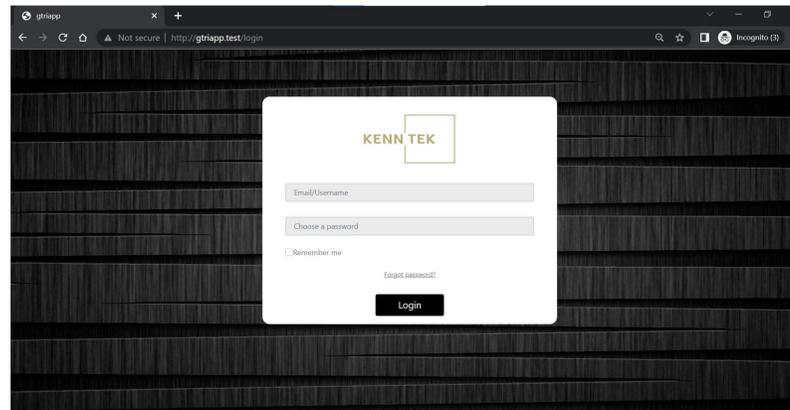
Materials and Methods

The industry sponsor wanted the application to be locally hosted on the user's device. To set up the proper environment, we used WAMP/XAMPP, which combines services used for the project including PHP, MySQL, and Apache web server. Composer was also used for library dependencies. We used Laravel's built-in user authentication, session tracking, and routing features for the application. To enable the project to be opensource and easily changeable, we chose the MIT license, as it allows anyone to make changes to the original code and removes liability from author.

Results

The opensource application is fully functioning, meeting all requirements and goals defined by the industry partner.

Resources:
https://laravel.com/docs/9.x
https://opensource.org/licenses/MIT
https://commons.wikimedia.org/wiki/File:Logo.min.svg
https://commons.wikimedia.org/wiki/File:Bootstrap_logo.svg
https://commons.wikimedia.org/wiki/File:License_icon-mit.svg

Conclusions

The opensource application and project goals have been completed. The goals of this project were to create the base framework for an IT web-based management application, that can be easily shared and expanded upon in the future. The current application structure allows for developers to integrate tools with the application. The application has a MIT license which is crucial for future expansion on this application by developers.

Acknowledgments

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Check out our project website by scanning this QR code.

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