



Knight Foundation
School of Computing
and Information Sciences

School of Computing & Information Sciences

Fall 2023 Senior Design Project

Customizing Cybersecurity Reports Using ChatGPT

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PROBLEM

In addressing the prevalent issue of insufficiently detailed cybersecurity reports, my project harnesses the capabilities of advanced AI, specifically large language models like ChatGPT. This innovative approach tackles the challenges posed by the rapid pace of cyber incidents and the complexity of cyber threats. By integrating ChatGPT, the project significantly enriches these reports with comprehensive data, offering deeper contextual analysis, real-time updates, and user-friendly summaries. This AI-enhanced methodology not only ensures a more thorough understanding of cybersecurity issues but also aids in developing more effective response and prevention strategies, revolutionizing the way cybersecurity data is analyzed and utilized.

CURRENT SYSTEM

Our current system works as a dashboard where the user can choose from a list Of multiple reports. Then, the user clicks on the report and will be asked to enter some information about the report. The information includes the Reports name, industry, key findings, recommendations and extra details. The user also chooses the level of threat the risk factors present. After this, the user clicks on the submit button for the report to be enriched by ChatGPT.

Report generation app version: 0.0.1

Report Title:

Client Health Report

Industry:

Technology

Key Findings:

Potential password strength risk, Unsupported Microsoft Office version, Anti-Spyware not installed.

Recommendations:

Please review the findings and provide a straightforward solution.

Extra Details:

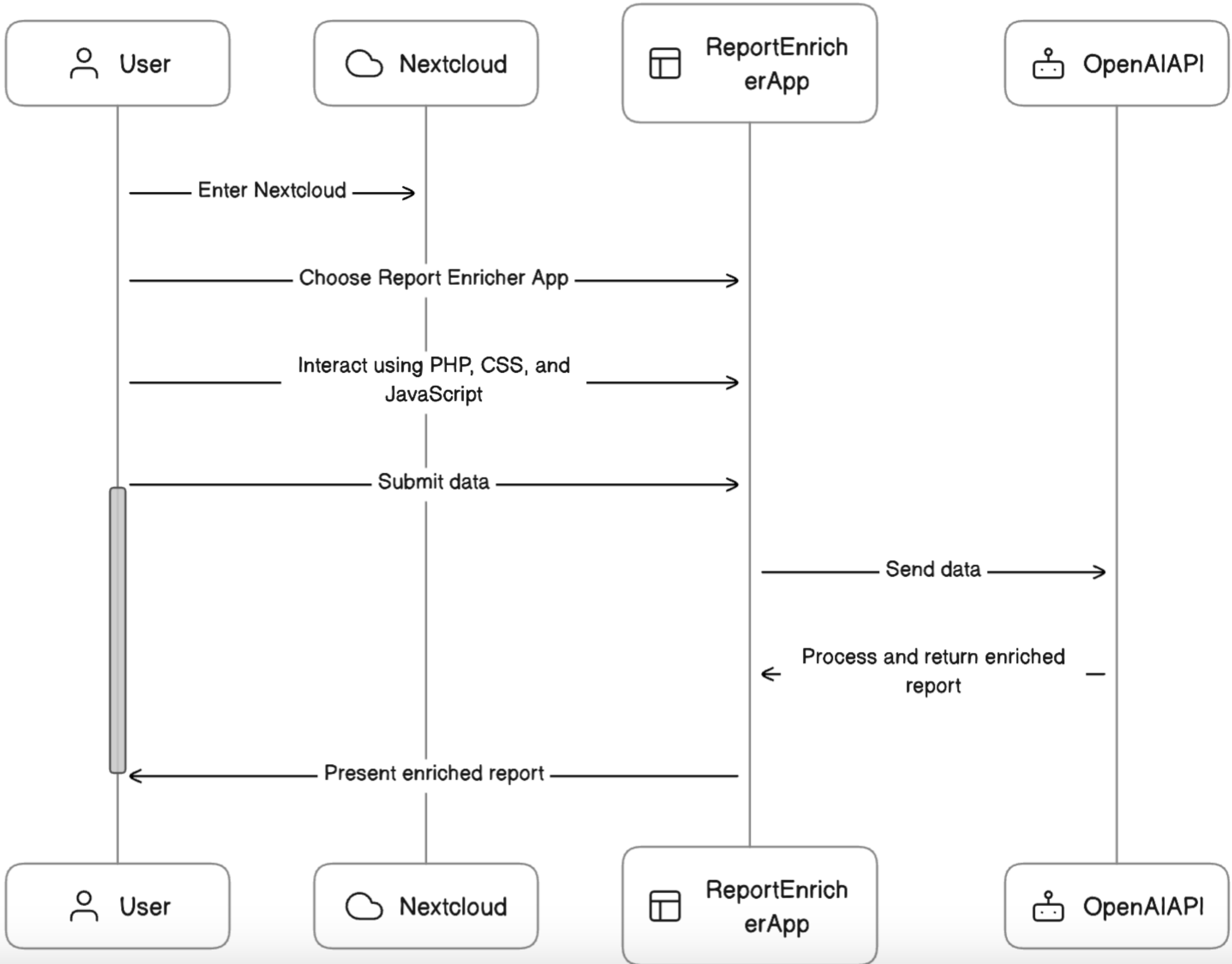
Use simple examples and use a general tone for those who aren't experts on the subject.

Threat Level:

Submit Clear Form

SYSTEM DESIGN

User Interaction with Report Enricher App



SUMMARY

My Contributions to the Senior Project:

•**Configuration of Nextcloud App:** Set up the Nextcloud app for local operation, creating a seamless user environment.

•**UI Design:** Developed the initial user interface to efficiently gather report information, integrating it with the ChatGPT API for smooth user interaction.

•**Prompt System Implementation:** Introduced a system to acquire user input and a submit button to start the report enrichment process, streamlining operations.

•**Download Feature:** Added a functionality allowing users to save enriched reports as text files with ease.

•**Prompt Mechanism Refinement:** Enhanced the prompt mechanism to extract and improve the Client Health Report, focusing on precision and in-depth content generation.

•**Integration of OpenAI's DALL-E API:** Expanded app capabilities by integrating image generation features.

•**Threat Level Indicator:** Created a user-friendly bar for selecting a "Threat Level Indicator" based on key report findings and developed three distinct prompts for image generation corresponding to selected threat levels.

•**Error Handling and Debugging:** Actively managed error scenarios and debugged the system for seamless functionality.

•**Codebase Optimization:** Continually refined and optimized the code, improving efficiency and performance.

REQUIREMENTS

- Internet browser (Eg. Safari, Google Chrome, Mozilla Firefox, Brave Browser, Microsoft Edge)
- Nextcloud Account
- Download report enricher app
- OpenAI API key

IMPLEMENTATION



REFERENCES

OpenAI. (n.d.). Images Guide - OpenAI API. Retrieved from <https://platform.openai.com/docs/guides/images?context=node>.

Nextcloud. (n.d.). User Manual - Nextcloud Server. Retrieved from https://docs.nextcloud.com/server/stable/user_manual/en/.



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