The Warden File System

FINAL YEAR PROJECT
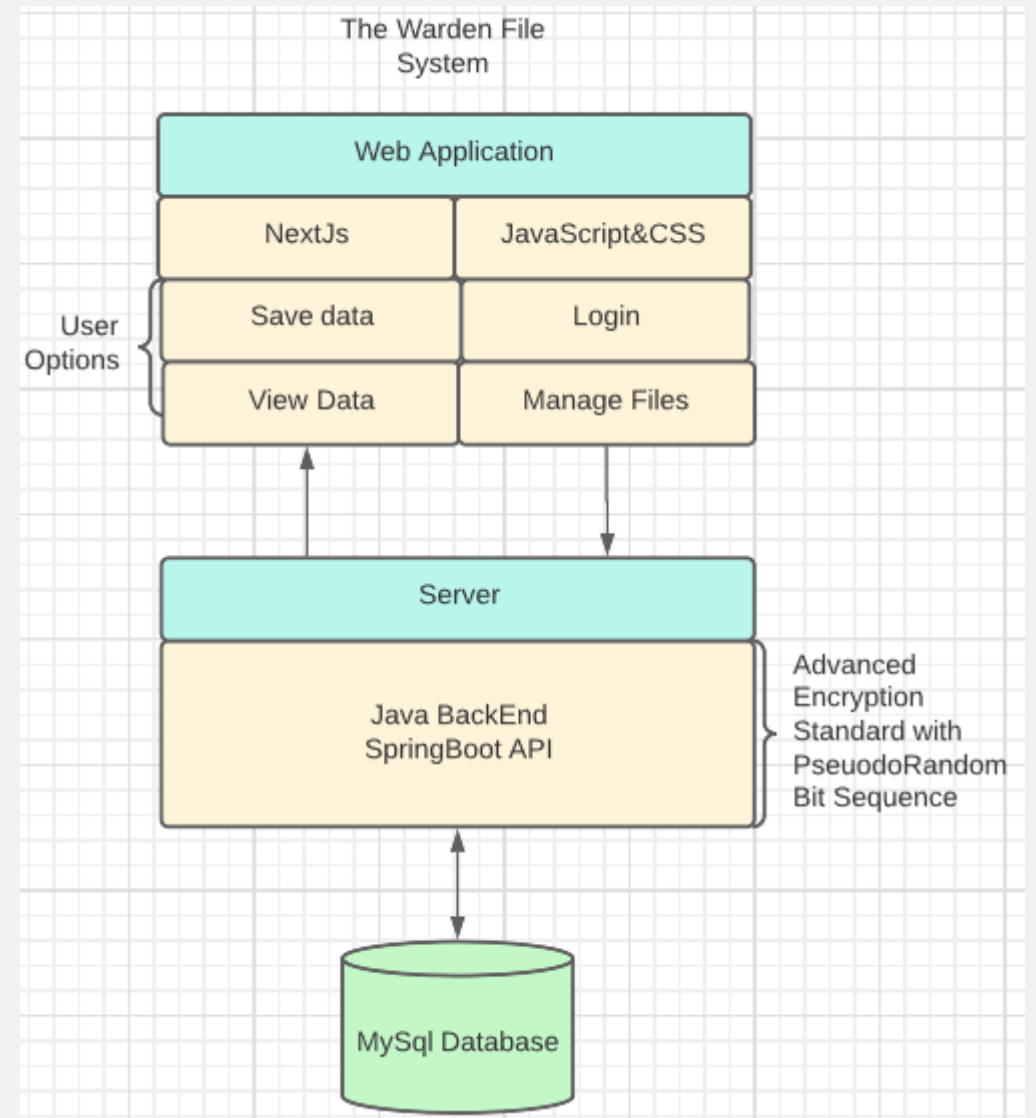
My Project,
the why and the what

- I went with a full stack encryption application because I have a keen interest in both.

- I enjoy figuring out the bits and pieces to a formula and seeing how each part goes together

- Web development is a major job opportunity in recent times with the boom of new industries as of late.

- The Warden File System is based on a cloud service that uses a remote server side database to store users details and data.

- It uses one of the foremost ciphers in cryptography, AES(Advanced Encryption Standard) otherwise known as Rijndael Block cipher.

The Project Architecture

- User is able to login to their account and view the data that are stored on the database

- They can save data entered from the web application onto the database

- The users data is encrypted before saving it.

The Warden File System

Web Application

| NextJs | JavaScript&CSS |

User Options
| Save data | Login |
| View Data | Manage Files |

Server

Java BackEnd SpringBoot API

Advanced Encryption Standard with PseuodoRandom Bit Sequence

MySql Database

The Plan

- The Initial plan was to design the website first.

- After talking it over to my coordinator, I went with doing the AES cipher first

- Once finished with the cipher I went onto design the backend.

Conclusions

- In this project I was able to implement a service which allows data to be stored in a secure encrypted database. With each user basically having a random key for their files it would be difficult to attack the storage and get something worthwhile.

- This project has been testing at times with version issues and the algorithm however I now have knowledge of different ciphers to use in data protection