

Stock Management System Project Proposal

Executive Summary

The project “Stock Management System” aims to give users a streamlined system to manage the stocks in a store. By using the *NextJs* framework, we intend to create a robust web application that can be used by stores and marts to efficiently keep and manage their stock.

Some of the main features are *Responsive Design*, *Real-Time Stock Updates*, *Stock Management*, *Searching Functionality*, and *Inventory Reporting*.

By implementing this system, we as students can learn a complete framework of building web applications. Practically speaking, this system can be used by restaurants, stores, or basically any business that keeps stocked items and needs to manage them through the use of software. This web application will provide a platform for the stores to do exactly that.

Introduction

In the fast paced environment of today’s businesses, efficient stock management is an important factor in keeping the businesses running smoothly.

Our *Stock Management System* provides a way for these businesses to streamline the process of managing the stocks on a single platform that just needs an internet connection to maintain. We are using the *NextJs* framework to create a robust web application that will perform the function of maintaining the data regarding the stocks of the user company. Through the use of *NextJs*, the data about the stocks can be tracked in real-time, and as soon as stocks arrive on the premises, with just entering a few details on the website, the user can add that data in the web application. This change will then reflect on the database in real time.

Thus it is a high performance web application that caters to the needs of businesses and shops that need a platform to keep track of their stocks through the use of computers.

Motivation

Our current motivation for making this project is purely to learn to build a complete full stack web application from scratch. By making this, we will get exposure to *NextJs*, a framework that can be used to build complete web applications in a single framework. Furthermore, we will also be able to learn *ReactJs*, which is used as the backbone for *NextJs*.

When we complete this project, we will have learned enough to create a good web application in the *NextJs* framework.

Another aspect for our motivation is that this project can be used by any store that stores stocks or items for using in the future. Our web application will give those users a place to keep track of and manage all their items.

Lastly, another source of motivation of us making this project is to ensure that we get practical experience while making a project. This will give us another skill to add to our portfolio and diversify our experience.

Problem Statement

Every business has a fundamental need to manage and keep track of their inventory. To ensure this, some businesses have employees to do manual labor and keep track of their items manually.

Our *Stock Management System* provides a web application to those businesses so that they can keep track of their inventory on an online website which can be accessed from anywhere and any device provided an internet connection.

This system will give those businesses an opportunity to keep track of their stocks and ensure the efficient stock management.

Objectives

- Developing a real-time stock management system.
- Simplify stock management through the use of an efficient database.
- Have a robust search mechanism.
- A responsive and intuitive user interface.
- Building a scalable and maintainable web application.
- Enhancing the operational efficiency of the web application.
- Integrating a notification system.

Literature Review

Businesses have to maintain optimal stock levels to meet customer demand with perfect timing. Traditional systems rely a lot on manual data entry and lack real-time tracking, leading to inaccuracies and inefficiency.

Modern React-based frameworks like Next.js offer numerous improvements toward building scalable, high-performance systems for stock management. It offers faster loading, better SEO, and easier maintenance due to its modularity.

Real-time updating of inventory is very important for accuracy and efficiency, as this helps any business in making better decisions. Security is also important, with secure user authentication and role-based access control to sensitive data.

In a nutshell, developing a Stock Management System with Next.js tackles the constraints brought about by a traditional system to a robust, real-time, and secure inventory management system.

Proposed Technique

The technique we propose for building this project is to use the *NextJs* framework. This framework uses *ReactJs* as a backbone, and integrates *NodeJs* in a single environment (unlike other stacks where multiple technologies are stacked together to create applications).

By using *NextJs*, we will be learning a new framework that can be used to build robust web applications. Furthermore, with *NextJs* we can create a *Stock Management System* that scales well, is easily maintainable, and is easy to develop as well.

Hence using this framework is suitable for building this project.

Conclusion

The *Stock Management System* that we aim to develop will be created in the *NextJs* framework. It will give businesses and shops a platform where they can efficiently and effectively manage their stocks. The stocks data will be updated in real time as soon as the users enter it.

Furthermore, there are no system requirements to use this web app other than an internet connection. Thus, smaller businesses can also use it with lightweight computers to manage their inventories.

Lastly, developing this project will give us an opportunity to learn the *NextJs* framework. This will also give us valuable experience in how to create robust web applications in a modern framework, which we can count as a skill in the future.

END