Project Report

Laundry Management System

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Submitted to:

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Table of Contents

Chapter I

Introduction

Traditional laundry management systems suffer from multiple issues due to being heavily dependent on humans to do most of the organizational work. This ranges from minor calculational errors to the possibility of someone intentionally manipulating the records for personal gain. This creates a need for an automated system that can not only make the management more automated but also prevent any fraudulent behaviour. As the personal businesses sector moves towards digitization, these new laundry management systems also need to be easy-to-use, simple to understand as well as user-friendly. Any system to be developed and designed has to consider all these things before deploying their software.

As of now, most of the machine-based management systems make use of tabular data storage mechanisms which can only serve the purpose of keeping a track of inventory, and other things under the scope of database management languages - whether SQL-based or not - thus limiting their performance. This leaves a huge scope for development and improvement in this particular sector, allowing developers to not only simplify the current system but also provide additional, useful features that would drive the people towards using their system.

Chapter II

Problem Statement

This project consists of creating a laundry management system with its own inventory that is easy to use and understand, and user friendly. It should be easily manageable by the user.

The system should provide features like an admin dashboard, a laundry list and category section, a supply list, a users' list as well as a reports section. The admin dashboard should have an easy access to all of the sections in this project and should display other statistics like total profit, total customers and the total laundry claimed for the day.

The laundry list and laundry category sections should contain the list and a detailed description of the status of orders being processed in the laundry, along with the information regarding the users who the laundry belongs to. This section should also have options to create new laundry orders, which are then added to the database of the system. The laundry category section should provide a description of various laundry categories a customer can choose from while placing an order.
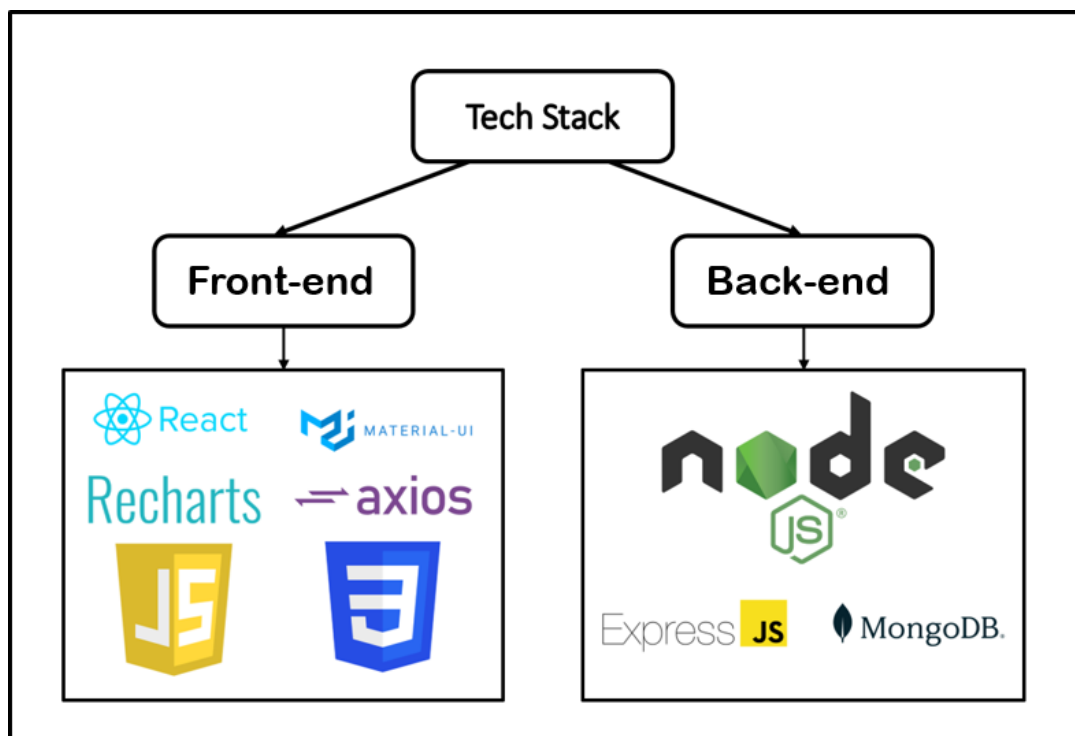
Other sections include supply list that lists the laundry supplies, inventory to monitor the stocks and users to keep track of the customers at the business. There should also be a reports section that shows a complete order history of every user and provide total revenue with the specific dates as well.

Chapter III

Description of the System

The Laundry Management System developed under this project is a data analysis-driven software created according to the requirements mentioned earlier. It contains an admin dashboard with quick access links to various sections of the website, like Analytics, Reports, Inventory, etc.

This project uses popular technologies from the given options, utilizing NodeJS, Express and MongoDB for the purposes of storing data, analysing the data and constantly providing relevant parts of it to maintain a real-time analytical system. The front-end technologies mainly consist of JavaScript, CSS and React with other technologies to aid the visual representation of the data collected, as shown in the figure below.

Tech Stack Used for this Project

Chapter IV

Components of the System

This website contains multiple sections, and here is a quick summary of all of them.

The Home sections consists of a home screen for the admin dashboard that displays a quick summary of the trends in various statistics like revenue, customers, etc. and also lists the latest transactions that have taken place with their description.

The Analytics section consists of a visual representation of the data stored in the back end, in form of various graphs and charts. This indicated changes in stats like the amount of customers, revenue generation, etc. and facilitates an easier management and decision-making for the owner of the business.

This is followed by the Users sections that has two sub-sections - Users and Reports. Users section contains a detailed information of every user, like the account details and revenue generated. The Reports section focuses on the current demand-supply situation at the business, order statuses and other similar statistics.

The Laundry List section displays a list of current orders under process, with customer and order details. There is also a separate section to display various wash categories a customer can choose from with their price details.

Finally, there is an Inventory section that helps the business owner keep track of the total as well as customer-wise inventory which helps in managing the business easily.

All these sections are easy to understand and handle which means a single user can be designated to this task, minimizing the human involvement and responsibilities.

Chapter V
Advantages and Future Scope

This Laundry Management System has a simple user interface, making is very easy to understand and use. The system acts as the one place for multiple business-related operations, ranging from inventory management to business analytics. This centralization of services reduces resources spent on the same, while maintaining an easy-to-use nature. The presence of simple analytical components means the users can get the most out of this system without having an in-depth knowledge of how database management works.

Visual representation of the data assists in monitoring the growth of the business over time. This is essential in understanding how the business has been performing recently and how various decisions and changes in strategies have been affecting the revenue. This makes it easier for the owners to plan for the future of the business based on the analysis of the data, and decide whether to implement new and different strategies to boost the growth of their business or stick to the current methods.

The system also provides a feedback feature for the customers, who can share their opinions about the system as well as the business itself. This evaluation can be invaluable in certain situations, considering how important customer satisfaction, as a business growth factor, has become in the recent times.

With so many features available in this Laundry Management System, there are still a few things that can be implemented to make this system even better, and make people choose digitization for their businesses. This includes implementing some of the user suggestions received through the feedback system, to provide more customer satisfaction. The system can also have an online payment system, to make payments easy and secure for the customer while also updating the databases automatically.

The use of such online systems needs to be promoted, as all the industries move towards a digitized era. This can be done by offering special offers and discounts for users that utilize the website over other options in as many ways as possible. Not only that, but the development of desktop and mobile apps would make it easier for users and make them more willing to explore these options. This would encourage more user interaction and involvement in the digitization process of business management.

Another option that can be explored is a mobile notification/alert systems that lets the customers know when to collect their laundry from the shop, or when it would be delivered to them. This is definitely an improvement over the notifications tab provided on the website, as the chances of miscommunications and possible wastage of time can be reduced significantly.

<u>Conclusion</u>

This Laundry Management System achieves its goal of aiding laundry business owners in managing their business through the implementations of all the features mentioned in the previous sections. Not only does this provide the users of this system an edge over their competitors through better resource management, this also promotes digitization in the personal business sector. This system can be easily developed, maintained and improved upon, with the right technical support. This makes the system not only easy to understand and use but also a low-investment addition to a business owner's arsenal of tools for growing their business.

However, the use of secure and reliable database management makes the system have almost no negative consequences. This means the system can be a great choice for businesses on any scale without the owners having to be concerned about their decision of upgrading their existing systems. This, in addition to all the benefits and advantages of the system mentioned previously make the Laundry Management System a must-try for anyone willing to improve their management and make growing their business a lot easier.