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Honda Spare Parts: Selling, Spare parts management system

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Honda Spare Parts : Selling , Spare parts management system

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ABSTRACT

The purpose of this project is to develop a system for selling spare parts for honda vehicles to customers . The project aim is to address the challenges that customers face when searching for spare parts and provide a comprehensive solution that makes it easy for customers to find and purchase the right parts of their Honda vehicles. To make it easy for customers to find and purchase spare parts , the project will develop online platform for selling spare parts . This platform will include a search function that enables customers to quickly find the parts they need as well as a secure payment system for completing transactions . To ensure that customers have a positive experience when purchasing spare parts , the project will also provide customer support . This will include a dedicated customer service who can answer questions and issues that customers may have . The proposed project aims to provide a comprehensive solution for selling spare parts for Honda vehicles to customers. The project will address the challenges that customers face when searching for spare parts and provide a user-friendly platform that makes it easy to find and purchase the right parts. With this project, customers will be able to keep their Honda vehicles running smoothly and efficiently, without the hassle of searching for spare parts .

KEYWORDS : spare parts , vehicles , Honda , website , customers

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Introduction

The Honda spare parts industry is a critical part of the automotive industry, serving as a vital component of the maintenance and repair of Honda vehicles. The industry includes Honda spare parts dealers, sellers, and suppliers who provide customers with the spare parts needed to keep their Honda vehicles running smoothly. However, the Honda spare parts industry faces several challenges, including inefficient inventory management, poor customer experience, limited access to real-time inventory information, and manual processes. To address these challenges, a Honda spare parts selling management system can be developed, which can help dealers and sellers efficiently manage inventory, orders, and customer interactions.

The Honda spare parts industry is a rapidly growing sector, as Honda vehicles continue to gain popularity around the world. As a result, there is an increasing demand for Honda spare parts, which has led to the development of various management systems aimed at facilitating the efficient sale and distribution of these parts.

In this report, we will focus on the development of a selling spare parts management system specifically designed for Honda spare parts. The system is designed to provide Honda spare parts dealers and sellers with a comprehensive platform that allows for the efficient management of inventory, sales, and customer interactions.

The system's main objective is to automate and streamline the entire process of selling Honda spare parts. This includes the management of inventory, orders, pricing, and customer information. By doing so, the system aims to improve business efficiency, reduce costs, and enhance customer satisfaction.

The system includes several features and functionalities designed to meet the specific needs of Honda spare parts dealers and sellers. For instance, it includes a user-friendly interface that allows for easy navigation and access to critical information. It also includes a comprehensive inventory management module that allows users to track stock levels, generate purchase orders, and manage pricing.

Furthermore, the system includes tools for managing customer orders, tracking customer interactions, and providing real-time inventory information to customers. In this report, we will provide a detailed analysis of the Honda spare parts selling management system, including its design, functionality, and performance. We will also examine the potential impact of the system on Honda spare parts dealers and sellers, including its potential to improve business efficiency, reduce costs, and enhance customer satisfaction. Additionally, we will explore the challenges and opportunities associated with implementing the system, as well as provide recommendations for future improvements . Overall, this report aims to provide a comprehensive understanding of the Honda spare parts selling management system, its benefits, and its potential impact on the Honda spare parts industry.

Background

The background process of the project , there is an increasing demand for Honda spare parts, which has led to the development of various management systems aimed at facilitating the efficient sale and distribution of these parts.

The traditional approach to managing Honda spare parts sales involves manual processes, which can be time-consuming, error-prone, and inefficient. These processes can lead to a number of challenges, including the inability to manage inventory levels effectively, difficulties in tracking customer orders, and challenges in providing real-time inventory information to customers.

To address these challenges, there has been a growing interest in the development of Honda spare parts selling management systems. These systems are designed to automate and streamline the entire process of selling Honda spare parts, from inventory management to customer interactions. The development of the Honda spare parts selling management system project was motivated by the need to address the challenges faced by Honda spare parts dealers and sellers. The project aims to provide a comprehensive software solution that allows for the efficient management of inventory, sales, and customer interactions. The project team conducted extensive research on the Honda spare parts industry, including market trends, customer needs, and existing management systems. Based on this research, the team identified the need for a user-friendly, comprehensive, and affordable management system specifically designed for Honda spare parts sales. The project team then developed a system that includes several features and functionalities designed to meet the specific needs of Honda spare parts dealers and sellers. The system is designed to provide a user-friendly interface, efficient inventory management tools, order management tools, and reporting features. In summary, the development of the Honda spare parts selling management system project was driven by the need to address the challenges faced by Honda spare parts dealers and sellers. The project aims to provide a comprehensive, efficient, and affordable management system that can improve business efficiency, reduce costs, and enhance customer satisfaction.

Problem

In problem identification , extensive research on the Honda spare parts industry to identify the key challenges faced by Honda spare parts dealers and sellers. I have identified several key problems in the industry, including:-

1. Inefficient Inventory Management: Many Honda spare parts dealers and sellers struggle with inefficient inventory management processes, which can lead to overstocking, stock-outs, and increased costs.
2. Poor Customer Experience: Customers often have to wait long periods to receive the spare parts they need, which can lead to dissatisfaction and a loss of business.
3. Limited Access to Real-Time Inventory Information: Dealers and sellers often have limited access to real-time inventory information, making it difficult to provide accurate and timely information to customers.
4. Manual Processes: Many Honda spare parts dealers and sellers still rely on manual processes, such as pen and paper, which can be time-consuming, error-prone, and inefficient.
5. Limited Reporting Capabilities: Honda spare parts dealers and sellers often lack the reporting capabilities needed to track sales, inventory levels, and customer interactions effectively.

Based on these problem areas, the project team identified the need for a comprehensive Honda spare parts selling management system that could address these challenges. The system would need to provide efficient inventory management tools, order management tools, real-time inventory information, and reporting capabilities. Additionally, the system would need to be user-friendly, affordable, and accessible to dealers and sellers across the industry.

In summary, the problem identification process for the Honda spare parts selling management system project involved an in-depth analysis of the challenges faced by Honda spare parts dealers and sellers. Through this process, the project team identified several key problem areas and the need for a comprehensive system that could address these challenges .

Objectives

The Honda spare parts industry plays an important role in the automotive industry, providing essential components for the maintenance and repair of Honda vehicles. However, the industry faces several challenges, including inefficient inventory management, poor customer experience, limited access to real-time inventory information, and manual processes. To address these challenges, a Honda spare parts selling management system can be developed to help dealers and sellers efficiently manage inventory, orders, and customer interactions. In this section, we will discuss the project objectives of the Honda spare parts selling management system in detail.

Project objectives:-

1. Efficient Inventory Management:

- One of the primary objectives of the Honda spare parts selling management system project is to provide dealers and sellers with tools for efficient inventory management. The system will allow dealers and sellers to track inventory levels, monitor stock levels, and avoid stock-outs. The system will also provide automated inventory management features, including automatic stock replenishment and reordering, reducing the risk of running out of stock.

2. Order Management:

- The Honda spare parts selling management system will provide dealers and sellers with tools for managing orders. The system will enable dealers and sellers to process orders efficiently and effectively, reducing the risk of errors and delays. The system will also provide real-time order status updates, allowing dealers and sellers to keep customers informed of their order status.

3. Real-Time Inventory Information:

- The Honda spare parts selling management system will provide real-time inventory information, enabling dealers and sellers to provide accurate and timely information to customers. The system will allow customers to view available stock levels, backorders, and expected delivery dates, reducing the risk of confusion and delays.

4. Reporting Capabilities:

- The Honda spare parts selling management system will provide reporting capabilities, allowing dealers and sellers to track sales, inventory levels, and customer interactions effectively. The system will generate reports on demand, providing dealers and sellers with insights into their operations and identifying areas for improvement.

5. User-Friendly Design:

- The Honda spare parts selling management system will be designed to be user-friendly, ensuring that dealers and sellers can easily navigate and use the system. The system will provide a clear and intuitive user interface, reducing the need for extensive training and support.

6. Compatibility:

- The Honda spare parts selling management system will be compatible with existing technologies used in the industry, ensuring that dealers and sellers can seamlessly integrate the new system into their existing workflows. The system will be compatible with a range of hardware and software solutions commonly used in the industry, including barcode scanners, mobile devices, and point-of-sale systems.

Conclusion:

In summary, the Honda spare parts selling management system project aims to provide dealers and sellers in the industry with a comprehensive software solution that can help them efficiently manage inventory, orders, and customer interactions. The project objectives include efficient inventory management, order management, real-time inventory information, reporting capabilities, user-friendly design, and compatibility with existing technologies. By achieving these objectives, the Honda spare parts selling management system can help dealers and sellers in the industry overcome the challenges they face and improve the customer experience. The system can also help dealers and sellers increase efficiency, reduce costs, and improve profitability.

Deliverables of the Project

The Honda spare parts selling management system is a software solution designed to help dealers and sellers in the industry efficiently manage inventory, orders, and customer interactions. One of the key components of the system is a website that serves as a front-end for the system, allowing dealers and sellers to access the system's features and functionality. In this section, we will discuss the deliverables of the website component of the Honda spare parts selling management system.

Deliverables:-

1. User Interface Design:
   - The first and foremost deliverable of the website component of the Honda spare parts selling management system is the user interface design. A website's design plays a crucial role in determining the user experience, and a poorly designed website can drive potential customers away. The website's design should be user-friendly and intuitive, allowing dealers and sellers to navigate the system easily. The design should also be visually appealing, reflecting the Honda brand and conveying a professional image.

2. Website Pages:
   - The website component of the Honda spare parts selling management system will consist of several pages, including a home page, product pages, shopping cart page, checkout page, and customer account page. Each page will be designed to provide a specific function and offer an optimal user experience. The home page will serve as the landing page, providing an overview of the site's offerings and highlighting any special promotions or deals. The product pages will provide detailed information about each product, including product descriptions, pricing, availability, and specifications. The shopping cart page will allow customers to view the products they have added to their cart, update the cart, and proceed to checkout. The checkout page will provide options for customers to enter their shipping and billing information, select a shipping method, and make payment. Finally, the customer account page will allow customers to manage their accounts, view their order history, track their orders, and update their personal information, including their shipping and billing addresses.

3. Product Catalog:
    - The website will feature a comprehensive product catalog that lists all the available Honda spare parts. The catalog will provide detailed information about each product, including product descriptions, pricing, availability, and specifications. The product catalog should be well-organized and easy to navigate, with options for filtering the results by product type, price range, availability, and other criteria.

4. Shopping Cart:
    - The website will include a shopping cart feature that allows customers to add products to their cart and proceed to checkout. The shopping cart will display the total price, including taxes and shipping costs, and provide options for updating the cart and removing products. The shopping cart should be easy to use and provide a seamless checkout experience for customers.

5. Checkout Process:
    - The checkout process is a critical component of the website, and it will be designed to be simple and straightforward. The process will include options for customers to enter their shipping and billing information, select a shipping method, and make payment. The checkout process should be easy to navigate and include clear instructions at each step to minimize confusion and errors.

6. Customer Account Management:
    - The website will include a customer account management feature that allows customers to create and manage their accounts. Customers can view their order history, track their orders, and update their personal information, including their shipping and billing addresses. The customer account management feature should be easy to use and provide customers with access to their information and order history.

7. Search Functionality:
    - The website will feature a search function that allows customers to quickly and easily find the products they need. The search function will provide options for filtering search results by product type, price range, availability, and other criteria. The search functionality should be accurate and efficient, providing customers with relevant results quickly and easily.

Conclusion:

In summary, the website component of the Honda spare parts selling management system will include several deliverables, including user interface design, website pages, product catalog, shopping cart, checkout process, customer account management, and search functionality. These deliverables are critical components of the system, and they will be designed to provide a user-friendly, efficient, and effective experience for dealers and sellers in the industry. By achieving these deliverables, the website component of the Honda spare parts selling management system can help dealers and sellers improve their inventory management, order management, and customer interactions, ultimately improving their profitability and competitiveness in the industry.

Scope of the Project

Introduction:

The scope of the Honda spare parts selling management system website is a crucial aspect to consider in the final report. Understanding the scope helps define the boundaries, functionalities, and objectives of the website. This section outlines the key elements and features within the scope of the website for selling Honda spare parts.

Product Catalog:

The website will include a comprehensive product catalog that lists all available Honda spare parts. Each part will be categorized and organized for easy navigation and searchability. The catalog will provide information about each spare part about pricing.

User Registration and Login:

To facilitate personalized experiences and enable order management, the website will include user registration and login functionality. Users will be able to create accounts, access their profiles, and manage their orders, wish lists, and preferences.

Online Ordering and Payment:

The website will allow customers to place orders directly online. Customers can add selected spare parts to their shopping cart, review their order, and proceed to checkout. The website will integrate secure payment gateways to facilitate smooth and secure transactions.

Order Tracking and Status Updates:

To enhance transparency and improve customer satisfaction, the website will provide order-tracking functionality. Customers can track the status of their orders, including shipping updates and estimated delivery dates. Notifications and email updates will keep customers informed throughout the order fulfillment process.

Customer Support and Feedback:

The website will offer customer support features, including a contact form, live chat, and a dedicated support email. Customers can seek assistance, ask questions, and provide feedback regarding their purchasing experience. This feedback will be valuable for improving the website and overall customer satisfaction.

Integration with Inventory Management System:

To ensure accurate stock management, the website will integrate with the Honda spare parts inventory management system. This integration will enable real-time inventory updates, preventing the sale of out-of-stock items and ensuring accurate product availability information.

Conclusion:

The scope of the Honda spare parts selling management system website encompasses a comprehensive product catalog, user registration and login, online ordering and payment, order tracking, customer support, mobile responsiveness, and integration with the inventory management system. This scope provides a solid foundation for the successful implementation of the website, ensuring a seamless and user-friendly experience for customers while efficiently managing the selling process of Honda spare parts.

Time Frame [Table 1.1]

Deadline	Activity
21/10/2022	Express job idea
18/11/2022	Get comments on the Proposal from the supervisor
05/11/2022	Proposal submission
30/11/2022	PID submission
28/02/2023	Interim 1 submission
/03/2023	Interim 2 Defense
10/05/2023	Getting Comments on the Final Report
19/05/2023	Final Report Submission
-	Final presentation

Literature review

In this literature review, we will explore the existing research and literature related to the Honda spare parts management system. The review will focus on key concepts and trends in the field of spare parts management, as well as the challenges and opportunities presented by technological advancements.

Spare Parts Management:

Effective spare parts management is critical for the success of any organization involved in the production or sale of goods. A key objective of spare parts management is to ensure that the right parts are available at the right time and at the right cost. This requires effective forecasting, inventory management, and logistics planning.

One of the key challenges faced by organizations involved in spare parts management is the variability and unpredictability of demand. The demand for spare parts can be influenced by a wide range of factors, including product design, usage patterns, and external factors such as the economy and the weather. Effective demand forecasting and inventory management are therefore critical in ensuring that the right parts are available when needed.

Technological Advancements:

Technological advancements have created new opportunities for improving spare parts management. One area where technology has had a significant impact is in the development of e-commerce platforms and online marketplaces. These platforms have made it easier for customers to purchase spare parts online, creating new opportunities for sellers to reach a wider audience and improve their sales.

One of the key challenges associated with the use of technology in spare parts management is the need for effective data management and integration. Organizations must be able to effectively manage and integrate data from multiple sources, including supply chain partners, customers, and internal systems.

Conclusion:

In conclusion, effective spare parts management is critical for the success of organizations involved in the production or sale of goods. Technological advancements have created new opportunities for improving spare parts management, including the development of e-commerce platforms and online marketplaces. However, the effective management and integration of data from multiple sources is a key challenge that must be addressed to fully realize the potential of these technologies.

Overview

The literature review provides an overview of existing research and studies related to the Honda spare parts management system. It aims to identify key concepts, trends, challenges, and opportunities in the field of spare parts management. By analyzing the literature, we can gain valuable insights into best practices, technological advancements, and strategies for improving the efficiency and effectiveness of spare parts management in the Honda context.

Importance of Spare Parts Management:

This section highlights the significance of effective spare parts management in the automotive industry. It explores the impact of spare parts availability, inventory management, and timely delivery on customer satisfaction, maintenance operations, and overall profitability. The literature will discuss the role of spare parts management in reducing downtime, improving vehicle performance, and ensuring customer loyalty.

Traditional Approaches to Spare Parts Management:

Here, the review examines traditional approaches to spare parts management, including forecasting techniques, inventory control models, and supply chain management strategies. It explores the strengths and limitations of these approaches in meeting the unique challenges of the Honda spare parts management system. The literature will address issues such as demand forecasting accuracy, optimal inventory levels, and supplier management.

Technological Advancements in Spare Parts Management:

This section focuses on the impact of technological advancements on spare parts management. It discusses the integration of digital systems, such as enterprise resource planning software, customer relationship management systems, and inventory management tools. The review explores the benefits of these technologies in terms of real-time data analysis, improved forecasting accuracy, streamlined order processing, and enhanced customer service.

E-commerce and Online Marketplaces:

This section delves into the growing influence of e-commerce and online marketplaces in the spare parts management domain. It examines the benefits of online platforms in terms of expanded market reach, improved customer convenience, and increased sales opportunities. The literature review will explore successful case studies, challenges, and strategies for effectively implementing e-commerce solutions in the Honda spare parts management system.

Challenges and Future Directions:

The final section of the literature review highlights the challenges and future directions in Honda spare parts management. It discusses issues such as counterfeit parts, supply chain disruptions, sustainability concerns, and the need for continuous improvement. The review will also identify emerging trends, such as the use of artificial intelligence (AI), blockchain technology, and data analytics, and their potential impact on spare parts management.

Conclusion:

The literature review provides a comprehensive overview of existing research and studies related to the Honda spare parts management system. By synthesizing and analyzing the literature, it identifies key trends, challenges, and opportunities in spare parts management. The insights gained from the review will help inform decision-making, strategy development, and the implementation of effective spare parts management practices in the context of Honda.

Technology Analysis

The technology analysis section of the final report focuses on evaluating the MERN (MongoDB, Express.js, React.js, Node.js) stack for developing the Honda spare parts selling management system website. This analysis examines the key technologies and their suitability for the project's requirements, scalability, and performance.

MongoDB:

MongoDB, a NoSQL document-oriented database, offers flexibility and scalability for handling complex data structures. It stores data in JSON-like documents, allowing easy integration with JavaScript-based frameworks like Node.js and React.js. MongoDB's ability to handle large amounts of data and provide efficient querying makes it suitable for managing the extensive product catalog and inventory data of the spare parts management system.

Express.js:

Express.js, a lightweight web application framework for Node.js, enables the development of server-side applications and APIs. It provides a robust set of features for routing, middleware management, and request handling. Express.js simplifies the development process, making it suitable for building the backend of the Honda spare parts selling management system website. It allows for easy integration with MongoDB and facilitates efficient data retrieval and manipulation.

React.js:

React.js, a JavaScript library for building user interfaces, offers a component-based architecture that enhances code reusability and maintainability. With React.js, developers can create interactive and dynamic user interfaces that provide a smooth and responsive experience. Its virtual DOM (Document Object Model) enables efficient updates and rendering, resulting in improved performance. React.js is suitable for developing the frontend of the Honda spare parts selling management system website, offering a seamless and intuitive user interface.

Node.js:

Node.js, a JavaScript runtime environment, allows server-side JavaScript execution. It provides an event-driven architecture and non-blocking I/O operations, enabling high scalability and performance. Node.js facilitates real-time communication and handles concurrent requests efficiently, making it suitable for building the backend of the website. It integrates well with Express.js and enables seamless communication with the frontend.

Additional Technologies:

In addition to the core MERN stack, other complementary technologies can enhance the functionality and performance of the website. For example, libraries like Redux can be used for state management, ensuring a consistent and centralized data flow. Webpack can optimize code bundling and asset management, improving loading speeds. CSS frameworks like Bootstrap or Material-UI can expedite UI development and provide responsive design elements.

Conclusion:

The MERN stack, comprising MongoDB, Express.js, React.js, and Node.js, offers a robust and efficient technology foundation for developing the Honda spare parts selling management system website. MongoDB provides flexible and scalable data management, while Express.js enables streamlined backend development. React.js offers interactive and responsive user interfaces, and Node.js ensures high scalability and performance. By leveraging the strengths of these technologies and integrating complementary tools, the website can deliver a robust, user-friendly, and efficient spare parts management system.

Case Study

This case study examines the development and implementation of a website for the Honda spare parts selling management system. The objective of the case study is to analyze the process, challenges, and outcomes of creating a user-friendly and efficient online platform for selling Honda spare parts.

Project Overview:

The case study begins with an overview of the project, outlining the goals, scope, and requirements of the website. It discusses the need for a centralized platform to facilitate the selling of Honda spare parts, streamline inventory management, and provide a seamless shopping experience for customers.

Design and Development Process:

This section delves into the design and development process of the website. It discusses the use of wireframes, prototypes, and user feedback to ensure a user-friendly interface. The case study examines the selection of appropriate technologies and frameworks, such as the MERN stack, to facilitate efficient development and scalability.

Features and Functionality:

The case study explores the key features and functionality implemented in the website. It discusses the development of a comprehensive product catalog, allowing customers to search for spare parts based on vehicle models, categories, and specifications. The integration of secure payment gateways, order tracking systems, and customer support features is also highlighted.

User Experience and Performance Optimization:

The case study emphasizes the importance of user experience and performance optimization. It discusses the implementation of responsive design, ensuring the website is accessible and user-friendly across different devices.

Challenges and Lessons Learned:

The case study identifies and discusses the challenges encountered during the development process and the lessons learned from them. It highlights issues such as data synchronization, scalability concerns, and the need for thorough testing to ensure a bug-free user experience. The case study also outlines the strategies employed to overcome these challenges and provides insights for future projects.

Outcomes and Impact:

This section evaluates the outcomes and impact of the Honda spare parts selling management system website. It examines the improved user experience, streamlined order management, and increased sales revenue resulting from the implementation of the website. Key metrics, such as customer satisfaction ratings, conversion rates, and operational efficiency improvements, are analyzed to measure the success of the project.

Conclusion:

The case study showcases the successful development and implementation of a website for the Honda spare parts selling management system. It highlights the importance of user-centric design, seamless integrations, and performance optimization. By analyzing the challenges, lessons learned, and outcomes, the case study provides valuable insights for future projects and serves as a reference for organizations aiming to enhance their spare parts management and online sales capabilities.

Functional Requirements

The functional requirements section of the final report outlines the specific features and capabilities required for the website of the Honda spare parts selling management system. These requirements define the functionalities that the website must possess to effectively manage the selling process of Honda spare parts.

User Registration and Authentication:

- Users should be able to create accounts and provide necessary details for registration.
- Authentication mechanisms, such as username and password or social media logins, should be implemented to ensure secure access.

Product Catalog:

- The website should have a comprehensive catalog of Honda spare parts.
- Parts should be categorized and organized for easy navigation.
- Each part listing should include detailed information like pricing . .

Search and Filter Functionality:

- Users should be able to search for specific spare parts based on various criteria such as part name, vehicle model, category, or part number.
- Filter options should be available to refine search results based on price range, brand, or other relevant attributes.

Shopping Cart and Order Management:

- Users should be able to add desired spare parts to a shopping cart.
- The website should provide the ability to review, modify, and remove items from the cart.
- Users should be able to proceed to the checkout process to place an order.

Secure Online Payments:

- Integration with secure payment gateways should be implemented to facilitate online transactions.
- Payment options such as credit/debit cards, PayPal, or other popular methods should be supported.

Customer Reviews and Ratings:

- Users should have the option to leave reviews and ratings for spare parts they have purchased.
- Reviews should be displayed on product pages to help other customers make informed decisions.

Customer Support and Communication:

- The website should provide channels for customers to contact support staff.
- Contact numbers , live chat, or support email addresses should be available for users to seek assistance or raise queries.

Admin Panel:

- An admin panel should be provided to manage the website's content, product catalog, and user orders.
- Admins should have the ability to add, update, or delete spare parts, manage inventory

Conclusion:

The functional requirements listed above form the foundation for developing the website for the Honda spare parts selling management system. These requirements encompass user registration, product catalog management, search and filter functionality, shopping cart and order management, secure online payments, order tracking, customer reviews, customer support, responsive design, and an admin panel for website management. By fulfilling these requirements, the website can effectively serve its purpose of providing a user-friendly platform for selling Honda spare parts and managing the associated processes.

Use Case

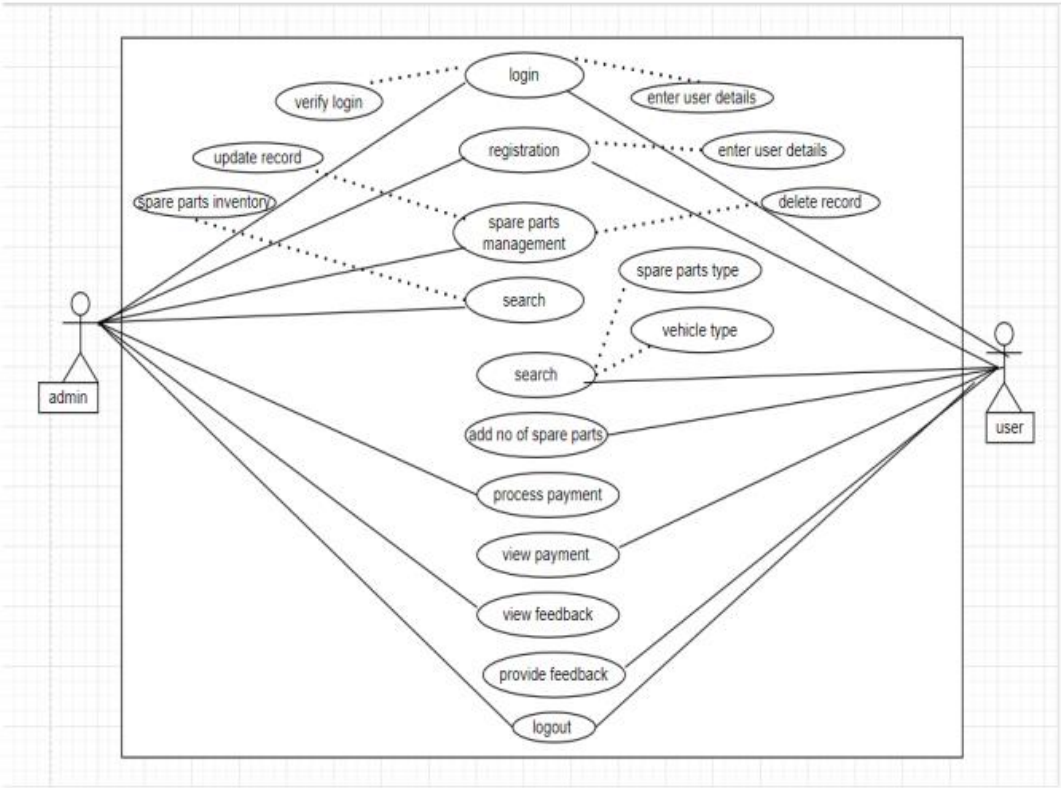

FIG – 1.1

A use case diagram is a graphical representation of possible user interactions with the system. A use case diagram shows the different use cases and different types of users of a system and is often accompanied by other types of diagrams. Use cases are represented by circles or ellipses.

Class Diagram

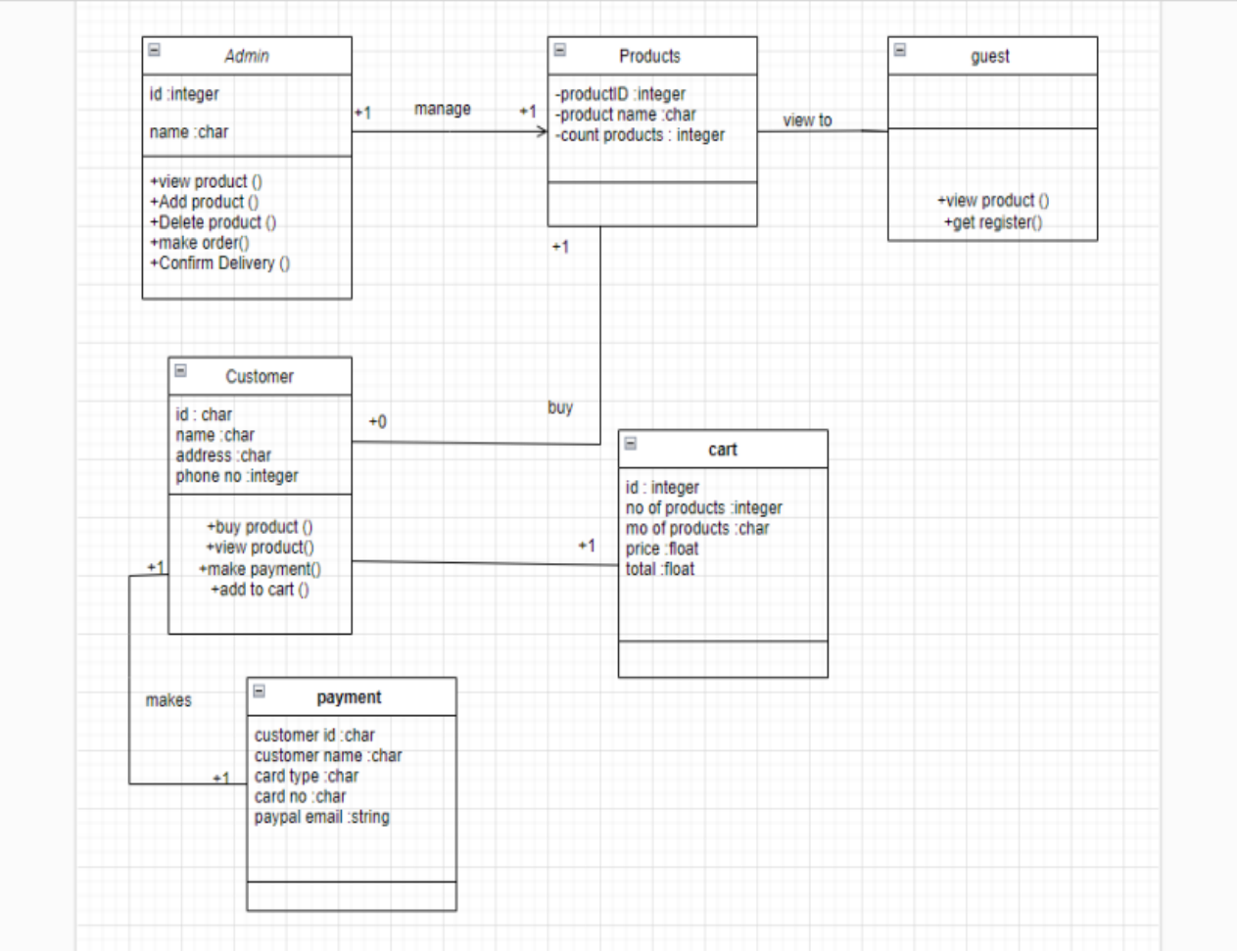

FIG – 1.2

In software development, a class diagram in the Unified Modeling Language is a type of static structure diagram that describes the structure of a system by showing system classes, and their attributes, operations, and object relationships.

High level architecture

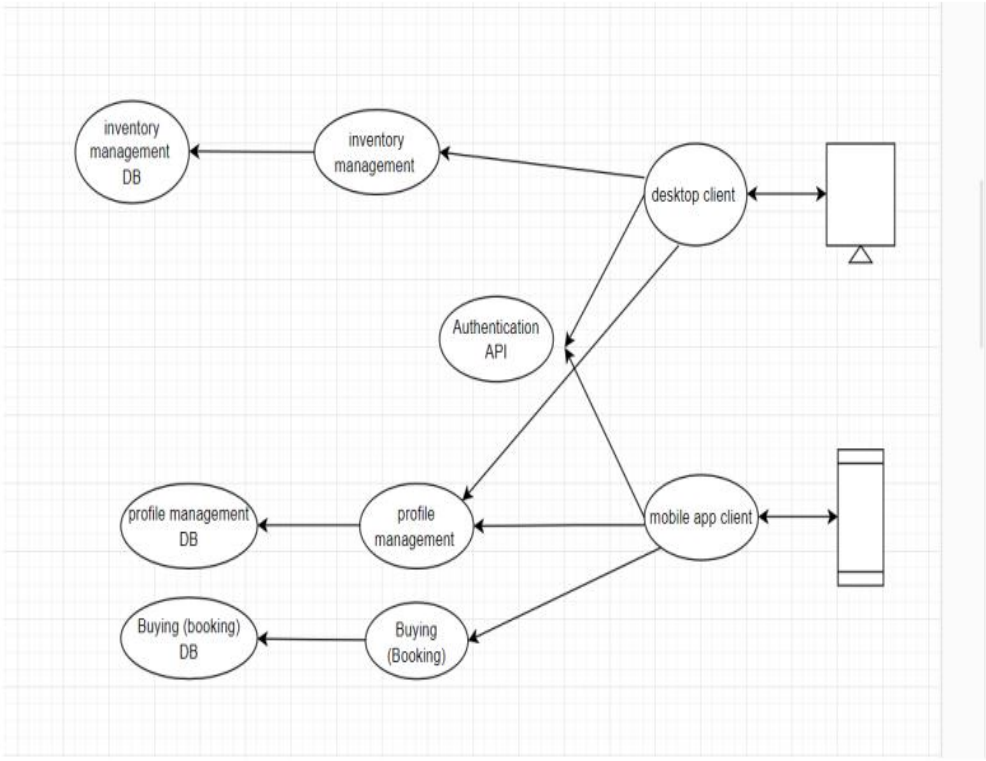

Fig 1.3

The architecture of the system is designed to provide a seamless experience for users who need to buy spare parts online , while also ensuring efficient management of inventory and order processing . His layer includes the user interface components of the system , such as the website , mobile app , and other user - facing interfaces . This component manages user authentication , registration , and access control . Product Catalog Management . This component manages the catalog of spare parts , including adding new items , updating existing ones , and deleting obsolete parts . This component handles the ordering process, including order placement , order tracking , and payment processing .

Implementation and Designing

The implementation and design section of the final report focuses on the practical aspects of developing the website for the Honda spare parts selling management system. This section outlines the steps taken to implement the required features and design considerations to create an effective and visually appealing website.

Designing

- The website design section of the final report outlines the visual and interactive elements incorporated into the website for the Honda spare parts selling management system. This section focuses on the design process, user interface considerations, and the overall aesthetics of the website.

Design Objectives:

The design objectives were defined to create a website that offers an intuitive and visually appealing user experience. The primary objectives include:

- User-Friendly Navigation: Easy navigation and seamless browsing experience for users to locate desired spare parts.
- Consistent Branding: Incorporation of Honda's brand elements, such as logos, colors, and typography, for brand recognition.
- Clear Product Presentation: Presenting spare parts information in a clear and organized manner, including images, specifications, and pricing.
- Responsive Design: Ensuring the website is accessible and functional across various devices, including desktops, tablets, and mobile phones.

User Interface Design:

The user interface design focused on creating a visually appealing and intuitive interface. Key design elements include:

- Layout and Structure: Well-structured and organized layout with logical placement of components and sections.
- Visual Hierarchy: Use of appropriate font sizes, colors, and contrasts to guide users' attention and highlight important information.
- Action Buttons: Prominent and visually appealing buttons to encourage users to take desired actions, such as adding items to the cart or initiating the checkout process.
- Intuitive Search: User-friendly search functionality with filters to help users find specific spare parts based on their requirements.
- Responsive Design: Adapting the website's layout and design to ensure optimal viewing.

Color Scheme and Branding:

The color scheme was selected to align with Honda's brand identity. Considerations include:

- Incorporating Honda's corporate colors, such as red, white, and silver, to create a cohesive brand experience.
- Balancing the use of colors to maintain a visually pleasing interface and ensure the readability of content.
- Using color accents strategically to draw attention to important elements like buttons or discounts.

Visual Assets:

Visual assets were carefully selected and incorporated into the design to enhance the website's visual appeal and product presentation. These include:

- High-quality product images: Clear and professional images of spare parts to help customers make informed decisions.

- Iconography: Implementing appropriate icons to easily recognize and understand different features and actions.
- Graphics and Infographics: Utilizing visual elements like charts, diagrams, or graphics to present information or highlight key selling points.

Typography:

Typography considerations are crucial to the website's readability and overall aesthetic. Key aspects include:

- Selection of suitable fonts that align with Honda's branding guidelines and ensure legibility.

Wireframing and Prototyping:

Wireframing and prototyping techniques were used to create mockups and prototypes of the website. These visual representations helped validate design concepts, gather feedback, and make necessary revisions before proceeding with development.

Conclusion:

The website design for the Honda spare parts selling management system focused on creating a visually appealing, user-friendly, and brand-consistent interface. Through careful consideration of layout, visual hierarchy, color scheme, typography, and the incorporation of appropriate visual assets, the design provides a seamless user experience. By aligning the design with Honda's brand identity and incorporating intuitive navigation and clear product presentation, the website effectively facilitates the selling of Honda spare parts and enhances customer satisfaction.

Selection of Technologies

The selection of appropriate technologies plays a crucial role in the development of a website for the Honda spare parts selling management system. This section of the final report explains the rationale behind choosing the MERN (MongoDB, Express.js, React.js, Node.js) stack for the development of the website.

MongoDB:

MongoDB, a NoSQL database, was chosen for its suitability in managing the data associated with Honda spare parts selling management system. Reasons for selecting MongoDB include:

Flexible Document Model: MongoDB's document-oriented data model allows for storing complex data structures, which is beneficial for managing spare parts information with varying attributes.

Scalability: MongoDB supports horizontal scalability, enabling the website to handle large volumes of data and accommodate future growth.

Performance: MongoDB's ability to handle high read/write workloads and its efficient indexing capabilities contribute to improved website performance.

Integration with Node.js: MongoDB seamlessly integrates with Node.js, making it an ideal choice for a full-stack JavaScript development environment.

Express.js:

Express.js, a minimalist web application framework, was chosen to build the server-side components of the website. The reasons for selecting Express.js include:

Simplicity: Express.js provides a simple and unobtrusive framework for building web applications, allowing developers to focus on core functionalities.

Middleware Support: Express.js offers a wide range of middleware, making it easier to handle routing, request processing, and error handling.

Extensibility: Express.js allows easy integration with other Node.js modules and libraries, providing flexibility for implementing custom features and functionalities.

React.js:

React.js, a JavaScript library for building user interfaces, was chosen for the front-end development of the website. The reasons for selecting React.js include:

Component-Based Architecture: React.js follows a component-based approach, allowing for the creation of reusable UI components, which enhances development efficiency and code maintainability.

Virtual DOM: React.js utilizes a virtual DOM, which optimizes rendering performance by updating only the necessary components, resulting in a smoother user experience.

Rich Ecosystem: React.js has a vast ecosystem of libraries and community support, providing access to a wide range of pre-built components, tools, and resources for faster development.

Node.js:

Node.js, a JavaScript runtime environment, was chosen as the back-end platform for the website. The reasons for selecting Node.js include:

JavaScript-based Development: Node.js allows developers to use JavaScript on both the front-end and back-end, reducing context-switching and enabling code reuse.

NPM: Node.js has a vast package ecosystem through NPM (Node Package Manager), providing access to a wide range of ready-to-use libraries and modules for rapid development.

Conclusion:

The selection of the MERN stack - MongoDB, Express.js, React.js, and Node.js - for the development of the website for the Honda spare parts selling management system offers several advantages. MongoDB provides flexibility, scalability, and efficient data management. Express.js simplifies server-side development, while React.js enables the creation of interactive and reusable user interfaces. Node.js unifies the development environment and ensures efficient handling of concurrent requests. By leveraging the strengths of these technologies, the website can be developed with enhanced performance, scalability, and maintainability, meeting the requirements of the Honda spare parts selling management system effectively.

Proposed System

User Interface

1. Login Screen

   In the user login screen, a user can sign in if he/she already has logged in. If the user hasn't signed in before the user can create an account. If the user forgets a password user can give the forgotten password and reset the password by use of the email.

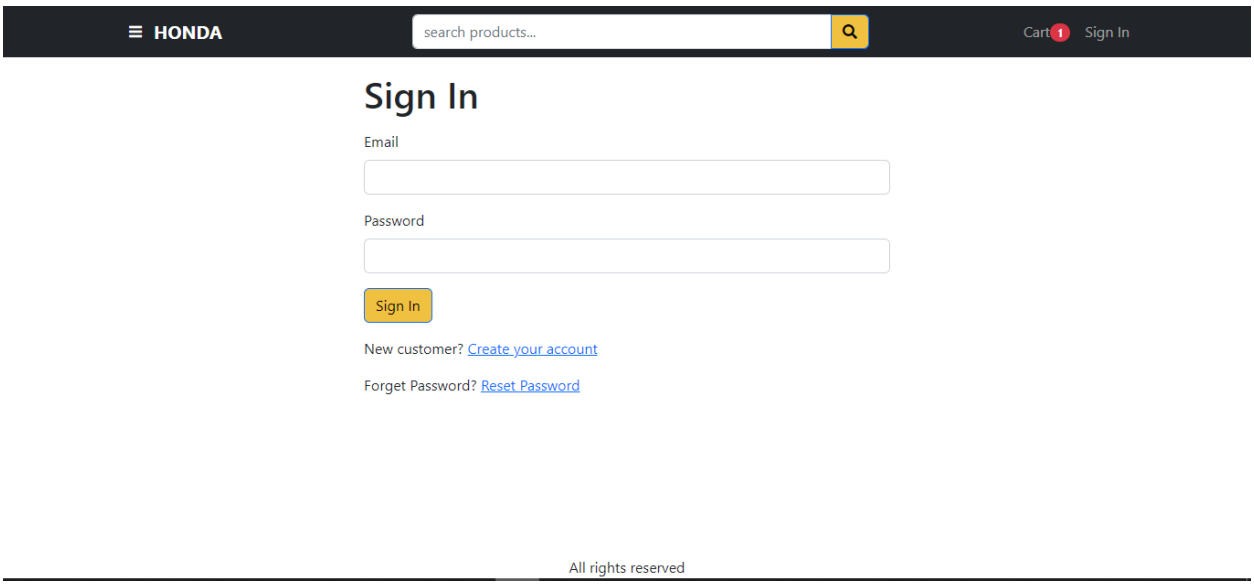

FIG 1.4

2. Sign-up screen

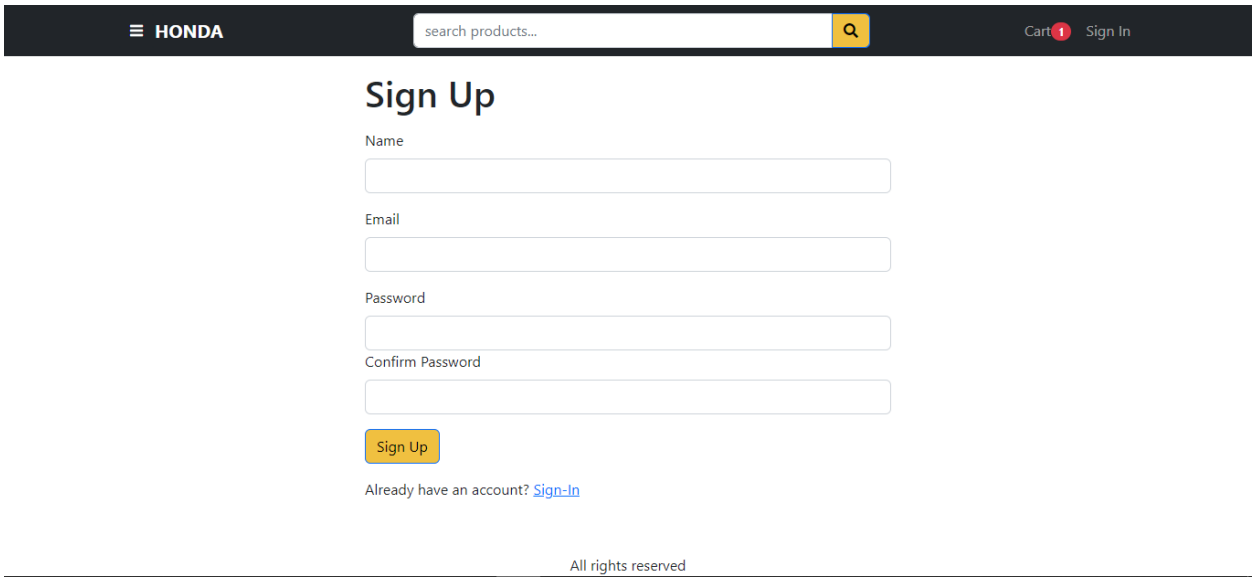

FIG 1.5

3. Home Page

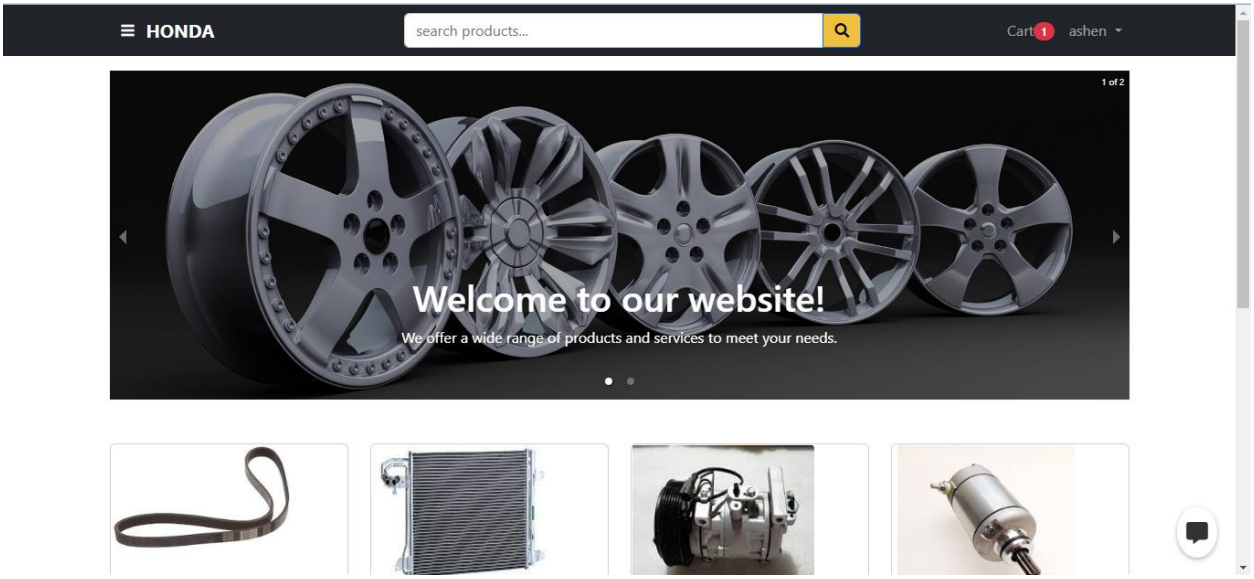

FIG 1.6

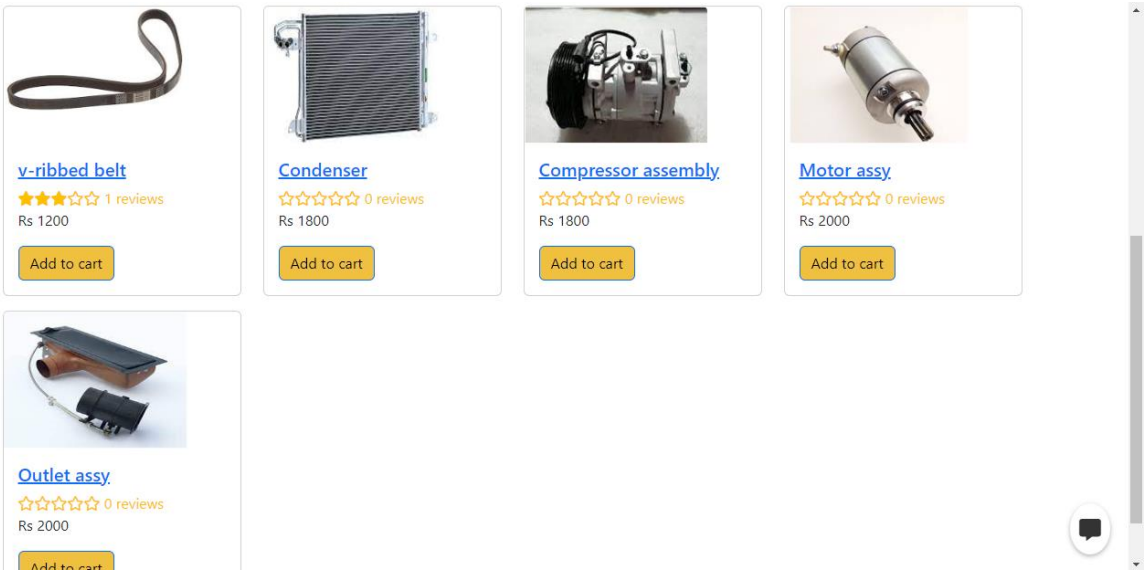

FIG 1.7

4. Cart page

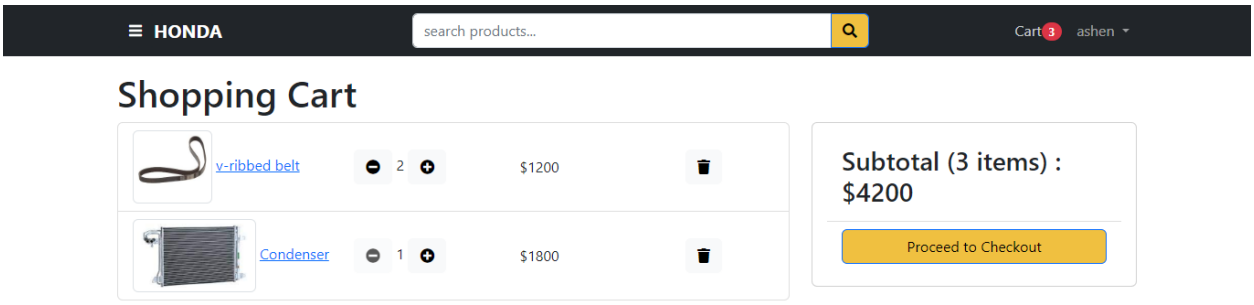

FIG 1.8

5. Shipping page

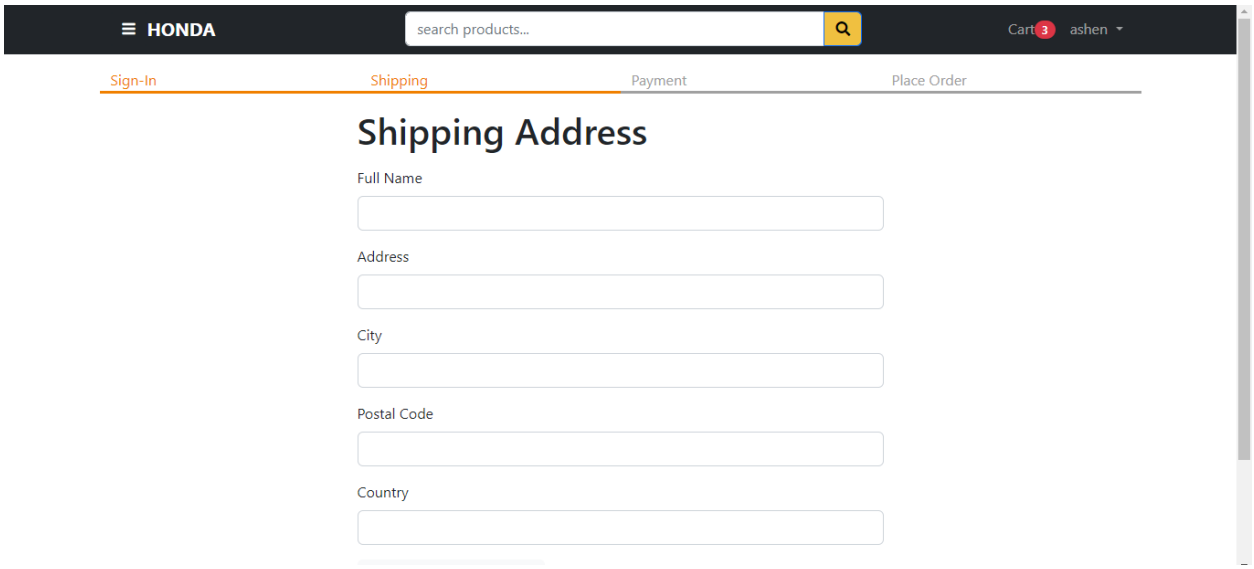

FIG 1.9

6. Location page

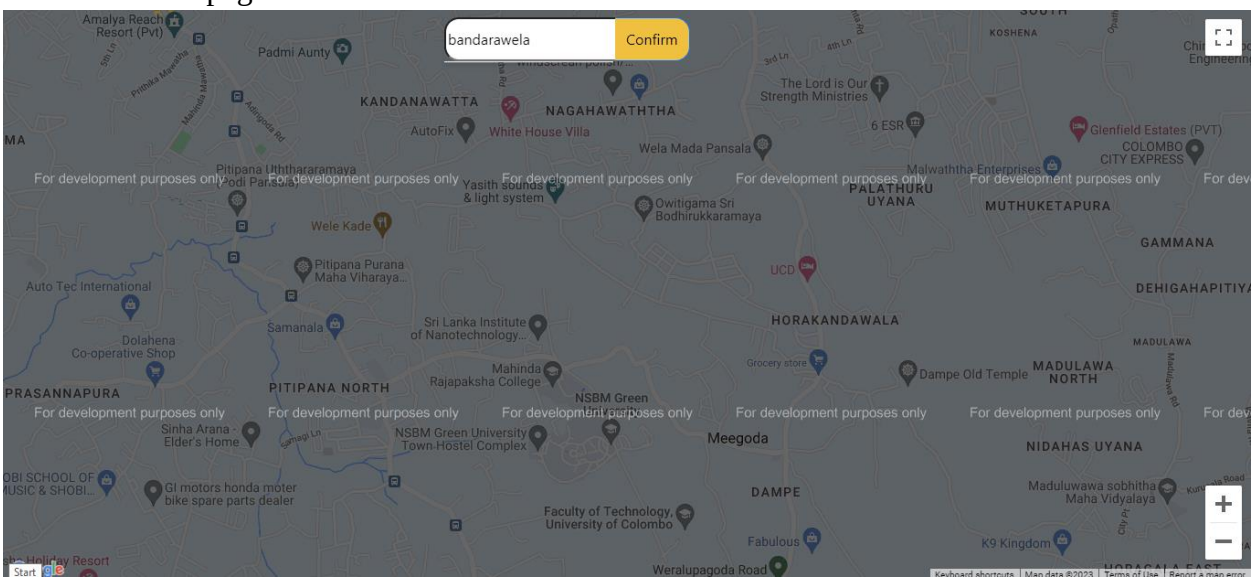

FIG 1.10

7. Payment method

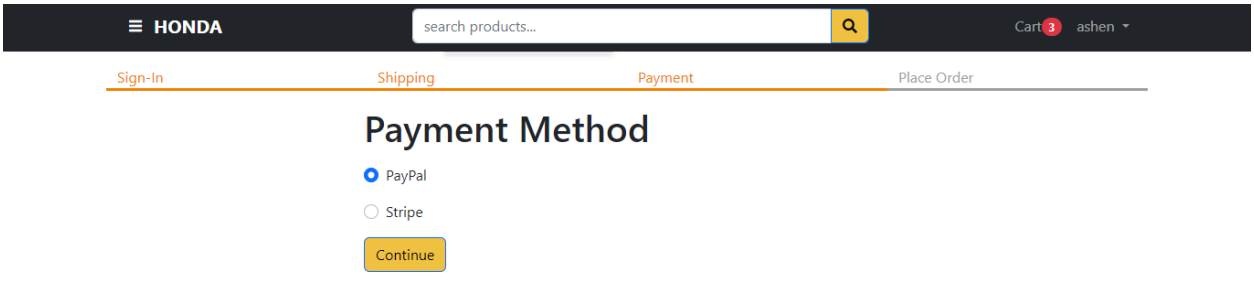

FIG 1.11

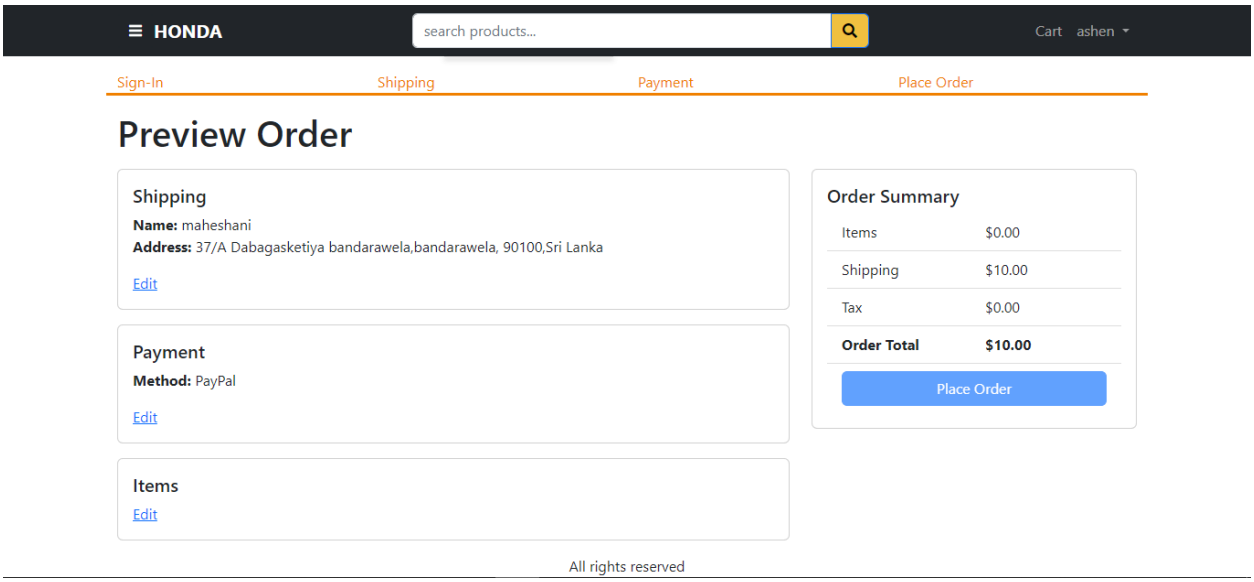

FIG 1.12

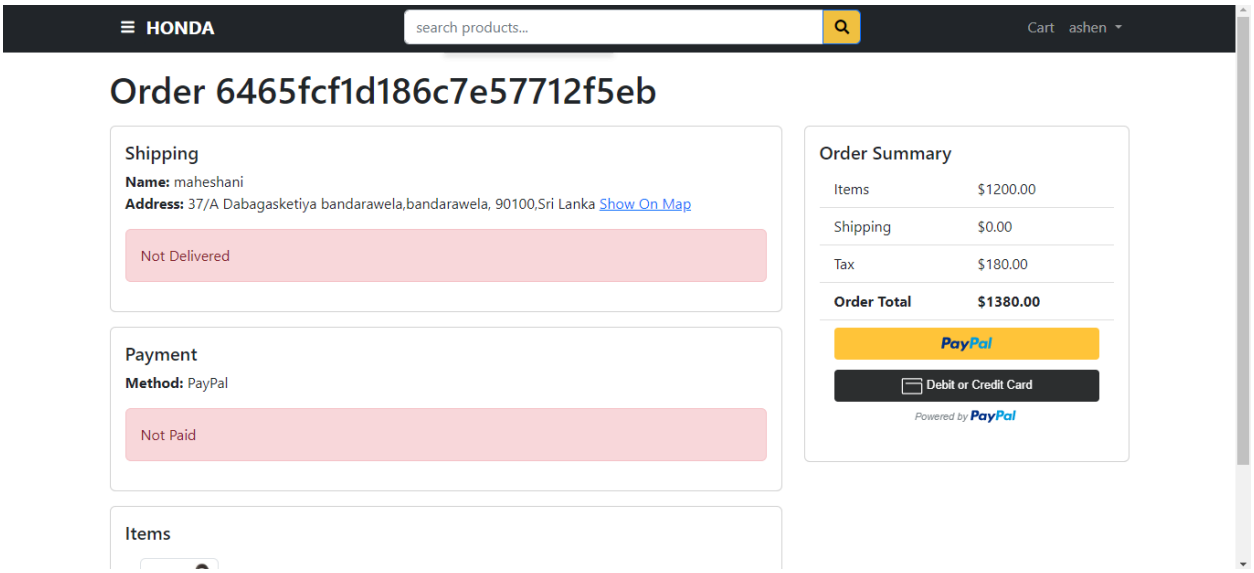

FIG 1.13

PayPal

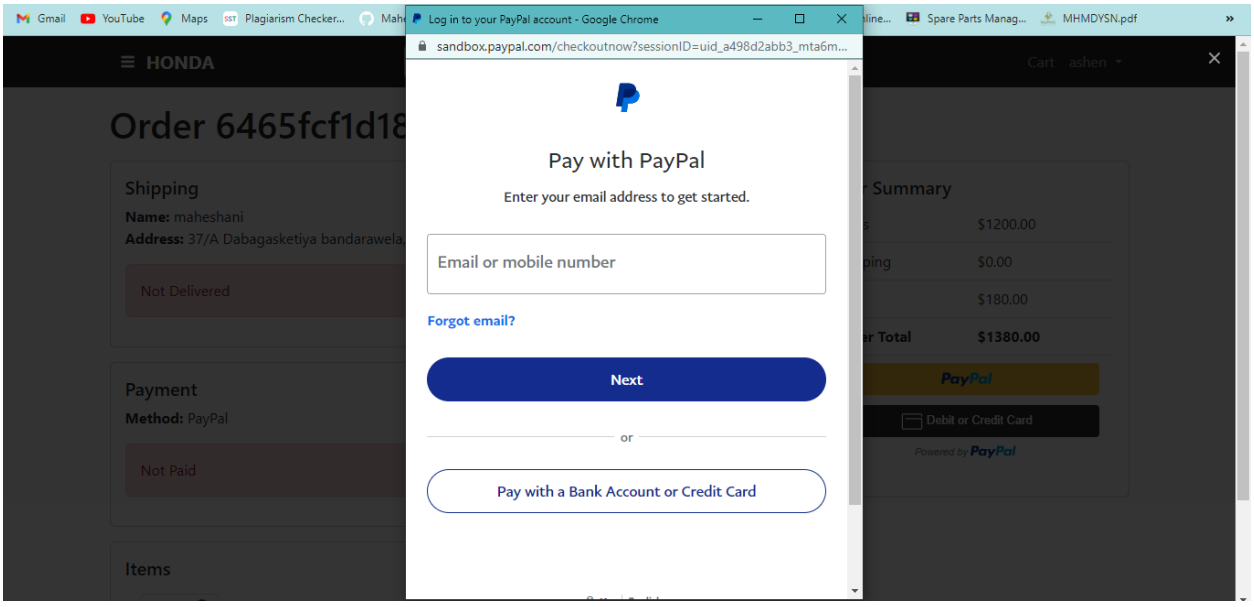

FIG 1.14

Debit or credit card

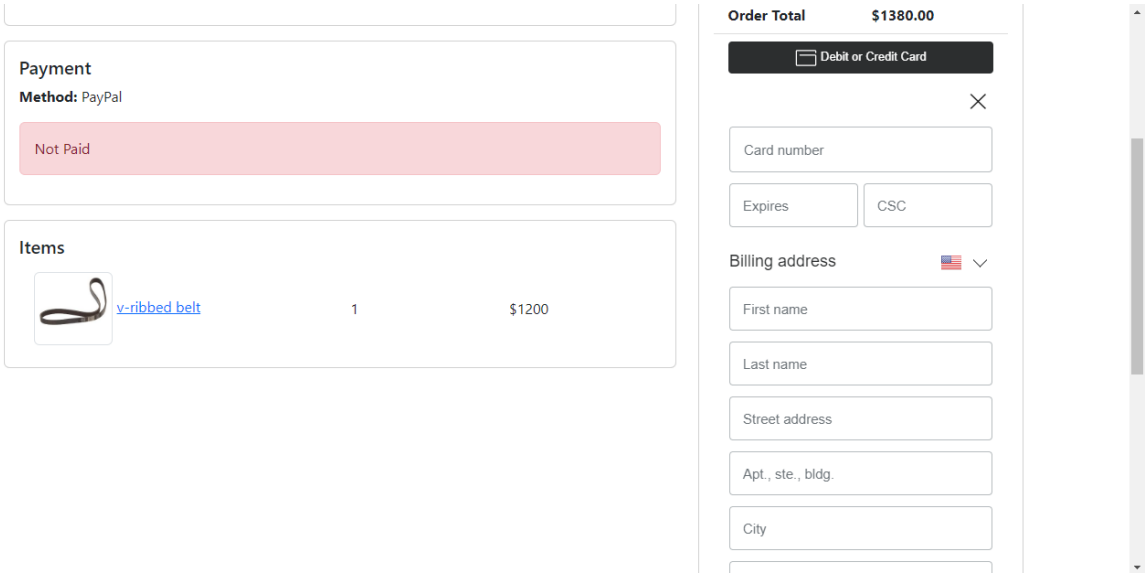

FIG 1.15

User Profile

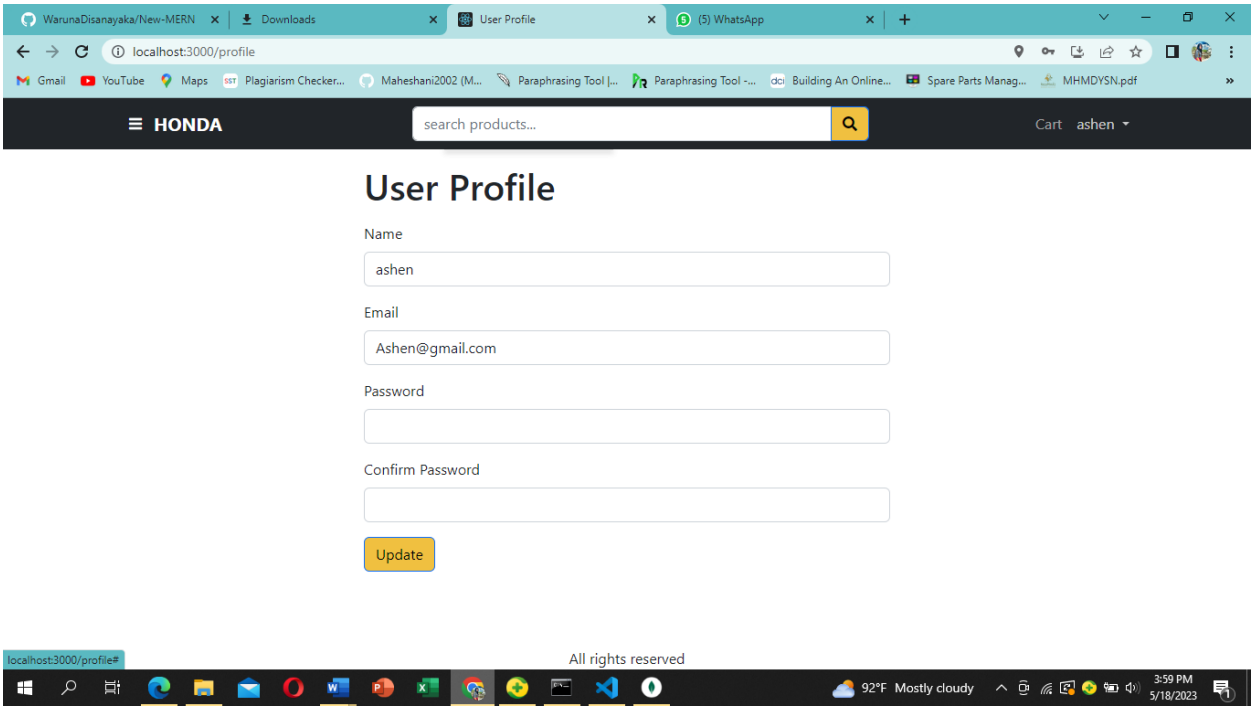

FIG 1.16

Order history

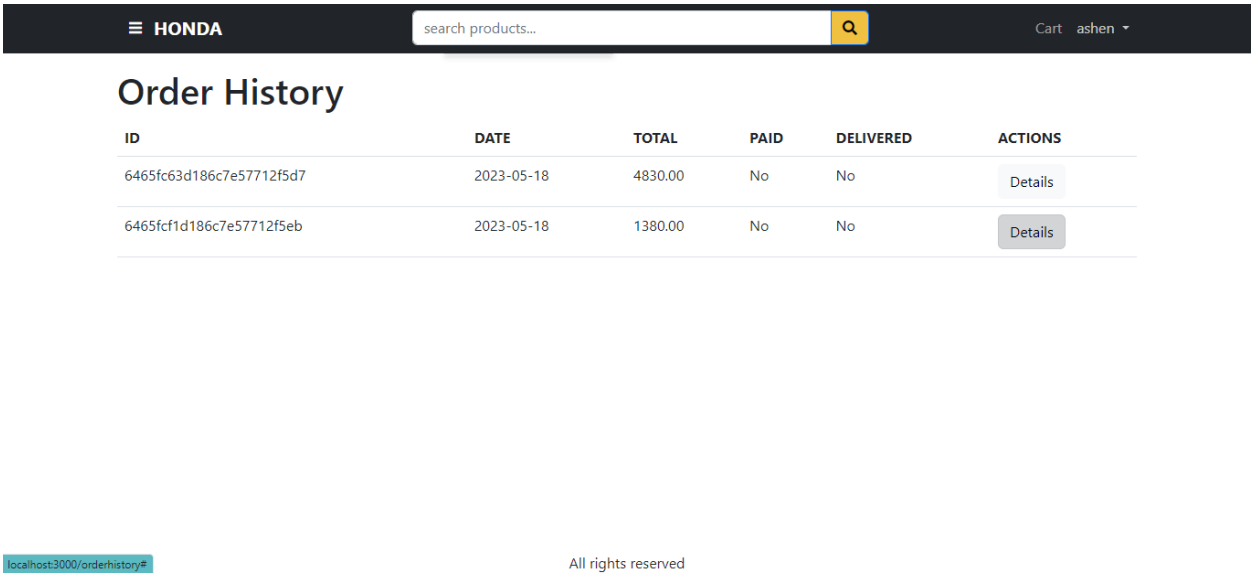

FIG 1.17

Shopping Cart

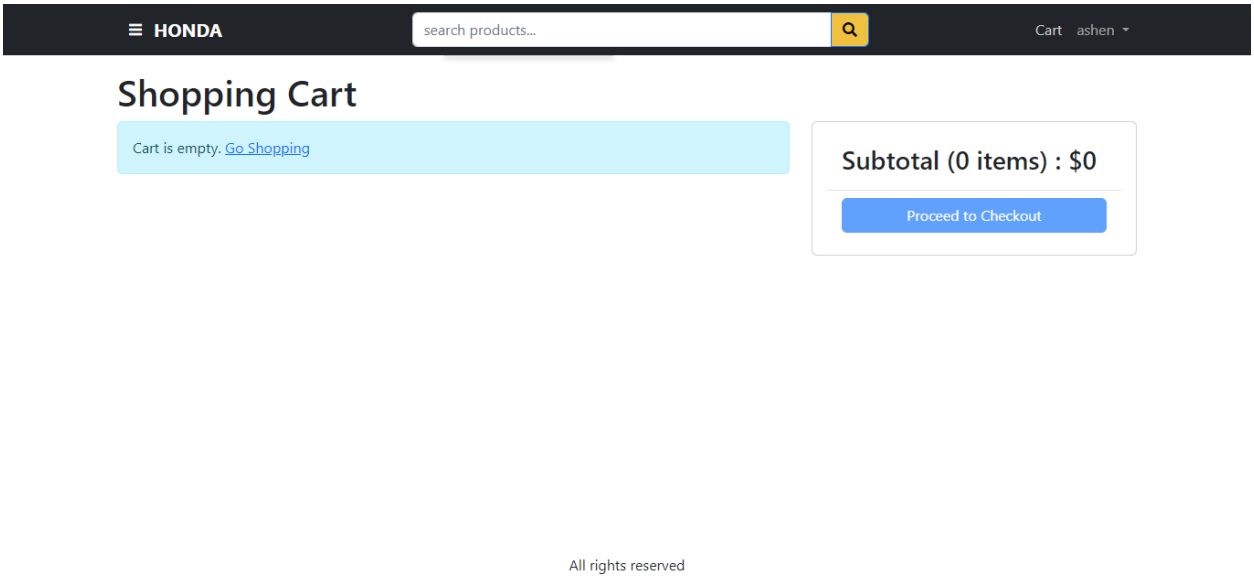

FIG 1.18

Reviews Page

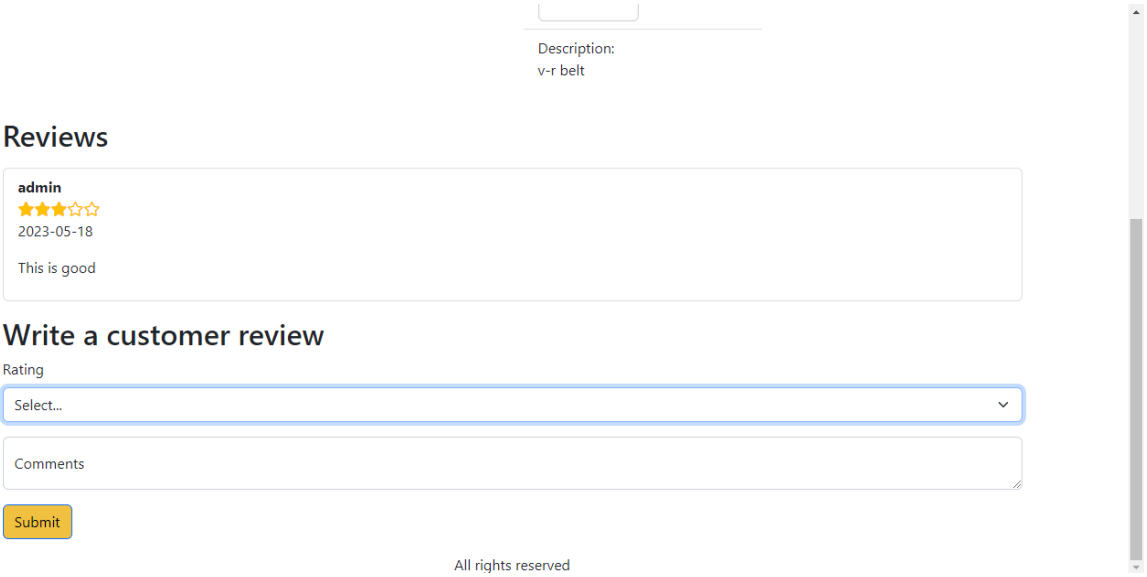

FIG 1.19

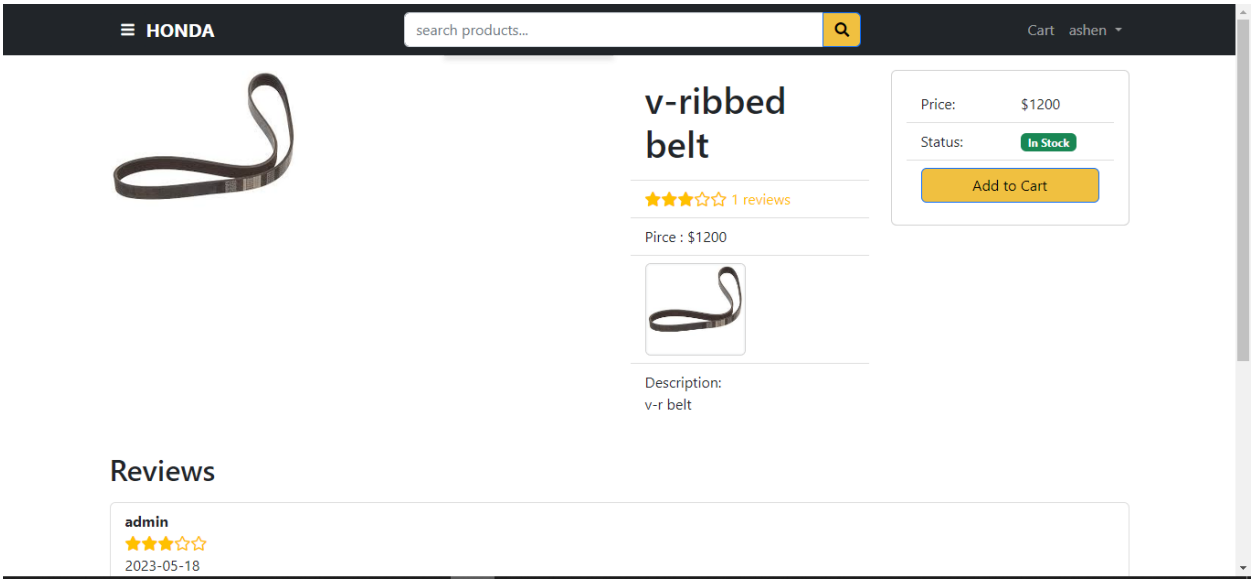

FIG 1.20

Categories [hamburger button]

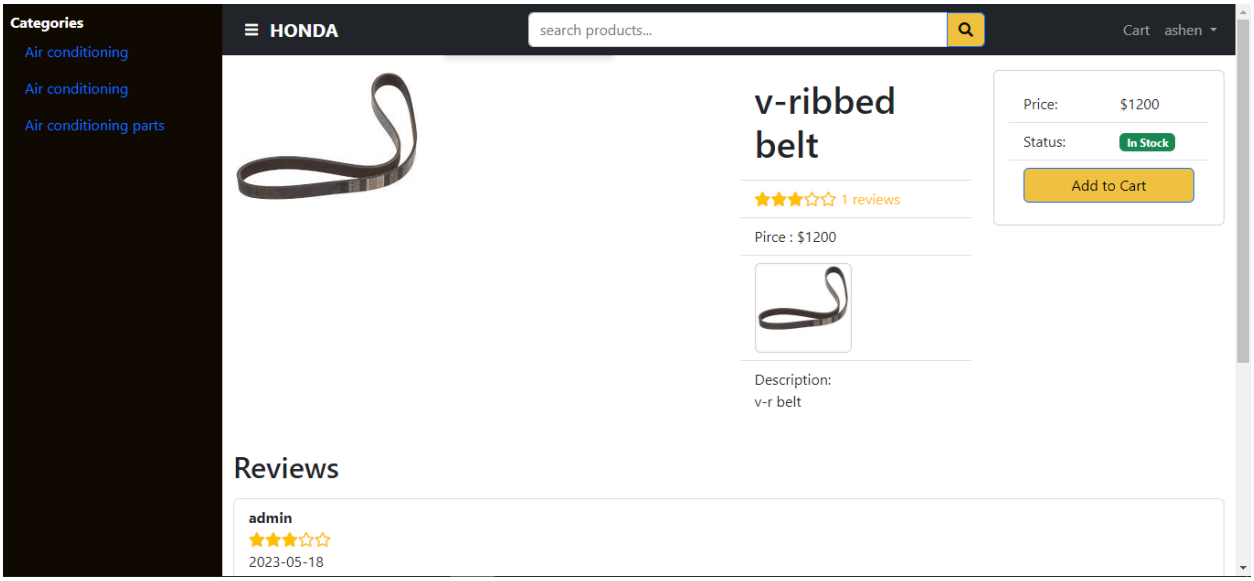

FIG 1.21

Search button

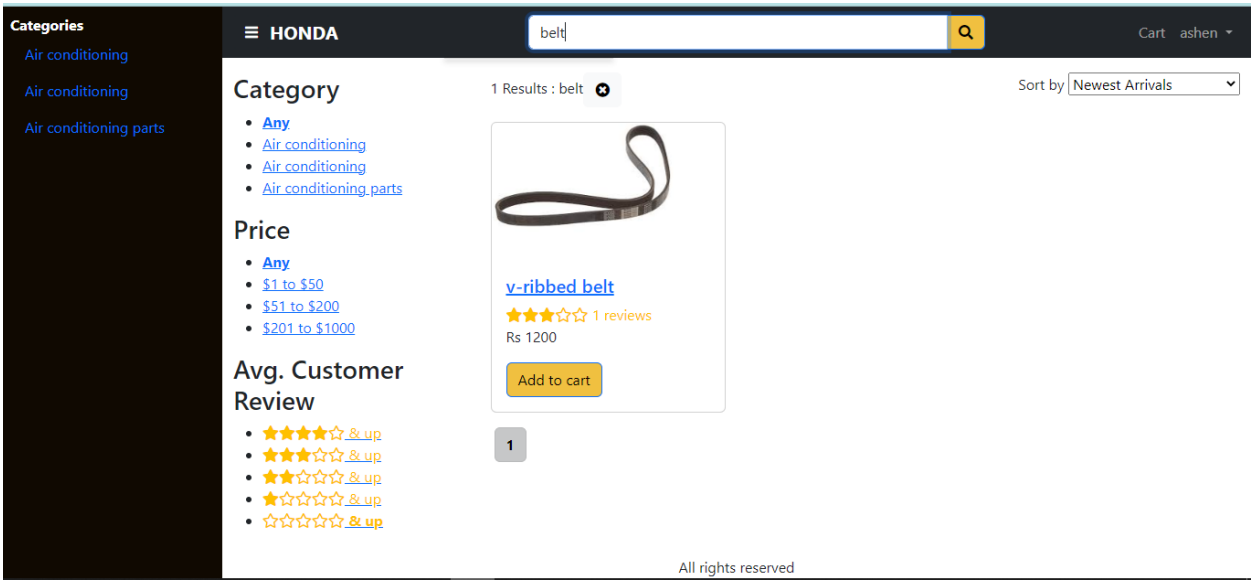

Fig 1.22

Chat bot

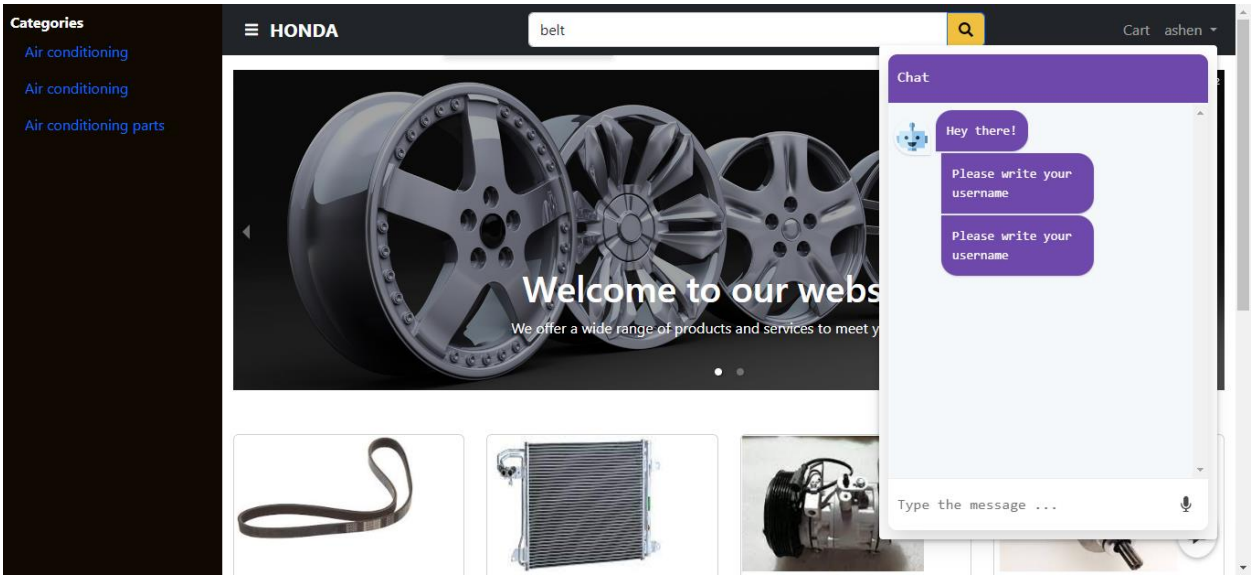

FIG 1.23

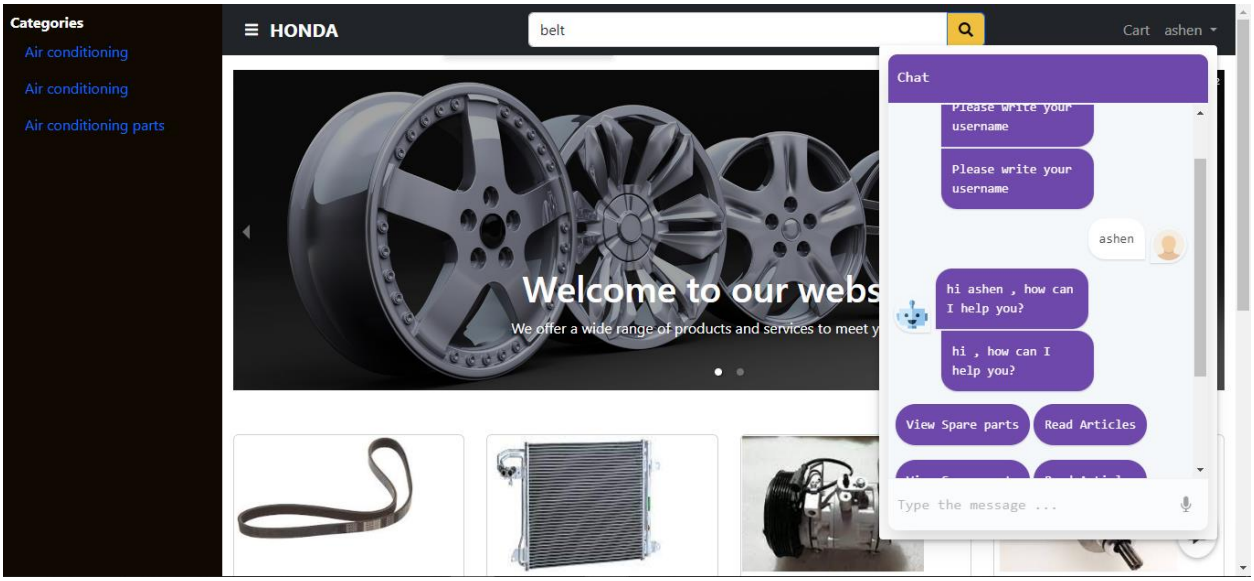

Fig 1.24

Admin interface

01. Admin sign in

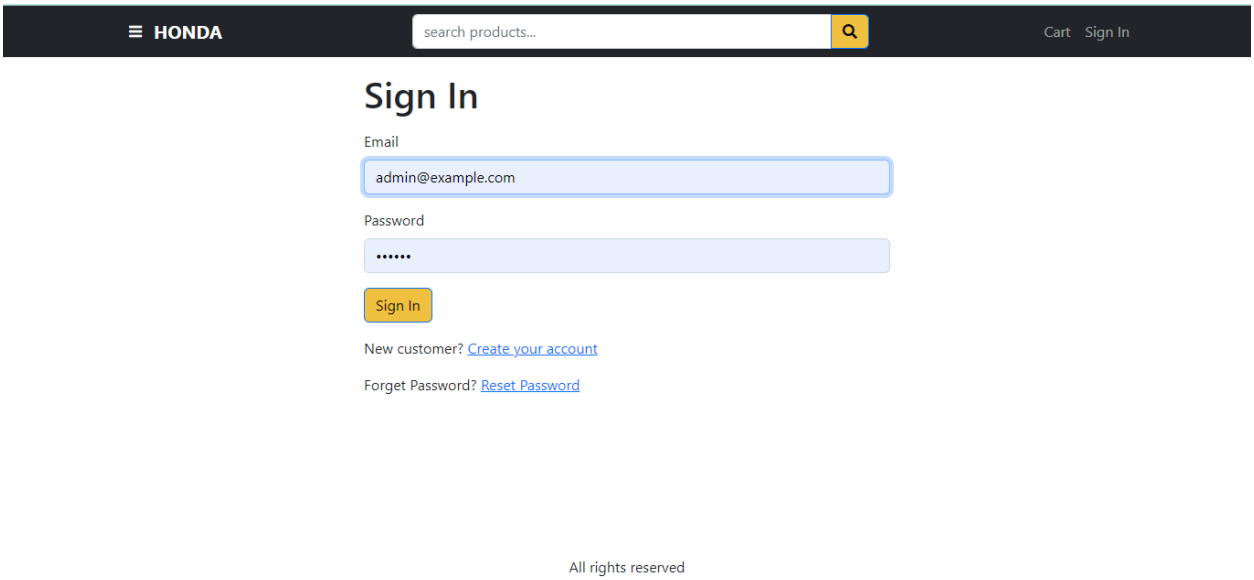

FIG 1.25

02. Admin sign up

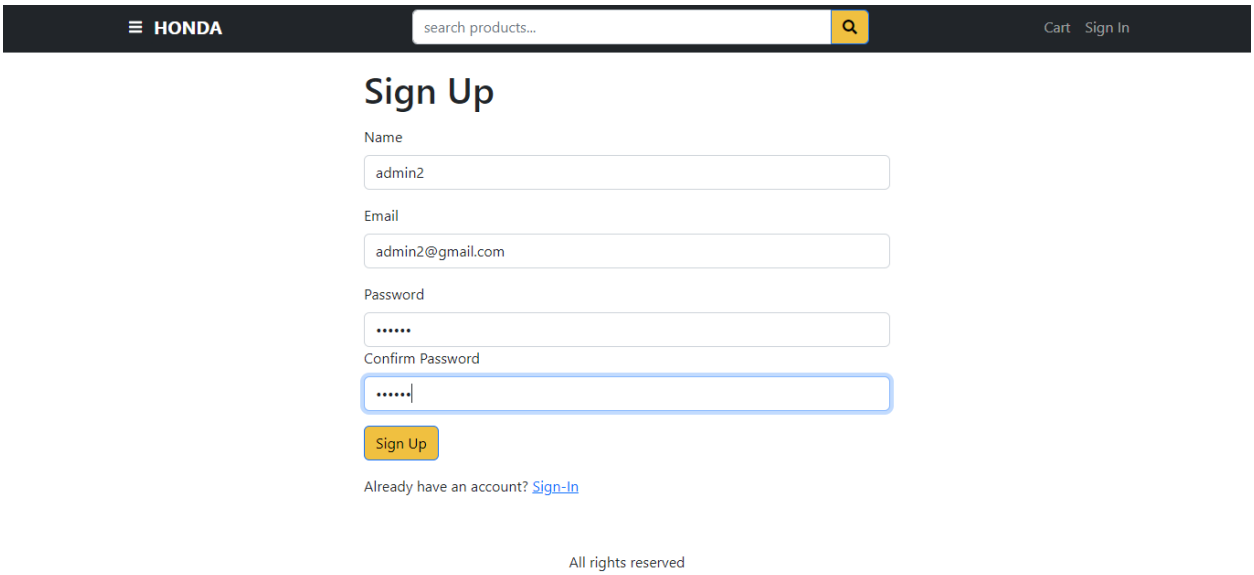

FIG 1.26

03.Admin dashboard

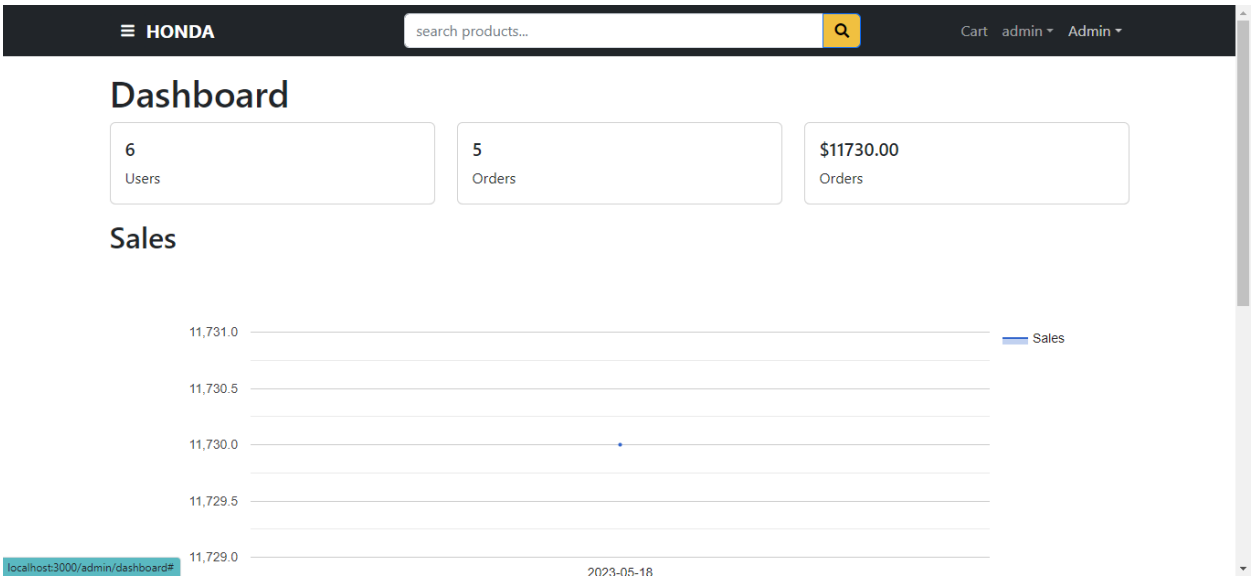

FIG 1.27

04.Products

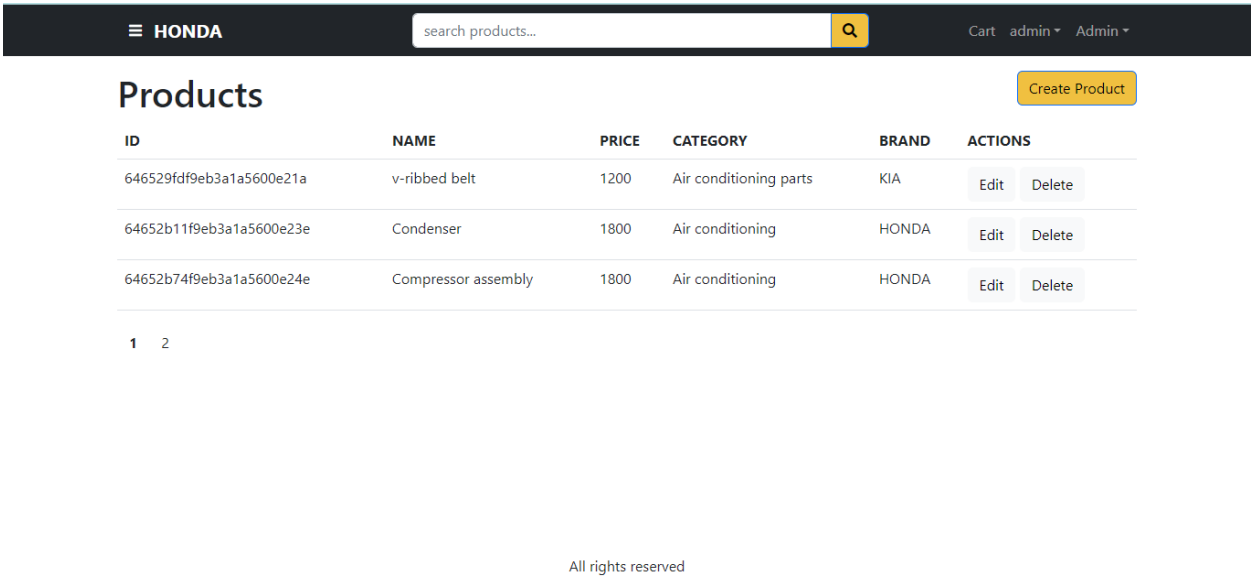

FIG 1.28

05.Create / edit product

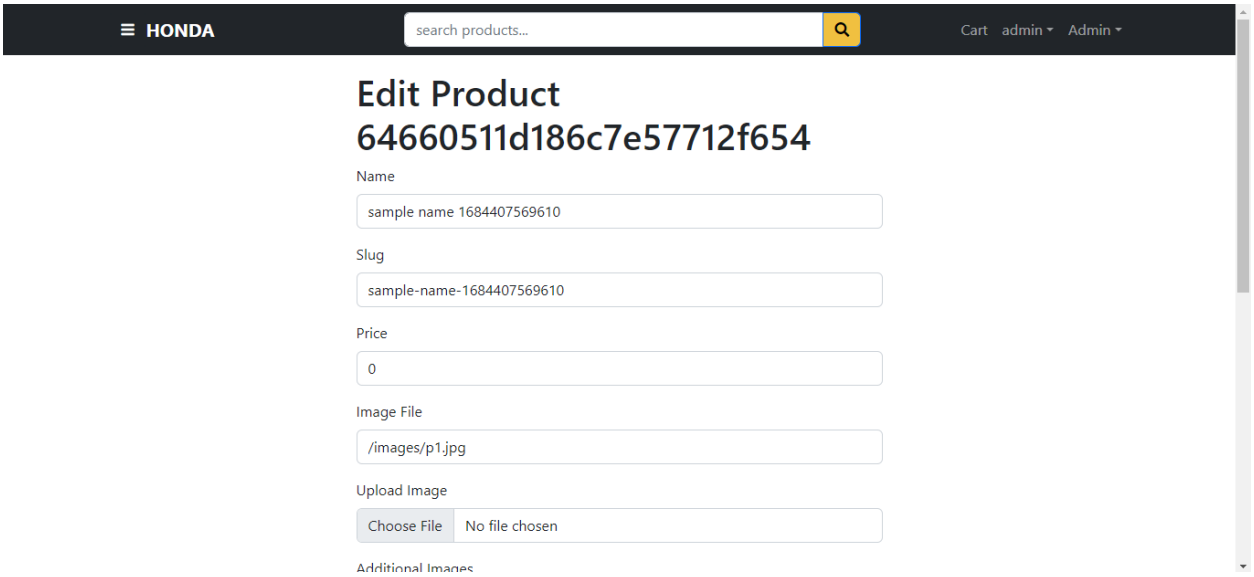

FIG 1.28

06. Admin orders

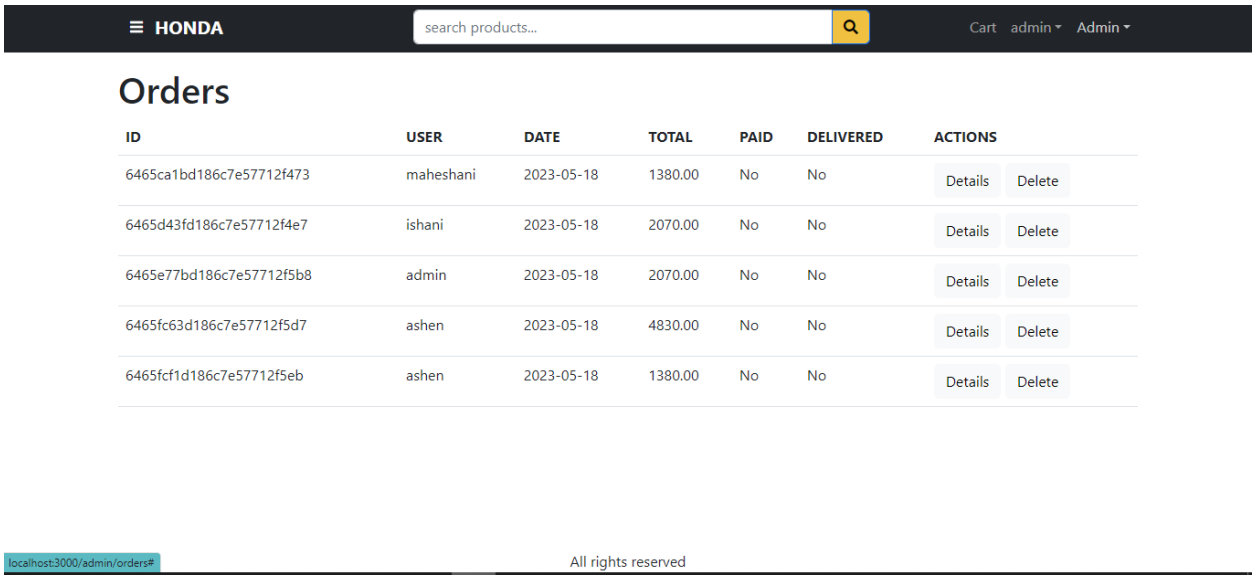

FIG 1.29

07.Users

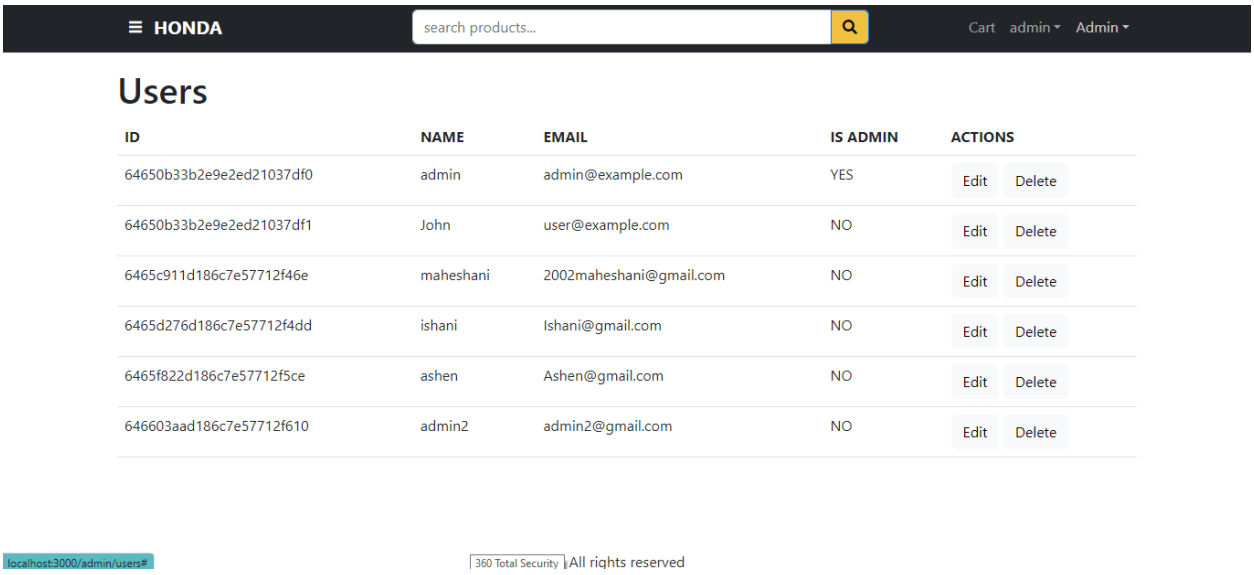

FIG 1.30

08.Order history

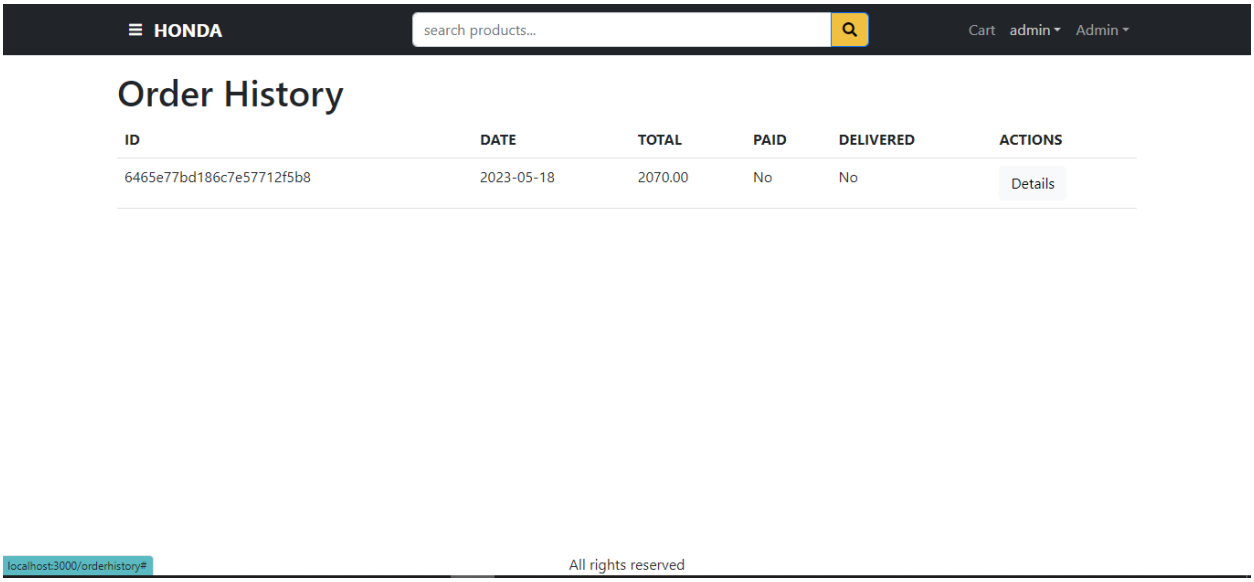

FIG 1.31

09. Admin user profile

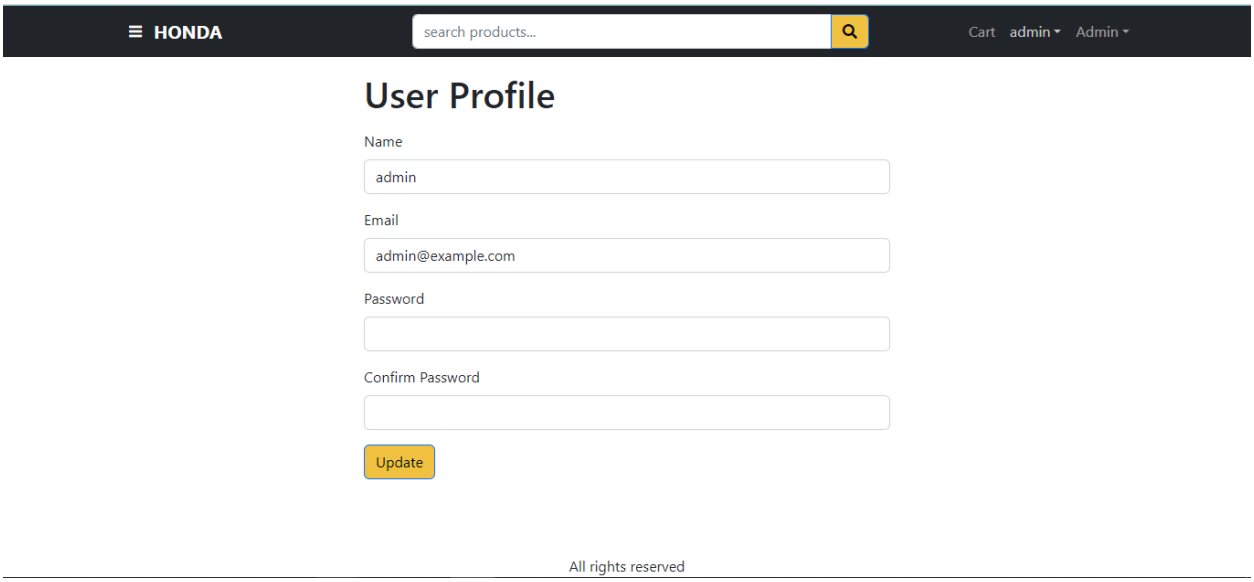

FIG 1.32

10. Admin Categories

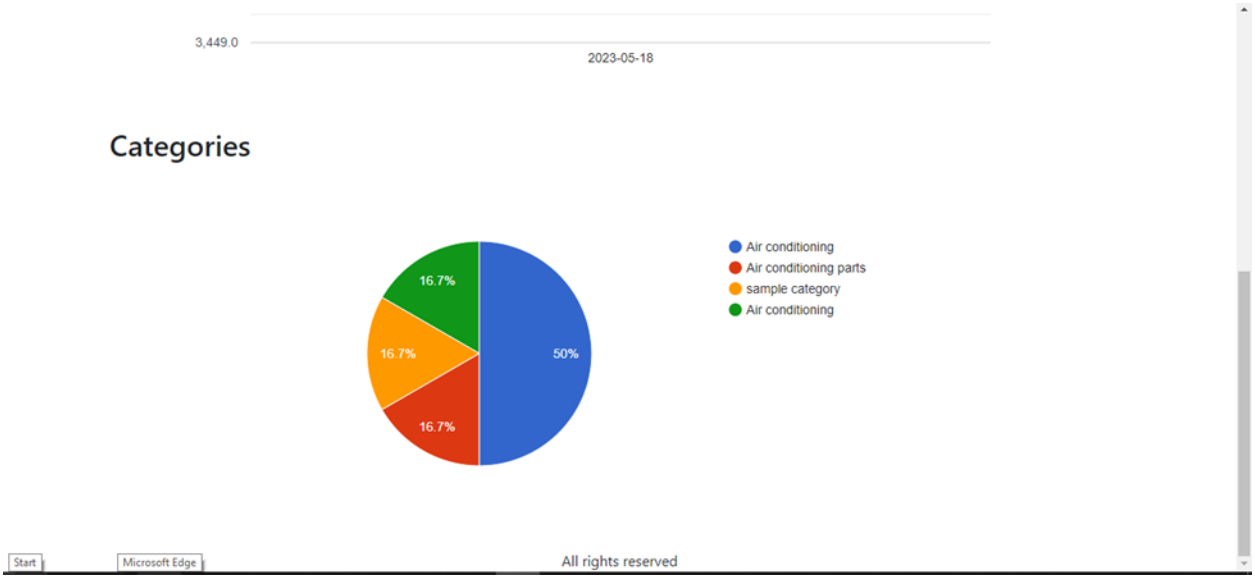

FIG 1.33

Testing

Testing plays a crucial role in ensuring the quality and reliability of the website for Honda spare parts, selling spare parts management system. In this final report, we will discuss the different types of testing conducted to evaluate the website's usability, functionality, performance, and security.

Usability Testing:

Usability testing focuses on evaluating the website's user interface, ease of navigation, and overall user experience. It aims to identify any usability issues and gather feedback from users. The following activities were performed during usability testing:

- Conducting user interviews and surveys to gather user feedback on the website's design and usability.
- Observing users as they perform specific tasks on the website to identify areas of confusion or difficulty.
- Analyzing user feedback and observations to make improvements to the website's user interface and navigation.

Functionality Testing:

Functionality testing ensures that all the features and functionalities of the website are working as intended. It involves validating that each function performs as expected and meets the defined requirements. The following activities were carried out during functionality testing:

- Creating test cases to cover all the features and functionalities of the website.
- Executing the test cases to verify the correct behavior of each function.
- Identifying and documenting any defects or issues encountered during testing.
- Fixing the identified issues and retesting to ensure proper functionality.

Performance Testing:

Performance testing evaluates the website's responsiveness, scalability, and stability under different load conditions. It measures the website's performance metrics, such as response time, resource utilization, and throughput. The following activities were conducted during performance testing:

- Creating performance test scenarios that simulate real-world usage patterns.
- Using performance testing tools to generate load and measure the website's response time and resource consumption.

- Analyzing the test results to identify any performance bottlenecks or issues.
- Optimizing the website's performance by addressing the identified bottlenecks.

Security Testing:

Security testing ensures the website's resilience against potential security vulnerabilities and threats. It involves identifying and mitigating any security risks that may compromise the website's data or functionality. The following activities were performed during security testing:

- Conduct vulnerability assessments to identify potential security weaknesses.
- Performing penetration testing to simulate real-world attacks and identify any vulnerabilities.
- Implementing appropriate security measures such as encryption, access controls, and secure authentication.
- Regularly monitoring and updating the website's security measures to protect against emerging threats.

Overall, the testing activities mentioned above were crucial in evaluating the website for Honda spare parts and selling the spare parts management systems. They helped ensure that the website is user-friendly, functions as expected, performs well under different load conditions and maintains a high level of security. The findings and recommendations from the testing process were used to enhance the website's usability, functionality, performance, and security to deliver a reliable and user-friendly platform for managing Honda spare parts.

Future Recommendation

As the development of the website for the Honda spare parts selling management system concludes, it is essential to consider future recommendations to enhance the website's functionality, user experience, and overall performance. This section of the final report provides insights into potential areas of improvement and suggestions for future development.

Here I'm making a website and a mobile app for spare parts for vehicles of Honda and for future suggestions I like to prepare for all the types of vehicles in Toyota, Mitsubishi and some other vehicle models. And also I would like to do research on who works in garages and add the workers in the garage to the same website with contact details and also from district vise I like to add the workers so that the customers will be easy to find the workers and takes the inventory and other relevant parts from the same website the worker too can buy the parts according to the customer's choice or else the customer can buy the parts by himself or herself it saves time, reduces black market prices, effort, and so on.

Social Media Integration:

Integrating social media platforms into the website can help expand the reach and increase brand visibility. Adding social sharing buttons, customer reviews, and testimonials can encourage social engagement and word-of-mouth marketing.

Mobile Application Development:

Consider developing a mobile application to complement the website. A mobile app offers convenience and accessibility, allowing users to browse and purchase spare parts on the go. The app can include features like push notifications for order updates, barcode scanning for part identification, and integration with mobile payment options.

Performance Optimization:

Continuously monitor and optimize the website's performance to ensure fast loading times and smooth navigation. Techniques such as code minification, image optimization, caching mechanisms, and server-side optimizations can contribute to a better user experience and increased conversion rates.

Conclusion:

By considering these future recommendations, the website for the Honda spare parts selling management system can continue to evolve and meet the changing needs of customers. Enhancing search capabilities, integrating with external systems, personalizing user experiences, and optimizing performance and security are key areas to focus on. Additionally, mobile application development, social media integration, multilingual support, and continuous testing and maintenance contribute to an improved website experience. By adopting these recommendations, the website can stay competitive, drive customer satisfaction, and support the growth of the Honda spare parts business.

End project report

This final project report presents the development and implementation of a comprehensive website for the Honda spare parts selling management system. The project aimed to address the challenges faced by Honda spare parts sellers in managing their inventory, facilitating online sales, and improving customer satisfaction. The report provides an overview of the project, including its objectives, methodology, key findings, and recommendations for future enhancements.

Introduction:

The introduction section provides background information about the project, highlighting the importance of an efficient and user-friendly website for Honda spare parts sales. It discusses the significance of the project in streamlining inventory management, improving sales, and enhancing customer experience.

Project Objectives:

The project objectives outline the goals set for developing the website. These objectives include designing an intuitive user interface, implementing a spare parts management system, facilitating secure online transactions, and ensuring scalability and performance.

Methodology:

The methodology section explains the approach taken to develop the website. It covers the use of the MERN (MongoDB, Express.js, React.js, Node.js) stack, wireframing and prototyping, database design, front-end and back-end development, testing, and deployment.

System Features and Functionality:

This section describes the key features and functionality of the website. It covers spare parts catalog management, search, and filtering options, user registration and authentication, shopping cart management, secure payment gateway integration, and customer support.

Future Recommendations:

The future recommendations section provides suggestions for further improvements and enhancements. It discusses potential areas for development, including advanced search capabilities, integration with CRM and order management systems, mobile application development, and multilingual support.

Conclusion:

The conclusion summarizes the project's achievements, highlighting the successful development and implementation of the website for Honda's spare parts selling management. It emphasizes the significance of the website in improving inventory management, sales efficiency, and customer satisfaction. It also acknowledges the project's limitations and concludes with a positive outlook for the future of the Honda spare parts business.

The final project report showcases the successful development and implementation of a website for the Honda spare parts selling management system. The report highlights the project's objectives, methodology, system analysis and design, implementation and development processes, testing and quality assurance, results and evaluation, future recommendations, and conclusions. The website aims to revolutionize the spare parts selling process, improve customer satisfaction, and contribute to the growth

Project Post mortem

This project postmortem provides a comprehensive evaluation of the development and implementation of the website for the Honda spare parts selling management system. It aims to reflect on the successes, challenges, and lessons learned during the project and identify areas for improvement. This postmortem report serves as a valuable resource for future projects and provides insights for enhancing similar systems.

Successes and Accomplishments:

This section highlights the successes and accomplishments of the project. It discusses the successful implementation of key features such as spare parts catalog management, search, and filtering options, user registration and authentication, shopping cart management, secure payment gateway integration, and customer support.

Challenges and Lessons Learned:

This section addresses the challenges encountered during the project and the lessons learned from them. It discusses any technical difficulties, resource constraints, or time management issues that arose during the development process. It also highlights the importance of effective communication, collaboration, and project planning to overcome these challenges. The lessons learned from these experiences provide valuable insights for future projects and help identify strategies for improved project execution.

Recommendations for Future Projects:

Based on the challenges faced and the lessons learned, this section provides recommendations for future projects. These recommendations may include improved project planning and scheduling, increased emphasis on user experience testing, the adoption of agile development methodologies, and effective communication and collaboration strategies. Additionally, suggestions for incorporating new features, technologies, or functionalities into the website may be provided to enhance its overall value and competitiveness.

Conclusion

The project postmortem concludes by summarizing the key findings and insights gained from the development and implementation of the website for the Honda spare parts selling management system. It emphasizes the importance of continuous learning and improvement in project management practices. By reflecting on the successes, challenges, and user feedback, the project postmortem serves as a valuable resource for future projects in the automotive spare parts industry.

In conclusion, this project postmortem evaluates the development and implementation of the website for the Honda spare parts selling management system. It addresses the project objectives, highlights successes and accomplishments, discusses challenges and lessons learned, evaluates user feedback, and provides recommendations for future projects. By leveraging these insights, future projects can be executed more effectively and result in improved website functionality, user experience, and overall project success.

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https://www.google.com/search?q=summary+of++spare+parts+management+system+pr

User Guide

Thank you for choosing our website for managing Honda spare parts sales and inventory. This user guide aims to provide you with a comprehensive understanding of the features and functionality of our website. By following this guide, you will be able to navigate through the system, manage spare parts, place orders, and access relevant information. Let's get started!

Registration and Login:

- Visit the website and click on the "Register" button to create a new account.
- Fill in the required information and click "Submit" to register.
- Once registered, click on the "Login" button and enter your credentials to access your account.

Dashboard:

- After logging in, you will be redirected to the dashboard.
- The dashboard provides an overview of your account, including recent orders, notifications, and inventory status.

Spare Parts Catalog:

- Navigate to the "Spare Parts Catalog" section to browse and search for Honda spare parts.
- You can use the search bar to find specific parts by name, category, or part number.
- Click on a part to view detailed information, including price, availability, and product specifications.

Placing an Order:

- To place an order, select the desired spare parts and specify the quantity.
- Click on the "Add to Cart" button to add items to your shopping cart.
- Review the cart, make any necessary modifications, and proceed to checkout.
- Provide the shipping and payment details, and confirm your order.

Order Tracking:

- You can track your orders by visiting the "Order Tracking" section.
- Enter your order number or reference number to view the status and the estimated delivery date of your order.

Account Management:

- Update your personal information, such as name, contact details, and shipping address, in the "Account Settings" section.
- Change your password or update your email preferences as needed.

Inventory Management:

- If you are a seller or store owner, you can manage your spare parts inventory in the "Inventory Management" section.
- Add new parts, update stock levels, and modify product details as necessary.

Help and Support:

- If you encounter any issues or have questions, you can leave a massage
- You will find FAQs, troubleshooting guides, and contact information for customer support.

Logout:

- To log out of your account, click on the "Logout" button.

Note: This user guide provides a general overview of the website's functionality. The actual interface and features may vary slightly based on the specific implementation and customization of the system.

We hope this user guide has provided you with a clear understanding of how to navigate and utilize the features of our website for Honda spare parts selling and spare parts management. Should you require any further assistance, please refer to the help resources or contact our support team. Thank you for choosing our website, and we wish you a seamless experience in managing your spare parts needs.

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Project Management Review

The development and implementation of the website for Honda spare parts, selling spare parts management system involved effective project management practices to ensure the successful completion of the project. This project management review provides an overview of the key aspects of project management that contributed to the project's success.

Project Initiation:

Clear Objectives: The project objectives were defined clearly, including the development of a user-friendly website for managing spare parts sales and inventory.

Project Planning:

Scope Definition: The project scope was clearly defined, outlining the specific features, functionalities, and deliverables of the website.

Work Breakdown Structure (WBS): A comprehensive WBS was created, breaking down the project into manageable tasks and assigning responsibilities to team members.

Timeline and Milestones: A detailed project schedule with realistic timelines and milestones was developed to track progress and ensure timely completion.

Resource Management:

Resource Allocation: The necessary hardware, software, and infrastructure resources were procured and allocated appropriately.

Risk Management:

Risk Identification: Potential risks and challenges were identified, such as data integration issues, security vulnerabilities, and scalability concerns.

Risk Assessment: The identified risks were assessed in terms of their impact and likelihood of occurrence.

Risk Mitigation: Effective risk mitigation strategies were implemented, such as regular data backups, security measures, and scalability planning.

Communication and Collaboration:

Regular Meetings: Project meetings were conducted to discuss progress, address issues, and ensure effective communication among team members.

Documentation: Clear and concise documentation was maintained, including meeting minutes, project plans, and technical specifications.

Quality Assurance and Testing:

Test Planning: A comprehensive test plan was developed, outlining the testing approach, test cases, and acceptance criteria.

Testing Execution: Rigorous testing was conducted at each stage of development, including functional testing, performance testing, and user acceptance testing.

Change Management:

Change Control Process: A change control process was established to manage any changes or modifications to the project scope, requirements, or timelines.

Documentation of Changes: All changes were properly documented, including the rationale, impact, and approval process.

Lessons Learned: A post-project review was conducted to identify lessons learned, successes, and areas for improvement in future projects.

Overall, the effective project management practices implemented throughout the development of the website for Honda spare parts, and selling spare parts management system ensured successful project delivery, meeting the objectives and requirements of the stakeholders. Clear planning, resource management, risk mitigation, communication, and quality assurance contributed to the project's overall success.

PUSL3119 Computing Individual Project

Project Initiation Document (PID)

Honda Spare Parts:
Selling, Spare parts management system

Supervisor: Nethmi Weerasinghe

Name: Rathnayake Rathnayake
Plymouth Index Number: 10749985
Degree Program: Plymouth Software Engineering

PID – Project Initiation Document

Chapter 01

In most trade and in business can be done through online as much as possible . My project is to build a website and a mobile app of a spare part management system to customers which customers can buy the correct spare parts to the relevant vehicle through this. Spare parts I'm referring here is all the spare parts of the vehicles which are ranging from large to small vehicles of Honda .This website is all about the vehicles in Honda category .

Spare parts are expensive and in purchasing of components is associated with a high costs and high depreciation with there obsolescence's . There are number of problems that goes with finding and engineering of spare part management system . According to the spare parts management system there are lots of possible problems which companies and customers have to face . As a example stockouts of spare parts , Location mix up , lead time variability and some other reasons . The spare part management system is uncertainly about the Who owns a vehicle will not be able to put the vehicle to a repair in company because it costs prices are very high . Normally according to the current situation of Sri Lanka most of the people cannot repair the vehicles according to the company prices are high . And also because of the fuel crisis we cannot travel to find the parts to the vehicle . The unavailability of the right parts may have become a serious and negative impact on unavailability of stocks and schedule interruptions when repairing. Fast and steady coordination of the call for of spare components with deliver of spare components at the desired time could be very essential aspect for the execution of the maintenance process . Missing spare components are one of the maximum frequently stated cause in protection tasks .

It has been anticipated that presently, every keep keeps a large quantity of stock in its inventory. The degree of stock may be very vital for the a hit commercial enterprise of the enterprise. It has been found that during the contemporary manner the enterprise is loosing cash considering that a few gadgets exit of stock. Also, pretty some gadgets are over stocked in a few stores. Either the enterprise is blocking off cash via way of means of conserving extra stock or the company is dropping cash via way of means of the stock going beyond the expiration dates. Since presently character keep supervisor is chargeable for keeping the extent of inventory in the shop, very regularly it's far relies upon upon the performance and understanding of the shop supervisor. Even though the enterprise coverage would possibly be clean concerning the reorder degree of every item, it isn't maintained properly because it's far a guide manner. Lack of actual time facts creates problem for the company control to discover the extent of inventory to be had in every keep . The size of the spare parts marketplace has substantially extended with inside the last a long time in keeping with a number of the estimations I actually have found . Some of the companies have began out a few bench marks for his or her prices for the variety of spare parts . The variety of spare which are shopping for has extended on this area. From the properly construct offerings particularly with inside the context of making sure spare components

availability and quicker reaction instances to their customers . From those it commonly recognition on value optimization of inventories of the Honda automobile types that is vital in shopping for . The control machine of spare components and additives which include shares of state-of-the-art shares , reconditions and semi finished products . The factor of manufacturing an business enterprise can flexibly meet their own needs . Another element of protection and reliability need to be taken into consideration with in spare parts control system .

To the problem I have decided to prepare a website and a mobile app to the customers or to the client from this project it is about selling and delivering brand new , reconditioned spare parts of the vehicle category known as Honda . In this spare part management system it has all types of vehicles in Honda . My website is categories according to manufacture year weather it is diesel , petrol or hybrid . In order to reduce and to help the people regarding this issue I thought of making an mobile app to the owners of the vehicle to buy the relevant part through this app according to he/she preferences . From this the customers can see the number of stocks available . Through this it can save time , travelling cost and effort . We deliver the items from 24 hours . We are willing to offer customers better services , fast and precise spare part delivery from this project . Therefor spare part management system is naturally an important area .

Features of spare part management system

1. Availability of spare parts

- With in this app and website this application will help in updating the availability of number of spare parts.

2. Price of spare parts.

- The price of the spare parts that are available will get a rescannable price with some discounts and it will update according to the current situation of the country.

3. Vehicle type.

- According to the vehicle type the availability of the stock can be browsed to make it easy and to fulfill the customer requirements .

4. Delivery.

- After ordering we can ensure fast delivery with high security and will take care of the items safety when delivery items to the relevant place according to the customer details.

5. Automated inventory control system .

- This websites updates the inventory automatically when it is bought by a customer and the other customer can see the availability amount of spare parts and this helps in inventory managing process for the business .

From this project my outcome is to build a proper website and a mobile app according to customer preferences to make clients easy in buying spare parts of vehicle category called Honda . And my aim is provide a good customer service which provide the right parts , in the right quantity , to the right place , at the right time , with the right level of quality and at the least total cost to the customer . I decided here to make a mobile app because to make the customer easy in buying the parts through this app.

Chapter 2

The importance of having such applications for customers is to save time , travelling cost and effort . It helps in customer to choose the spare parts according to the customer preferences. such as :- brand new spare parts , reconditioned parts and etc. From this project the parts with a large replacement probability are typically stocked to avoid the risks because of spare parts are expensive nowadays . From this application longer maintenance activity duration may lead extremely cost delay in repairing, ordering cost of spare parts and the delay cost arises in finding the relevant part to the vehicle . And this helps the owner in inventory managing through this project . Because of the delay in distribution on using normal distribution we shows here a 24 hour service with better, fast and precise distribution service through this . From this application users can search the relevant part it makes the user in finding the parts in an accurate way . In selecting a approach for stock control it's far very crucial to have a balanced view of performance and in effectiveness due to the fact it's far vital to join the evaluation of purchaser wishes with with inside the control strategies due to those the spare components and the combination call for for a particular product will upload to the characteristics of an individual purchaser. It is crucial to have such programs of spares provisioning is a prerequisite for all forms of renovation obligations in repair . From the spare parts application which I'm making is an essential part of the overall of spare part management system as it ensures that there will always be an adequate supply of spare parts when the customer is needed and from these there wont be delays in repairs while awaiting for spare parts .

The impact of the project to the customers is to save their time and money . From the online market it gives a 24 hour service . It means the customer don't have to worry about the time and

can stop anytime from anywhere because it updates the inventory regularly when an spare part is bought by a customer . All the customers should only have a working internet connection . This spare part management system gives a bigger reach and without worrying about the distances from this customer can easily find the spare parts and it is very easy to use and navigate . And also can compare the items and the prices easily of brand new parts and reconditioned parts .

The impact of the project to the business is to increase the number of sales of spare parts . It easily moves forward in competitive market . from this project it easy to show the deals , discounts , promotions of the spare parts which gives a free marketing to the business from this so that it helps to develop the business . And also from this it increases customer base internationally . Non-technical information for the is provided by the business requirements , determined business requirements for the project. Typically, the system's users give the system's business requirements. A prototype inventory management application has been created. since there are no actual business users to connect with during the implementation of the assembling the needs of the business.

Chapter 3

There are many final deliverables in this project after it is created

1. Inventory control system
2. Purchasing
3. Shipping and receiving
4. Ordering
5. Price management

Inventory control system

- It controls the inventory regularly and after a spare part is ordered by a customer it updates the number of spare parts available in the stocks.

Purchasing

- They deal with provider and producers as a way to offer all the essential spare elements under precise costs and with in delivery time

Shipping and receiving

- They handle all packing and unpacking spare components that are shipped in or out. They are accountable approximately exceptional control inspections that can be required.

Ordering

- Ordering consists of the timing for make an order and buy the proper amount of spare parts that reduces the cost. A continual perusal of inventory utilization through the materiel phase is necessary to optimize the stocks .

Price management

- It updates the prices and gives discount according to the company decisions . The organization ought to stay up to date at the spare parts market , so as to buy with best prices which can enhance the manufacturing with inside the lowest rate so the organization can boom its productiveness and to insure its survive .

Objectives of my project :-

• To Save time.

• To Save cash.

• To the online marketplace offers 24 hour support. It implies that you can shop whenever you want, from wherever, without having to worry about the time. A functioning internet connection is all you need.

• To Buying auto parts online gives you a bigger reach and eliminates distance concerns.

• To Suppliers selling thousands of items, including engine parts, braking components, and other accessories, can be found on the online marketplace along with a price list.

• To Easily compare products and prices.

• To Simple to navigate and utilize

Chapter 4

Previous work which publishers by research

- “Critical Path Method (CPM) and PERT are two widely used techniques in spare parts management system maintenance scheduling of time based network before 2007 and 2009. CPM is mostly used in the deterministic case, while PERT focuses on uncertain activity times. PERT assumes that activity times are random variable with given density function 2013);. Several variations of PERT have been proposed , 2000; , 2001). PERT related methods are widely studied and focus on estimating activity durations and project completion time. There is also work on project scheduling with stochastic activity durations(2005). In this stream (2009) , (2011) are particularly related because of their focus on spare parts management system planning: (2009) apply the theory of constraints and risk assessment, and carry out a case study.”

- “The literature research shows focus on further categorization to improve the internal management of spare parts inventory. There are also studies that combine both aspects, demand and purchasing policies depending on demand. (2003) studied the strategy orders in case of accidental failure. Specific studies concerning the categorization of spare parts depending on the strategy of supplying and purchasing portfolios were conducted in (2005) and in (1983). Categorization according to the type of demand for spare parts has been studied by authors Kobbacy and Liang . In his research, he examined the impact on the demand for spare parts in times of uncertain demand. (2015) created a work which combines the uncertainty in supply and demand for spare parts and accordingly suggests a strategy for reducing these uncertainties. The concept of integrating demand and supply chains is discussed in the work of D. Walters (2020).”

The spare parts inventory management system is a topic which has been attracted in past and in recent years , from the considerable attention which focuses by researches from the management system in research field . In addition I have noticed a concentration of some parts in few journals which leads a debate on spare part management system . One of the main point in emerging is that a modeling approach dominates the publishing activity on spare parts inventory management system . This also can be seen as a reason on contributing to the research practice – gap encountered in the field of spare parts management as pointed in previous work . Some of the methods presented in researches are from one side perceived as too complex , too costly to be put in to practice . Sometimes they are based on hypotheses that do not take in to all complexities of a real worlds which is difficult in poor performance .

Each activity in spare parts management system is composed of a certain period of time before interruptions and in an unsure remaining of time that is similar to the activity period and an more duration of time because of viable put off caused by spare elements shortages . The ordering

selection for a maintenance activity it now no longer simplest depend upon itself but additionally at the structure of the project . We do not forget the spare elements ordering trouble in the course of elements are replaced depending on their deterioration condition , that is simplest located with every maintenance activity is conducted . Spare elements ordering system make decisions that are made with inside the initiation / instruction phase . During the project execution the component related to every renovation hobby wishes replacement with a few given probability . The spare elements which ordered in the course of instruction are to be had on time for manner execution and there wont be a spare part shortage of spare elements with with inside the industry . Spare elements scarcity happens while a spare component that become now no longer ordered in the course of manner instruction seems to be wished in the course of manner execution .

Spare elements scarcity might also additionally reason plenty of delays in activity period in repairing a car that effects the activity period in our model . In right here we have planned to renew and failing to do consequences in misplaced manufacturing and a failure to supply merchandise to clients on time . In right here the purpose is to optimally make spare elements stocking selection via way of means of buying and selling of among the expected order and the put off value of the project and the costs of stocking most of the spare elements in the course of initiation .

Chapter 5

Here the undertaking suggestion associated with the due date has been uploaded. The consumer interfaces are being advanced to create this web application and mobile application. Here, at the same time as developing the interfaces, it want to create this open source is developing the computer setup had to run at the computer. That is, NetBeans IDE 8.1 for the web application and flutter is also being made with the aid of using visual studio code for the mobile application.

While making this project, we are hoping to discover what extra functions a consumer expects whilst developing a web and mobile application. It is likewise being researched. It is hoping that the necessary matters may be found there and used for this reason with time.

Chapter 6

In here the development phases of the identified project is :-

- The documentation
- Requirements gathering
- Requirement analysis
- UI design Structures :- web UI design

  Mobile UI design
- New features and development of the project :- Web development

  DB testing and updating

  Mobile development

  DB testing and updating
- Final features and other maintenance :- Payment method

  Making the final update
- Errors fixing
- Testing
- Project releases on April second week .

I have already done with the project proposal which I have submitted in October and in 30 th of November I'm going to submit the Project initiation document (PID).

Chapter 7

In my project some of the identified risk will be as:-

- Technical risk
- Schedule risk
- Programmatic risk
- Requirement risk

In technical risk , it mainly associated with the functionality of the product performance of the system . To reduce the technical risk we have to use less amount of future technologies and also by changing proper requirements .

In schedule risks , this is one of a main risk in developing the project because a project doesn't progress in timely it cause a project failure . In preventing this failure I have to backup my system and have to estimate this system properly .

In programmatic risk , are unavoidable risks which are coming from the nature . To reduce this I have to consider in rapid development of market and the ideas of them .

In requirement risks , it is hard and to fails to gather requirements of clients . To prevent this the requirement gathering has to be accurate , complete and correctly . Information gathering for this is very important .

While developing the website , the wrong functions may be used . In order to avoid such things , we have to use risk management techniques because of wrong function , may things can change on our website . Some of the risk management techniques that can be used :-

- Detailed requirements analysis
- User interviews and surveys
- Prototype
- Parallel run
- Spiral / agile development

Chapter 8

In here I'm making a website and a mobile app of spare parts of the vehicles of Honda and for future suggestion I like to prepare for all the types of vehicles in Toyota , Mitsubishi and some other vehicle models . And also I would like to do a research who works in garages and to add the workers in garage to the same website with contact details and also from district vise I like to add the workers so that the customers will be easy to find the workers and takes the inventory and other the relevant parts from the same website the worker too can buy the parts according the customer choice or else the customer can by the parts by him or her self it saves time , reduces black market prices , effort and so on .

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PUSL3119 Computing Individual Project

Interim Report

Honda Spare Parts:
Selling, Spare parts management system

Supervisor: Nethmi Weerasinghe

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Plymouth Index Number: 10749985
Degree Program: Plymouth Software Engineering

Interim Report

Chapter 01

1.1 Introduction

In most shops and stores this can be done online as much as possible. My project is to create a website and mobile application of a spare parts management system for customers through which customers can buy the right spare parts for the right vehicle. The parts I am talking about here are all vehicle parts, from large to small Honda vehicles. This website is about Honda vehicles .

Spare parts are expensive and the acquisition of components is associated with high costs and high depreciation due to their obsolescence . The search and development of a spare parts management system involves many challenges . According to the Parts Management System, there are many potential issues that businesses and customers need to deal with . For example, missing spare parts , location confusion , fluctuations in delivery times and many other reasons. The spare parts management system is not sure who owns the vehicle, will not be able to have the company repair the vehicle because it costs , the prices are very high. Normally , according to the current situation in Sri Lanka , most people can't repair the vehicles because the company's prices are high . The unavailability of the right parts could have a serious and negative impact on inventory unavailability and disruption to the repair program . A quick and consistent coordination of spare parts needs with timely delivery of spare parts can be a very important aspect in the implementation of your maintenance process . Missing spare parts are one of the most frequently reported causes in security operations .

The auto spare parts management should organize the sale/purchase . This system manages customers , products , sales orders , dealers and purchase orders . It provides the trader with a platform to automate the records . The aim of this project is the development of an application program to reduce the manual work in inventory , product , customer and order management . This project was created to help the administrator manage their organization . The admin can save the customer data in the database . The next time the customer enters , his data does not have to be entered again .

1.2 Problem Definition

This problem is mainly focused to the customers and the stock holders of the company in manual processing of the availability of the stocks . The lack of real-time facts creates the problem of auditing the company to determine how much inventory to hold in each fied . The size of the aftermarket has grown significantly over a long period of time by many estimates I've found. Some companies have started with different references for their prices for different spare parts. The variety of spare parts you buy has expanded into this area . Build your offerings

accordingly on , especially as part of ensuring spare parts availability and faster response for your customers. Among these , optimizing the stock value of the Honda vehicle types , which is essential at the buying stage , is widely recognized . Inspection machine for spare parts and additives , which includes blades , regenerators and latest generation semifinished products . The company's production factor can flexibly respond to your needs .

Another element of safety and reliability must be considered in spare parts management .

1.3 Problem Objectives

To the problem I have decided to prepare a website and a mobile application to the customers consisting of the sale and delivery of new and remanufactured spare parts of the category of vehicles known as Honda . All types of Honda vehicles are included in this spare parts management system . My site is categorized by year of manufacture, diesel , petrol or hybrid . In order to facilitate and help people who face this problem , I thought to create a mobile app for vehicle owners to purchase the related part through this app according to their preferences. From here customers can see how much stock is available . You save time, travel costs and effort. We deliver the goods within 24 hours . We are willing to provide our customers with better service and timely and accurate delivery of spare parts for this project.

Therefore, the spare parts management system is of course an important area .

spare parts management system functions

1.Availability of spare parts

• With this application and website, this application will help you update the availability of the number of spare parts .

2. Spare parts prices .

• The price of available spare parts is rescanned with some discounts and updated according to the current situation in the country .

3.vehicle type .

• Depending on the vehicle type, it is possible to display stock availability in order to facilitate and meet the needs of the customer.

4. delivery .

• After placing the order , we offer fast delivery with a high level of security and ensure the security of the shipment when the shipment is delivered to the specified location as specified by the customer .

5. Automated inventory control system .

• This page automatically updates inventory after one customer's purchase and the second customer can see the availability of spare parts , facilitating the company's inventory management process .

o Admin can store all customer and dealer record. o This application keeps tracks of all the products being sold in the organization.

o This system provides facility of making sales and purchase order.

The result of this project is the construction of a website and a mobile application adapted to customer preferences to facilitate the purchase of spare parts for the Honda vehicle category. And my goal is to provide good customer service that delivers the right parts , in the right quantity , at the right place, at the right time , with the right quality , and at the lowest total cost to the customer . I decided to create a mobile app here to make it easier for the customer to buy parts through this app .

Chapter 02

System Analysis

Systems analysis is the process of examining a situation with the aim of improving it through better processes and methods . Systems analysis is the process of planning a new system to replace or supplement an existing system . However, before you start planning , you should fully understand your legacy system and determine your needs . System analysis is therefore the process of gathering and interpreting facts , diagnosing problems , and using the information to recommend improvements to the system .

system scan is performed for the purpose of :-

1. Identify the customer's needs .
2. Evaluate the feasibility of the system concept .
3. Carrying out economic and technical analyses .
4. Assign functions to hardware, programmers , databases and other system components .
5. Define costs and scheduling constraints .

6Create a system definition that forms the basis for all subsequent design work .

1.1 Facts gathering techniques [research]

In-store inventory management requires investment Client-server based hardware and software requirements . The system is easily available in the shop and easy to care for. The main difficulty for enterprise management is that it is difficult to access in this architecture real-time data.

A mainframe-based inventory management system requires a lot significant investments in the construction and maintenance of infrastructure. just big companies can afford to buy and build a mainframe keeps applications identical.

Online Inventory Management System is a good solution for medium and small businesses .The investment amount is within the limits Economical range for business. The system gives the company . Advantage of using a common database available to users and real-time business management.

The web based inventory management system is a very good solution that provides the functions of inventory control , easier and more controlled process of purchase order creation, receive goods and various maintenance actions . The web based inventory control system can significantly impact the performance of the stores by increasing revenue , improving customer service , better inventory control and increased information management . Hence the web based inventory management system is highly recommended to augment the performance of the organization .

Google forms

Manage event registrations, create quick polls and more. With Google Forms, you can create and analyze surveys right on your mobile phone or web browser - no special software is required. Get results as soon as you get them. Tables and graphs allow you to summarize survey results at a glance.

- Google Forms is free online software for creating surveys and quizzes.
- You need a Google account to create a Google form, but you don't need an account to fill out the form.
- You can customize your google form with question types, header image and color theme.

1.2 Existing system

In retail, the ability to have constant access Information can determine whether a company will survive Competition or not. A stock management system is required provides accurate information at all levels of the organization, from the highest management resides at corporate headquarters for individual branches executives. For example, it may be necessary to monitor management same-store sales that store managers may need real-time access to inventory and ordering information .

2.3 Use Case Diagram

A use case diagram is a graphical representation of possible user interactions with the system. A use case diagram shows the different use cases and different types of users of a system and is often accompanied by other types of diagrams. Use cases are represented by circles or ellipses .

2.4 Drawbacks of the existing system

Inventory levels are critical to the success of your business . It has been observed that the company is losing money in the current process due to some items being out of stock . Also , some stores have many overstocked products . Currently, the individual shop manager is responsible for maintaining the inventory in the shop , mostly it depends on the shop manager's efficiency and knowledge . While company policy can clearly state the backorder level for each item , this is not handled correctly as it is a manual process . The lack of realtime information makes it difficult for management to determine the available inventory at each store .

The problems of the current system can be summarized as the following:

The current inventory management system does not stock preservation features . The branch manager looks on inventory levels and create new orders on the go Requirement . Currently the inventory management process depends on it mainly on the professionalism and efficiency of the store manager. But in many cases it is difficult to find the necessary elements at most . Some items are overstocked and some have passed their expiry date.

Chapter 03

3.1 Functional Requirements

Functional requirements determine the functional behavior of a program the system in response to an external event . An external event can be a User action , other system , or time event. In the

current project The Functional Requirements Baseline was developed by the company requirements . Because the project was developed as a web application and mobile application .

First, the requirements for the login page were identified . System reactions to failed login attempts are documented in this section. The main menu is displayed once the user has successfully logged in .

If the target business information is available to the system, the system should automatically fill in the business information when the create order screen is displayed . On the order creation screen , the user must provide supplier information so that the purchasing department knows which supplier to buy the item from . Other information required to place an order is the item details so you can purchase the correct item . User can add multiple items in one order.

The functional requirements for item maintenance were analyzed as follows : If the user clicks on the item maintenance link , the current items are displayed in the shop . The user can click on the item description to edit the item details . Since only business users can create new items , for business users this screen will show a link to create a new item in the system . The user would have the ability to search for specific items in the item list . All other maintenance functions follow the same pattern as the article maintenance functions mentioned above .

Functional website design requirements include homepage design . The home page contains a welcome message for the user and the page title . The home page would contain fields where the user would enter credentials . The home page would also contain links allowing the user to view "About Us" and "Contact Us". The About Us page would display information about the app .The contact appears on the Contact page business information.

- The proposed system has a user friendly Interface for porting of data to server.

- The proposed system provides the facility to pull the data from the server of the specified Supply order number and get the respective report.

- The proposed system provides the no replication of data.

- User can get the desired output according to their queries .This is an added advantage.

3.2 Non - Functional Requirements

Efficiency Requirements

Customers can easily and efficiently buy the related spare parts instead of delays in finding the right spare part .

Reliability Requirements

The application should provide a reliable environment to the customers and to the admin .

Usability Requirements

This application is designed for a user friendly environment and ease of use .

Availability

This application is available all the time .

3.3 Hardware and software Requirements

The system runs without requiring a connection to an external server or an internet connection . Therefore , the hardware requirement of the product is a personal computer that meets the requirements specified in the specifications . The product is programmed in the Java programming language and uses MySQL to run the database . Therefore, the client machine requires JDK and MySQL server installed on its machine .

Software

- Database – Mongo db
- Operating System :- windows 10/11

✓ I have used this windows 10 and 11 because it's the latest version .

- Browser – Opera Chrome

FireFox

Microsoft Edge

IE

Hardware

The hardware requirement of the testing is specifically a Laptop/Desktop with the following minimum hardware configuration .

- Memory of server pc - 8GB
- High network connection
- Speed – 1.6 Ghz
- Memory of user pc – 512mb

Chapter 04

Feasibility study

All projects can be realized with unlimited resources and infinite time . Unfortunately , the development of IT systems is in many cases more prone to resource scarcity and delivery delays . That's why we leveraged the concept of reuse , object - oriented programming (OOPS)

.

4.1 Operational Feasibility

Examine how a project plan satisfies the requirements identified in the requirements analysis phase of system development . The system provides better solutions to the libraries by adding the typical requirements and necessities . The solution provided by the system will be acceptable to ultimate solution for the stock management .

4.2 Technical Feasibility

This assessment focuses on the technical resources available to the organization . It helps companies determine if technical resources match capabilities and if the technical team can convert ideas into working systems . Technical feasibility also includes an assessment of the hardware, software and other technical requirements of the proposed system .

Technical feasibility revolves around the existing computer system " hardware and software ." and how well it supports the proposed addition . For example , if your current computer is at 80 percent utilization , running another application could overload your system or require additional hardware , regardless of the limit . This includes financial considerations to account for the technical improvements. If the budget is a significant constraint , the project will be assessed as unfeasible . This project has taken all the necessary precautions to make it technically feasible . The button displays the text/object very quickly . Also , the tools, operating system and programming language used in this localization process are compatible with the existing ones

Not technical details business needs were identified for the project . Usually system users define the business requirements of the system . The current application was developed as a prototype for inventory management has no real business users to interact with to Gather business requirements . So the author played the role of one business users and inventory analysis of business needs Management Solution . You had to be a business user showed a login screen after launching the app . user provides the user's credentials along with the number of the store the user wants to access . Once logged in , the user displays the main menu screen for users to make a selection stock pick .

Chapter 05

System Architecture

A systems architecture is a conceptual model that defines the structure , behavior , and other aspects of a system . An architectural description is a formal description and representation of a system organized to support reasoning about the structures and behaviors of the system

.

5.1 Class Diagram

In software development , a class diagram in the Unified Modeling Language is a type of static structure diagram that describes the structure of a system by showing system classes , their attributes , operations, and object relationships .

5.3 High Level Architecture

The architecture of the system is designed to provide a seamless experience for users who need to buy spare parts online , while also ensuring efficient management of inventory and order processing . His layer includes the user interface components of the system , such as the website , mobile app , and other user - facing interfaces . This component manages user authentication , registration , and access control . Product Catalog Management . This component manages the catalog of spare parts , including adding new items , updating existing ones , and deleting obsolete parts . This component handles the ordering process, including order placement , order tracking , and payment processing .

Chapter 06

Development tools and Technologies

Development tools can take many forms, such as B. Linkers, compilers, code editors, GUI designers, assemblers, debuggers, performance analysis tools, etc. When choosing the right development tool, certain factors should be considered depending on the type of project.

6.1 Development Methodology

The development methodology consists of several sequential phases of the project life cycle, some phases are optional and the order of the phases depends on the project being carried out.

Model-View-Controller is a software architecture pattern commonly used to create user interfaces that break the associated program logic into three interconnected elements. It is about separating the internal presentation of information from how the information is presented and accepted by the user. The model designs based on the MVC architecture follow

MVC design pattern. The application logic is separated from the user interface while designing the software using model designs. In Java Programming, the Model contains the simple Java classes, the View used to display the data and the Controller contains the servlets. Due to this separation the user requests are processed .

- Model : It represents the business layer of application . It is an object to carry the data that can also contain the logic to update controller if data is changed .
- View : It represents the presentation layer of application . It is used to visualize the data that the model contains .
- Controller : It works on both the model and view . It is used to manage the flow of application , data flow in the model object and to update the view whenever data is changed .

6.2 Programming Languages and tools

Even if the web development is created using the tools and technologies , it should be created according its architecture . Because of this I ‘m going to use the model view controller (mvc) architecture to create . I use MVC architecture here because it creates schemas , fields , interfaces , and databases .

6.3 Third Party Components and Libraries jQuery the open source JavaScript framework jQuery provides several APIs for working with HTML documents and in viewing animations . Optimizing the frequent online buying and spare parts management system which uses switching device and etc . This is used as a front end development of a web application .

MySQL server is used as the webserver and XAMPP server tool is used for that . The reason it is used because it makes data exchange between the applications and the database quick and easy .

In third part components some reasonable software’s can be created to sold or it can be freely supplied by a third party component in computer programming . Here I used google as a third party component to find information for my project . From this way I have found many information , Read many magazines , news papers ,researches from internet and found different information’s .

From third party libraries there are some advantages . such as :-

- Domain expertise
- New features

For third parties we can use :-

- Google
- MapAPI
- Paypal

6.4 Algorithms

- Setup a database connection and start the process
- User registration with vehicle owner name , vehicle name , vehicle number , vehicle color , year of manufacture , address and etc .
- User login username , email and password then applied to appropriated dashboard . [such as customer and admin]
- For admins provides an inventory of spare parts which updates the inventory and it automatically updates and shows it to the customer .

- The customer should be able to choose the relevant spare parts with brand new or as reconditioned parts .
- Allows to manage the no of spare parts in the stores .
- After the relevant parts are being ordered then log out the system .

Chapter 07

1. Overview of the interim

Let's consider the problem of ordering spare parts during the design process . Project planning is defined by a set of activities and priority relationships between those activities . Parts are replaced according to their wear, which is only observed in the runtime. Ordering decisions for spare parts are made during the start-up/preparation phase. While of the project , the part associated with each maintenance activity must be replaced with a certain probability . We assume that the spare parts ordered during the preparation will be available in time for the process and therefore these parts will not be missing . Rejections only occur if no replacement part was ordered during the process. in these cases, an expensive emergency order is placed and maintenance is suspended pending the delivery of replacement parts . This extends the duration of the affected action by the execution time of the emergency . We're considering an emergency directive cost of orders placed, reflecting the additional cost of rapid production and delivery , and no economies of scale when last-minute orders are placed . The lack of spare parts can cause significant delays in the implementation of activities . This is consistent with the practice that production is expected to resume and its absence will result in lost production and the inability to ship products to customers . delays are a loss of production, which is monetary for the purpose of calculating the penalty for the delay. The decision maker aims to make the cheapest decision about the quantity of spare parts must be ordered before carrying out the maintenance, so that the delivery time is satisfactory with a relatively low ordering cost . A shortage of spare parts increases the lifetime of individual tasks and leads to higher procurement costs for emergency orders , while a surplus of spare parts leads to high maintenance costs and eventually obsolescence . The goal is to make optimal spare parts inventory decisions by balancing the expected contingency order versus the cost of project delay and the cost of stocking additional spare parts during launch . Spare parts management It is a form of risk control , The aim is to control

the commercial risk associated with the unavailability of equipment by guaranteeing the availability of spare parts at optimal costs .

Summary

This Project presents a case study in inventory management of Honda Spare Parts of a service company . This project aimed to minimize the total costs of the inventory in the company through developing and optimizing various inventory management models of the company's various spare parts . Proper inventory management and control prevents customers from receiving incorrect or damaged goods . This improves the customer experience, protects against issues like refunds, and encourages repeat purchases . Inventory Management helps to better plan and order products in stock as it is extremely important for businesses to achieve a balance between supply and demand . Imagine a situation where there is a high demand for a product but not enough materials to meet it . Because of the above reasons I have decide to prepare a website in inventory management to admins and a mobile app to customers who uses Honda vehicles to buy the relevant item from the mobile app. It is about selling and delivering brand new , reconditioned spare parts of the vehicle category known as Honda . In order to reduce and to help the people regarding this issue I thought of making an mobile app to the owners of the vehicle to buy the relevant part through this app according to he/she preferences . From this the customers can see the number of stocks available . Through this it can save time , travelling cost and effort . We are willing to offer customers better services , fast and precise spare part delivery from this project . Therefor spare part management system is naturally an important area . The result of this project is the construction of a website and a mobile application adapted to customer preferences to facilitate the purchase of spare parts for Honda vehicles. And my goal is to provide good customer service that delivers the right parts, in the right quantity, at the right place, at the right time, with the right quality, and at the lowest total cost to the customer. I decided here to create a mobile app to make it easier for the customer to buy parts for the through this app.

Challenges Faced

- I have faced many challenges , while making this project . I found many difficulties in finding and getting the relevant information . I got information from browsing internet , checking of reaches , magazines and etc .

- And I could not manage the time according to the gant chart I have mentioned .

Because of that I got a problem in time management .

- I have to faced some specific goals and objectives . To do this project we should have a clear idea in what we need and the customer needs to be done and to be complete the project successfully . To compete the goals and objectives are not created , the project will not be completed successfully .

- I faced scope creeps . It describes the projects requirements diverge from those originally determined at the start of the project . It is a problem faced by many developers .

- Modifications and limitations to the budget . Budget creep occurs when scope increases when managing the projects done .

- According the current situation of Sri Lanka the disconnection of electricity for four hours.

- Another challenge I have faced is finding the problems in the existing system and solutions and features I have to add in my project .

Future Plans

In here I'm making a website and a mobile app of spare parts of the vehicles of Honda and for future suggestion I like to prepare for all the types of vehicles in Toyota , Mitsubishi and some other vehicle models . And also I would like to do a research who works in garages and to add the workers in garage to the same website with contact details and also from district vise I like to add the workers so that the customers will be easy to find the workers and takes the inventory and other the relevant parts from the same website the worker too can buy the parts according the customer choice or else the customer can by the parts by him or her self it saves time , reduces black market prices , effort and so on . References

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