ICT ACADEMY OF KERALA

Monsoon Internship Report

Amazon Cloud Fundamentals

ARJUN PK

AMAL SHEIK

ASWIN MENON

RISHON SIMON

JOSNA JOMON

MAR BASELIOS COLLEGE OF ENGINEERING AND TECHNOLOGY

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ABSTRACT

Our internship project focuses on developing a web-based inventory management system with CRUD functionality, which will simplify inventory management processes by allowing users to efficiently create, read, update, and delete inventory items.

The primary goal is to create a scalable and accessible solution hosted on an Amazon EC2 instance, ensuring robust performance and security.

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INTRODUCTION

- **PROBLEM INTRODUCTION**: To create a web based inventory management system for managing items and doing crud operations. Then to host it on an aws ec2 instance for scalability and efficiency
- **MODULE INTRODUCTION**: Our team has used different modules which are given as follows. We have used a script.js file which manages the client side functionality such as interactions and updating user interface dynamically. We have also used server.js which includes handling server side functionalities like routing and interacting with the database and also to manage user authentication.

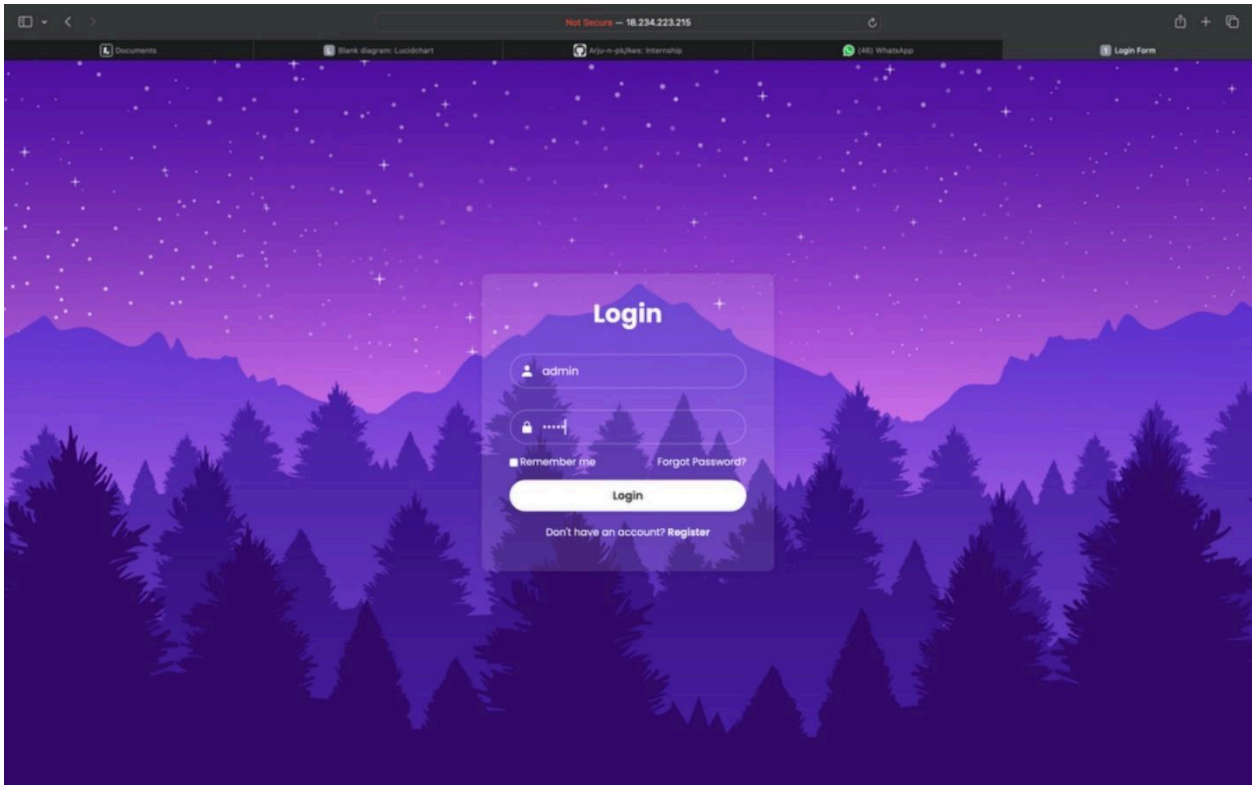
REQUIREMENT SPECIFICATION

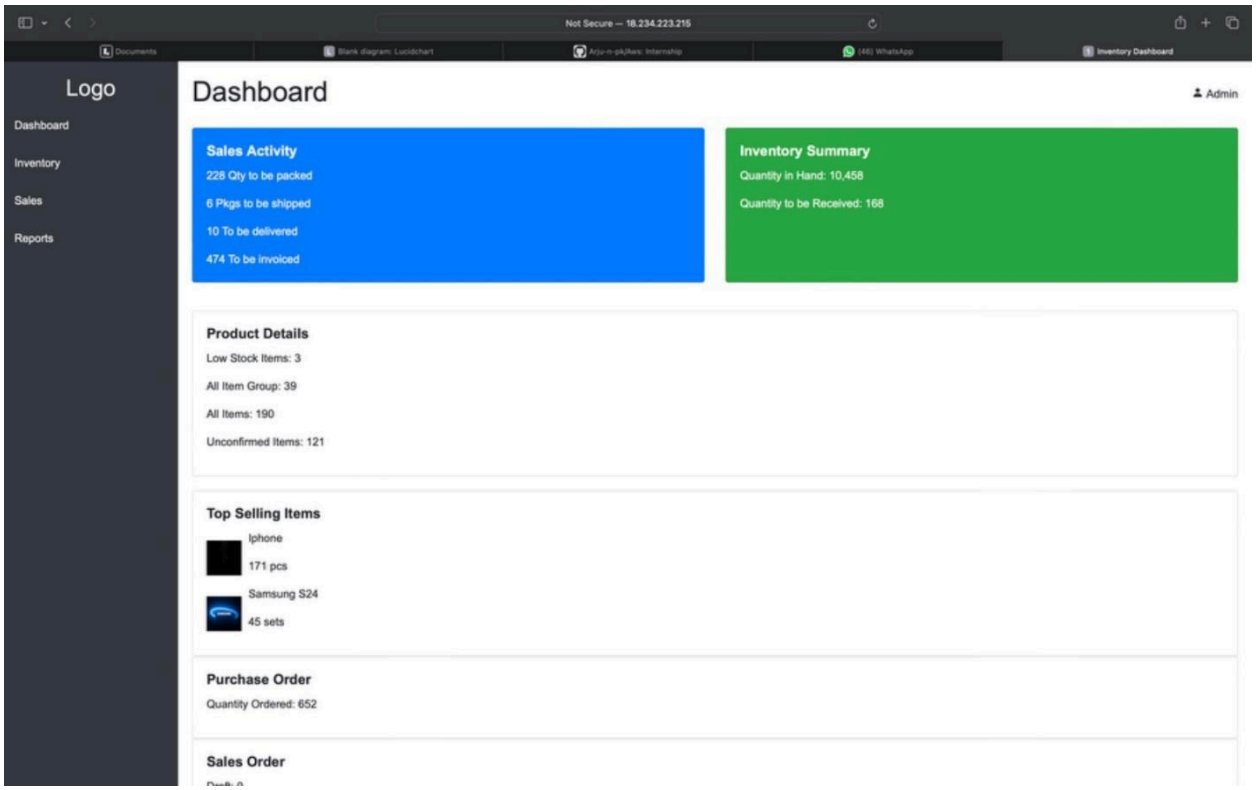
- **SOFTWARE REQUIREMENT-**Front end-Chrome, Firefox for testing the application
- **SOFTWARE SPECIFICATION-**Node js,express,mongodb,html,css,javascript
- **DEVELOPMENT TOOLS-**Visual studio code,github,npm,mongodb compass

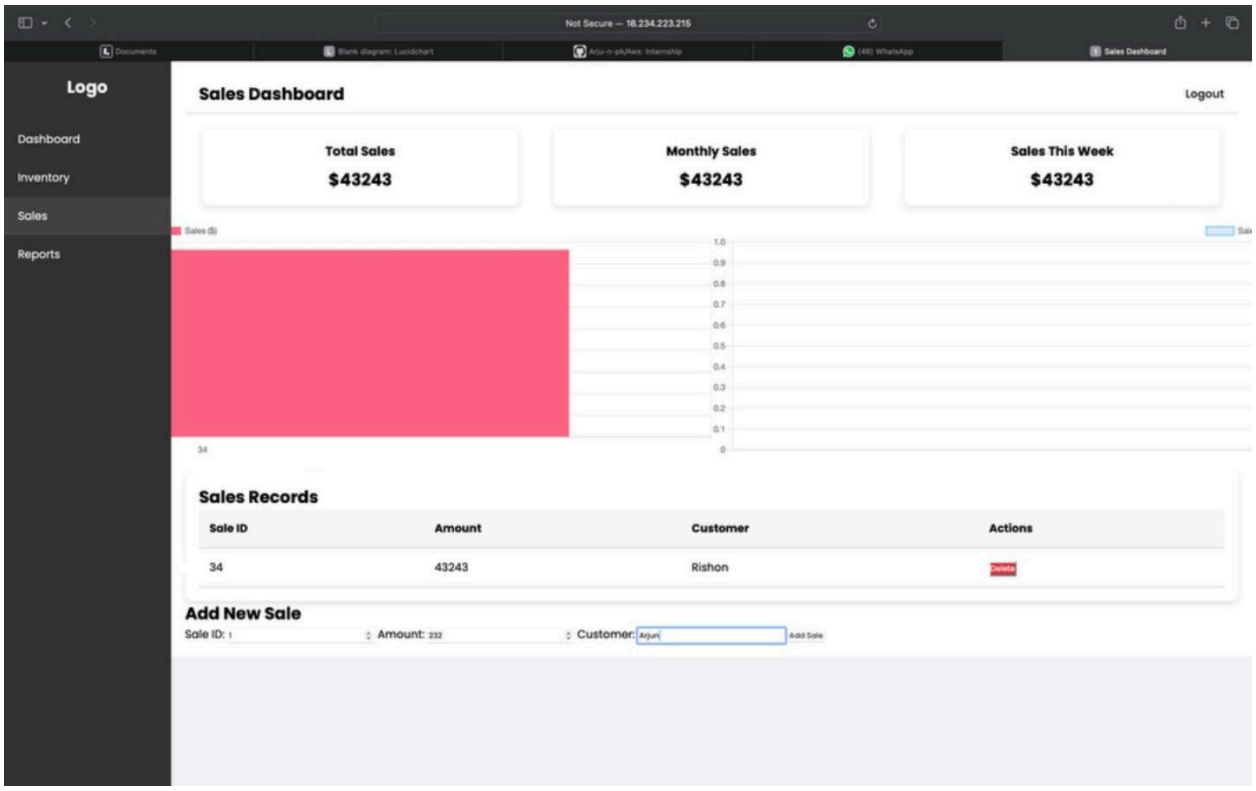
OBJECTIVES

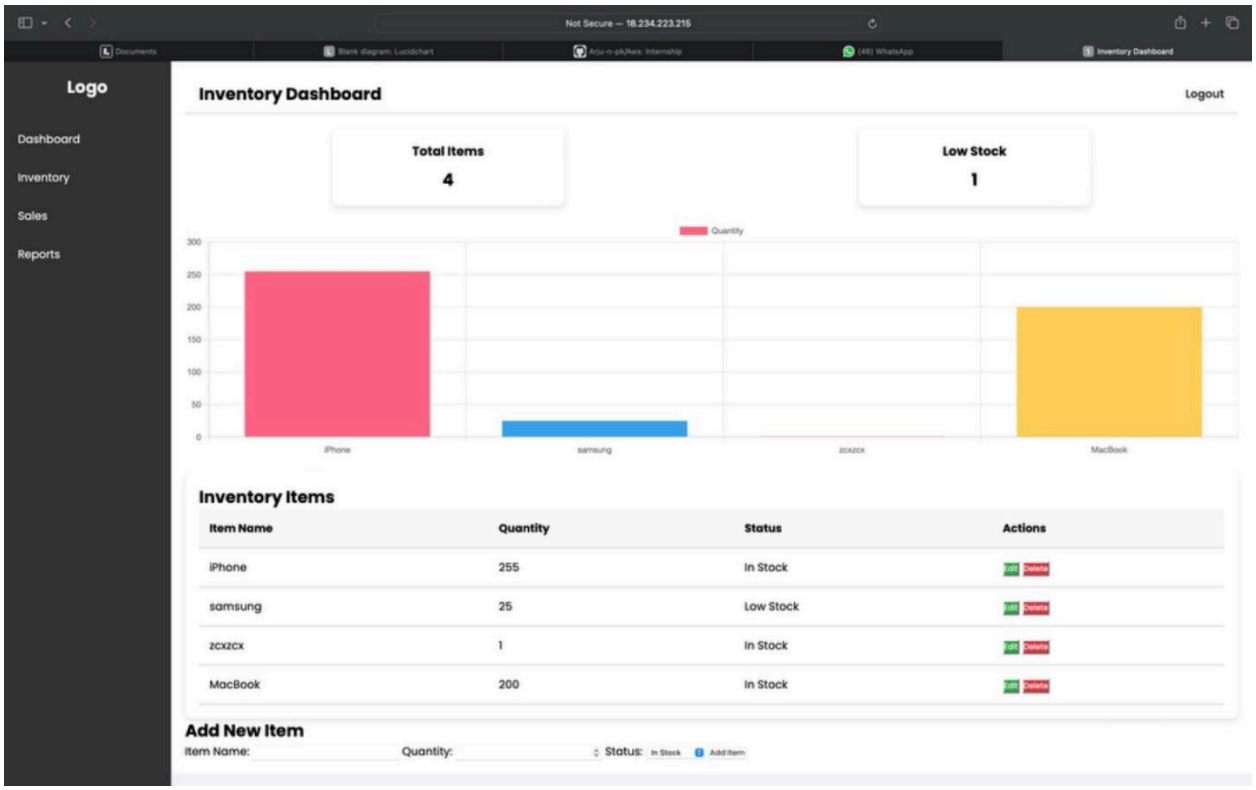
- **Develop a Robust Inventory Management System:**
- Create a comprehensive web application with CRUD functionalities for managing inventory items.
- **Implement Secure and Scalable Hosting:**
- Deploy the application on an Amazon EC2 instance for secure, scalable, and reliable access.
- **Enhance User Experience and Interface:**
- Design a responsive and intuitive user interface to simplify inventory management.
- **Facilitate Real-Time Data Access and Updates:**
- Enable real-time data interactions between frontend and backend for improved efficiency.
- **Utilize Backend Technologies:**
- Integrate backend technologies for efficient database management and data handling

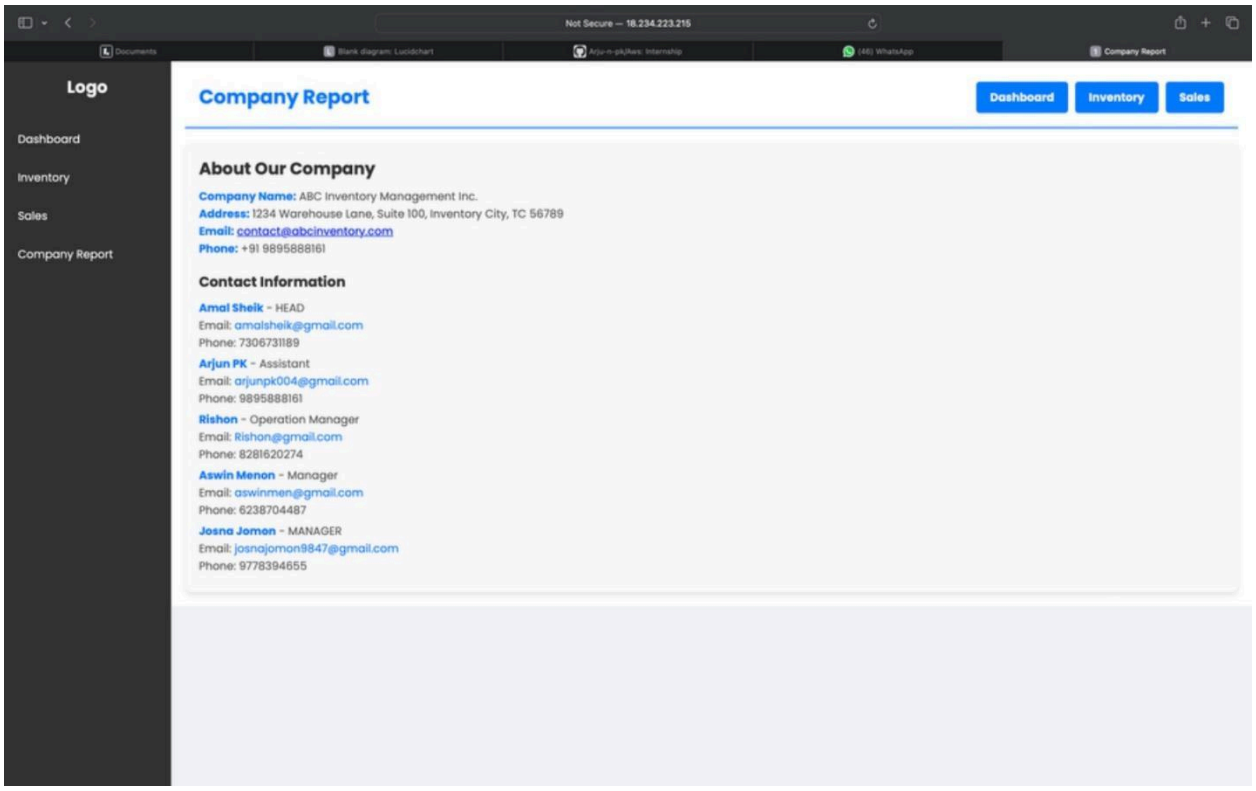
SYSTEM DESIGN & USER INTERFACE




Not Secure — 18.234.223.215
Inventory Dashboard
Logo
Dashboard
Inventory
Sales
Reports
Dashboard
Admin
Sales Activity
228 Qty to be packed
6 Pkgs to be shipped
10 To be delivered
474 To be invoiced
Inventory Summary
Quantity in Hand: 10,458
Quantity to be Received: 168
Product Details
Low Stock Items: 3
All Item Group: 39
All Items: 190
Unconfirmed Items: 121
Top Selling Items
Iphone
171 pcs
Samsung S24
45 sets
Purchase Order
Quantity Ordered: 652
Sales Order


Not Secure — 18.234.223.215
Sales Dashboard
Logo
Dashboard
Inventory
Sales
Reports
Sales Dashboard
Logout
Total Sales
$43243
Monthly Sales
$43243
Sales This Week
$43243
Sales Records
Sale ID
Amount
Customer
Actions
34
43243
Rishon
Delete
Add New Sale
Sale ID:
Amount:
Customer:
Arjun
Add Sale


Not Secure — 18.234.223.215
Inventory Dashboard
Logo
Dashboard
Inventory
Sales
Reports
Inventory Dashboard
Logout
Total Items
4
Low Stock
1
Quantity
300
250
200
150
100
50
0
iPhone
samsung
zcxzcx
MacBook
Inventory Items
Item Name
Quantity
Status
Actions
iPhone
255
In Stock
samsung
25
Low Stock
zcxzcx
1
In Stock
MacBook
200
In Stock
Add New Item
Item Name:
Quantity:
Status:
In Stock
Add Item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Company Report
Logo
Dashboard
Inventory
Sales
Company Report
Company Report
Dashboard
Inventory
Sales
About Our Company
Company Name: ABC Inventory Management Inc.
Address: 1234 Warehouse Lane, Suite 100, Inventory City, TC 56789
Email: contact@abcinventory.com
Phone: +91 9895888161
Contact Information
Amal Sheik - HEAD
Email: amalsheik@gmail.com
Phone: 7306731189
Arjun PK - Assistant
Email: arjunpk004@gmail.com
Phone: 9895888161
Rishon - Operation Manager
Email: Rishon@gmail.com
Phone: 8281620274
Aswin Menon - Manager
Email: aswinmen@gmail.com
Phone: 6238704487
Josna Jomon - MANAGER
Email: josnajomon9847@gmail.com
Phone: 9778394655

METHODOLOGY

🎬 **Frontend Development:**

- **Frameworks/Technologies:** HTML, CSS, JavaScript
- **Approach:**
    - **HTML:** Structured the webpage content and layout using semantic HTML elements.
    - **CSS:** Styled the application to ensure a responsive and visually appealing interface. Applied responsive design techniques to adapt the layout for various screen sizes.
    - **JavaScript:** Implemented dynamic features and interactions. Utilized script.js to handle user events, such as form submissions and button clicks.

🎬 **Backend Development:**

- **Frameworks/Technologies:** Node.js, Express.js, MongoDB
- **Approach:**
    - **Node.js:** Used as the server-side runtime environment to execute JavaScript code.
    - **Express.js:** Set up the server and defined API routes to handle client requests and responses. Created endpoints for CRUD operations on inventory items.
- 🎬
    - **MongoDB:** Managed data storage and retrieval. Designed the database schema using MongoDB to store and query inventory and sales data.

🎬 **Server and Script Files Creation:**

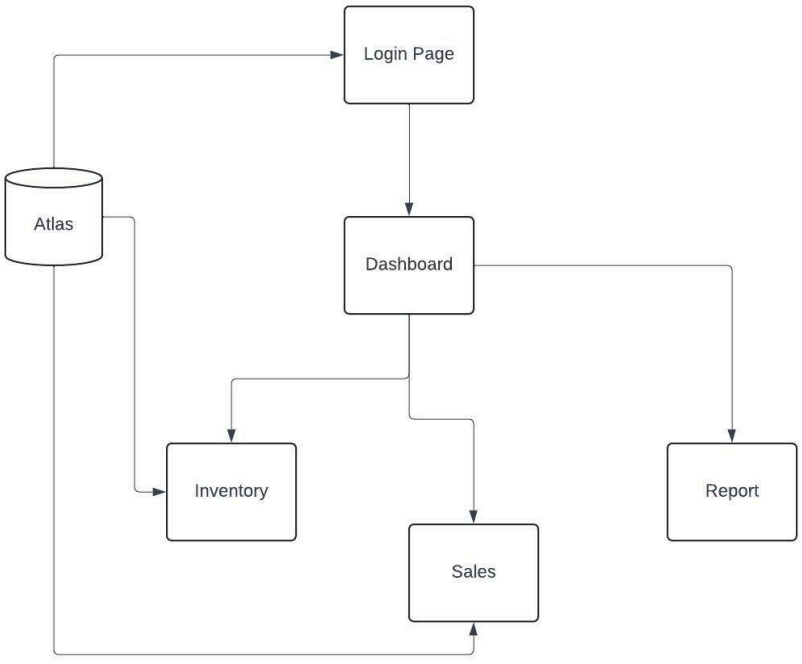
- **Server.js:**

    - **Purpose:** Configured the server, connected to MongoDB, and defined API routes.
    - **Approach:** Used Express.js to create server routes for handling requests, interacting with the database, and serving static files.
- **Script.js:**
    - **Purpose:** Handled frontend interactions and dynamic content updates.

GITHUB LINK-https://github.com/Arju-n-pk/Aws

SITE LINK-**http://18.234.223.215:3000/**

FLOWCHART



PROJECT ACTIVITIES

Planning and Design:

- **Tasks:** Defined project goals, designed the system architecture, and created wireframes.

Frontend Development:

- **Tasks:** Developed user interface components and implemented interactive features.

  Tools/Technologies: **HTML, CSS, JavaScript, and script.js**

Backend Development:

- **Tasks:** Set up server, connected to Mongo DB, and created API endpoints.
- **Tools/Technologies:** Node.js, Express, Mongo DB, and server.js.

Integration and Testing:

- **Tasks:** Integrated frontend with backend, tested functionality, and fixed bugs.

Deployment:

- **Tasks:** Deployed the application on Amazon EC2 and set up environment configurations.

CONCLUSION

During the internship, Our team successfully developed a web-based inventory management system that meets the project objectives. The key outcomes include:

- **Robust System Development:** The application provides effective CRUD functionalities for managing inventory items, enhancing overall efficiency in inventory management.
- **Secure and Scalable Hosting:** The deployment on Amazon EC2 ensures secure and scalable access, accommodating varying user demands.
- **Enhanced User Experience:** The user interface is both responsive and intuitive, improving interaction and simplifying inventory management tasks.
- **Data Integrity and Accuracy:** Used checks to make sure inventory and sales information is correct and trustworthy.
- **Real-Time Data Access:** The system facilitates real-time data updates between the frontend and backend, improving operational efficiency.
- **Effective Use of Technologies:** Made use of Node.js, Express, and MongoDB to build a functional backend, while frontend development was optimized using modern web technologies.

Overall, the project was a success in achieving its objectives, providing valuable insights into web development, system integration, and deployment. The experience enhanced my technical skills and understanding of full-stack development.

REFERENCES

- **Chatgpt**
- **Stack overflow**
- **Youtube**