Problem Definition Document
Shipping Application

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(Business User)

1. Problem

The shipment orders application should aim to address the challenges faced by businesses in efficiently managing and processing customer orders for shipments. The current manual order processing methods are time-consuming, error-prone, and lack centralized control, leading to delays, inefficiencies, and customer dissatisfaction. Therefore, there is a need to develop a comprehensive shipment orders application that streamlines the entire order management process, from customer placement to fulfillment, to enhance operational efficiency and customer experience.

Key Reasons for Development:

- **Customer Experience:** A well-designed shipment orders application can enhance the customer experience by providing a seamless and user-friendly interface for placing orders along with easily tracking the status of their orders and receiving notifications about shipment progress.

- **Data Analysis and Insights:** By capturing and analyzing order data, the application can provide valuable insights into customer preferences, demand patterns, and operational performance.

- **Scalability and Growth:** As businesses expand and deal with an increasing number of orders, manual order processing becomes even more challenging. This app allows businesses to handle larger volumes of orders without compromising efficiency or customer satisfaction.

- **Order Processing Efficiency:** By developing a shipment orders application, businesses can automate and streamline the entire process, reducing processing time, minimizing errors, and improving overall efficiency.

2. Technology Stack

MongoDB, Node.js, and React form a popular technology stack for building web applications. MongoDB is a flexible NoSQL database. Node.js is a server-side JavaScript runtime that handles backend logic. React is a JavaScript library for building user interfaces. Node.js interacts with MongoDB for data storage and retrieval. React components render the UI and communicate with the Node.js backend through APIs. This stack enables efficient development of scalable web applications.

Super User

3. User Profile

Users should be able to manage their account details:

1. User Name;
2. Profile Image
3. Password;
4. Email Address; and
5. Phone.

4. Theme Settings

The application settings should allow users to personalize their experience by choosing a theme color from a range of options and selecting a preferred theme type (dark, white, or transparent) for the background style. The settings will also offer a convenient check-uncheck button for switching between dark and light modes, providing flexibility based on lighting conditions or personal preference.These settings should provide users with the freedom to tailor the application's visual aspects to their liking and visually pleasing experience.

5. Customer Registration

Registration is a crucial step for customers to gain access to the application for the first time. When a customer will initiate the registration process, they should be directed to a dedicated registration page. Here, they would be prompted to create a new account by providing essential parameters, including their first name, last name, email address, contact number, and a secure password for their account. By inputting these details, customers establish their unique identity within the application.

1. User Information:

    ●   First Name;
    ●   Profile Image
    ●   Last Name;
    ●   Email Address; and
    ●   Phone Number.

2. Login Credentials:

- User Name; and
- Password.

6. Application Login

- Login credentials should be required for accessing the application.
- Login credentials should consist of a username (e.g., email) and a password.
- The username should be unique and unchangeable once allotted.
- The password should be a minimum of 8 characters for authentication.
- The login page should have a "Remember Me" button for auto filling the username and password.
- The entered password should be hidden but can be revealed with a button.
- The Login User should be able to reset the password if forgotten.
- Password reset should be facilitated via an email.
- The new password should be different from the old password to ensure security.

7. Home Page

The screen should display essential statistics and numbers including order growth/decline rate, total user count, revenue collected, company and project information. It will also feature graphs for daily sales and completed tasks, providing visual insights.

Features:

- Display current number of orders to be delivered and total orders delivered, both overall and categorized by month and year.
- Show revenue generated, both overall and categorized by month and year.
- Provide information on the number of active orders that are currently in processing.
- Include a graphical representation of the monthly profit to visualize profit trends over time.
- Present the current number of customers enrolled with the application, indicating the user base size.

8. Defining Roles

This screen should contain the list of all the roles which will be assigned to the user working on the application. On this page, admins can manage users as per their company roles.

- Different roles should be defined based on the hierarchical structure of the organization.

- The screen should display a list of available roles for users to assign themselves to.
- Only special users should have the authority to modify permission access settings.
- Permission access should be categorized as full access, view-only, or no access.
- The special user retains all edit access rights.
- Special users should have the ability to add, delete, update, and specify various access settings.
- When a user is added, an email containing their username, URL, and temporary password should be sent to them.
- Users can set up an actual password and activate their account using the provided temporary password.
- The username, which is the email address, cannot be edited once assigned.

9. Login User Details

The screen should provide a list of login names of users accessing the application and their respective attributes, allowing the super user to add or remove users.

- The screen displays login names of users accessing the application and their associated attributes.
- Attributes include the user's role within the application, email ID, and active/inactive status.
- The super user has the capability to add a new user by entering details such as first name, last name, email, and contact number.
- It offers an overview of the total number of users, their names, and the specific roles they have within the application.
- The screen facilitates the addition and removal of users, allowing for user management and administration.

10. Email Notifications

This screen should allow consistent communication with users, customers, admins, and other individuals associated with the application. By utilizing predefined templates and formats, the process becomes smoother, more efficient, and ensures a seamless user experience. Key features of this screen include:

- Sending a welcome email to newly added users by the superadmin, containing their username, URL, and temporary password.
- Sending an email for password reset, enabling users to set a new password for their account.

- Sending a signup email and SMS with an OTP (One-Time Password) for user verification during the registration process.
- Resending an OTP email and SMS upon request from the user who needs to verify their account.
- Allowing for the editing of email content, ensuring that updated and personalized information can be sent to recipients.

11.   Parameter Settings

The super user should have the authority to define parameters in the application, ensuring consistency, and any changes made by the super user are reflected system-wide.

- Parameters defined by the super user maintain consistency across the entire system.
- Changes made to parameters by the super user are automatically updated throughout the application.
- The variable or argument set accommodates various data types such as numbers, strings, floats, currency, and percentages.
- Parameters are designed to hold a single value and should not contain multiple attribute values.
- The super user can specify additional details for each parameter, including name, value, and length.
- This customization allows for efficient parameter management and precise control over the application's behavior.

12.   Parameter Lists

The super user should possess the capability to define multivalued parameters in the application, enabling the inclusion of multiple distinct values.

- Multivalued parameters can be defined by the super user, allowing for the inclusion of multiple distinct values within the application.
- These parameters are listed separately, making editing convenient and easy.
- Each parameter is accompanied by additional options such as status and parameter code, ensuring unique identification.
- The super admin has the authority to delete, edit, and add new parameters, providing comprehensive control over the system's configuration.

13. Clients

The designated screen should offer the super user a comprehensive view of clients and newly logged in customers, including their details, subscription plans, and the ability to manage their accounts.

- The screen displays information about clients and newly logged in customers.
- Details include email ID, phone number, and city provided during the registration process.
- Subscription plan information, such as activation date, expiry date, and cancellation effective date, is presented.
- The super admin has the authority to deactivate a client's subscription if needed.
- The display provides a holistic view of client accounts, enabling effective management and oversight by the super admin.

14. Subscription Plans

Upon login, clients should be able to select various subscription plans with distinct fees and exclusive offers. They register by choosing a plan and making payment, including an optional free trial. The super user can modify plan details, ensuring flexibility in adjusting costs, status, and display order to meet client needs.

- Clients choose a subscription plan and make the required payment during registration.
- A free trial option allows clients to explore services for a limited time.
- Clients must select a plan after the trial period ends to continue their subscription.
- The super admin can modify plan details, including cost, status, and display order.

15. Plan Features

In order to define various subscription plans, the key attributes to be consider are free monthly credits, Credits Usage Per Consignment Booking, and One Credit Top up Charges. To facilitate customization, there should be a dedicated screen allowing users to edit each of these attributes. Moreover, the super user should have the ability to modify their status, feature type, and feature sequence. It is important to note that the values of these features should vary based on the selected plan, ensuring flexibility and tailored options for different subscription levels.

Business User

1. Homepage

The screen should display essential statistics and numbers including order growth/decline rate, total user count, revenue collected, company and project information. It will also feature graphs for daily sales and completed tasks, providing visual insights.

Features:
- Display current number of orders to be delivered and total orders delivered, both overall and categorized by month and year.
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2. Business Users

This screen should conveniently view and manage the details of your business users. This screen should provide an organized list of users along with their essential information, such as name, email, and active status.

- Access a comprehensive list of all business users associated with your organization.
- View the essential details of each user, including their name, email, and active status.
- Assign specific roles to users, allowing them access to relevant functionalities and data.
- Users retain full edit access, enabling them to add, delete, and update specifications as required.
- When setting up a business user, ensure to provide their first name, last name, and the particular role they will be working on.

3. Warehouse

This screen should provide an overview of all warehouses associated with the application's working process. This screen should contain a list of warehouses along with their essential details, including the name, warehouse code, city and state location, and current status.

- Explore a comprehensive list of all warehouses associated with the application's operations.
- View essential information about each warehouse, including its name, unique warehouse code, city and state location, and current status (active or inactive).
- Each warehouse is identified by a unique warehouse code, enabling efficient tracking and management.
- Discover the specific city and state where each warehouse is situated, providing geographical context.
- Quickly determine the current status of each warehouse, whether it is active or not.
- Utilize the functionality to add new warehouse information and details to the system.
- Exercise control over warehouse management by selectively deleting specific warehouses as needed.

4.   Employee Details

This screen should be designed to provide a comprehensive view of employees and their details for business users. It should offer valuable information, including employee types, first name, last name with a unique code, department affiliation, and their respective positions.

- Access a comprehensive view of employees, including their type (fixed hour rate, casual, or part-time), first name, last name, and unique code.
- View the department in which each employee is working, providing organizational context.
- Identify the positions held by employees, such as manager level or supervisor level.
- Utilize the functionality to add new employees, providing personal details such as first name, last name, date of birth, gender, address, email ID, and contact number.
- Update existing employee details as required, ensuring accurate and up-to-date information.
- Exercise control over employee management by selectively deleting employees as needed.

5.   Vehicles

This screen should be able to access and manage all the necessary details of vehicles associated with the application.This screen should provide comprehensive information about each vehicle, including its category,registration number, equipment ID, location, and status.

- Access information about each vehicle, including its category, registration number, equipment ID, location, and status.

- Identify the vehicle's category, distinguishing whether it is a prime mover or falls into another category.
- View the unique registration number assigned to each vehicle.
- Discover the equipment ID associated with the vehicle, providing additional context.
- Determine the current location of the vehicle.
- Quickly assess the status of each vehicle, such as availability, transit, or maintenance.
- Utilize the functionality to add details of new vehicles, ensuring all the necessary parameters are included.

6. BAT Groups

The screen should be dedicated to managing vehicle groups and offers users the ability to organize different vehicles into distinct groups. It includes the following features:

- In Vehicle Grouping users should be able to create multiple groups by grouping together various vehicles based on specific criteria or requirements.
- The screen should showcase all the groups that have been created, providing an overview of the different vehicle groupings.
- Users should have the option to create additional groups as needed.
- Users should be able to edit the details or criteria of pre-existing groups. They also have the ability to delete groups that are no longer needed.
- The screen displays essential information about each BAT group. This information typically includes the BAT group name, tare weight, temperature type, BAT group status, and actions that can be performed on the group.

7. Customers

This screen should be able to access and manage information about all the customers associated with the company. This screen should provide details such as customer type, business name, business ID, first name, last name, and active status.

- Access information about each customer, including their customer type, business name, business ID (if applicable), first name, last name, and active status.
- Identify whether the customer is an individual or a business entity.
- View the associated business name and ID (if applicable) for business customers.
- Utilize the functionality to add new customers, providing their name, address, pin code, and payment type.
- Remove pre-existing customers from the list as needed.
- Modify and update the information of existing customers.
- Utilize the search functionality to find specific customers within the list.

8.   Delivery Time

This screen should be designed to provide the expected number of days for delivery based on the distance to be covered. It should allow for the allocation of estimated delivery times to different distance ranges, and offers options to add, delete, or edit existing delivery time estimations.

- Access the expected number of days for delivery based on the distance to be covered.
- Allocate estimated delivery times to different ranges of distances.
- Utilize the functionality to add new delivery time estimations for specific distance ranges.
- Remove or modify pre-existing delivery time estimations as needed.
- Tailor the estimated delivery time based on specific distance ranges.
- Edit existing estimations to improve accuracy and efficiency in the delivery process.

9.   Shipment Charges

The shipment charge calculation process should involve three key aspects: cargo volume, cargo weight, and consignment pickup. Each aspect has specific requirements and features that contribute to the overall calculation.

1. Cargo Volume: The system prompts users to input the length, breadth, and height of the cargo. It then calculates the cargo volume and applies the corresponding charge based on the calculated volume.
2. Cargo Weight: The system incorporates zone names with defined distance ranges and associated charges in dollars. Users have the flexibility to add new zones, delete existing ones, or modify zone details. Charges within each zone are fixed and not influenced by cargo weight or volume.
3. Consignment Pickup: Similar to the cargo weight aspect, the consignment pickup option includes zone names with specified distance ranges and associated charges in dollars. Opinions of adding new ones, deleting existing ones, or editing details should be there. The charges for consignment pickup remain consistent and are independent of cargo weight or volume.

10.   Orders

This screen should be designed such as to present order details and aim to provide users with a comprehensive overview of their orders, facilitating efficient management. The information that should be included is Order number, Order date, Shipment type, Payment type, Sender city, Receiver city, Shipment distance, Total charge and Action option

When users will choose the "view order detail" option, they should be presented with various details like order number, order date, consignment type, payment type, sender and receiver addresses, and phone numbers.

When users will choose the "assign driver" option, they should be presented with various details like Driver selection and pickup and drop addresses.

To enhance usability, the screen should offer four separate options for viewing specific types of orders:

- In-progress orders: Displays orders that are currently being processed or in transit.
- Completed orders: Shows orders that have been successfully delivered or fulfilled.
- Other orders: Includes orders that don't fit into the above categories, providing flexibility for unique scenarios.
- All orders: Presents a comprehensive view of all orders, regardless of their status or type.