Team Subong

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Overview of the problem:

In the logistics industry, many businesses, especially small and medium enterprises, continue to rely on manual delivery tracking and inventory systems that are prone to delays, errors, and inefficiencies. Inventory inaccuracies often result in surplus or shortages that disrupt operations and affect customer satisfaction. Delivery tracking is typically dependent on paper receipts, which must be manually submitted at the end of the day, delaying inventory updates and increasing the risk of data loss. This lack of real-time visibility hinders management's ability to make informed decisions quickly. Moreover, outdated manual workflows limit productivity, make coordination more difficult, and leave companies vulnerable to human error. These challenges hinder business growth and responsiveness in a competitive and time-sensitive industry.

Solving the problem:

To address these issues, LogistX offers a comprehensive digital solution that automates inventory tracking and delivery processes. By introducing real-time QR code scanning, automated receipt generation, and live dashboards, the system eliminates the need for manual data entry and speeds up operational workflows. Inventory discrepancies are minimized as the system updates stock levels instantly upon delivery. The platform also provides management with up-to-date delivery information, allowing for better route planning and decision-making. By replacing paper-based processes with digital tools, LogistX helps logistics companies modernize their operations, reduce human error, and enhance customer satisfaction. It transforms outdated logistics workflows into a streamlined, responsive, and accurate system.

The application:

a. **Application name: LogistX**

b. **What it is:** LogistX is an advanced delivery and inventory management system designed to support logistics operations of various scales. It helps businesses automate the tracking of deliveries, manage warehouse stock, and generate digital receipts, all in real time. The system is tailored to reduce errors, cut down on delays, and offer full visibility across all logistics processes. Through seamless integration of features such as QR code scanning and vehicle tracking, LogistX ensures that delivery personnel, warehouse staff, and managers can work more efficiently. The application serves as a

central hub where all logistics activities are recorded and monitored, providing a reliable foundation for decision-making and continuous improvement.

c. **Features:**

The team will have the following features incorporated into the application. Such features are as follows**:**

- **Automated Inventory Updates**
  Uses QR code scanning to instantly update stock levels after deliveries.
- **Digital Receipt Generation**
  Automatically creates delivery receipts, reducing the need for manual entry.
- **Delivery and Vehicle Tracking**
  Assigns vehicles to routes and tracks delivery progress per trip.
- **Mobile and Desktop Accessibility**
  Fully responsive on both desktop and mobile devices for flexible usage.
- **Advanced Search and Filter Options**
  Allows users to find specific transactions, deliveries, or inventory data quickly.
- **User Profile and System Settings Management**
  Enables customization of profiles and preferences for better workflow.

d. **Question about the application**:

- **Who are the potential users?**

  LogistX is ideal for a broad range of logistics operations, including small to medium-sized delivery services, food and beverage distributors, pharmaceutical companies, and retail product transporters. It is particularly valuable to warehouse managers who need real-time stock visibility, delivery drivers who require a simplified tracking system, and business owners who want insight into operational efficiency. Suppliers and logistics staff can also benefit from streamlined workflows, while consumers indirectly experience improved delivery accuracy and reliability. Overall, LogistX is suitable for any logistics business looking to move away from manual processes and embrace digital transformation.

- **What tasks do they seek to perform?**
  Users of the LogistX platform aim to carry out a range of logistics functions with greater speed and accuracy. These include logging and completing deliveries,

scanning products using QR codes, generating receipts, and tracking inventory levels in real time. Managers use the system to monitor daily operations, assign vehicles and personnel, and make data-driven decisions based on accurate reports. Delivery personnel use it to update their delivery status while in the field, reducing the need to return physical receipts. All users are able to filter and search for specific records, update inventory logs, and receive alerts about delays or shortages. These tasks are essential for maintaining a high level of operational efficiency and responsiveness.

- **What functionality should any system provide to these users?**

  To support users effectively, LogistX must offer a range of critical functionalities. The system should allow for seamless product and delivery logging using QR codes, removing the need for handwritten records. It must be capable of generating accurate digital receipts and reports that can be accessed by management in real time. The application should support vehicle tracking, supplier-product linking, and employee role assignments to simplify administrative workflows. User-friendly interfaces with role-based access are necessary to maintain security while providing appropriate data access to each user type. Advanced filtering, searching, and notification tools must also be included to help users quickly access and act on relevant information. These functions ensure that users can perform their roles efficiently and accurately.

- **What constraints will be placed on your eventual design?**

  The design of LogistX must be intuitive and user-friendly, allowing all users to navigate the platform without requiring extensive training. Real-time data synchronization is crucial, especially for inventory tracking and delivery updates, to ensure that information remains current and actionable. The system should be responsive and compatible with both desktop and mobile devices, accommodating staff who work in warehouses, offices, or on the road. Strong data security is essential to protect sensitive business information, with features such as role-based permissions, encrypted logins, and secure messaging. Additionally, the system must handle errors gracefully, especially during QR code scanning or file

uploads. Scalability is also a core requirement, as the system should be able to grow alongside the business and handle increased transaction volumes without performance issues.

- **What criteria should be used to judge if your design is a success or not?**
  We will know LogistX is successful if users find it easy to use and helpful in their daily work. It should make inventory and delivery tracking more accurate and faster than manual methods. The system should be reliable, with no bugs or crashes, and keep all user information safe. Most of all, users should be happy with how it works and feel that it saves them time and effort.

Approach: