

PROBLEM

Efficiently managing inventory can be a challenging task for businesses relying on traditional methods such as spreadsheets or outdated systems. These tools often lack real-time updates, dynamic location management, and the ability to integrate vendor or billing processes. The absence of a comprehensive and visually intuitive interface often leads to inefficiencies, errors, and delays in operations.

CURRENT SYSTEM

Existing systems typically fail to provide essential modern features such as:

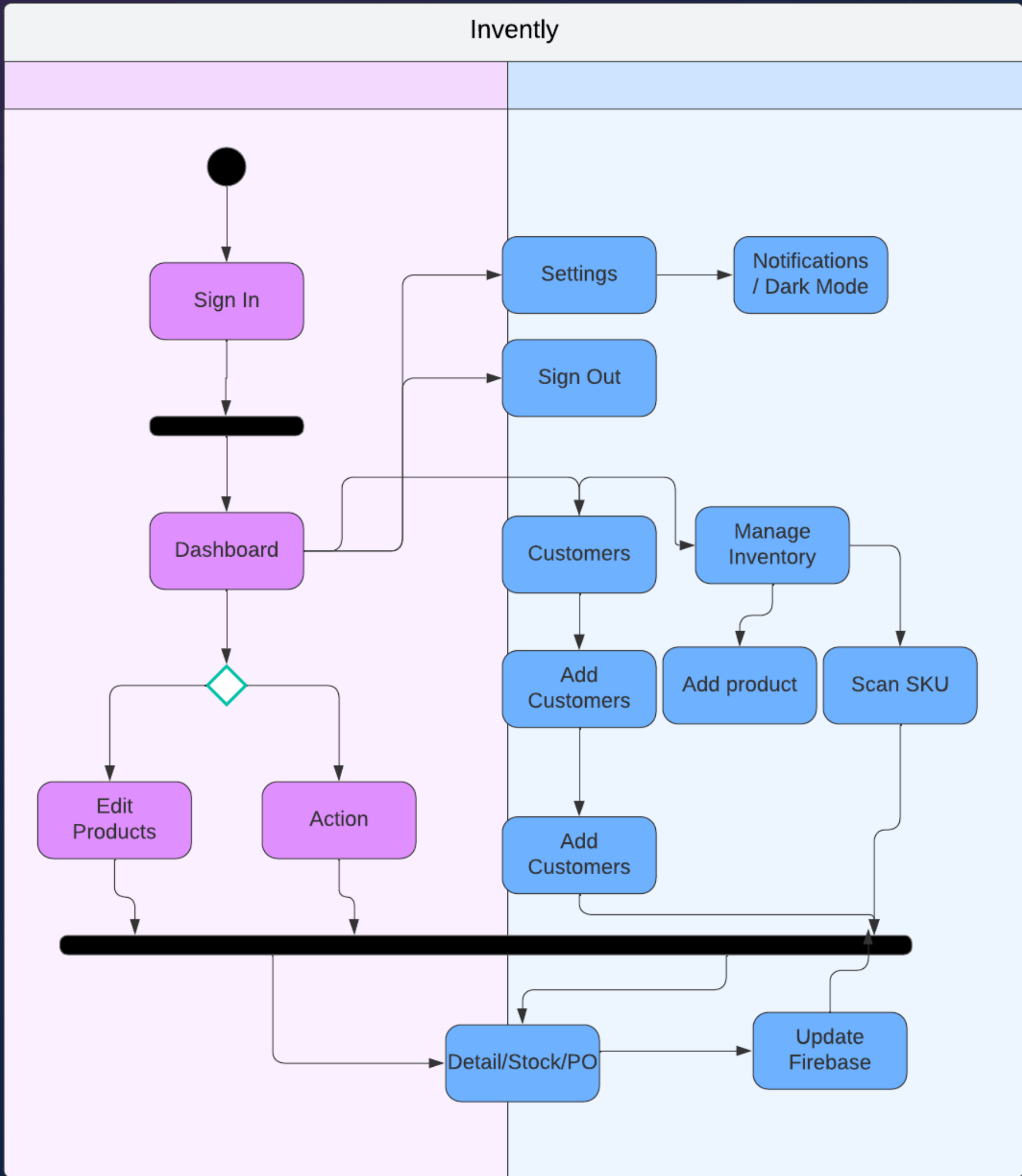
- A centralized dashboard to monitor orders and inventory.
- The ability to dynamically add, edit, and manage product information.
- Intuitive visual tools for managing inventory locations, such as aisles, racks, and bins.
- Seamless vendor management and purchase order creation.

This creates a gap that the current system aims to address by providing a real-time, visually intuitive solution.

REQUIREMENTS

- Functional Requirements**
- Real-Time Updates: Instant inventory synchronization.
 - Scalability: Support growing product databases.
 - Integration: Seamless Firebase connection.
 - Authentication: Secure login for authorized access.
 - Interactive Tools: Manage aisles, racks, and bins dynamically.
- Non-Functional Requirements**
- Security: Protect sensitive data and ensure integrity.
 - Scalability: Support growing product databases.

SYSTEM DESIGN



OBJECT DESIGN

- The project organizes data using structured entities:
- Inventories: Stores owner info, products, locations, orders, and customers.
 - Products: Captures Item Code, SKU, description, quantity, threshold, and photo.
 - Locations: Represents aisles, racks, and bins, allowing precise tracking.
 - Orders: Includes purchase order details like vendor information, itemized lists, and attachments.
 - Customers: Manages customer profiles and related invoices.

IMPLEMENTATION



Frontend: CSS, HTML, JS



Backend/Database: Firebase



Barcode Scanning: ZXING

VERIFICATION

- Key features were rigorously tested to ensure:
1. Inventory Dashboard: Allows users to see the inventories they own and create new inventories.
 2. Accurate Product Management: Adding and editing product attributes works without errors.
 3. Visual Location Updates: Aisle, rack, and bin modifications update dynamically.
 4. Order Creation: Vendors, billing, and shipping details are stored and calculated correctly.
 5. Responsive UI: Works seamlessly across devices and screen sizes.

SUMMARY

This inventory management system bridges the gap between outdated tools and modern business needs. With its real-time updates, dynamic location management, and intuitive user interface, it enables businesses to streamline operations, reduce errors, and improve efficiency. By integrating essential features like purchase order creation and customer management, the system provides a comprehensive solution for inventory management challenges.

REFERENCES

- <https://html.spec.whatwg.org>
- <https://developer.mozilla.org/en-US/docs/Web/CSS>
- <https://developer.mozilla.org/en-US/docs/Web/JavaScript>
- <https://www.npmjs.com/package/@zxing/library>