

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managing inventory can be a challenging task for businesses relying on traditional methods such as spreadsheets or outdated systems.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:

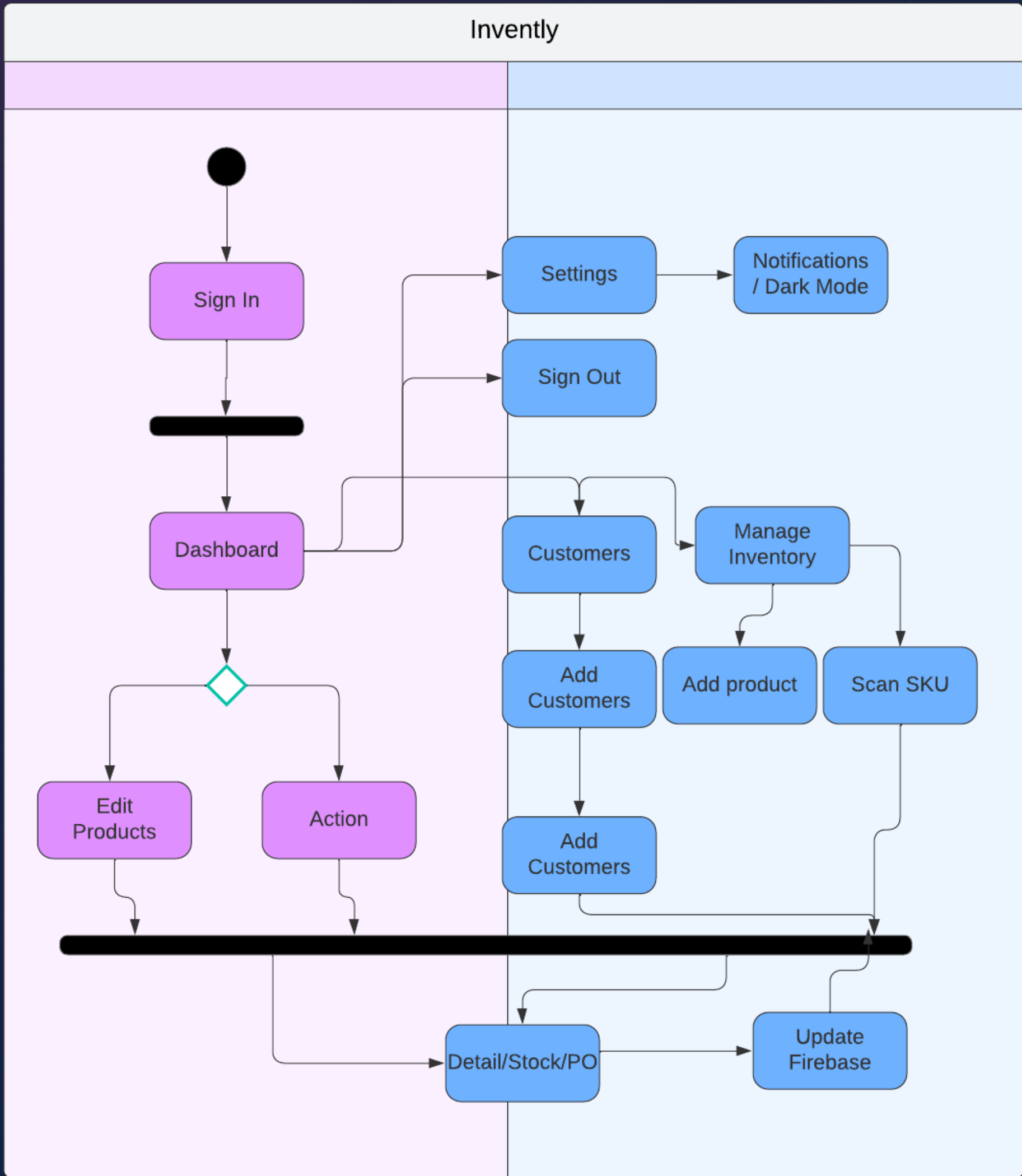
- A centralized dashboard to monitor orders and inventory.
- The ability to dynamically add, edit, and manage product information.
- Intuitive visual tools for managing inventory locations, such as aisles, racks, and bins.
- Seamless vendor management and purchase order creation.

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



INDIVIDUAL CONTRIBUTION

My role focused on backend development; I specifically worked on the infrastructure of the database, the inventory dashboard and functionality to create new databases, and the functionality of the barcode scanner.

I created the Inventory Dashboard Page, where users can see and access their various inventories and create new inventories when they log in.

I implemented the barcode/SKU scanner using ZXing, which reads barcodes and either adds or removes items from the inventory stock.

IMPLEMENTATION



Frontend: CSS, HTML, CSS

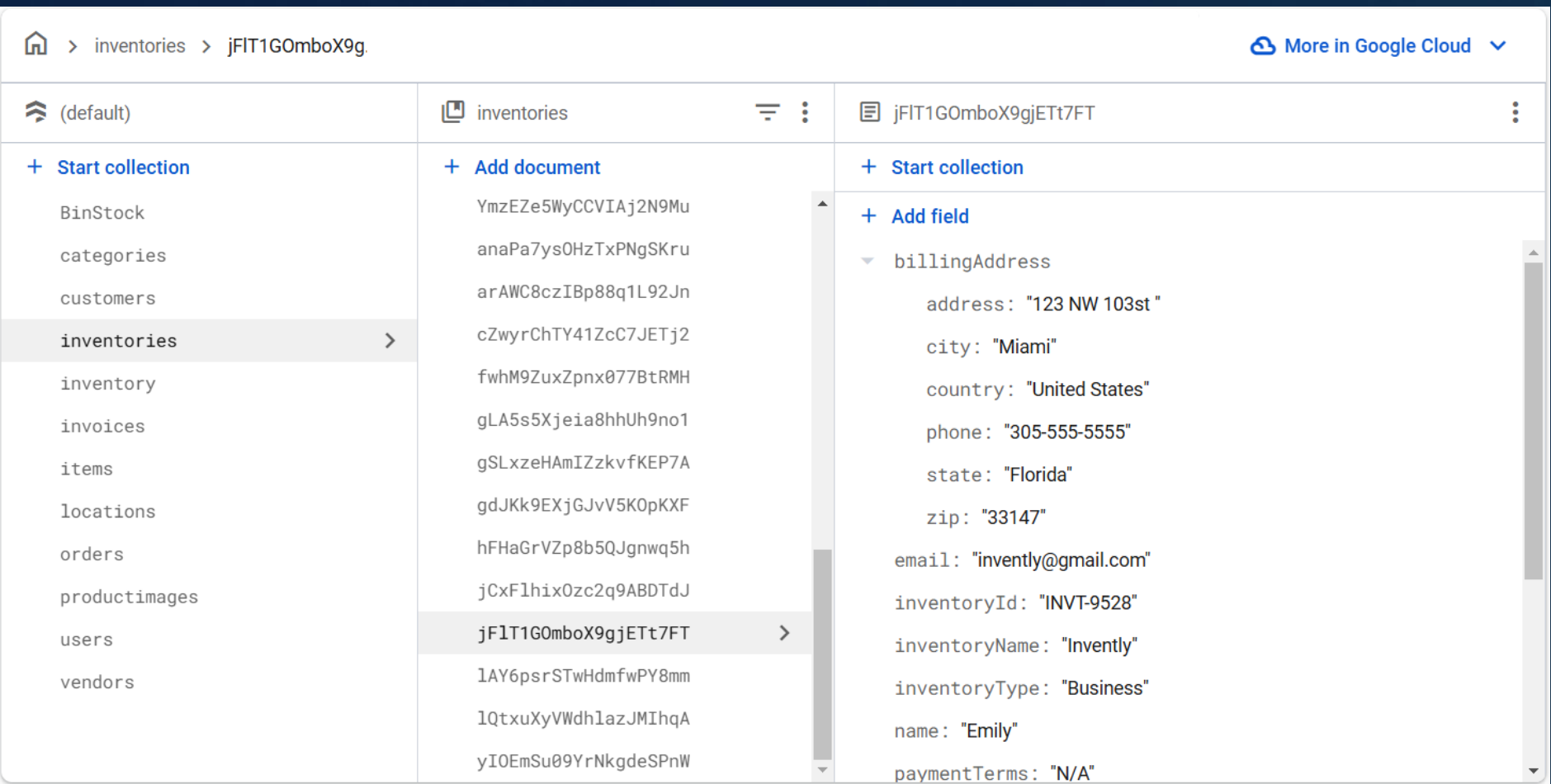
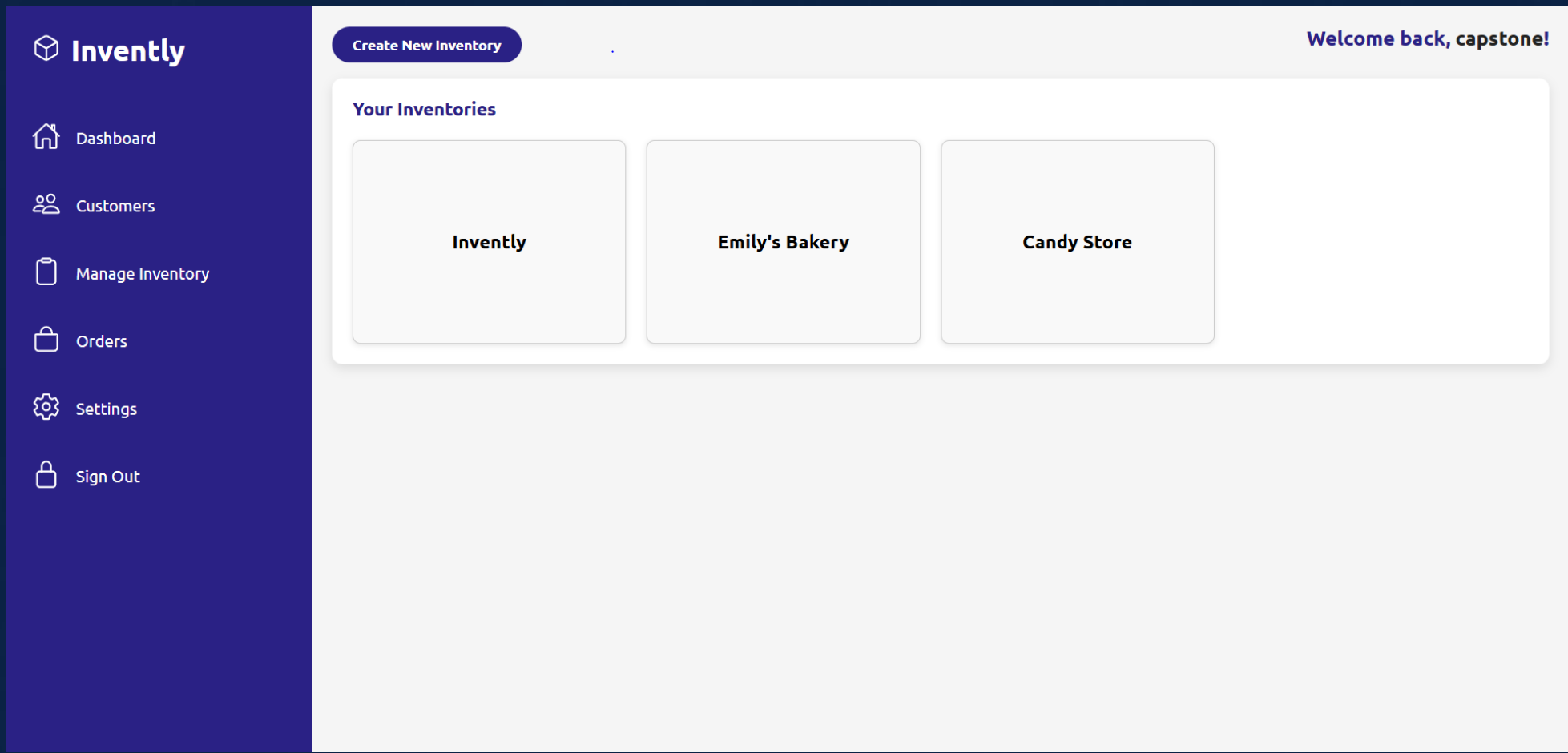
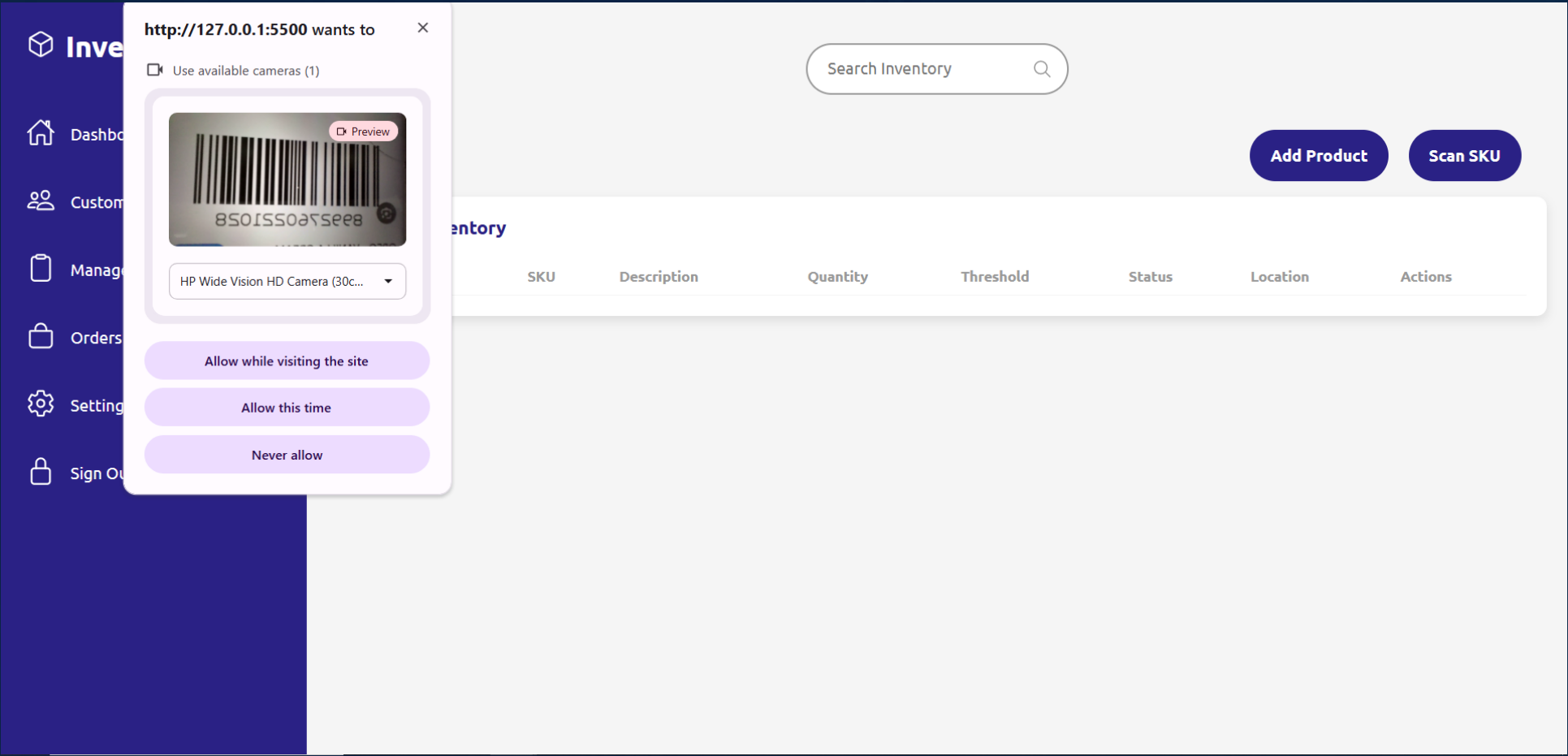
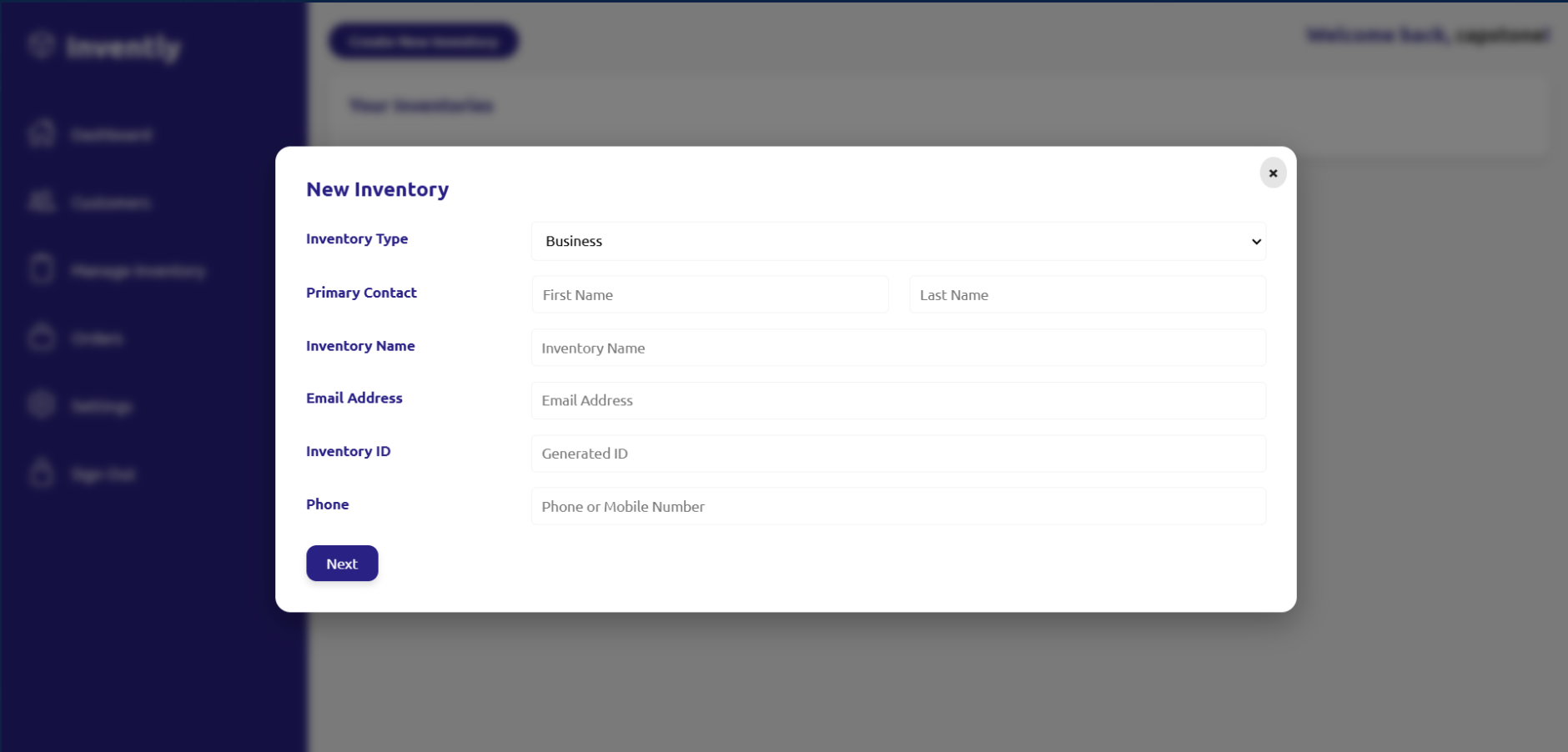


Backend/Database: Firebase



Barcode Scanning: ZXing

SCREENSHOTS



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.