1. Introduction

Project Title: Storage Management - Keep Track of Inventory

Team Members:

S. Amrin Fathima

J. Mahibha

S. Mahalakshmi

T. Maria Jancy

2. Project Overview

Purpose:

The purpose of this project is to develop a frontend interface for managing inventory items in storage. It helps users track product quantities, locations, and restocking needs efficiently.

Features:

* Dashboard displaying current inventory stats

* Add, edit, delete inventory items

* Search and filter items

* Category-wise item grouping

* Low-stock alerts

* Responsive and user-friendly design

3. Architecture

Component Structure:

App: Root component

Navbar: Top navigation bar

Sidebar: Side navigation for dashboard and inventory sections

Dashboard: Displays key statistics

Inventory List: Lists all inventory items

Inventory Item: Reusable component for individual item display

Add Edit Item Form: Form to add or edit inventory items

Alert Modal: For delete confirmations and alerts

State Management

Context API is used for global state management (e.g., item list, alerts)

* Local state (useState) is used in forms and modals

Routing:

Implemented using React Router (v6)

/ – Dashboard

/inventory – Inventory List

/inventory/add – Add Item

/inventory/edit/:id – Edit Item

4. Setup Instructions

Prerequisites:

Node.js (v14 or later)

npm or yarn

Installation

bash

git clone https://github.com/your-repo-url/storage-management.git

cd storage-management

npm install

If environment variables are required (e.g., for API base URL), create a .env file:

REACT_APP_API_URL=http://your-api-url

5. Folder Structure

storage-management/

├── public/

├── src/

├── assets/ # Images, icons, etc.

├── components/ # Reusable components (Navbar, Sidebar, Modal, etc.)

├── context/ # Global context providers
├── hooks/ # Custom React hooks
├── pages/ # Page components (Dashboard, Inventory)
├── routes/ # Routing configuration
├── styles/ # Global and component styles
└── App.js
└── .env # Environment config

Utilities:

* useFetch.js: Custom hook to handle API fetch calls
* formatDate.js: Helper to format date strings
* validateForm.js: Form validation logic

6. Running the Application

bash

cd storage-management

npm start

This will start the development server at http://localhost:3000.

7. Component Documentation

Key Components:

* Inventory List

Purpose: Displays the list of items

Props: items, onEdit, onDelete

* Add Edit Item Form

Purpose: Form for creating or editing an item

Props: mode (add/edit), initialData, onSubmit

Reusable Components

* Alert Modal – Used for delete confirmations
* Button – Reusable button with variant support
* Card – Used for dashboard statistic displays

8. State Management

Global State:

Using (React Context API) to manage:

* Inventory items
* Alerts and modals
* Theme preferences

Local State:

Handled via useState for:

* Form inputs
* Modal open/close status
* Pagination controls

9. User Interface

UI Highlights:

Dashboard with metrics (e.g., total items, low stock)

Inventory Page with table or card views

Responsive Forms for adding/editing inventory

(Insert screenshots or GIFs here to show the UI interactions)

10. Styling

CSS Frameworks/Libraries:

Tailwind CSS for utility-first styling

React Icons for consistent iconography

Theming:

*Custom color themes defined via Tailwind configuration

* Light/Dark mode toggle support (optional)

11. Testing

Testing Strategy:

Jest for unit testing functions and components

React Testing Library for component behavior testing

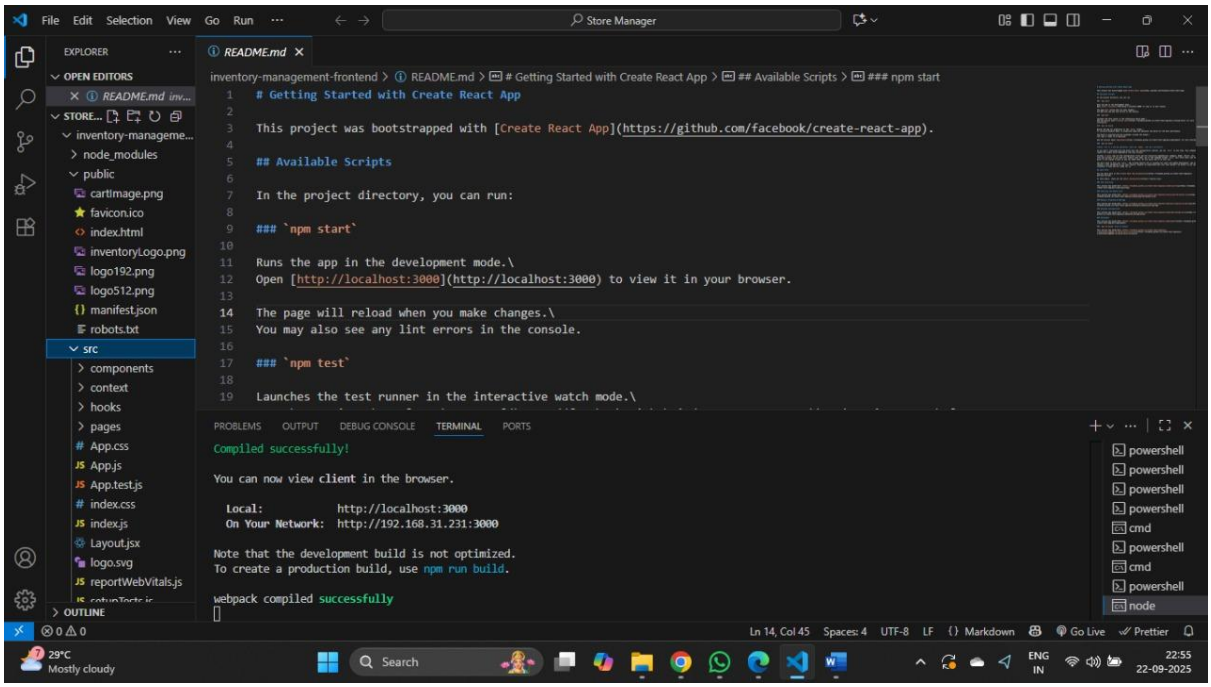
Code Coverage:

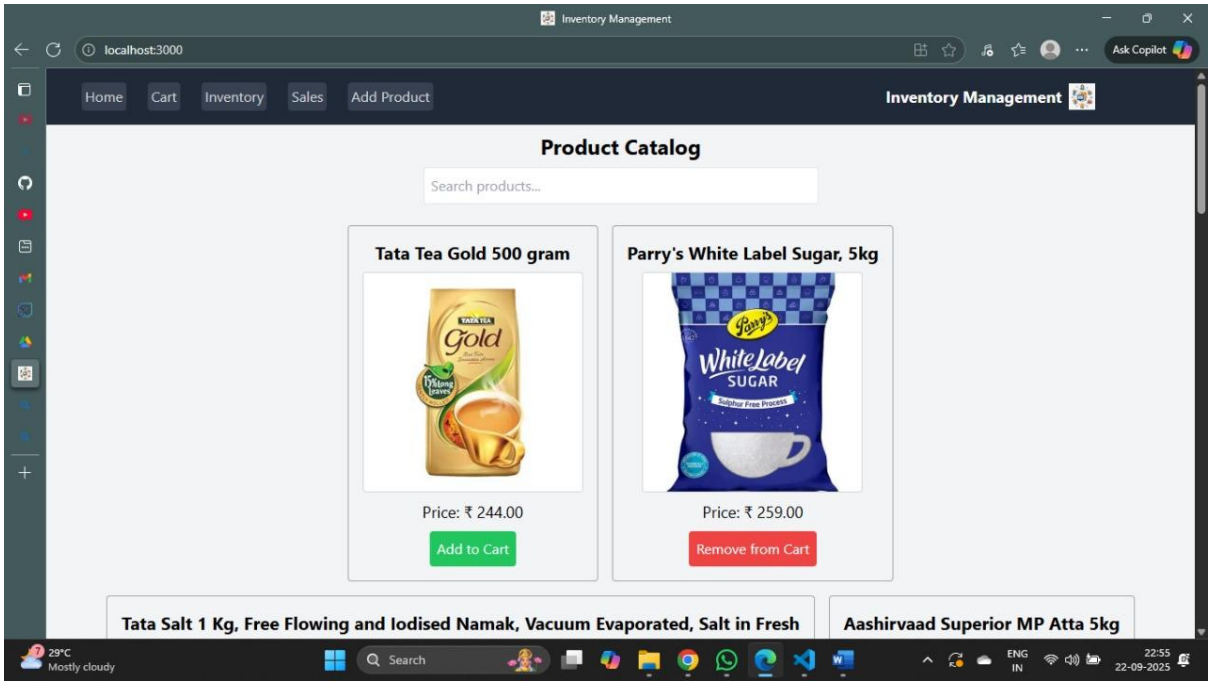
* coverage/ report generated via Jest

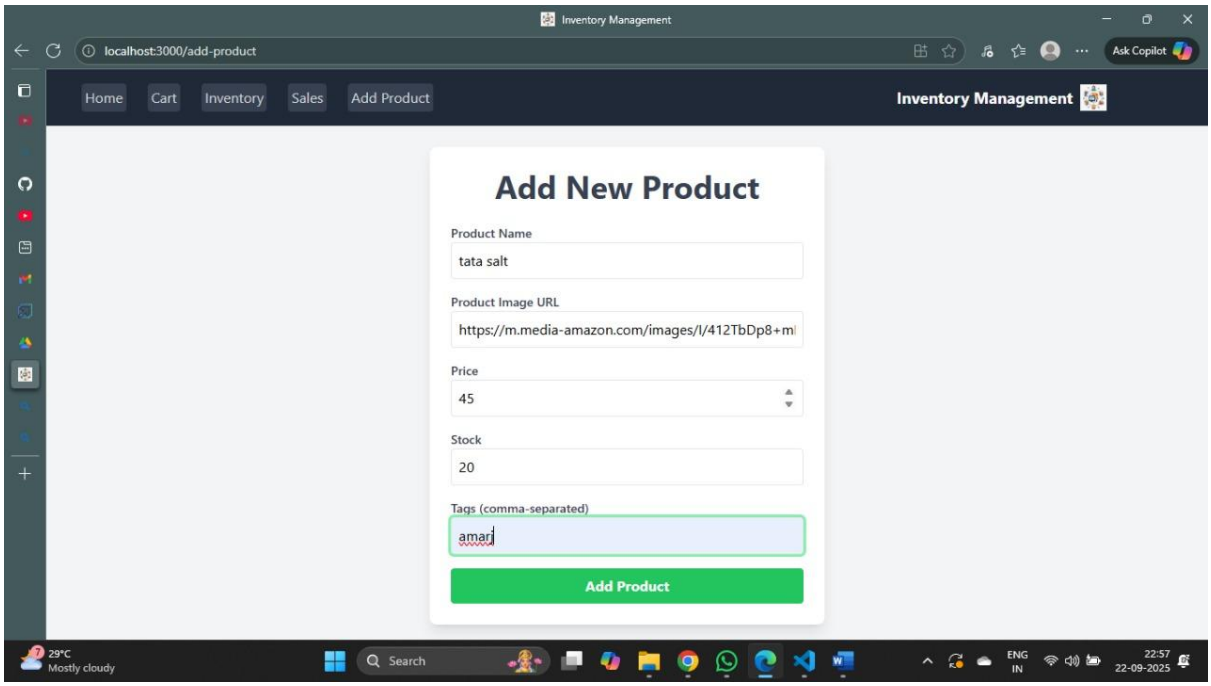
* Ensured 80%+ coverage on core components

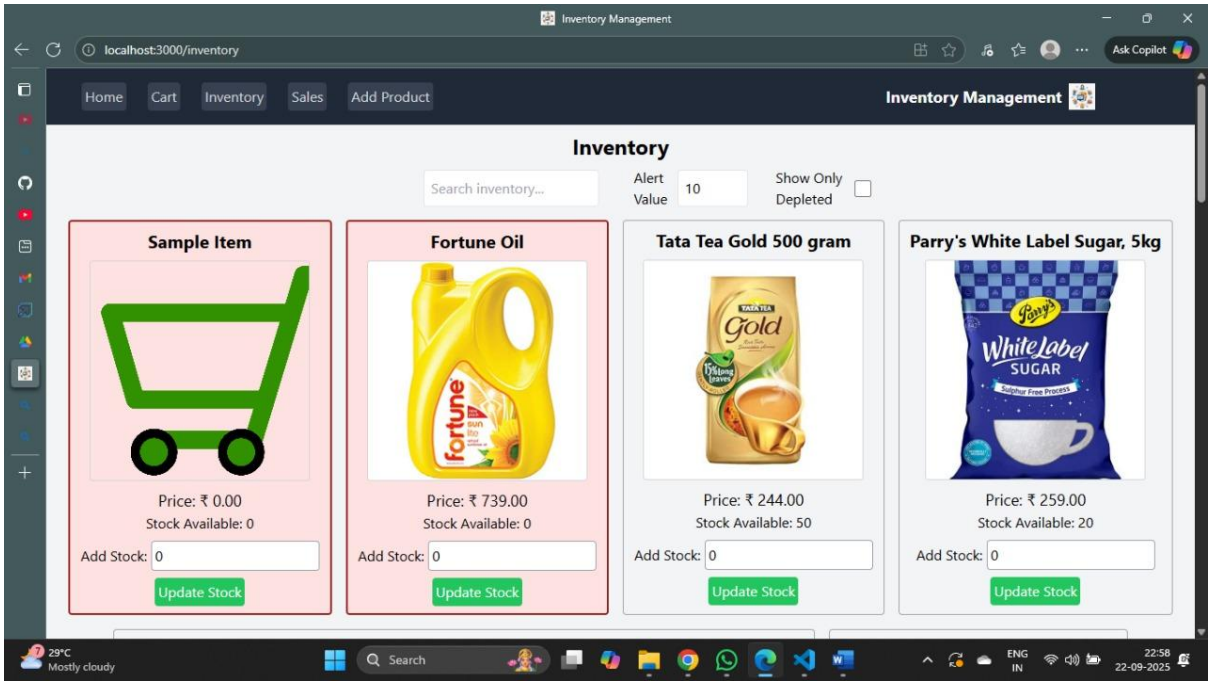
12. Screenshots or Demo

Screenshot:




Inventory Management
localhost:3000
Ask Copilot
Home
Cart
Inventory
Sales
Add Product
Inventory Management
Product Catalog
Search products...
Tata Tea Gold 500 gram
Price: ₹ 244.00
Add to Cart
Parry's White Label Sugar, 5kg
Price: ₹ 259.00
Remove from Cart
Tata Salt 1 Kg, Free Flowing and Iodised Namak, Vacuum Evaporated, Salt in Fresh
Aashirvaad Superior MP Atta 5kg
29°C
Mostly cloudy
Search
ENG
IN
22:55
22-09-2025


Inventory Management
localhost:3000/add-product
Ask Copilot
Home
Cart
Inventory
Sales
Add Product
Inventory Management
Add New Product
Product Name
tata salt
Product Image URL
https://m.media-amazon.com/images/I/412TbDp8+m
Price
45
Stock
20
Tags (comma-separated)
amari
Add Product
29°C
Mostly cloudy
Search
ENG
IN
22:57
22-09-2025



Demo Video:

https://drive.google.com/file/d/13F4QuSynkr9vnniNDYslVdqFoVa1uEZB/view?usp=vids_web

13. Known Issues

* API error handling needs improvement in some components

* Pagination not yet implemented on the Inventory page

* Form validation could be extended for advanced fields

14. Future Enhancements

* Implement barcode scanning integration

* Export inventory to CSV

* Add role-based authentication for admin/user

* Enhance UI with animations (e.g., Framer Motion)

* Add unit tests for utility functions and hooks