



**BANNARI AMMAN INSTITUTE OF TECHNOLOGY**  
An Autonomous Institution Affiliated to Anna University - Chennai, Accredited by NAAC with A+ Grade  
Sathyamangalam - 638401 Erode District, Tamil Nadu, India

**Student Name : BARATH M**

**Seat No : 181**

**Project ID : 21**

**Project Name : Inventory System**

### Technical Components

Components	Techstacks
Frontend	React
Backend	Express with Node.js
DataBase	MongoDB
API	OpenAPI

### Implementation Timeline

Phase	Deadline	Status	Notes
Stage 1	02/05/2024	Approved	Planning and Requirement Gathering
Stage 2			Design and UI/UX Prototyping
Stage 3			Database Design and Implementation
Stage 4			Backend Development
Stage 5			Integration and Testing
Stage 6			Deployment

## **PROBLEM STATEMENT:**

The existing inventory management process lacks efficiency and faces several challenges, including:

- **Manual data entry:** Manual entry of purchase and sales information leads to errors and inconsistencies.
- **Lack of real-time information:** The absence of a centralized system results in delayed and inaccurate stock availability updates.
- **Inefficient reporting:** The absence of a comprehensive reporting system makes it difficult to analyze inventory performance and make informed decisions.
- **Ineffective communication:** There is a lack of timely reminders and notifications about critical inventory events, leading to missed opportunities and inefficiencies.

## **PROJECT FLOW:**

### **Purpose:**

The purpose of this project is to develop an inventory management system that addresses the existing challenges and improves overall efficiency. The system aims to streamline inventory operations, enhance decision-making, and optimize communication with stakeholders.

### **Scope:**

The inventory system will include the Purchase Entry Portal, Sales Entry Portal, Availability of Stocks, Reporting System, Reminder System, Communication with Stakeholders

### **Business Context:**

The inventory management system is designed to improve operational efficiency and decision-making within the organization. The primary stakeholders include inventory managers, purchasing departments, sales teams, and relevant administrative staff. The system aims to enhance inventory clarity, reduce errors, optimize stock management, and improve customer satisfaction and business profitability.

### **Considerations:**

- Implementation of robust authentication and data security measures, including active user accounts and privacy controls, to safeguard sensitive information and ensure secure access.

- Provision of user-friendly interfaces, backed by reliable data backup and recovery systems, enhancing usability and protecting against data loss, while ensuring seamless navigation and input validation for enhanced user experience.

### **Dependencies:**

- Seamless integration with messaging services like WhatsApp for efficient communication and report sharing, alongside robust internet connectivity to ensure real-time data synchronization and uninterrupted performance.
- Compatibility with current hardware and software setups, including database systems, servers, and inventory management systems, where applicable, ensuring smooth integration and optimal functionality within existing infrastructure.

### **User Personas:**

- **Inventory Manager:** Responsible for maintaining accurate inventory records and managing operations efficiently.
- **Sales Representative:** Needs to record sales transactions and check product availability for customer orders.
- **Reporting Analyst:** Requires detailed inventory performance reports for analysis and decision-making.

### **User Stories:**

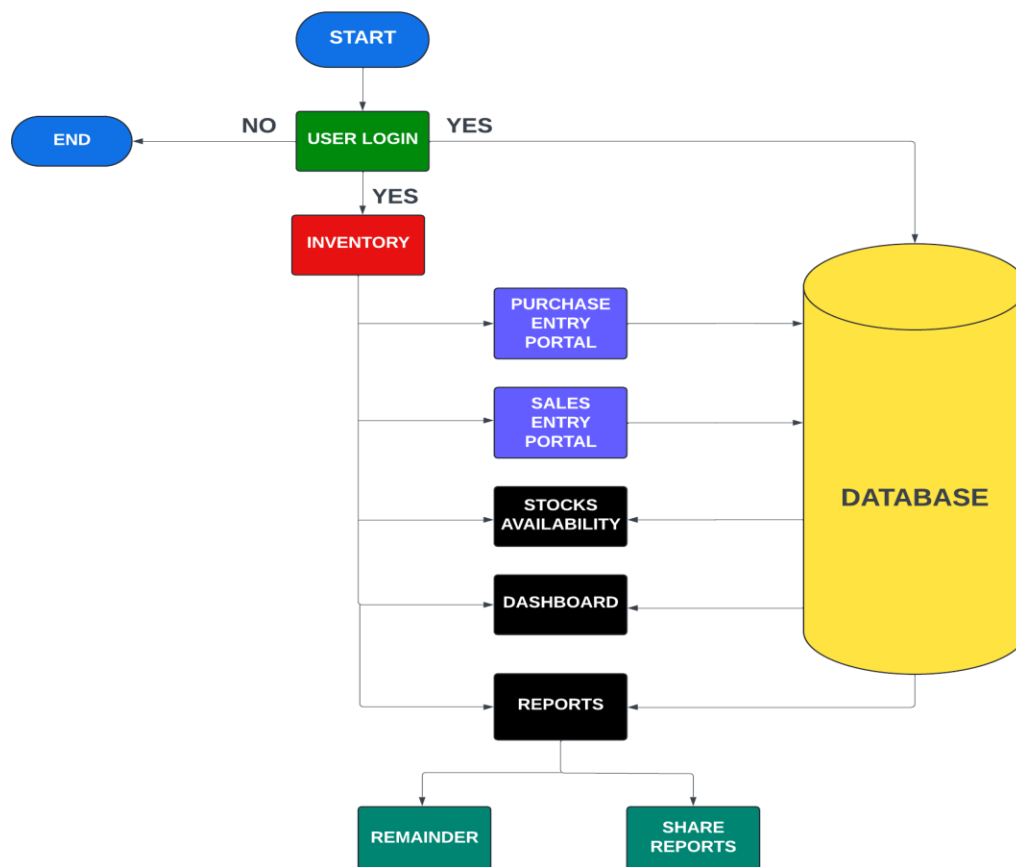
- **Inventory Manager:** Wants to input new purchases and receive alerts for low stock levels.
- **Sales Representative:** Needs a portal to record sales and access real-time stock availability.
- **Reporting Analyst:** Wants to generate and share comprehensive reports on inventory performance.

### **Functional Requirements:**

- **User Authentication:** Secure login with role-based access control (RBAC).
- **Purchase Entry Portal:** Input details of new purchases and manage inventory updates.

- **Sales Entry Portal:** Record sales transactions and monitor product availability.
- **Availability of Stocks:** Display real-time stock levels and provide search
- **Reporting System:** Generate reports (Consolidated, Yearly, Monthly, etc.) for analysis.
- **Reminders and Notifications:** Send alerts for low stock levels and pending orders.
- **Integration with Messaging Services:** Share reports via WhatsApp or messaging platforms.
- **Dynamic Dashboard:** Provide a user-friendly dashboard for real-time data interaction.

## FLOWCHART:



## ER DIAGRAM (DB DESIGN) :

