# Software Requirements Specification

**for**

# ByteStock

**Version 1.0**

**Prepared by**


**Group Name:** ByteStock

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| **Date:** | **30 Aug 2025** |

# Contents

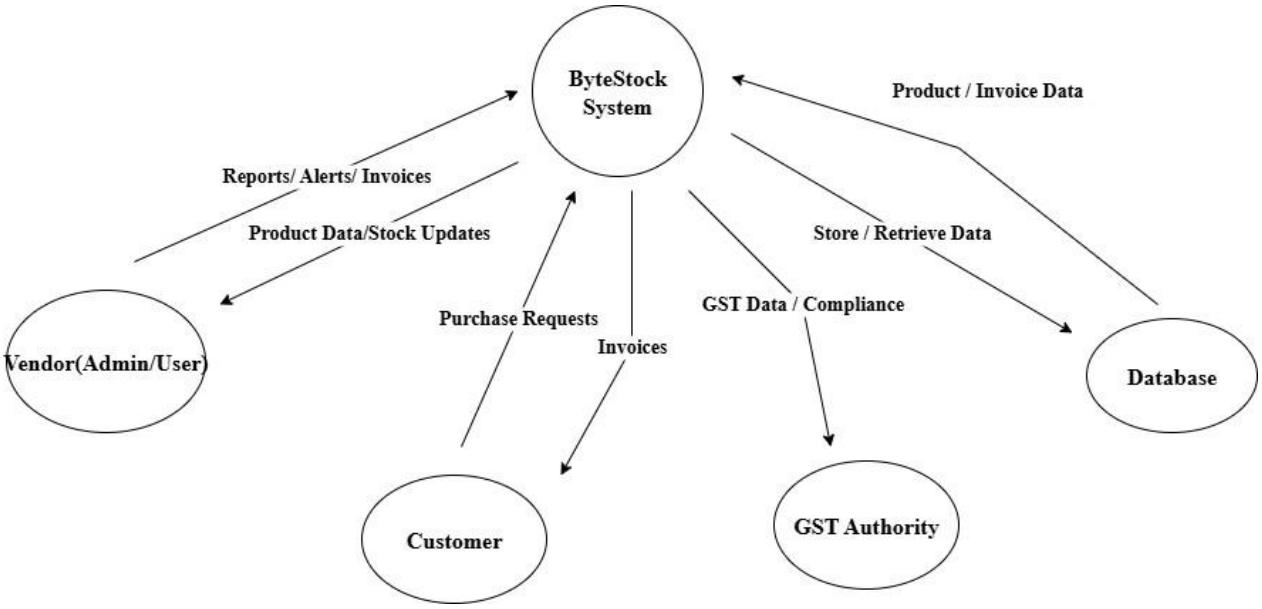
# Revisions

| Version | Primary Author(s) | Description of Version | Date Completed |
|---|---|---|---|
| Draft Type and Number | Ayush Gupta | Initial draft created with introduction, scope, requirements, and data dictionary.<br>. | 27/08/2025 |

# 1 Introduction

ByteStock is an advanced Inventory and Billing Management System created to simplify stock management, product tracking, and invoice generation for small and medium-sized enterprises. It enables vendors to maintain real-time product records, track stock levels, and receive low-stock alerts to prevent shortages. The system also offers GST-compliant billing with automatic tax calculations, ensuring the quick creation of professional invoices for customers.

Equipped with features like secure login, product price updates, sales reporting, and instant notifications, ByteStock minimizes manual errors and saves valuable time. Its intuitive design, scalability, and adherence to Indian tax regulations make it a reliable, efficient, and user-friendly solution for business operations.




## 1.1 Document Purpose

The purpose of this document is to define the requirements for ByteStock, a software solution designed for small and medium businesses to manage inventory, track stock levels, generate GST-compliant invoices, and provide real-time notifications for low stock.

## 1.2 Product Scope

ByteStock simplifies inventory and billing operations by:

- Tracking stock in real-time

- Generating invoices with automatic GST calculation
- Sending low-stock alerts
- Allowing users to modify product details (e.g., price updates)
- Providing analytics for sales and purchases

## 1.3 Intended Audience and Document Overview

*End Users: Shop owners, staff members*
*Developers & Testers: For system development and validation*
*Stakeholders: Small business vendors*

*The document outlines functional and non-functional requirements, use cases, and design constraints.*

## 1.4 Definitions, Acronyms and Abbreviations

- API – Application Programming Interface
- DBMS – Database Management System
- SRS – Software Requirements Specification
- GST – Goods and Services Tax

## 1.5 Document Conventions

Document follows IEEE SRS guidelines. Headings are numbered hierarchically. Functional requirements are identified (e.g., F1, F2). Use cases describe actors, flows, and preconditions.

## 1.6 References and Acknowledgments

IEEE 830 Standard for SRS Documentation
Software Engineering course materials

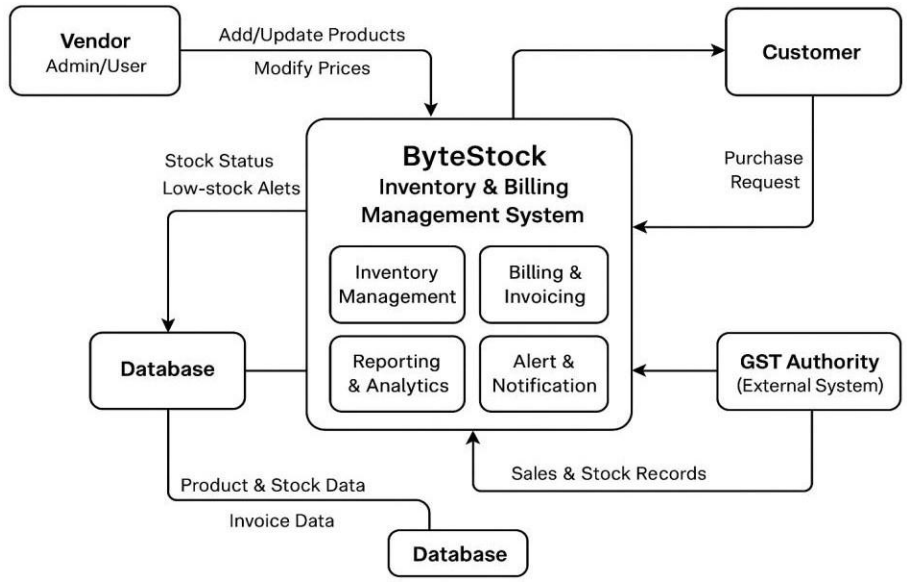
# 2 Overall Description

## 2.1 Product Overview

ByteStock is an inventory and billing system with:

- Admin panel for managing products and stock
- Invoice generator with GST
- Low-stock alert module
- Analytics dashboard for vendors

→System Context Diagram:




## 2.2 Product Functionality

- Add/update/delete product records
- Automatic GST calculation in invoices
- Generate and export invoices (PDF/print)
- Notifications for low stock
- Secure login and role-based access

## 2.3 Design and Implementation Constraints

-Tech Stack: React.js (frontend), Node.js/Express (backend), MySQL (database)

-Deployment: Cloud or on-premise server

-Constraints: GST rules must comply with Indian taxation

## 2.4 Assumptions and Dependencies

-Vendor provides accurate product/stock data

-Stable internet connection required

-Dependencies: Node.js, MySQL, React Router, authentication libraries

# 3 Specific Requirements

## 3.1 External Interface Requirements

UI: Web dashboard, mobile-friendly interface

Hardware: Standard PC or mobile device with internet

Software: REST APIs, MySQL DB

## 3.2 Functional Requirements

F1: System shall allow vendors to add/edit/delete product details.

F2: System shall generate invoices with GST calculation.

F3: System shall track stock levels in real-time.

F4: System shall notify vendors when stock drops below threshold.

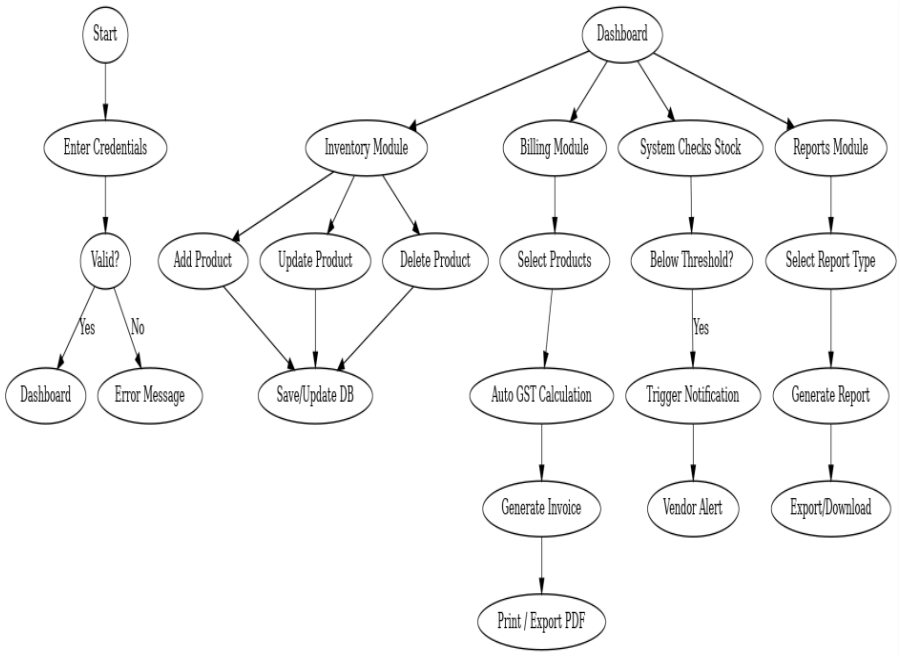
F5: System shall allow modification of product prices.

F6: System shall provide analytics reports for sales and purchases.

## 3.3 Use Case Model

### -Use Case U1: Generate Invoice

- Actor: Vendor
- Precondition: Product and stock data available
- Postcondition: Invoice generated with GST




### -Use Case U2: Low-Stock Notification

- Actor: Vendor
- Precondition: Stock falls below threshold
- Postcondition: Alert generated

# 4 Other Non-functional Requirements

## 4.1 Performance Requirements

Support up to 500 concurrent users

Generate invoice in <3 seconds

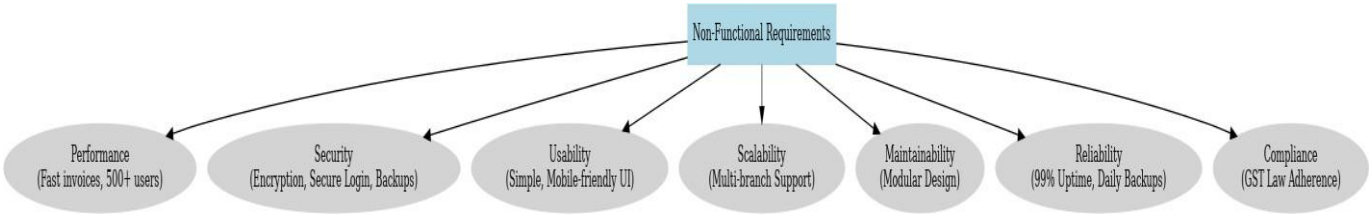
Notifications in real-time

## 4.2 Safety and Security Requirements

Secure login with role-based access

Encrypt sensitive data (passwords, transactions)

Daily database backups




## 4.3 Software Quality Attributes

-Reliability: Ensure accurate stock records

-Usability: Intuitive UI for non-technical vendors

-Scalability: Support multi-branch businesses

-Maintainability: Modular architecture for easy updates

# 5 Other Requirements

## Functional Requirements

The system will enable vendors to add, update, remove, and change prices in addition to offering a secure login with role-based access. Real-time stock tracking, low-stock alerts, and GST-compliant invoices that can be printed or exported are all requirements. It should also send alerts about stock levels and sales updates, as well as create reports on purchases and sales.

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## Non-Functional Requirements

At least 500 users should be able to access the system at once, and invoices should be generated in less than three seconds. It must use strong authentication procedures, encrypt all sensitive data, and guarantee 99% uptime with daily database backups. For non-technical users, the interface should be easy to use, mobile-friendly, and intuitive. The system needs to be fully compliant with Indian GST regulations, modularly designed for ease of maintenance, and scalable to accommodate multiple branches.

# Appendix A – Data Dictionary

| Field | Description | Data Type | Constraints |
|---|---|---|---|
| ProductID | Unique product identifier | Integer | Primary key |
| ProductName | Name of product | Varchar(150) | Required |
| Price | Price per unit | Decimal(10,2) | >0 |
| StockQty | Available stock | Integer | ≥0 |
| InvoiceID | Unique invoice identifier | Integer | Primary key |
| GST | Tax amount applied | Decimal(10,2) | Auto-calculated |
| OrderDate | Date of invoice | DateTime | Required |
| UserID | Vendor/user identifier | Integer | Foreign key |
| Field | Description | Data Type | Constraints |
| ProductID | Unique product identifier | Integer | Primary key |
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# Appendix B - Group Log

Ayush Gupta - Testing and Analysis