

# Sri Lanka Institute of Information Technology



Faculty of Computing

Year 2 – Semester 1 (2025)

IT2140 - Database Design and Development

Requirement Specification Document

**Project Title:** Web-based Inventory Control System

**Group ID:** 2025-Y2-S1-MLB-B10G2-06

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## **1. System Purpose**

The primary goal of this system is to streamline inventory management for distributors of household and grocery items, replacing manual processes with a web-based platform for real-time tracking, efficient ordering, and decision-making. All users (e.g., staff, suppliers, and business owners) are provided with a smooth and efficient interface to perform their tasks without issues, according to their requirements. This addresses operational inefficiencies, communication gaps, and delays in the current manual system.

## **2. Users**

- Business Owner
- Sales Staff
- Inventory Manager
- Warehouse Staff
- Supplier
- System Administrator

## **3. Functional Requirements**

1. Real-Time Inventory & Sales Dashboard (e.g., view stock levels, reserve stock for orders)
2. Supplier & Purchase Order Management (e.g., generate and send purchase orders, track deliveries)
3. Business Analytics & Reporting (e.g., generate sales and inventory reports)
4. Warehouse Operations Management (e.g., update stock, locate items, handle receipts)
5. User & Access Management (e.g., role-based permissions, user registration)
6. Order & Payment Processing (e.g., process customer orders, handle payments and invoices)

7. Staff Training & Course Assignment (e.g., assign and track training modules)

#### **4. Non-Functional Requirements**

- Performance (e.g., real-time updates, fast report generation)
- Security (e.g., role-based access control, data backups)
- User Experience (e.g., intuitive interface, mobile-friendly for warehouse staff)
- Scalability (e.g., handle growth in users, items, and branches)
- Availability (e.g., reliable uptime, automated notifications for low stock)

#### **5. Constraints / Assumptions**

- Internet dependency (web-based access only)
- Dependence on Staff Participation (e.g., accurate stock updates)
- Integration with external systems (e.g., email/SMS for notifications, payment gateways – assumed but not fully specified)

## Requirement Gathering

To gather requirements, we simulated structured interviews using a discussion bot, mimicking conversations with key stakeholders at the client company, Southern Goods Distributors Pvt Ltd. (a distributor of household and grocery items). The bot helped us role-play based on typical pain points in manual inventory systems. Below is a summary of the process and key insights.

"Hi, I'm planning to draw an EER diagram. Can you please tell me a little about your project?"



### Project Discussion Bot - Year2

Hi! Thank you for your question. Let me explain your project in a simple way.

Your team is building a **Web-based Inventory Control System** for a company called **Southern Goods Distributors Pvt Ltd**. They sell household and grocery items. Right now, they use manual methods like paper and Excel sheets to manage their stock, suppliers, and sales. This causes mistakes and delays.

Your system will help them manage everything online — stock levels, supplier orders, warehouse items, and sales. It will also give reports to the business owner to make smart decisions.

Here are the 5 people from the company you can talk to:

1. **Mrs. Renuka Wijesinghe** – Business Owner
2. **Ms. Nadeesha Kumari** – Inventory Manager
3. **Mr. Sunil Rathnayake** – Warehouse Staff
4. **Ms. Tharushi Senanayake** – Sales Staff
5. **Mr. Mahesh Bandara** – Supplier

You can now ask questions from any of them. Just type your question, and I'll reply as that person. If you want to talk to someone else, just say "next".

first i will talk to the Business Owner (Mrs. Renuka Wijesinghe)

"What are your business goals for growth with this system?"



#### Project Discussion Bot - Year2

Hi! Thank you for starting the discussion.

Your project is called **Web-based Inventory Control System**. It is for a company named **Southern Goods Distributors Pvt Ltd**, which sells household and grocery items. Right now, they use manual methods like paper and Excel to manage stock, suppliers, and sales. Your system will help them do all this online, faster and with fewer mistakes.

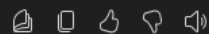
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Now let's talk to the business owner.

#### Mrs. Renuka Wijesinghe – Business Owner

Thank you for asking. My goal is to grow the business by making better decisions. I want to see clear reports about sales and stock. If I can understand what items sell fast and what items stay too long, I can plan better. I also want the system to help me manage more branches in the future.



"What types of reports do you need to make strategic decisions?"

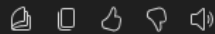


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Mrs. Renuka Wijesinghe – Business Owner

I need reports that show which items sell fast and which items don't. I also want to see total sales for each month and how much stock we have. These reports will help me decide what to buy more and where to improve.



next i will talk to the sales staff (Ms. Tharushi Senanayake)

"How critical is real-time stock information for your customer service?"

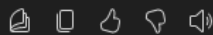


Project Discussion Bot - Year2



Ms. Tharushi Senanayake – Sales Staff

Real-time stock is very important for me. If I don't know what is available, I can't promise anything to customers. It helps me give fast and correct answers, so customers trust us more.



"Do you need to reserve stock for specific customer orders?"

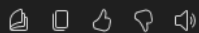


Project Discussion Bot - Year2



Ms. Tharushi Senanayake – Sales Staff

Yes, I really need that. Sometimes customers ask for big orders. If I can reserve stock for them, I won't sell it to someone else by mistake. It helps me give better service.



next i will talk to the Inventory Manager (Ms. Nadeesha Kumari)

"What problems do you face with the current manual inventory system?"



Project Discussion Bot - Year2



Ms. Nadeesha Kumari – Inventory Manager

The manual system is very slow. I have to write everything by hand and sometimes I make mistakes. It also takes a lot of time to check stock and prepare reports.



"Do you need real-time stock levels and low-stock alerts?"

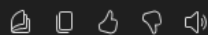


Project Discussion Bot - Year2



Ms. Nadeesha Kumari – Inventory Manager

Yes, I really need both. Real-time stock helps me know what we have right now. Low-stock alerts tell me when to order more before we run out. It saves time and avoids mistakes.



next i will talk to the Warehouse Staff (Mr. Sunil Rathnayake)

"What errors do you encounter with the paper-based system?"

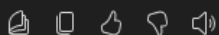


Project Discussion Bot - Year2





Mr. Sunil Rathnayake – Warehouse Staff

We make many mistakes with the paper system. Sometimes we pick the wrong item. Sometimes we count the stock wrong. It's hard to find things quickly.

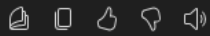


"Would a mobile device or scanner help you update stock accurately?"

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 Mr. Sunil Rathnayake – Warehouse Staff


Yes, that would help a lot. If I can use a mobile or scanner, I can update stock quickly and correctly. It will reduce mistakes and save time.



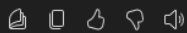
next i will talk to the Supplier (Mr. Mahesh Bandara)

"What issues do you face with unclear or late purchase orders?"


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
 Mr. Mahesh Bandara – Supplier

When orders are late or not clear, I don't know what to send or when. Sometimes I send the wrong items. It also delays my delivery planning.

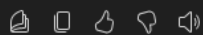


"Would you like the system to send clear orders via email or SMS?"

 Project Discussion Bot - Year2

 Mr. Mahesh Bandara – Supplier

Yes, that would be very helpful. If I get clear orders by email or SMS, I can prepare the items faster and avoid mistakes.





next i will talk to the System Administrator (Mr. Ramesh Jayawardena)

"What problems do you have with the current Excel-based system?"

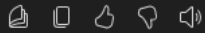


Project Discussion Bot - Year2



Mr. Ramesh Jayawardena – System Administrator

The Excel system is very hard to manage. Files get lost or have wrong data. It's also slow when many people try to use it at the same time.



"Do you need a fast, easy-to-use online system to connect departments?"



Project Discussion Bot - Year2



Mr. Ramesh Jayawardena – System Administrator

Yes, I need that very much. If all departments can use one fast online system, it will save time and reduce mistakes. It will also be easier for me to manage users and data.

