TWO DIRECTIONS

Smart Inventory Management System
Project Vision Document

Version 1.0
10th February 2025

Release Checklist

Checklist Item	Control (Yes/No)
The document has passed the quality assurance process.	YES
The document is visually appealing and has a professional look and structure.	YES
All placeholders such as text within <> are replaced with appropriate text.	YES
The document is prepared in the “Justify Text” format.	YES
The document does not include typos, different fonts, and misalignments.	YES
In the revision history, the first version states “The first version”. Additional versions include an entry highlighting all the changes from the previous version.	YES
The table of contents (TOC) is updated as necessary.	YES
References list other project documents and additional standards or documents needed to understand the document. The references include the necessary document/artifact version number and publication date.	YES
The language grammar is used appropriately.	YES
Sentences are written as full sentences.	YES
The wording in the document is formal.	YES
The wording in the document is clear.	YES
The wording in the document is professional.	YES
All project-related definitions, acronyms, and abbreviations sections are included in the related tables.	YES
The team member names are specifically spelled out in the document preparation and approvals sections.	YES
The purpose and scope of the document are adequately described.	YES
All sections include the necessary and adequate information.	YES
All stakeholders and users are identified as related to the product.	YES
The user environment is adequately analyzed and described.	YES
The product alternatives and competitive products are adequately analyzed.	YES
The “Precedence and Priority” section includes the list of features in a priority order.	YES

Final Control	Yes/No
The document is checked based on the “Team Project Artifacts Common Errors” Guideline. The document is ready for release.	YES
The document is not ready for release.	NO

Document Preparation

Name	Role	Approval (Signature)	Approval Date
Siddharth Linga	Project Manager	Satya Sai Tarun	02/10/2025

Document Approvals

Name	Role	Approval (Signature)	Approval Date
Satya Sai Tarun Matta	Project Technical Manager	Satya Sai Tarun	02/13/2025
Uday Datha Pavan Devera	Project Design Manager	Uday Datha Pavan Devera	02/13/2025
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Revision History

Date	Version	Description	Author
02/10/2025	0.1	Includes basic information about idea, abstract, technology stack etc.	Siddharth Linga

Table of Contents

Project Vision Document

1. Introduction

1.1 Purpose of the Document

The purpose of this document is to provide a brief information on high level features, requirements and objectives of the SMART Inventory Management System (SIMS). This is a Foundational reference for developers, business owners and stakeholders to provide a clear vision of the system's goals and functions.

1.2 Scope of the Document

SIMS is an AI-powered management system, it also gives recommendations for optimal inventory as well, to avoid dead stock, stocking problems or thefts, etc.

The system asks the user to register their business before using the application, the business owner would choose the category their business would fall under:

- Product with expiry dates (e.g., Food, Medicines etc.)
- Products affected by climate conditions (e.g., Textile, seasonal stocks etc.)
- Products which are static (e.g., Furniture, Electronics etc.)

1.3 References

[This subsection provides a complete list of all documents referenced elsewhere in the **Vision** document. Identify each document by title, report number if applicable, date, and publishing organization. Specify the sources from which the references can be obtained. This information may be provided by reference to an appendix or to another document.]

1.4 Definitions, Acronyms, and Abbreviations

Term	Abbreviation / Acronym	Definition
Artificial intelligence	AI	System capable for Automation and predictions
Smart Inventory Management System	SIMS	The Proposed system for stocking and managing inventory.
Weather Dataset	WD	The external climate data utilized by AI
Expiry Data	ED	Product shelf-life data used in recommendations.

2. Positioning

2.1 Business Opportunity

Small scale businesses often face losses due to poor inventory management, leading to overstocking, wastage, and stock shortages. SIMS aims to eliminate these inefficiencies through AI-driven recommendations, optimizing stock level for different product categories.

2.2 Problem Statement

The problem of	Inefficient inventory management affects businesses dealing with perishable goods, and seasonal products.
affects	Deas stock, theft, shortage of storing space, lost sales opportunities.
the impact of which is	Financial loss due to unsold stock, excess storage costs, and lost sales due to gap in supply and demand.
a successful solution would be	AI powdered system that predicts demand, accounts external factors such as weather and expiry dates, and optimize stock level accordingly.

2.3 Product Position Statement

For	Business owners, managing inventory
Who	Struggle with stock optimization
The (product name)	is a Smart Inventory Management System
That	Automate stock recommendations, reduce losses and improve efficiency.
Unlike	Traditional ERP solutions.
Our product	Dynamically adjusts inventory based on demand and supply, expiry dates and climate changes.

3. Stakeholder and User Descriptions

3.1 Stakeholder Summary

Name	Description	Responsibilities
Business Owners	User of the system	Manage inventory. Sales, and order
AI Module Developer	Engineers implementing AI login	Develop and refine AI-based recommendations
Data Scientists	Analysts processing data	Provide insights for inventory prediction
System Administration	IT staff	Maintain platform security uptime

3.2 User Summary

Name	Description	Responsibilities
Inventory manager	Handles stock for larger business	Monitors and adjusts inventory based on system suggestions.
Business owner	Main user of SIMS	Adds inventory, tracks sales, view recommendations

3.3 User Environment

It is a web-based system accessible from desktops, tablets and mobile devices. The system integrates with existing point of sale and supply chain management tools. It also has a feature for adding multiple users for the same business.

3.4 Summary of Key Stakeholder or User Needs

It has accurate forecasting based on demand and supply, historic sales and external factors. Automated notifications for low stock, excess inventory and perishable stock alerts. Easy to use dashboards for inventory tracking and AI-Recommendations.

3.5 Alternatives and Competition

- Traditional ERP system like the Oracle NetSuite or SAP are expensive, complex and lack recommendation features.
- Manual inventory tracking using spreadsheets, or books are error prone and inefficient, tracking becomes a difficult task.
- Existing AI-tools lack category based optimization and is more like a generalized recommendation just based on demand and supply.

4. Product Overview

4.1 Product Perspective

SIMS works with databases, sales records and external datasets such as climate reports, which helps in real time reports, and optimization. It is more like a standalone platform but if needed it can also be integrated with existing ERP systems.

4.2 Assumptions and Dependencies

- The AI module requires historical sales data and category selection for accurate recommendations.
- External climate datasets should be regularly updated for textile businesses.
- Businesses must maintain accurate product expiry data.

4.3 Cost and Pricing

IT would be a Subscription-based pricing for different business sizes and there needs, for example a company that does not need recommendation only need an efficient and interactive management system it wouldn't have AI features, therefor cost would be less compared to businesses that would need all the features.

4.4 Licensing and Installation

The most effective feature of this application is it is web-based therefore a user interested to purchase this application can just pay the subscription and start using it on web, provided the credentials would be provided by the system after subscription is paid. (future scope)

5. Product Features

5.1 Feature 1 – User Authentication

It has a secured registration and login system, also has a role based controlling feature.

5.2 Feature 2 – Inventory management

Add, Update and remove inventory items

5.3 Feature 3 – Stock tracking

Track sales and stock levels in real time.

5.4 Feature 4 – Dashboard and report

Visual analytics for inventory insights, Alerts when inventory is low, or products are getting expired.

5.5 Feature 5 – Order Management

The system automates stocking when required, makes a optimal order for your next inventory, as well as tracks pending and completed orders.

6. Constraints

Internet becomes the major contrast as it is a cloud-based system as well as data accuracy depends on user input, which might lead to manual errors.

7. Precedence and Priority

[Define the priority of the system features. List all system features starting from the highest priority and for each feature, provide the reasoning for the priority. The reasoning will help you reorder the priorities in the future if there is a need to modify the features, add a new feature, or remove a feature.]

Feature	Priority (High/Medium/ Low)	Priority Reasoning
Ai-based recommendations	High	This feature has the highest priority since That's the most important feature for making a smart application.
Inventory Management	High	This feature has a high priority since a well-managed inventory is the basic requirement for this project.
Authentication	High	This feature has a high priority since user security is important.
Dashboards	Medium	This feature has a medium priority since other features are more important.
Order Management	Low	This feature has a low priority since it's a last step and can be used as future scope.