Fall
2025

Software Requirements Specification

<SMART STOCK>

Parsa Tahmasebi
Jun Ho Jeon

Andy wei

Nikan Eidi

Ivan Castro

Executive Summary

Background

Description

Company Value Add

End-User Value Add

Scope

What is Included

What is Not Included

Justification

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Section 1

1.1 Document Authors

- Parsa Tahmasebi
- Jun Ho Jeon
- Andy wei
- Nikan Eidi
- Ivan Castro

1.2 Document Revision History

WEEK	DATE	Revisions
1		•
2		•
3	Jan 25, 2026	• Section 1 • Section 2
4		•
5		•
6		•
7		•
8		•
9		•
11		•
12		•
13		•
14		•

1.2 Document Purpose

The Smart Stock development team utilizes this Software Requirements Specification as the primary technical reference to ensure all project objectives are met with precision. The document establishes a comprehensive framework for addressing the operational challenges of small scale restaurants through AI-driven demand forecasting and NLP-based assistance systems. By defining the operational boundaries of a cloud-native environment alongside a BYOD model, this SRS serves as the fundamental guide for Quality Assurance and system validation throughout the two semester development lifecycle. All technical resources are focused on the core objectives of reducing food waste and optimizing procurement efficiency, ensuring the project remains within scope while delivering high-quality, actionable results.

1.4 Audience

Our target audience would consist of small-scale restaurants, startup food businesses, and low budget independent owners who rely on manual or spreadsheet based inventory management due to limited budgets and technical resources for managing inventory. This includes business owners, managers, and staff handling inventory with limited technical experience, needing a simple, low-cost system that will help with food waste and prevent stock shortages. Smart Stock is designed to improve these businesses quality of life with AI-assisted inventory intelligence that was only accessible to larger restaurant chains.

1.5 Group Agreement

Team 4

Project Title

Smart Stock

Project Time Frame

3 months and 2 weeks

Team Members

- Parsa Tahmasebi
- Jun Ho Jeon
- Andy wei
- Nikan Eidi
- Ivan Castro

Team Leadership

Team Functions/Roles

Team Meetings

Team Problems

Team Commitment

The undersigned members agree to work together on the project until the end of the PRJ666 next Semester. They recognize that as a team and individually they are equally responsible for the quality of all deliverables.

Name	Date	Signature
Nikan Eidi	01/23/2026	NE
Parsa Tahmasebi	01/23/2026	PT
Jun Ho Jeon	01/23/2026	jun
Ivan Castro	01/23/2026	Ivan Castro
Andy Wei	01/23/2026	andy

Section 2

2.1 Project Proposal

2.1.1 Project Background

This project aims to improve the daily operations of small scale companies such as local restaurants in regards to inventory management. Unlike big corporations where the ordering of products has a systematic approach due to collaboration of multiple companies to keep the system going, smaller companies have to manually order and handle the supplies.

In order to improve the situation our group has decided to create a solution for this issue while keeping in mind the limitations of those smaller companies. However before explaining the whole idea we first need to take a look at why we are doing this in the first place. No matter the amount of precision or attention to details we as humans always make mistakes as the sheets might get damaged or any other reason which can result to loss of the inventory counts. However by inputting them into a well built system and having copies of the documents safely stored in different locations in daily/weekly basis we can prevent a lot of the issues from happening.

Further more to help with the process and make it even easier for employees and members of the company, we have thought of adding a touch of AI to the project which will be focused on making the data more understandable and process of ordering easier.

2.1.2 Problem Statement

The primary challenge small-scale restaurants faced was the absence of accessibility of automated infrastructure for inventory management. In an industry where **profit margins** are **notoriously thin**, the **lack of precision in tracking materials** such as food items can cause **financial** and **operational burden**. Currently, these most of these small businesses operate within a "**technological gap**", being forced to decide between primitive manual methods and expensive enterprise-level software that is both financially and functionally an issue.

The issue mostly lies on the manual tracking done by a human, and being human nature there would always be mistakes somewhere. Most restaurant startups use paper logs, physical counts, and basic spreadsheets to manage their stock. These methods can always be flawed, being **time consuming** and highly susceptible to **human error**, especially when performed by a staff during high pressure shifts. This inaccuracy could lead to issues such as **overstocking** or **sudden stockouts** which **constricts** restaurants from gaining that more revenue.

The impact of this problem is most severe for independent cafes and startup food entrepreneurs. Because these owners often manage every aspect of the business themselves, from cooking to accounting, this usually leads to the **lack of time** to maintain complex manual logs. Every hour taken from manually auditing a spreadsheet is an hour taken away from more business growth. Especially with how **poor inventory management** becomes a "silent killer" of profitability which then leads to unnecessary expenses that small businesses simply cannot take.

2.1.3 Product Vision

Our vision for our product Smart Stock is to develop a cloud-based, AI assisted inventory management system designed specifically to the needs of small scale restaurants and businesses. As a group, we aim to provide a practical, realistic and accessible solution that replaces unreliable manual tracking methods with a platform that delivers accurate and real time insights.

Smart Stock will utilize historical inventory and sales data to perform "smart" demand forecasting, allowing businesses to anticipate stock requirements, minimize food waste, and avoid possible shortages. We aim to incorporate an NLP based assistant that allows users to access information and receive recommendations through natural language queries, making the whole system intuitive for users no matter their technical experience or level.

Ultimately, we envision Smart Stock as an affordable, scalable, and easy to deploy solution to help small businesses and equip them with actionable insights, inventory workflows, reduced waste and sustainable operations.

2.2 Stakeholders and Users

Internal:

- **Role name/Persona** - Description.
- ……..

External:

- **Role name/Persona** - Description.
- ……..

2.3 Project Scope

2.4 System Rosks

2.5 Operating Environment

2.6 Functional Requirements

2.7 Nonfunctional Requirements

2.8 UI/UX Interface Mock-ups

Section 3

3.1 Data Flow Diagrams

3.2 Iser Stories and related Use Case Scenarios

3.3 Activity Diagrams

3.4 Business Rules

Business Rule #	Description	Activity Diagram	Related UCS	UI Mock-up
BR1		AD1	UC1	UI 2.7.2
BR2		AD2	UC2	UI 2.7.3
BR3		AD3	UC3	UI 2.7.4
BR4		AD3	UC3	UI 2.7.4
BR5		AD5	UC4	UI 2.7.6
BR6		AD6	UC5	UI 2.7.6
BR7		AD7	UC6	UI 2.7.7
BR8		AD8	UC7	UI 2.7.8
BR9		AD8	UC7	UI 2.7.8
BR10		AD8	UC7	UI 2.7.8
BR11		AD8	UC7	UI 2.7.8
BR12		AD8	UC7	UI 2.7.8
BR13		AD9	UC8	UI 2.7.9
BR14		AD9	UC8	UI 2.7.9
BR15		AD9	UC8	UI 2.7.9
BR16		AD9	UC8	UI 2.7.9
BR17		AD10	AD9	UI 2.7.9
BR18		AD10	AD9	UI 2.7.9
BR19		AD10	AD9	UI 2.7.9
BR20		AD11	UC10	UI 2.7.10
BR21		AD11	UC10	UI 2.7.11
BR22		AD11	UC10	UI 2.7.11
BR23		AD12	UC11	UI 2.7.10
BR24		AD13	UC12	UI 2.7.12

Section 4 – Domain Class

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Section 6 – Project Management

6.1 Work Breakdown Structure

6.2 Milestones & Acceptance Criteria

Section 7 – Product Backlog & Implementation Schedule

Section 8 – Client/Faculty Sign-off