

Software Requirement Specification

For

**Waffle and Beverage Shop Management System
Version 1.0 approved**

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

The purpose of this document is to specify the software requirements for the "Waffle and Beverage Shop Management" system. This system will enable efficient management of orders, preparation of waffles and beverages, billing and provide a seamless experience for customers.

1.2 Scope

The system will facilitate order placement, waffle and beverage preparation, billing, etc. for a waffle and beverage shop.

1.3 Definitions, Acronyms, and Abbreviations

- **POS:** Point of Sale

1.4 References

- Head-First Design Patterns
- <https://refactoring.guru/>

1.5 Overview

The following sections detail the requirements for the Waffle and Beverage Shop Management system.

2. Overall Description

2.1 Product Perspective

The system will function as a standalone software application installed on POS terminals or tablets within the waffle and beverage shop. It will interact with hardware devices such as printers for order tickets and kitchen displays for order management.

2.2 Product Features

Key features of the system include:

- Order placement and management.
- Waffle and beverage preparation.
- Billing and payment processing.

2.3 User Classes and Characteristics

- Customers: Place orders for waffles and beverages.
- Waiters: Process orders, generate bills, and handle payments.
- Cooks: Prepare waffles and beverages as per the received orders.

2.4 Operating Environment

The system will operate on POS terminals or tablets running on compatible operating systems such as Windows or Android. It will require network connectivity for real-time communication between devices and centralized data storage.

2.5 Design and Implementation Constraints

The system will be developed using modern programming languages and frameworks suitable for POS applications. It will utilize a relational database management system for data storage and adhere to industry standards for security and data protection.

2.6 User Documentation

Comprehensive user manuals and training materials will be provided for waiters and cooks to familiarize them with the system's functionalities and usage.

2.7 Assumptions and Dependencies

Assumptions include customers having access to the shop's menu and a stable internet connection for order placement. The system's functionality may depend on third-party APIs for integration with external systems such as accounting or inventory management software.

3. Specific Requirements

3.1 External Interface Requirements

3.1.1 User Interfaces

- Intuitive and user-friendly interfaces for customers, waiters, and cooks.

3.1.2 Hardware Interfaces

- Compatibility with POS terminals, printers, and kitchen display systems.

3.1.3 Software Interfaces

Integration with external systems for accounting and payment processing.

3.1.4 Communication Interfaces

Real-time communication between POS terminals and kitchen displays for order management.

3.2 Functional Requirements

3.2.1 Order Placement and Management: Customers can browse the menu, select items, and place orders. Waiters can view and manage incoming orders.

3.2.2 Waffle and Beverage Preparation: Cooks can view order details and prepare waffles and beverages accordingly.

3.2.3 Billing and Payment: Waiters can provide bills and process payments using various payment methods.

3.3 Performance Requirements

- The system must handle peak order loads during busy hours without slowdowns or crashes.
- Response times for order processing and billing must be within acceptable limits to ensure a smooth customer experience.

3.4 Security Requirements

- User authentication and role-based access control to prevent unauthorized access to system functionalities.
- Data encryption and secure transmission protocols to protect sensitive customer information and payment data.

3.5 Software Quality Attributes

- Reliability: The system should be highly reliable to minimize downtime and ensure uninterrupted service during operational hours.
- Usability: Intuitive interfaces and streamlined workflows to enhance user experience and minimize training requirements.

3.6 Constraints

Content Approval: All menu items and prices must be approved by the shop manager before being available for order placement.

Ingredient Availability: Orders can only be placed for items with available ingredients in inventory.

4. System Features

4.1 Order Management

4.1.1 Description and Priority:

This feature encompasses order processing functionalities for the waffle and beverage shop. Priority: High.

4.1.2 Stimulus/Response Sequences:

Stimulus: The shop owner, administrator, or customer interacts with the menu or places an order.

Response: The system processes the order accordingly.

4.1.3 Functional Requirements:

REQ-1: Customers can select menu items and specify customization options (e.g., toppings, flavours) during order placement.

REQ-2: The system calculates the total cost of the order based on selected items and quantities.

REQ-3: Shop staff can view and manage incoming orders, including marking them as in-progress or completed.

4.2 Recipe Management

4.2.1 Description and Priority:

This feature encompasses the creation, modification, and management of recipes for menu items offered by the waffle and beverage shop. Priority: High.

4.2.2 Stimulus/Response Sequences:

Stimulus: The shop owner or administrator initiates the creation or modification of a recipe.

Response: The system updates the recipe database with the new or modified recipe details.

4.2.3 Functional Requirements:

REQ-1: Users can edit existing recipes to modify ingredient quantities, update preparation steps, or add notes for customization.

REQ-2: Shop staff can access and view recipe details to ensure consistency in food preparation and quality across different orders.

5. Other Non-functional Requirements

5.1 Performance Requirements

- The system must respond to user interactions within few seconds.
- Requests/Responses must be sent to users at the specified time with minimum delay tolerance.

5.2 Safety Requirements

- The system must ensure the privacy of user data.
- Safety certifications relevant to data privacy and user security must be met.

5.3 Security Requirements

- User identity authentication is required for accessing system functionalities.
- The system should comply with relevant security and privacy regulations and certifications.

5.4 Software Quality Attributes

- The system should prioritize usability to ensure that users find it easy to create and manage recipes.
- Reliability is essential for the accurate delivery of responses from the system.

5.5 Business Rules

- Only authorized staff can modify store information.

6. Other Requirements

Database Requirements: The system should use a secure and scalable database to store user data and event information.

Legal Requirements: The system should comply with all relevant data protection and privacy laws and regulations.