
Group J

CafeGo
Software Requirements Specification

Version 3.0

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Software Requirements Specification

1. Introduction

This Software Requirements Specification (SRS) document outlines the requirements for a coffee shop reservation application (CafeGo). The application is designed to allow users to browse available tables, reserve tables, and manage their reservations.

Also, this document is structured to provide a clear and concise description of the requirements for CafeGo. The following sections provide an overview of the application, its features, and its users, as well as a detailed description of the functional and non-functional requirements for the application.

1.1 Purpose

The purpose of this SRS is to provide a complete and comprehensive set of requirements for the coffee shop reservation application. The SRS defines the external behavior of the application, including its features, functions, and interactions with users. It also describes non-functional requirements, such as performance, security, and reliability, as well as any design constraints.

1.2 Scope

The scope of this SRS is to provide a comprehensive and detailed description of the requirements for the coffee shop reservation application, which will guide its design, development, testing, and maintenance.

1.3 Definitions, Acronyms, and Abbreviations

CafeGo: Name of the coffee shop reservation application.

1.4 References

None

1.5 Overview

The rest of the SRS contains information about the description and functional with non-functional requirements of CafeGo.

2. Overall Description

● Product Perspective

The reservation system for coffee shops is a standalone application that is not dependent on any other systems. It will allow users to search for coffee shops, book a seat, and purchase coffee and other beverages, as well as provide notifications and messaging features.

● Product Functions

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The primary functions of the reservation system for coffee shops include:

Search and view coffee shops by brand, recent visits, and top reviews

View details of each coffee shop, including location, available seats, and menu

Book a seat for a specific date and time at a coffee shop, including choosing multiple seats and beverages

Purchase the reservation using cash or e-wallet

Receive notifications about upcoming reservations and appointment times

Message with coffee shop employees to update information or ask questions

- User Characteristics

The users of the reservation system for coffee shops will primarily be coffee drinkers who are interested in finding and booking seats at coffee shops. They may range from students to professionals, and will have varying levels of familiarity with technology.

- Constraints

The reservation system for coffee shops must adhere to the following constraints:

The system must be available 24/7

The system must be compatible with mobile devices

The system must be able to handle a large number of concurrent users

The system must be secure and protect user data

The system must be scalable to accommodate future growth

- Assumptions and Dependencies

The reservation system for coffee shops assumes that:

Users have access to a device with an internet connection

Coffee shops will accurately update their available seats and menu information

Users will provide accurate information when booking seats and purchasing beverages

Payment processing will be handled through a third-party payment gateway

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- Requirements Subsets

The requirements for the reservation system for coffee shops are detailed in Section 3.

3. Specific Requirements

This section of the SRS contains all software requirements to a level of detail sufficient to enable designers to design a system to satisfy those requirements, and testers to test that the system satisfies those requirements.

3.1 Functionality

This section describes the functional requirements of the system for those requirements that are expressed in the natural language style.

3.1.1 User Interface

The system shall provide a user-friendly interface that allows users to:

View the home screen with top brands, recently visited places, top reviews, and a search bar.

Search for a coffee shop by entering keywords in the search bar.

View the list of coffee shops from a particular brand by clicking on the brand.

Choose a coffee shop from the list and select seats from the seating chart for a specific date and time.

Choose one or more drinks to order.

Pay for the reservation through cash, e-banking, or e-wallet.

Receive notifications about reminders for booked appointments and information about booking (cancel booking, near appointment time).

Message the coffee shop's employee to update each other's information.

3.1.2 Reservation Management

The system shall allow users to:

Reserve a seat at a coffee shop for a specific date and time.

View the availability of seats in real-time and select the desired seat(s) from the seating chart.

Order drinks from the coffee shop's menu.

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Cancel a reservation if necessary.

A chat screen between the user and the coffee shop's employee.

3.1.3 Payment Processing

The system shall allow users to:

Pay for their reservation through cash or e-wallet.

Receive a receipt of payment after successful payment processing.

3.2 Usability

This section includes all those requirements that affect usability.

3.2.1 User-Friendly Interface

The system shall have a user-friendly interface that meets the following usability requirements:

It should take no longer than 5 seconds for a typical user to figure out how to use the application.

The interface should be designed in such a way that a power user can complete a reservation in not more than 5 minutes.

The interface should conform to common usability standards, such as IBM's CUA standards and Microsoft's GUI standards.

3.3 Reliability

- Requirements for reliability of the system should be specified here.

3.3.1 Availability

The system shall have an availability of 24/7 most of the time because there is some coffee shop work all of the time.

3.3.2 Time To Repair

Although we want to have this system work 24/7 but if anything goes wrong we still need to repair the system. The time for this should not be more than 6 hours and take place between 12h and 8h because most of the coffee shops don't open at this hour.

3.3.3 Accuracy

The system's output should have a precision of 100% especially when booking to prevent ambiguous events.

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3.3.4 Maximum Bugs or Defect Rate

The system shall have a maximum bug or defect rate of no more than 0 bugs per function-point.

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3.4 Performance

The performance characteristics of the coffee shop reservation system are critical to ensure that users can quickly and easily book their preferred coffee shop and seats. The following performance requirements have been identified:

3.4.1 Response Time for a Transaction

The average response time for a transaction should be less than 5 seconds, while the maximum response time should be no more than 10 seconds.

3.4.2 Throughput

The system should be able to handle about hundred transactions per second during peak periods.

3.4.3 Capacity

The system should be able to accommodate about hundreds concurrent users at any given time.

3.4.4 Degradation Modes

In the event that the system experiences degradation, the acceptable mode of operation should be to continue processing transactions while prioritizing the booking and payment processes.

3.4.5 Resource Utilization

The system should utilize memory, disk, and communication resources efficiently to minimize system downtime and ensure that the system can scale to meet increasing demand.

3.5 Supportability

To enhance the supportability and maintainability of the coffee shop reservation system, the following requirements have been identified:

3.5.1 Coding Standards

The system shall follow a standardized coding convention that promotes readability and maintainability of the codebase.

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3.6 Design Constraints

The coffee shop reservation system will be developed with the following design constraints:

3.6.1 Software Language

The system will be developed using Java and Spring Framework.

3.7 On-line User Documentation and Help System Requirements

The system doesn't provide users with a help system within the application because the system is already easy to use.

3.8 Purchased Components

The coffee shop reservation system will make use of the following purchased components:

The system shall utilize a third-party payment gateway to handle payment processing securely and efficiently.. Additionally, the chosen payment gateway must comply with PCI-DSS (Payment Card Industry Data Security Standard) regulations to ensure the security of users' financial data.

3.9 Interfaces

The following interfaces must be supported by the coffee shop reservation system:

3.9.1 User Interfaces

The system shall provide a user interface that is easy to use and navigate. The user interface must support the following functions:

Show list coffee shops when searching.

View coffee shop details, including brand, location, and reviews.

View available seats and select preferred seats. Select date and time of reservation. Choose and add drinks to the order through the list of drinks screen. Complete payment process and then reservation is finished.

Send and receive messages with coffee shop employees.

Rating and review a coffee shop.

View and modify profile.

Change language.

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3.9.2 Hardware Interfaces

CafeGo does not require any specific hardware interfaces. It should be accessible from any mobile device with an internet connection.

3.9.3 Software Interfaces

The system shall interface with the following external software components:

Payment gateway for processing payments securely

React Native Framework for developing the system

Google Maps API for location services

Firebase for messaging and notification services

SMS gateways for sending reservation reminders

3.9.4 Communications Interfaces

The system shall communicate with external systems through standard HTTP and HTTPS protocols. It shall support communication with local area networks and remote serial devices, as required.

3.10 Licensing Requirements

CafeGo shall not require any specific licensing or usage restrictions.

3.11 Legal, Copyright, and Other Notices

CafeGo application will include necessary legal disclaimers, warranties, and copyright notices. Any logos, trademarks, or patents used in the software will comply with applicable laws and regulations. The software will also comply with all relevant intellectual property laws and regulations.

3.12 Applicable Standards

CafeGo application will comply with industry standards for usability, interoperability, and internationalization. It will also comply with all relevant operating system compliance standards.

4. Supporting Information

None