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# **Software Requirements Specification**

**for**

## **Food Panda App**

**Version 1.0 approved**

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**26 September, 2023**

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## Revision History

Name	Date	Reason For Changes	Version

# 1. Introduction

The purpose of this Software Requirements Specification (SRS) document is to provide a comprehensive and detailed description of the requirements for a food panda application. The food panda app aims to offer a convenient and efficient platform for users to order food from a variety of restaurants and have it delivered to their desired location. This document outlines both the functional and non-functional requirements of the application, ensuring that the development team fully understands the scope and objectives of the project.

## 1.1 Purpose

The purpose of the food panda app is to simplify and streamline the process of ordering food for users by providing them with a user-friendly interface and a great ordering experience. The app will enable users to browse through a wide selection of restaurants, search for specific food items, apply filters to refine their search results, select their desired food items, add them to a shopping cart, and proceed to make secure online payments. Additionally, the app will provide features such as order placement, order confirmation, order tracking, and the ability for users to rate and review their experiences.

## 1.2 Intended Audience and Reading Suggestions

The intended audience for this SRS document includes the development team responsible for building the food panda app, project stakeholders (such as project managers, business analysts, and quality assurance teams), and any other individuals or organizations involved in the development, testing, and deployment phases of the project.

## 1.3 Product Scope

The food panda app will consist of several key features, including authentication (sign up/sign in), location selection, food search, filtering options, food selection, shopping cart, payment methods, order placement, order confirmation, order tracking, rating, and review. These features will be accessible through a mobile application available on both iOS and Android platforms.

## 1.4 References

- [Uber Eats](#)
- [Careem Food Delivery](#)

# 2. Overall Description

## 2.1 Product Perspective

The food panda app is a standalone mobile application that aims to provide users with a convenient and efficient platform for ordering food from various restaurants and having it delivered to their preferred location. The app interacts with external systems such as payment gateways,

geolocation services, and restaurant databases to facilitate seamless ordering and delivery operations.

## **2.2 Product Functions**

The app includes a range of features to enhance the user experience and streamline the food ordering process. These features include authentication (sign up/sign in), location selection, food search, filtering options, food selection, shopping cart, payment methods, order placement, order confirmation, order tracking, and rating and review functionality. Each feature contributes to the overall goal of providing a user-friendly and efficient food delivery experience.

## **2.3 User Classes and Characteristics**

The app is designed to cater to two primary user classes: customers and restaurants. Customers are individuals who use the app to browse and order food from the available restaurants. They may have varying levels of technological proficiency and may expect a seamless and convenient ordering experience. Restaurants are entities that partner with the app to offer their food items for delivery. They require a user-friendly interface to manage their menus, receive and process orders, and provide timely delivery.

## **2.4 Operating Environment**

The food panda app is developed as a mobile application for both iOS and Android platforms. It operates on smartphones and tablets running the respective operating systems. The app requires an internet connection and may utilize device features such as GPS for accurate location detection.

## **2.5 Design and Implementation Constraints**

The app must adhere to design and implementation constraints imposed by the chosen platforms (iOS and Android) and any relevant guidelines provided by the platforms. It should also consider the limited screen size of mobile devices and optimize the user interface for usability and responsiveness.

## **2.6 Assumptions and Dependencies**

The development of the food panda app assumes the availability of stable internet connectivity for users. It also assumes that participating restaurants have the necessary infrastructure and systems in place to receive and process orders placed through the app. Additionally, the app may depend on external services such as payment gateways and geolocation APIs for seamless operations.

## 3. External Interface Requirements

### 3.1 User Interfaces

The user interface will be accessible through a mobile application available on both iOS and Android platforms. It will feature intuitive navigation, clear menu options, and interactive elements for smooth interaction.

- **Payment Gateway Integration:**

Users will have the option to make payments through various methods, including credit/debit cards, mobile wallets, and other online payment services. The system will securely process these transactions in compliance with industry standards.

- **Location Services:**

The app will utilize GPS and location data to allow users to set their delivery location, ensuring accurate and timely food delivery.

- **Restaurant Database Integration:**

The app will connect to restaurant databases to retrieve and display current menu items, prices, and availability, providing users with real-time information.

- **Order Tracking System:**

Users will be able to track the progress of their orders in real-time, from confirmation to delivery. This information will be accessible within the app.

### 3.2 Hardware Interfaces

The Food Panda project's operations are greatly aided by the seamless integration of several hardware elements. These user interfaces accommodate many device kinds, such as smartphones, tablets, and web browsers, by including both logical and physical characteristics. Real-time order processing and delivery tracking are involved in data transactions, necessitating secure communication methods like HTTPS and RESTful APIs. The software platform and the hardware devices may communicate data safely and effectively thanks to these protocols. Hardware interfaces also make it possible to engage with controls for activities like order confirmation and delivery status updates. This guarantees a quick and responsive user experience across different hardware setups.

### 3.3 Software Interfaces

To provide a complete meal delivery service, the meal Panda app smoothly integrates with a number of technological elements. It establishes contact with a backend server running Node.js (version 14.17.4) that is in charge of managing users and processing orders. The software uses a PostgreSQL database (version 13.4) to store crucial data such as user profiles, restaurant information, and order history. For effective delivery tracking and restaurant finding, it also interfaces with the Google Maps API (version 3).

User authentication tokens, order details, and real-time delivery updates are among the types of information that are transferred between the app and the backend server. Users may easily place orders, follow their delivery in real-time, and edit their profiles thanks to these interactions.

HTTPS connection ensures secure data flow between the app and the server. Additionally, the app uses RESTful APIs to send queries to the server and get results in return.

The API documentation precisely outlines the precise protocols and endpoints for all interactions, guaranteeing smooth integration. Standard JSON data formats are used for data exchange across software components, fostering interoperability and simple communication. Token-based authentication must be implemented in order to guarantee user security, and encryption controls must be in place in order to protect sensitive data. These requirements serve as significant implementation restrictions.

### **3.4 Communications Interfaces**

The Food Panda app requires a powerful communications interface to enable smooth user interactions. In order to connect with external servers for functions like restaurant order placement and delivery tracking, it uses the HTTP and HTTPS protocols. The communications formats follow RESTful API guidelines and frequently use JSON for effective data sharing. Real-time tracking updates are provided via improved data transfer speeds, and systems for synchronization guarantee that order statuses are constant amongst devices. To protect sensitive user data during transmission, encryption techniques like TLS are used since security is of the highest significance. Along with improving the overall user experience, the integration of email alerts, push notifications, and SMS services guarantees that consumers are kept informed about purchase confirmations, delivery estimates, and promotional offers.

## **4. System Features**

### **4.1 User Authentication:**

Users will have the ability to create accounts, log in securely, and reset passwords if needed. This feature ensures the privacy and security of user data.

### **4.2 Location Selection:**

Users can set their delivery address using location services or manually enter an address to ensure precise delivery.

### **4.3 Food Search and Filtering:**

Users can search for specific dishes or browse through restaurant menus. Filtering options, such as cuisine type, price range, and dietary preferences, will be available to refine search results.

### **4.4 Shopping Cart Management:**

Users can add and remove items from their shopping carts, review their selections, and adjust quantities as needed.

## **4.5 Payment Processing:**

Users can select their preferred payment method, enter payment details, and complete transactions securely within the app.

## **4.6 Order Placement and Confirmation:**

Users will confirm their selections and receive an order confirmation, summarizing their choices, estimated delivery time, and order number.

## **4.7 Order Tracking:**

Users can track the progress of their orders, from preparation to delivery, through the app. They will receive notifications at key stages of the delivery process.

## **4.8 Rating and Review System:**

After the delivery, users can rate their experience and leave detailed reviews for restaurants, contributing to the overall community feedback.

## **4.9 Cross-Platform Compatibility:**

The app will be available for both iOS and Android devices, catering to a wide range of users.

## **4.10 Restaurant Interface:**

Restaurants will have access to an intuitive interface where they can update menus, accept and manage orders, and ensure timely delivery. These external interface requirements and system features collectively define the functionality and user experience of the Food Panda application, offering a comprehensive solution for food ordering and delivery.

# **5. Other Nonfunctional Requirements**

## **5.1 Performance Requirements**

A variety of essential functionalities are covered by the performance requirements for the Food Panda App, guaranteeing a smooth and effective user experience. First, under peak loads, the authentication procedure, which entails user sign-up and sign-in, must complete in 3 seconds with a 1% maximum error rate. A location selection should produce results in little more than two seconds while maintaining a 95% accuracy rate. Even with a large database, the app must provide results from food searches in under two seconds and be able to handle at least 500 simultaneous queries. Filters should be applied to search results in under a second. A minimum of 1000 concurrent users should be able to use the food selection, shopping cart operations, and payment processing functionalities with response times of less than 1 second. The time required to place an

order and confirm it should be 5 and 2 seconds, respectively. Additionally, every 30 seconds, real-time updates for order tracking should be provided. Finally, reviews and ratings should be available for users to contribute within a minute of placing an order and should appear within two seconds of loading an item's data. These performance standards are created to deliver a dependable and user-friendly experience under varied conditions, hence increasing customers' attractiveness for the Food Panda App.

## **5.2 Safety Requirements**

The Food Panda App's design and operation place a high priority on user safety, which includes a number of capabilities to guard against potential user loss, harm, or damage. The following standards have been created to guarantee safety:

### **5.2.1 Authentication**

The app must have strong data security methods, such as password and personal information encryption and a secure account recovery process, to protect user data. In order to protect user privacy and security, it is crucial to prevent numerous users from using the same account.

### **5.2.2 Location Selection**

Location information provided by users should be handled in the strictest confidence, used only for the functionality of the app, and never disclosed to third parties without their express permission. It is crucial to abide by pertinent data privacy laws like the CCPA and GDPR. Furthermore, it is crucial to provide accurate location data to stop users from unintentionally entering potentially dangerous locations.

### **5.2.3 Food Search and Filtering Options**

To avoid allergic responses, the app must clearly display information about common allergens in food items. Users should also be able to eliminate food products based on dietary restrictions or allergies by using filtering tools.

### **5.2.4 Food Selection**

For users to receive trustworthy information and to reduce any potential health concerns brought on by false descriptions, food item descriptions must be accurate. User safety must be prioritized by making sure that all reported substances and allergies are accurate.

### **5.2.5 Shopping Cart and Payment Method**

To avoid unwanted access, users' payment information must be delivered and kept securely utilizing encryption technologies. In order to protect the financial information of users, the app should also provide secure payment options that adhere to industry norms and laws.

### **5.2.6 Order Placement, Confirmation, and Tracking**

Strong security measures must be put in place to stop fraudulent or unauthorized order placing in order to guarantee a safe and reliable experience. The app should also provide users with



simple order confirmation and tracking features so they can keep track of the progress of their orders. Users will feel more comfortable and confident using the app by increasing transparency and offering real-time updates.

### **5.2.7 Rating and Reviews**

Implementing reporting and moderation tools will also improve the app's capacity to uphold these rules. The app can effectively promote a good and respectful user experience by giving users the means to report any objectionable content and utilizing a rigorous moderation mechanism to review and resolve such issues.

## **5.3 Security Requirements**

The app must securely manage payments, guard against common security threats, maintain extensive logging and monitoring capabilities, and comply with external security standards and regulations in order to further strengthen security. The app's dedication to keeping the highest levels of security and privacy protection will also be confirmed by its pursuit of pertinent security and privacy certifications, such as ISO 27001 or SOC 2. These actions add up to a strong security posture for the app, giving users peace of mind about the security of their personal data.

## **5.4 Software Quality Attributes**

In accordance with industry best practices and data privacy laws, strict security measures will be put in place to protect user data. The same goes for maintainability, which will be guaranteed by well organized code, thorough documentation, and a modular design that makes it easy to maintain the system. A major emphasis will be on interoperability, which enables smooth interface with other systems to improve compatibility and user ease.

The program will have a modular architecture and explicit test cases to enable testability, aiming for at least 90% code coverage. Flexibility is also important since the app will frequently update and improve functionality in response to user input and changing technology trends. With a monthly downtime cap of 30 minutes for essential maintenance, availability will aim for 24-hour service.

In order to maintain consistent user experiences across different devices and operating systems and to promote accessibility and convenience, portability will also be highlighted. Together, these standards-defining qualities provide clients with a great app experience and developers with effective development and maintenance procedures.

## **5.5 Business Rules**

The app allows manual input for users who don't want to reveal their location as well as automated retrieval of the device's location with the user's permission to provide exact delivery alternatives. This guarantees flexibility and takes user preferences into account.

Through comprehensive search and filtering options based on factors like cuisine and dietary requirements, the app gives users the ability to discover restaurants and food products. Orders may only be placed by authorized users, who also have the option to edit the items in their shopping cart before finalizing the transaction.

Credit/debit cards, digital wallets, and cash on delivery are just a few of the many payment options that are offered, all of which strictly adhere to safe payment processing in line with applicable financial legislation.

Users receive thorough order confirmations that describe their items in detail and include expected delivery dates. Depending on the user's desired method of contact, these confirmations may be sent by email, SMS, or app alerts. Users are kept updated about the status and location of their orders thanks to real-time order tracking tools.

Through restaurant and food item ratings and reviews, the app encourages customer input. To preserve community standards and guarantee that the material complies with the app's rules, severe content control is nonetheless implemented.

Finally, users may receive offers of promotions and discounts in an effort to reward their loyalty and increase engagement, which will eventually improve how enjoyable using the Food Panda App is.