Scoopsn Smiles Online Ice Cream Shop

# Software Requirements Specification (SRS)

## 1. Introduction

### 1.1 Purpose

The purpose of this document is to provide a detailed specification of the Scoopsn Smiles Online Ice Cream Shop system. It outlines the system's functionality, features, and requirements to ensure the development team understands what is expected and can deliver a high-quality product.

### 1.2 Scope

The Scoopsn Smiles Online Ice Cream Shop system will allow users to browse and purchase ice cream products online. The system will support user registration, product browsing, adding to cart, placing orders, and tracking deliveries. Admin users will manage products, orders, reviews, and deliveries. Delivery personnel will update delivery statuses and confirm deliveries.

### 1.3 Definitions, Acronyms, and Abbreviations

- SRS: Software Requirements Specification  
- OTP: One-Time Password  
- Admin: Administrative User  
- User: Regular User of the system

### 1.4 References

- [IEEE SRS Standard](https://en.wikipedia.org/wiki/Software\_requirements\_specification)

### 1.5 Overview

This document is structured into several sections detailing the system's overall description, specific requirements, and system models.

## 2. Overall Description

### 2.1 Product Perspective

The Scoopsn Smiles Online Ice Cream Shop is a standalone web application designed to facilitate online purchases of ice cream. The system will consist of a front-end for user interactions and a back-end for handling data storage, business logic, and integrations.

### 2.2 Product Functions

- User registration and login  
- Product browsing and searching  
- Shopping cart management  
- Order placement and payment processing  
- Order tracking and delivery confirmation  
- Review and rating of products  
- Admin management of users, products, orders, reviews, and deliveries

### 2.3 User Classes and Characteristics

- Regular User: Can browse products, add to cart, place orders, track orders, and write reviews.  
- Admin: Can manage users, products, orders, reviews, and deliveries.  
- Delivery Person: Can update delivery status and confirm deliveries.

### 2.4 Operating Environment

The system will be a web-based application accessible via modern web browsers on desktop and mobile devices.

### 2.5 Design and Implementation Constraints

- The system must be developed using web technologies (HTML, CSS, JavaScript, etc.).  
- The back-end should use a robust framework (e.g., Node.js, Django).  
- The system should ensure security measures, especially for payment processing and user data.

### 2.6 Assumptions and Dependencies

- Users will have internet access to interact with the system.  
- The payment gateway will be available for processing transactions.

## 3. Specific Requirements

### 3.1 Functional Requirements

#### 3.1.1 User Registration and Login

- Users must be able to register with an email address and password.  
- Users must be able to log in with their credentials.  
- The system should provide password recovery options.

#### 3.1.2 Product Browsing and Searching

- Users must be able to browse available products.  
- Users must be able to filter and sort products.  
- Users must be able to search for products by name or category.

#### 3.1.3 Shopping Cart Management

- Users must be able to add products to the cart.  
- Users must be able to update the quantity of products in the cart.  
- Users must be able to remove products from the cart.

#### 3.1.4 Checkout and Payment Processing

- Users must be able to proceed to checkout.  
- Users must select a shipping address and payment method.  
- The system should process payments securely.  
- Users must receive a confirmation of successful payment.

#### 3.1.5 Order Placement and Tracking

- Users must be able to place orders after successful payment.  
- The system should generate an OTP for order confirmation.  
- Users must be able to track their orders.  
- Delivery persons must update the order status.  
- Users must confirm delivery with OTP verification.

#### 3.1.6 Review and Rating

- Users must be able to write reviews and rate products they have purchased.  
- Admins must be able to approve or remove reviews.

#### 3.1.7 Admin Management

- Admins must be able to manage user accounts.  
- Admins must be able to add, edit, and delete products.  
- Admins must be able to view and update order statuses.  
- Admins must be able to process refunds.  
- Admins must be able to assign and track deliveries.

### 3.2 Non-Functional Requirements

#### 3.2.1 Performance Requirements

- The system should handle a high number of concurrent users.  
- The system should load pages within 3 seconds.

#### 3.2.2 Security Requirements

- The system must use HTTPS for secure communication.  
- User passwords must be stored securely using hashing.  
- The system must comply with data protection regulations.

#### 3.2.3 Usability Requirements

- The system should have an intuitive and user-friendly interface.  
- The system should be accessible on both desktop and mobile devices.

#### 3.2.4 Reliability Requirements

- The system should have an uptime of 99.9%.  
- The system should handle failures gracefully and provide meaningful error messages.

## 4. System Models

### 4.1 Use Case Diagram

The Use Case Diagram will be included here.

### 4.2 Activity Diagram

The Activity Diagram will be included here.

### 4.3 Sequence Diagrams

The Sequence Diagrams will be included here.

### 4.4 Class Diagram

The Class Diagram will be included here.