# System Analysis & Design

## 1. Introduction

System analysis and design is a crucial phase in software development that involves understanding the system's requirements, analyzing its components, and designing a structured solution. This document outlines the analysis and design of an online perfume store.

## 2. System Analysis

### 2.1 System Objectives

The main objectives of the perfume store system are:

• Provide a seamless shopping experience for customers.  
• Ensure secure and efficient transaction processing.  
• Enable easy product management for administrators.  
• Offer a user-friendly and responsive interface across devices.

### 2.2 System Components

The system consists of the following main components:

• User Management: Registration, login, and profile management.  
• Product Catalog: Display and categorization of perfumes.  
• Shopping Cart: Adding/removing products and order summary.  
• Payment Gateway: Secure checkout process.  
• Order Management: Tracking orders and order history.  
• Review System: Customers can rate and review products.  
• Admin Panel: Managing products, users, and orders.

### 2.3 Entity-Relationship Diagram (ERD)

The ERD represents the relationships between key database entities such as users, products, orders, and payments.

## 3. System Design

### 3.1 System Architecture

The system follows an MVC (Model-View-Controller) architecture, ensuring separation of concerns and better maintainability.

### 3.2 Design Diagrams

#### 3.2.1 Data Flow Diagram (DFD)

The DFD illustrates how data flows within the system, showcasing interactions between users, databases, and processes.

### 3.3 User Interface Design

The user interface is designed to be intuitive and responsive. Key UI components include:

• Homepage with featured products and search functionality.  
• Product detail pages with descriptions, reviews, and purchase options.  
• Shopping cart and checkout pages.  
• User dashboard for managing orders and profile settings.

## 4. Conclusion

The system analysis and design phase provides a structured approach to developing the online perfume store. Proper planning and implementation of the proposed architecture and components will ensure a high-quality user experience.