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**Task Overview:** As a Full Stack Developer at Perfume Shop, you are responsible for creating an engaging and user-friendly homepage for a perfume-selling website. This task is designed to evaluate your proficiency in both front-end and back-end development, as well as your ability to create a seamless and interactive user experience.

# Perfume Shop Web Application - Project Report

### 1. Introduction

The Perfume Shop Web Application is designed as a modern e-commerce platform for showcasing and selling perfumes. This project integrates a **React.js** frontend, a **Node.js & Express** backend, and **MongoDB** for database storage. The aim is to provide a seamless shopping experience with features such as product browsing, detailed product views, and customer reviews.

### 2. Backend Implementation (Node.js + Express + MongoDB)

The backend is developed using **Node.js and Express.js**, with **MongoDB** as the database. It serves as the API layer, handling product data and user reviews.

**Key Features:**

- **Database Connection:** The backend connects to MongoDB using Mongoose ORM.
- **Product Schema:** Defines the structure of perfume products, including:
    - Name
    - Description
    - Price
    - Images
    - Available Sizes
    - Customer Reviews
- **API Endpoints:**

- o GET /products - Retrieves all products.
- o GET /products/:id - Fetches details of a specific perfume.
- o POST /products/:id/review - Allows users to submit reviews.

**Backend Workflow:**

1. A connection to MongoDB is established.
2. API routes handle user requests to fetch products or submit reviews.
3. The server listens on **port 5000**, ensuring proper data flow between frontend and database.

## 3. Frontend Implementation (React.js)

The frontend is built using **React.js**, ensuring a dynamic and responsive interface.

**Homepage Features (App.js):**

- A **navbar** for easy navigation.
- A **banner** with a call-to-action for exploring fragrances.
- **Product cards** displaying perfume details such as images, descriptions, and prices.
- Clicking on a product redirects the user to the **detailed product page**.

**Product Page Features (ProductPage.js):**

- Displays **detailed information** about a perfume.
- Includes **multiple images** of the product.
- Lists **customer reviews**.
- Provides an option for users to submit their own reviews.

**Frontend Workflow:**

1. The homepage fetches product data from the backend and displays it.
2. Clicking on a product navigates the user to its dedicated page.
3. Users can view details, read reviews, and add new reviews.

## 4. Conclusion

The **Perfume Shop Web Application** is a well-structured, full-stack project that successfully integrates frontend, backend, and database components. It provides an **interactive user experience**, a **functional backend for data management**, and a **modern e-commerce layout** for perfume shopping. This project demonstrates strong full-stack development capabilities, with scope for future enhancements like user authentication and a shopping cart system.

This report summarizes the core functionalities and implementation of the Perfume Shop Web Application.