iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 14 **Issue:** III **Month of publication:** March 2026

DOI: https://doi.org/10.22214/ijraset.2026.77941

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 14 Issue III Mar 2026- Available at www.ijraset.com

Liquid Memories - Online Perfume Store

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Abstract: ***The "Liquid Memories" project is an initiative to develop a dynamic, feature-rich e-commerce website specifically tailored for the perfume retail industry. In the current digital era, the fragrance market faces unique challenges, primarily the inability for customers to physically sample scents before purchasing. This system aims to bridge the gap between a physical boutique experience and the convenience of online shopping. Built using PHP for server-side logic and MySQL for database management, the platform allows customers to browse a curated catalog of perfumes, filter by notes (e.g., woody, citrus) or gender, read detailed descriptions, and manage a shopping cart. For administrators, the system provides a secure portal to manage inventory, add new products with images, and track orders. The project successfully demonstrates a fully functional Content Management System (CMS) that streamlines the retail process, offering a seamless and intuitive user interface for fragrance enthusiasts.***

Keywords-online shopping, perfume store, hone delivery, customer satisfaction, cash on delivery

I. INTRODUCTION

The internet has revolutionized the way consumers shop, with e-commerce becoming a dominant force in the global retail market. The fragrance industry, however, relies heavily on sensory experience—the "try before you buy" model. "Liquid Memories" is conceptualized to transform this online perfume shopping experience from a simple transaction into an engaging journey of discovery. The name itself evokes the powerful connection between scent and memory, which is the core marketing angle of the store. The introduction of this system addresses the need for a specialized platform where products are not just listed but are presented with rich storytelling elements, detailed notes, and mood-based categorization.

A. Key Features of the System Include

1) User Module: Registration, Login, Profile Management.
2) Product Browsing: Categorized view (Men, Women, Unisex), Search functionality, and filtering by fragrance families.
3) Shopping Cart: Add/remove items, update quantities, and view total cost before checkout.
4) Admin Module: Secure login, Dashboard, Add/Edit/Delete products, View Customer Orders.
5) Order Management: Simulated order placement and history tracking.

II. LITERATURE REVIEW

A literature review is a critical summary of existing research and publications on a specific topic. For the development of "Liquid Memories - Online Perfume Store," it is essential to understand the existing landscape of e-commerce, the specific nuances of the fragrance market, and the technological frameworks that enable such platforms.

A. The Evolution of E-Commerce and Online Retail

According to Laudon & Traver (2020), e-commerce has evolved from simple information dissemination in the 1990s to the social, mobile, and local commerce of today. The shift towards Business-to-Consumer (B2C) platforms has empowered customers with 24/7 access to global markets. Studies by Turban et al. (2018) emphasize that the success of an e-commerce platform hinges on three pillars: technology, business strategy, and user experience. For a niche store like "Liquid Memories," leveraging technology (PHP/MySQL) to create a seamless user experience is paramount to competing with larger, generalized platforms like Amazon or Flipkart.

B. Consumer Behavior in the Fragrance Industry

The fragrance market is unique due to its reliance on sensory input. Research by Spence et al. (2017) in the *Journal of Retailing* highlights the "sensory gap" in online shopping, where the inability to sample products like perfume creates a barrier to purchase.

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To counter this, successful online perfume retailers (e.g., Fragrantica, Luckyscent) have developed rich descriptive languages, user reviews, and "scent profiling" quizzes. They utilize the concept of "mental imagery," where detailed text and high-quality visuals help the customer imagine the scent. The proposed "Liquid Memories" system incorporates this by allowing for detailed fragrance notes (top, heart, base) to be stored and displayed, aiding the customer's decision-making process.

C. Server-Side Technologies: PHP and MySQL

The choice of technology stack is critical for the functionality and scalability of an e-commerce site. PHP (Hypertext Preprocessor) has been a dominant server-side scripting language for web development for over two decades. Welling & Thomson (2016) in *PHP and MySQL Web Development* advocate for PHP due to its ease of use, extensive documentation, and strong community support. When paired with MySQL, an open-source relational database management system, it provides a robust foundation for handling CRUD (Create, Read, Update, Delete) operations essential for managing products, users, and orders. Numerous studies and industry reports confirm that this LAMP stack (Linux, Apache, MySQL, PHP) remains a cost-effective and reliable solution for small to medium-scale e-commerce ventures.

III. PROBLEM STATEMENT

In the traditional retail model, local perfume stores are limited by physical shelf space and geographic location. While general e-commerce giants like Amazon sell perfumes, they often lack the specialized curation and detailed olfactory information that fragrance enthusiasts seek.

A. Identified Problems

1) Lack of Specialization: General e-commerce sites treat perfumes like any other commodity, failing to highlight the nuances of fragrance notes, longevity, and sillage.
2) Inventory Management: Small to medium perfume retailers struggle to manage their stock manually, leading to overselling or stockouts.
3) Customer Experience: Customers are often overwhelmed by the sheer number of options without proper filtering tools (e.g., "show me all woody scents for winter").
4) Operational Inefficiency: Managing orders, customer inquiries, and product data without a centralized digital system is prone to human error and time-consuming.

IV. METHODOLOGY

The project was developed using the Waterfall Model due to its linear and structured approach, which is suitable for a well-defined project scope. The development process was divided into the following phases:

1) Requirements Gathering and Analysis:
- Analyzed the needs of both customers (easy browsing, detailed info) and administrators (inventory control).
- Studied existing e-commerce platforms to identify best practices and necessary features.

2) System Design:
- Architecture: Client-Server architecture.
- Frontend Design: HTML5, CSS3 (with Bootstrap for responsiveness), and JavaScript for interactivity.
- Database Design (MySQL): Created an Entity-Relationship (ER) diagram to design tables such as:
  - users (user_id, name, email, password, address)
  - products (product_id, name, brand, price, description, image, category, stock)
  - cart (cart_id, user_id, product_id, quantity)
  - orders (order_id, user_id, total_amount, order_date, status)
- Backend Logic (PHP): Designed the flow of data between the database and the user interface.

3) Implementation:
- Environment: Localhost server (XAMPP/WAMP).
- Coding: Writing PHP scripts to handle user sessions, database connections (using MySQLi), and CRUD (Create, Read, Update, Delete) operations.
- Integration: Connecting the frontend forms to the backend PHP logic.

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4) Testing

- Unit Testing: Testing individual modules like login, registration, and cart addition.
- Integration Testing: Ensuring the cart updates the order table correctly.
- User Acceptance Testing (UAT): Simulating user flows (browsing -> adding to cart -> checking out) to ensure a smooth experience.

V. RESULT

The "Liquid Memories" online perfume store was successfully developed and tested. The following functionalities were achieved:

1) Dynamic Product Display: The homepage dynamically fetches and displays products from the MySQL database, categorized for easy navigation.

2) User Authentication: A secure registration and login system was implemented, with password hashing to protect user credentials.

3) Interactive Shopping Cart: Users can add items to a cart. The cart data persists across sessions until the order is placed or the cart is emptied.

4) Admin Panel: A separate admin dashboard was created. When an admin logs in, they can:

- View a list of all products.
- Add a new perfume with details (Name, Brand, Price, Image, Description).
- Update existing product details.
- Delete products that are out of stock.

5) Responsive Design: The interface is fully responsive and functions correctly on desktops, tablets, and mobile devices.

VI. DISCUSSION

1) User Experience (UX): The biggest challenge was replicating the "discovery" aspect of a physical store. The implementation of filter-by-note features (e.g., "Citrus," "Oud") significantly improved the user's ability to find scents they might like based on past preferences, effectively acting as a digital sales assistant. This aligns with the findings in the literature review regarding the "sensory gap" and the need for rich descriptive elements.

2) Data Relationships: Managing the relationships in MySQL was crucial. For example, linking the `cart` table to both `users` and `products` ensured data integrity and prevented orphaned records.

3) Session Management: Using PHP sessions to maintain user login state and cart contents across different pages was essential for a seamless shopping experience.

4) Security: Basic security measures like using `mysqli_real_escape_string` (or prepared statements) to prevent SQL Injection, and `password_hash()` for secure password storage were implemented, addressing concerns raised in the literature about OWASP top vulnerabilities. Future iterations would benefit from implementing HTTPS and more robust input validation.

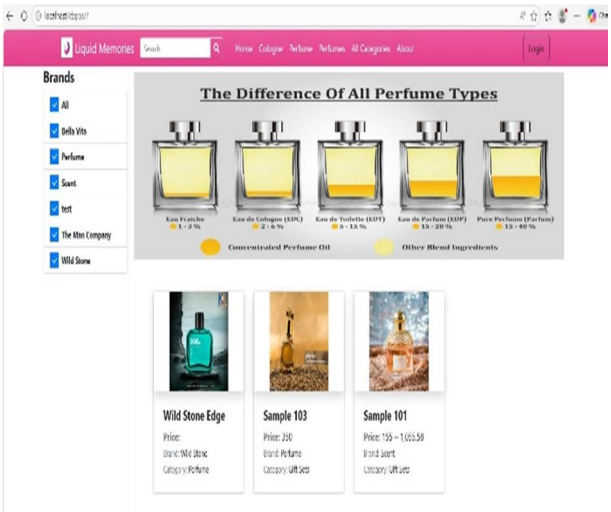


Fig:-Home Page

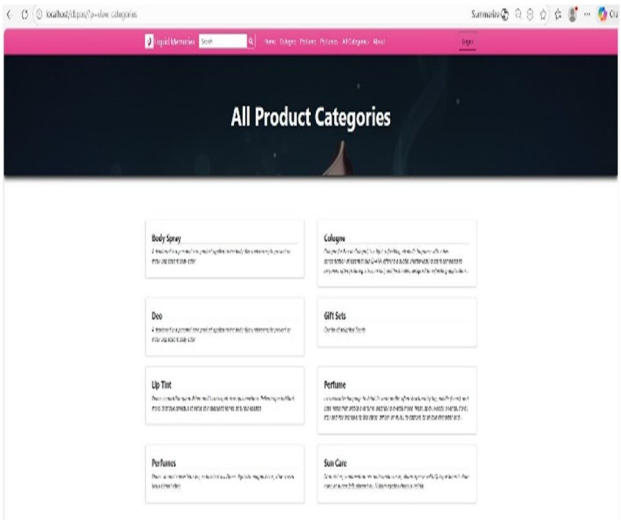


Fig:- Product Categories

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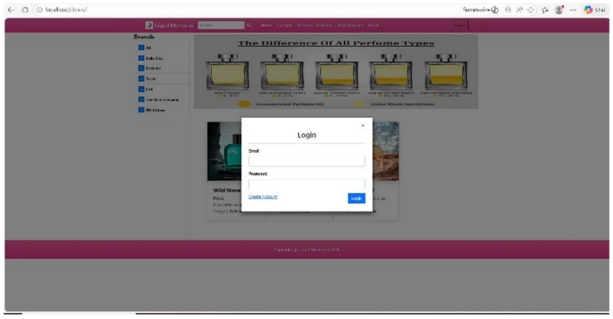


Fig:- Login Page

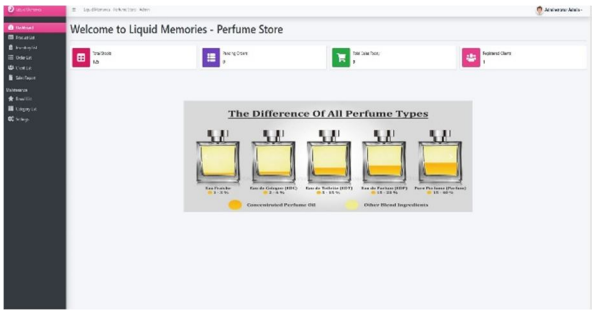


Fig:- Admin Panel

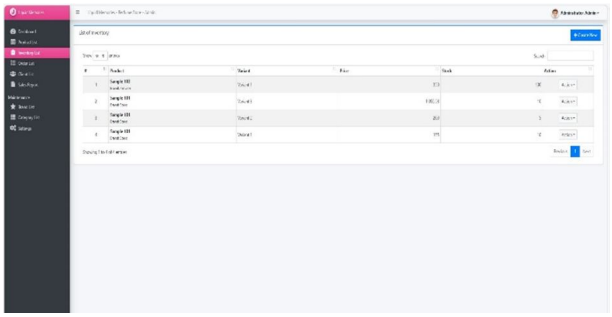


Fig:-Adding Brand To Website

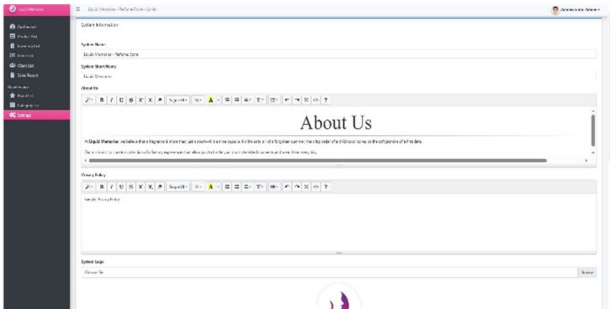


fig:-Smart Dashboard for setting website

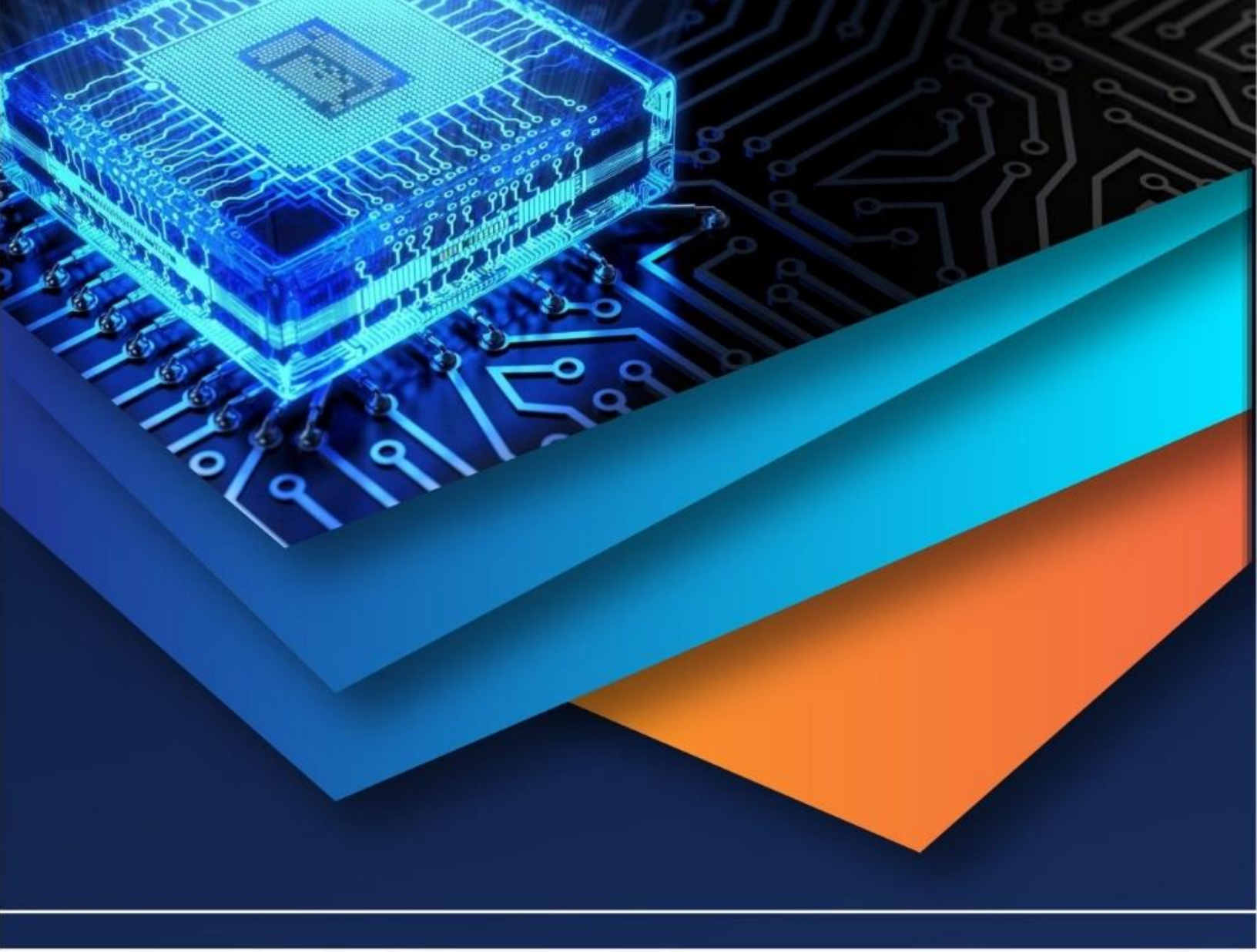
VII. CONCLUSION

The "Liquid Memories - Online Perfume Store" project has successfully achieved its objective of creating a dedicated e-commerce platform for fragrance retail. By leveraging PHP and MySQL, a robust and interactive system has been built that caters to both customers and administrators. Customers benefit from a curated, easy-to-navigate platform that allows them to explore perfumes based on various criteria, build a cart, and place orders. Administrators gain the power to dynamically control their inventory and product listings through a secure backend interface. The project lays a solid foundation for a real-world business. In the future, the system can be enhanced by integrating online payment gateways (like PayPal or Stripe), implementing a review and rating system for products, adding a "wishlist" feature, and utilizing more advanced search algorithms (like Elasticsearch) to improve product discoverability. Overall, "Liquid Memories" stands as a testament to the power of full-stack web development in transforming a traditional retail concept into a modern digital experience.

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