Sanjivani Rural Education Society's

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(An Autonomous Institute)

DEPARTMENT OF ELECTRONICS AND COMPUTER ENGINEERING

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CIA Activity – Mini Project

"Pet Shop Management system"

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“Pet Shop Management System”

1. Abstract

The PawsHome Pet Shop Management System is a web-based application developed to simplify and automate pet shop operations. It allows users to browse pets, view details like breed, age, and price, and place orders online, making the system more convenient and accessible compared to traditional manual methods.

The project is developed using HTML, CSS, JavaScript, PHP, and MySQL. The frontend provides an interactive user interface, while PHP handles server-side operations and database communication. MySQL is used for storing pet and order data efficiently.

The system includes session-based authentication and role-based access control, where users can browse pets and place orders, while admins can manage pets and monitor orders.

An admin dashboard is also implemented using security features like password hashing, input validation, and session handling are included to protect user data.

Overall, the project provides a secure, user-friendly, and efficient solution for managing pet Shop activities digitally.

2. Objectives

The main objective of the Pet Shop Management System is to develop a secure, efficient, and user-friendly web application that simplifies pet shop operations. The system replaces manual processes with a digital platform, improving accuracy, accessibility, and overall management.
The project provides a centralized system to manage pet details, users, and orders efficiently. Customers can browse pets, view information such as breed, age, and price, and place orders easily through the website.
Another objective is to provide a simple and interactive user interface so that users can access the system without technical difficulties. The system also includes secure authentication and session management to protect user data and restrict admin access.
The project is designed to be scalable, allowing future enhancements such as online payments and delivery tracking.
Overall, the Pet Shop Management System aims to provide an easy, secure, and effective solution for managing pet shop activities digitally.

3. Project description

What the System Does:

The Pet Shop Management System is a web-based application developed to automate and simplify pet shop operations. The system allows customers to browse different pets available in the shop, view detailed information such as pet breed, age, price, and availability, and place orders online easily.

The application reduces manual work and provides a digital platform for managing pet shop activities efficiently. It also helps administrators manage pet records, customer orders, and system data through an admin panel. The system improves accessibility, accuracy, and overall user experience by providing all services online.

The project is developed using HTML, CSS, JavaScript, PHP, and MySQL. The frontend provides an interactive and responsive user interface, while PHP handles backend processing and database communication. MySQL is used to store pet details, user information, and order records securely.

Key Features:

1. User Registration and Login

- Users can create accounts and log in securely.
- Session management is used to maintain user authentication.
- Separate access is provided for admin and normal users.

2. Pet Browsing System

- Users can view different categories of pets such as dogs, cats, and birds.
- Each pet includes detailed information like:
    - Name
    - Breed
    - Age
    - Price
    - Availability status
- Users can easily search and explore pets.

3. Online Order Placement

- Customers can place pet orders directly through the website.
- The system collects customer details such as:
    - Name
    - Contact number
    - Address
    - Email
- Order information is stored in the MySQL database.

4. Admin Panel

- Admin can add, update, and delete pet records.
- Admin can manage customer orders efficiently.
- All orders and pet details are displayed in organized tables.

5. Database Management

- MySQL database is used for storing:
  - Pet details
  - User accounts
  - Order records
- PHP and SQL queries are used for data retrieval and updates.

6. Security Features

- Password hashing is implemented for secure login.
- Session handling prevents unauthorized access.
- Input validation is used to improve security and data accuracy.

7. User-Friendly Interface

- The system has a simple and responsive design.
- Easy navigation improves user experience.
- Works efficiently on different screen sizes.

4. Technology stack

The development of the Pet Shop Management System involves the use of multiple technologies, each contributing to different aspects of the application. These technologies work together to create a fully functional, efficient, and user-friendly system.

Frontend Technologies

The frontend of the application is built using HTML, CSS, and JavaScript, which form the foundation of modern web development.

HTML (HyperText Markup Language) is used to structure the content of the web pages. It defines elements such as headings, paragraphs, forms, buttons, and tables. In this project, HTML is used to create pages like the homepage, login page, signup page, pet listing page, and admin dashboard.

CSS (Cascading Style Sheets) is used to style the HTML elements and enhance the visual appearance of the application. It controls layout, colors, fonts, spacing, and responsiveness. The project uses modern CSS techniques such as flexbox and grid to create a responsive design that adapts to different screen sizes.

JavaScript is used to add interactivity and dynamic behavior to the application. It is used for tasks such as form validation, handling user inputs, and integrating Chart.js for data visualization. JavaScript enhances the user experience by making the application more responsive and interactive.

Backend Technology

The backend of the application is developed using PHP (Hypertext Preprocessor). PHP is a server-side scripting language that is widely used for web development. It handles tasks such as processing form data, managing sessions, and interacting with the database.

PHP plays a crucial role in implementing features such as user authentication, role-based access control, and CRUD (Create, Read, Update, Delete) operations. It ensures that user requests are processed securely and efficiently.

Database Technology

The application uses MySQL as its database management system. MySQL is a relational database that stores data in structured tables. It is used to manage data related to users, pets, and orders.

The database ensures data integrity and consistency through the use of constraints and relationships. SQL queries are used to retrieve and manipulate data as required by the application.

5. System architecture

Database Table Structure :

1. Admin_Users Table

This table stores administrator login details.

Field Name Description	Description
admin_id	Unique ID for admin
username	Admin username
password	Admin password

Purpose:

- Used for admin authentication
- Allows admin to manage products and orders

2. Products Table

This table stores pet/product information.

Field Name	Description
product_id	Unique product ID
name	Product/Pet name
price	Product price
category	Product category

Purpose:

- Stores all available pets/products
- Displays products to users

3. Orders Table

This table stores order transaction details.

Field Name	Description
id	Unique order ID
order_id	Order number

total_amount	Total order amount
order_status	Current order status

Purpose:

- Stores customer order information
- Helps admin track orders

4. Order_Items Table

This table stores details of products included in each order.

Field Name	Description
id	Unique item ID
order_id (FK)	Related order ID
product_id (FK)	Related product ID
quantity	Product quantity
price	Product price

Purpose:

- Connects products with orders
- Stores quantity and price details

5. Users Table

This table stores customer account information.

Field Name	Description
id	Unique user ID
name	Customer name
email	Customer email
password	User password
address	Customer address
city	Customer city
pincode	Area pincode

Purpose:

- Stores user credentials and profile data
- Used during login and ordering

6. Payments Table

This table stores payment-related information.

Field Name	Description
id	Unique payment ID
order_id	Related order ID
payment_id	Payment transaction ID
status	Payment status
amount	Payment amount

Purpose:

- Stores payment transaction records
- Tracks payment success or failure

Basic Page Flow / Navigation Diagram :


E-commerce Workflow
Home Page
The starting point of the user journey.
Users can log in or create a new account.
User Login/Registration
Browse Products/Pets
Users can explore available items or animals.
Users can add items to their cart or proceed to checkout.
Add to Cart/Place Order
Payment Process
Users complete their purchase with secure payment options.
Users receive confirmation of their successful order.
Order Confirmation
Admin Panel
Administrators manage products, orders, and users.
Administrators perform administrative tasks.
Manage Products, Orders & Users
Made with Napkin

6. Modules

1. User Authentication Module

Handles user and admin login, registration, session management, and secure authentication.

2. Product/Pet Management Module

Allows admin to add, update, delete, and manage pet/product details such as name, category, and price.

3. User Module

Enables customers to browse pets/products, view details, and manage their profiles.

4. Order Management Module

Handles order placement, order storage, and tracking of customer orders.

5. Payment Module

Stores payment transaction details and manages payment status information.

6. Admin Module

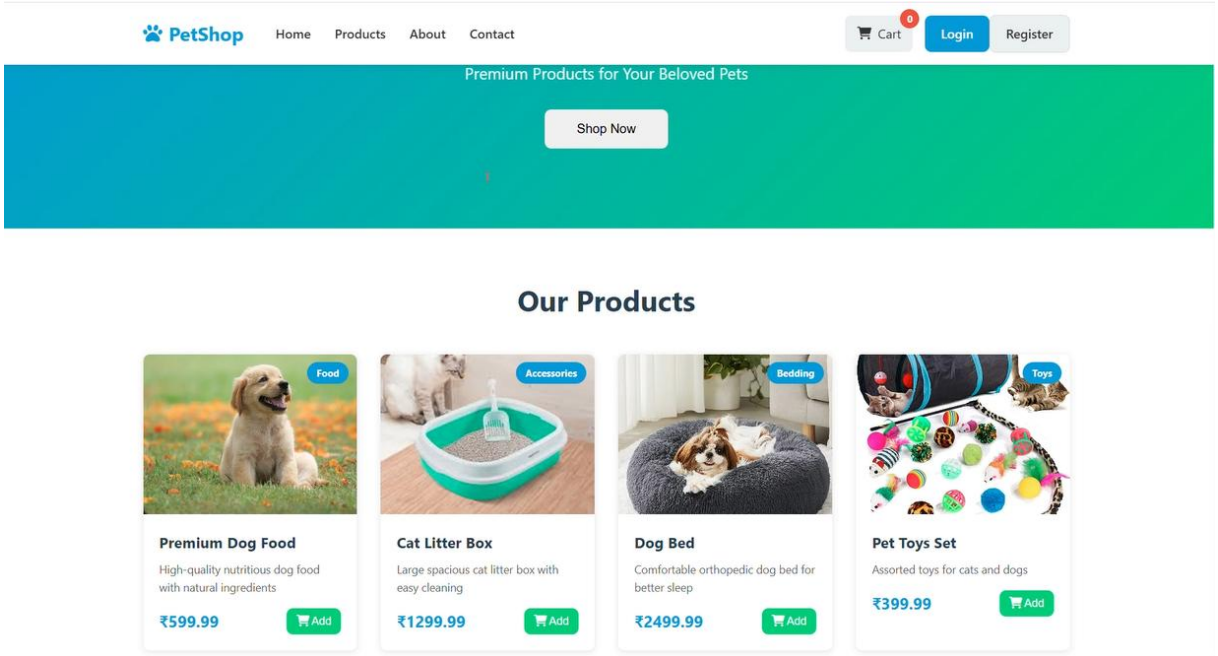
Provides admin access to manage users, products, orders, and overall system activities.

7. Database Management Module

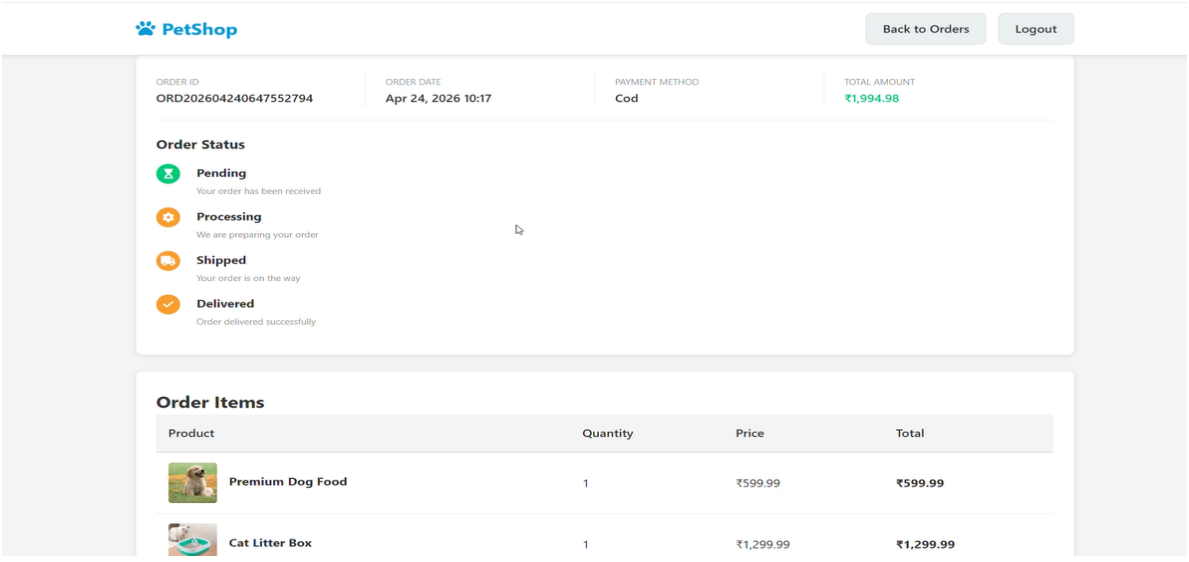
Manages storage, retrieval, and updating of data using the MySQL database.

7.

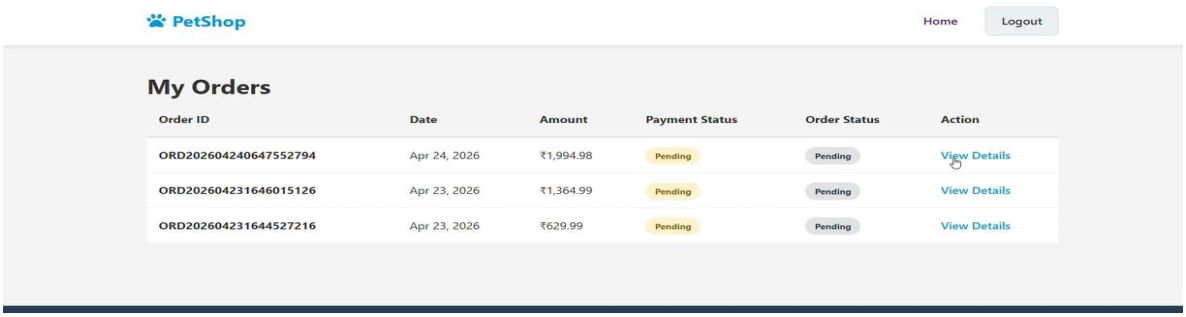
7. Implementation / Screenshots



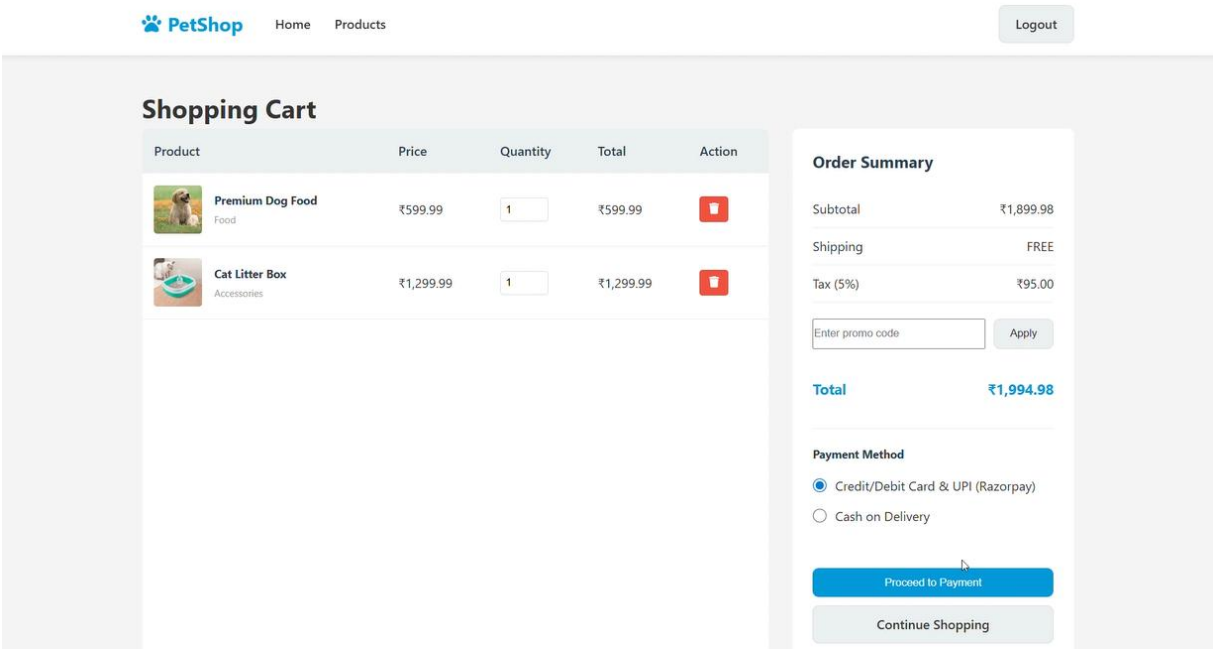
Home page displaying available pet products with product details, pricing, and shopping options.



Shopping cart interface showing selected products, quantity management, total amount, and checkout options.



Order status tracking page displaying order progress, delivery stages, and purchased product details.



User order history page showing previous orders, payment status, and order details.

8. Emerging Technology / Feature

1. Razorpay Payment Gateway Integration

- Implemented By: Yuvaraj Sali

Why Used
Razorpay is used to enable secure and easy online payments for customers. It improves the user experience by allowing digital transactions directly through the website.

How Implemented
The Razorpay payment gateway is integrated using the Razorpay API and JavaScript checkout system. When a user places an order, the total amount is passed to Razorpay for payment processing. After successful payment, payment details such as payment ID, amount, and status are stored in the MySQL database using PHP. This ensures secure transaction handling and proper payment tracking within the system.

2. Password Hashing

- Implemented By: Nikita Magar

Why Used
Password hashing is implemented to improve security and protect user credentials from unauthorized access.

How Implemented
The system uses PHP password hashing functions to encrypt passwords before storing them in the database. During login, the entered password is verified with the hashed password stored in MySQL. This prevents storing plain-text passwords and improves overall authentication security.

3. Session-Based Authentication

- Implemented By: Nikita Magar

Why Used
Session management is used to maintain secure login sessions and restrict unauthorized access to admin pages.

How Implemented
PHP sessions are used to store user login information after successful authentication. Admin-only pages check session variables before granting access. If a valid session is not found, the user is redirected to the login page. This helps in maintaining security and proper role-based access control.

9. Conclusion

The Pet Shop Management System successfully demonstrates the development of a web-based application for managing pets and customer orders. The system provides a user-friendly platform where customers can browse pets and place orders, while admins can manage products and orders efficiently.

The project uses HTML, CSS, JavaScript, PHP, and MySQL to implement frontend design, backend processing, and database management. PHP and MySQL enable smooth data handling such as storing user details, managing pets, and processing orders.

The system also includes secure authentication and session management to restrict unauthorized access and maintain security. Separate admin and user functionalities improve system management and usability.

The project features a responsive and simple interface, making it easy to use and navigate. The database is designed properly to maintain data consistency and efficient storage.

In conclusion, the Pet Shop Management System provides a secure, efficient, and practical solution for managing pet shop activities digitally and serves as a strong foundation for future enhancements.

10. References

11.1 Books & Standard References

1. Web Engineering: A Practitioner's Approach – Roger S. Pressman
    - Used for understanding web application architecture and design principles.
2. PHP and MySQL Web Development – Luke Welling & Laura Thomson
    - Reference for backend development and database integration.
3. Database System Concepts – Abraham Silberschatz, Henry F. Korth
    - Used for database design and normalization concepts.

11.2 Online Resources

1. **W3Schools**
   https://www.w3schools.com
    - Used for learning PHP, HTML, CSS basics.
2. **MDN Web Docs**
   https://developer.mozilla.org
    - Reference for JavaScript and web standards.
3. **Chart.js Official Documentation**
   https://www.chartjs.org
    - Used for implementing charts in admin dashboard.
4. **MySQL Documentation**
   https://dev.mysql.com/doc/
    - Used for database queries and optimization.