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ijmrset@gmail.com



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# PetHub: A Platform for Pet Adoption

**Ranjitha, Sadhana K**

PG Student, Department of MCA, Mangalore Institute of Technology & Engineering, Moodabidri, Karnataka, India

PG Assistant Professor, Department of MCA, Mangalore Institute of Technology & Engineering, Moodabidri,  
Karnataka, India

**ABSTRACT:** According to India's State of Pet Homelessness Index, there are a lot of stray dogs and cats, with 68 percent of the population sighting a stray cat or dog per week. We can help to improve the current situation using our application. It's an online platform where people may adopt, buy, sell, and rescue animals. There are, nonetheless, animal shields, some of which are cruel to strays. To lower euthanasia rates," Pet Hub" is a technology-driven approach that encourages pet adoption. A web-based application connects adopters, shelters, and people, offering a user-friendly interface and effective tools to help speed the adoption process. The goal of this project is to make the adoption procedure easier and provide stray animals new homes. in order to lessen the financial and emotional burden on shelter owners and staff and assist in finding abandoned dogs a permanent home. The platform was created with the use of contemporary web technology to guarantee online accessibility and ease user-rescue shelter contact. By associating people with appropriate pets, the intuitive interface streamlines the process of guaranteeing the well-being of animals. In order to guarantee high-performance and a visually appealing user interface, the project employs a strong and expandable technology stack. The procedure for guaranteeing the wellbeing of pets, setting up appointments, and using grooming services is automated by this user-friendly interface. This platform allows you to provide while guaranteeing the wellbeing of pets and offers all medical and grooming services under one roof.

**KEYWORDS:** Adoption, Stray, Animals, Shelters, Pet, Platform, User interface, Well-being.

## I.INTRODUCTION

In India, there are more than 80 million stray dogs and cats on the streets, and 8.8 million of them reside in shelters. These creatures endure appalling living circumstances and are frequently mistreated by humans. For thousands of years, people have kept dogs and cats as house pets despite their suffering because they are comforting and help lower tension, anxiety, and depressive symptoms. They are also loyal to their owners, protecting them and obeying them when given the right guidance and discipline.

Only 2 to 17 percent's of the 200 million dogs in the world are reclaimed by their owners each year; the remaining 3.3 million are adopted by animal shelters. Surviving animals are frequently put to death due to space restrictions. The current approaches to moving or finding pets are reckless and ineffectual. It is our responsibility as adopters to show animals in shelters or under the care of animal rescue groups patience, love, and trust. Managing all animals in one location is a major issue due to the increase in lost and abandoned pets. In addition to increasing awareness for animal shelters and maybe lowering the number of stray animals, the initiative intends to develop an easily navigable pet adoption website. The platform makes use of modern web technologies to guarantee accessibility and facilitate communication between users and rescue shelters. By matching people with compatible pets, the user-friendly interface expedites the adoption process. The grooming service, appointment scheduling, and pet welfare processes are all automated by the platform. It provides all medical and grooming services under one roof and enables consumers to provide while guaranteeing pet wellbeing. The project's objective is to provide a simple and safe pet adoption option while lessening the financial and emotional strain on shelter employees and owners. The project's objective is to provide a simple and safe pet adoption option while lessening the financial and emotional strain on shelter employees and owners. When their owners can no longer afford to care for them or when they get sick, domesticated animals once owned by families are often abandoned onto the streets. This is because finding a suitable home for them can be challenging.

PetHub's goal is to help people find and adopt pets quickly. Visitors can browse among pets of various shapes and sizes. View top selections and register for an account. Through the program, people can also speak with the pet's owner to learn more about them. All a user needs to do to list a pet for adoption is upload the animal's photo and facts. It is discovered that advertising pets for adoption was much simpler by using this web application. PetHub aims to facilitate



the process of finding homes for unadopted pets. To avoid prejudice on the basis of characteristics like age, the process pairs potential adopters with dogs who fit their personalities and way of life.

The project intends to reduce the number of stray animals by creating an easily navigable website for pet adoption, hence increasing the audience for animal shelters. Modern web technology is used by the platform to guarantee accessibility and facilitate user-rescue communication. It speeds up the adoption process by finding suitable dogs for adopters. The software provides comprehensive medical and grooming services under one roof by automating pet welfare, appointment scheduling, and grooming services. The idea intends to provide a simple and safe pet adoption option while lessening the financial and emotional strain on shelter owners and personnel. Issues with online adoption procedures, such as lack of openness, protracted forms, and inadequate post-adoption support, are brought to light by interviews with dog adopters.

Although there are many powerful filtering tools, they frequently lack sorting or customizing capabilities. All filtering settings are lost when a user closes the online application, necessitating another procedure. The lack of uniformity in pet information among animal shelters poses a challenge for prospective adopters who wish to compare pets from various shelters. Adoptions decline as a result of social media posts from NGOs, shelters, and content producers frequently not reaching their target audience. There aren't many useful platforms out there right now, and the ones that are aren't very good at getting the job done.

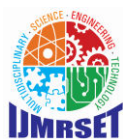
## II. PROBLEM STATEMENT

The current policies for pet adoption, shelter management, and pet-related services are fragmented and inefficient, which presents challenges for prospective adopters, shelter owners, and administrators. Finding and acquiring pets, buying supplies for their upkeep, scheduling grooming appointments, volunteering, and making donations are all challenging tasks for adopters. Shelter owners deal with issues like tracking adoptions, scheduling volunteers and donations, and maintaining pet information. The hardest things for administrators to perform to keep the system running well include adding products, registering shelters, tracking adopted pets, updating pet information, monitoring donations, handling orders, and making payments. To address these problems, a single solution integrating three crucial modules—Admin, Shelter, and User—is required. The interface of the suggested system is easy to use, and its administration features are efficient, which will speed up pet adoption, encourage user involvement, and enhance shelter operations. Ultimately, through enabling better communication, administration, and assistance, this centralized approach will aid in finding pets loving homes and assist shelters in achieving their mission.

## III. RELATED WORK

Haoran Liu and Xiue Meng implemented The [1] User Handling Module, Pet Handling Module, Pet Adoption Module, and Pet Statistics Module are the four primary modules that make up the system. The system was created with Eclipse and MySQL, utilizing the Bootstrap framework, JSP technologies, and the SSM framework. We used the modal with six boxes, which is one of Bootstrap's modal features, to reduce the amount of JSP pages. We used a pure CSS plugin to create a waterfall flow layout for pets to observe, which improves the visual experience. The Echarts plugin was used in the Pet Statistics Module to produce colorful and easy-to-read charts that improved the readability of the data. Administrators can retrieve and utilize images uploaded to a local server by using this feature of the system. When a user logs in, the system recognizes them by their username, determines whether they are an administrator or a regular member, and then points them to the relevant page with the necessary rights. To further improve the user-friendliness of the design, the login process offers the user's ability to recall their password with ease.

Bell S. Campanilla , Jonathan O. Etcuban , Angelbert P. Maghanoy , Pet Andrew P. Nacua , Narcisan S. Galamiton [2] a study was carried out to explore medical care, assist in making the shelter more spacious so that more animals can be rescued. The goal of this study was to create a mobile and online application that would let pet owners and animal shelters list animals up for adoption. They can find possible adopters who meet the adoption standards by using the system. Two sets of survey questionnaires were sent as part of the study, which employed the descriptive developmental research design. The system was created with the help of Eclipse, MySQL, the SSM and Bootstrap frameworks, JSP technology, and four primary modules: User Handling, Pet Handling, Pet Adoption, and Pet Statistics. A pure CSS plugin is used for the pet viewing layout, and Echarts are used in the Pet Statistics module to visualize data. The ability to upload images is available to administrators. Animal shelters must subscribe to promotions in order to handle vaccinations, see and create pet books, handle adoptions and donations, and manage accounts, dogs, and selections. Administrators have the ability to approve or reject applications and manage pet owners, transactions,



shelters, and subscriptions. Pet owners can also sign up to receive notifications, manage animals, and adopt regulations. A client-server network architecture, thorough database modeling, and an intuitive user interface are all included in the system design for both web and mobile.

Akanksha Magdum, Aniket Magdum, Gayatri Chavan, Shreya Jadhav implemented app using flutter Technology [3] , Firebase is used for back-end work and Flutter is used for front-end work. The aim of this application is to expedite the adoption process for stray animals. The user, login/register, homepage, search and filter, schedule appointment, and user profile are among the various submodules that make up the main module of the system. Users can register using their email address or mobile number, verify their identity with an OTP, and grant location rights to show the closest animal shelters. Users can be organizations or individuals. The Homepage features location-based feeds of adoptable animals. In addition to scheduling appointments or chatting with organizations for questions, users may search and filter by organization, area, and pet kind. Users can edit their personal information that is kept in the database by using the User Profile submodule. An activity diagram showing the user flow from registering in and perusing pets to editing profiles and setting up appointments is part of the system design. The ability to log in, register, recover passwords, and access comprehensive. Sumit Kajbaje, Rohit Sawant, Ronit Loke and Vishwajeet Patil [4] they suggested a technology that the assists users in finding possible adopters for their dogs, which expedites the adoption procedure. It gives you all the knowledge you need to make wise judgments. To aid rescue shelters in their work, users can also donate. Users have the opportunity to schedule meetings with clients to begin the adoption process. Adopters can concentrate just on selecting their perfect pet thanks to the flawless experience provided by this technology. with an emphasis on a amount of important goals, the prototype of our pet adoption application has been generated successfully. The primary objective of this platform is to increase users' awareness regarding homeless animals in their community. Secondly, the app aims to lower the amount of stray animals put to death by making pet adoption easier. Thirdly, by offering comes to abandoned animals, the platform gives kindhearted people a chance to support animal welfare. In addition, it pushes users to tell their rescue tales, creating a network that inspires others to take part in pet adoption and care campaigns.

Prof. Dinesh Bhadane<sup>1</sup>, Pushkar Khirude, Onkar Chavan, Abhishek Lokare [5] enhance a digital platform for animalshelters that can be very beneficial in overcoming the challenges related to the pet adoption in India by increasing awareness, making resources easier to access, and improving the adoption process. According to the suggested approach, a centralized online platform would be created where animal shelters could post advertisements for pets that are up for adoption, and prospective adopters may peruse these postings. By enabling direct communication with shelters and expediting the adoption process, this platform removes the need for people to visit numerous shelters in search of a pet. The website streamlines the adoption process by offering a standardized database of animal shelters and adoption groups, which helps prospective pet owners comprehend and choose the best possibilities. By providing data on shelters around the country, it improves accessibility by allowing consumers to locate appropriate pets wherever they are. Potential adopters can make educated judgments through the use of the platform's comprehensive details regarding the animals, which includes breed, age, temperament, and medical history. Users are alerted about available adoption options in realtime, along with updates on animal availability and condition. Furthermore, by keeping track of details about the animals, their medical histories, their adoption status, and the contact information and preferences of possible adopters, the platform streamlines data administration and adoption procedures in general.

James E. Gatmaitan<sup>1</sup>, Dan Victor P. Azurin, Jhon Patrick T. Saclolo, John Albert G. Yango, Keanu P. Lorenzo, Cris Norman P. Olipas, Rachel T. Alegado have [6] implemented a ipet web application was created to help with pet adoption and support for animals whose owners are unable to care for them. Several recommendations are made to improve the ipet application according to the study's findings by using waterfall models. First off, by allowing customers to utilize the program on their smart phones or tablet computers whenever and wherever they choose, a mobile version of the program will increase accessibility and convenience. Second, adding chat options would help users communicate with one another. This would allow pet owners and prospective adopters to engage, ask questions, and share vital details about the creatures that are available. Better relationships among the application community would result from this inclusion, which would also make the adoption process more interesting. Finally, it is suggested that researchers in the future refer to the results of this study while doing similar studies on pet adoption applications. These observations can provide a useful starting point for more research. The application's functionality and user experience would be enhanced by implementing these recommendations, making it more engaging, user-friendly, and effective overall. This would be advantageous to both pet owners and potential adopters.



#### IV. METHODOLOGY

The project involves creating a solid online application with three main modules admin, shelter, and user using HTML, CSS, and PHP. To guarantee the successful deployment of functionalities and their methodical implementation, the methodology adheres to a structured approach. The first steps in defining the precise features and interactions for each module are requirements collecting and analysis. This stage involves determining use cases, user stories, and system requirements for things like adopting pets, buying products, scheduling grooming appointments, volunteering, making donations, and managing orders.

The system design step, which comes after the requirements phase, entails producing UI/UX wireframes, database schema design, and detailed architecture diagrams. The architecture provides easy navigation between modules and front-end development-friendly user interfaces created with HTML and CSS. Back-end logic is implemented using PHP, which guarantees safe data processing, session management, and MySQL database integration for user, product, adoption, and transactional data storage. Iteratively, development moves forward, beginning with the fundamental features like user registration, authentication, and basic CRUD actions for the admin and shelter modules. Features are put in place for users to look at pets, make adoption requests, set up appointments, buy products, donate, and volunteer. Admin features include recording donations, managing volunteers, keeping track of product inventory, processing orders with billing capabilities, listing pets, shelter information, adoption approvals, and tracking adoptions.

Testing is done on several levels: system testing to verify end-to-end functionality across various user roles; unit testing for individual components; and integration testing to make sure modules work together seamlessly. Through usability testing, stakeholders and potential users provide input on how to improve the application’s user interface and overall experience. To protect user data, the application needs to be set up on a web server and security features like data encryption, HTTPS, and access controls need to be set up. Following deployment, continuous maintenance, and support guarantee issue repairs, upgrades, and continuous improvement based on user feedback and changing requirements.

Agile approaches are used throughout the project lifetime to prioritize features, adjust to changes, and provide incremental updates. A scalable and user-friendly pet adoption and management platform is finally delivered through collaboration between developers, designers, and stakeholders to ensure alignment with project goals and user expectations.

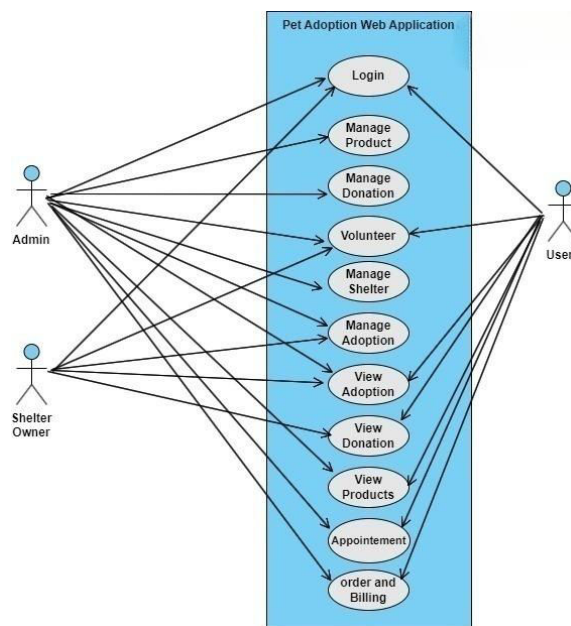


Fig. 1. Use Case Diagram



## V. PROPOSED SOLUTION

A system comprising three primary modules Admin, Shelter, and User is what the suggested solution entails creating. To improve user interaction, manage shelter operations, and expedite pet adoption, each module has particular functions. Administrators can track adopted dogs, monitor donations, register new animal shelters, add items, manage volunteers, maintain orders, and handle payment in the admin module. Owners of shelters can oversee pet data, access donations, monitor adoptions, and examine a volunteer roster by utilizing the Shelter module. For people wishing to buy goods, volunteer, adopt pets, or make donations, the User module is intended. In addition to scheduling grooming appointments, starting the pet adoption process, and volunteering at shelters, users can peruse and purchase pet-related merchandise. The system architecture makes sure that these components work together seamlessly, with administrators overseeing the entire setup, shelter owners keeping track of and updating pertinent data, and users having access to extensive information to help them make decisions. This approach helps more animals find loving homes while assisting shelters in their purpose. Additionally, it simplifies and enhances how user-friendly adopting a pet is.

## VI. IMPLEMENTATION

To create a seamless and intuitive web application, HTML, CSS, and PHP will be used in the project's construction. It will be separated into three main modules, Admin, Shelter, and User, each with distinct functions to ensure effective management and interaction. The administrative module will have a dashboard that provides a summary of all the activities, such as the quantity of goods, pets, shelters, contributions, volunteers, orders, and billing information. Product administration will use PHP scripts to handle form submissions for new product additions, updates, and deletions. HTML and CSS forms will be used for product management. PHP scripts are used to create new shelters, update details, and remove existing shelters. HTML forms will be used for registration and information maintenance. Adding and changing pet details will be done via HTML forms, and PHP scripts will handle the data. To track the adopted animals and access adoption records, along with tools for managing donations and volunteer data, adoption administration will make use of PHP. Order details will be retrieved and billing procedures will be managed using PHP, with information displayed using HTML tables.

A dashboard in the Shelter module will show details particular to the shelter. It will be responsively designed using HTML and CSS, and it will display records of pet adoptions, contributions, and volunteers using PHP scripts. Forms to add and amend pet details will be part of the pet management package for shelter owners; PHP will handle the data. Donation administration will use PHP to get and show details, and HTML interfaces for viewing donations. PHP scripts and HTML forms will be used in volunteer management and adoption to manage data and records.

The User module will have forms for registration and authentication, along with PHP scripts for password management and user authentication. Using HTML and CSS for design and PHP to retrieve information depending on location and preferences, the homepage will show dogs that are up for adoption. Purchasing a product will include visiting the listing and detail pages, and PHP scripts will handle the checkout, money processing, cart, and purchases. Grooming appointment booking will use HTML forms for scheduling, and PHP will manage alerts and appointments. HTML forms will be used for volunteering and donations, while PHP will be used for handling the registrations and handle donation processing. MySQL will be used in the database design, and tables for users, goods, pets, adoptions, contributions, volunteers, orders, and billing will be included. CRUD activities will be carried out by PHP programs interacting with the database. PHP sessions that manage user roles and permissions will facilitate smooth interaction between modules through integration. To guarantee functioning and security, comprehensive testing, including user acceptability testing, will be carried out. Any necessary modifications will be made using the recommendations. The goal of this implementation plan is to improve the experience of administrators, shelters, and users by offering a thorough and effective pet adoption platform.

## VII. OUTCOMES

The web application project was constructed with PHP, CSS, and HTML. It has many features in the admin, shelter, and user parts. In addition to adopting pets, users can shop, volunteer, give, book grooming appointments, and adopt pets. This makes it possible for the pet adoption and care system to function smoothly together. Platform operations and content are managed by administrators. Products, shelters, pet information, adoptions, donations, volunteers, orders, and payment information are all handled by them. Increased operational efficiency results from this. Owners of shelters are able to manage volunteers, contributions, dogs, and listings. Shelter management is streamlined as a result. A comprehensive pet database for online reservations and follow-ups simplifies the adoption procedure. A seamless user



experience is ensured by the combination of PHP’s dynamic content management system and HTML and CSS. Safe transactions promote active user participation on the platform and increase user trust.

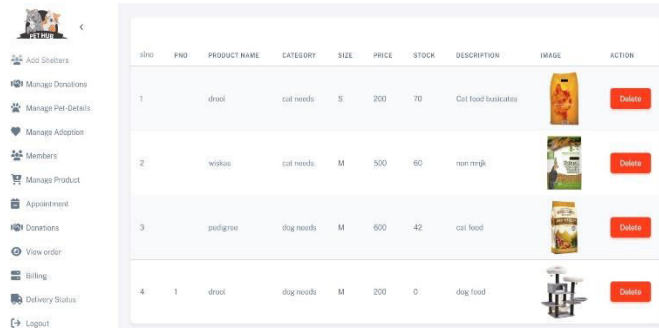


Fig. 2. Admin Module

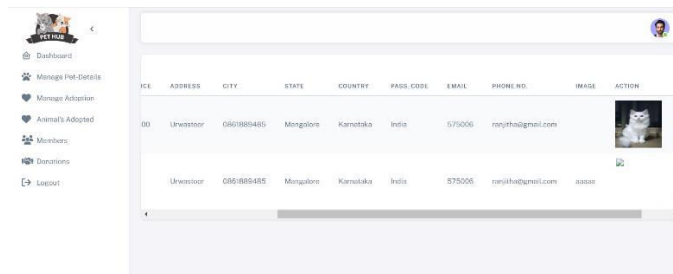


Fig. 3. Shelter Module

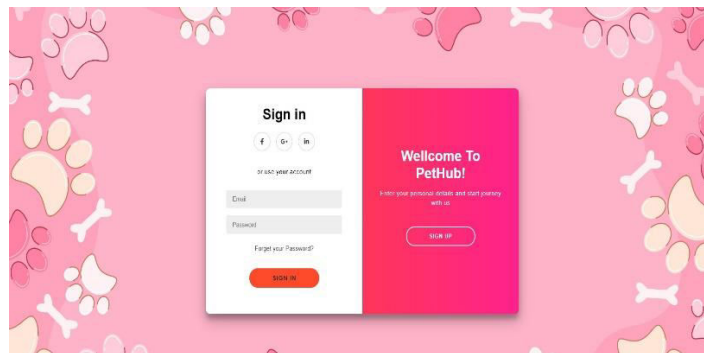


Fig. 4. user Login Page

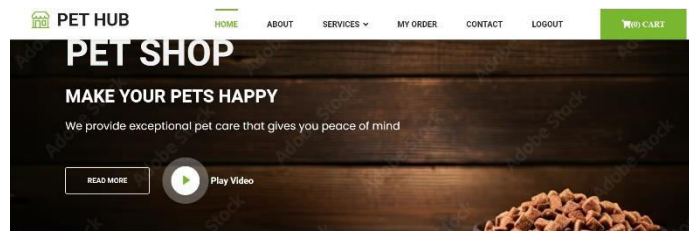


Fig. 5. Main Page

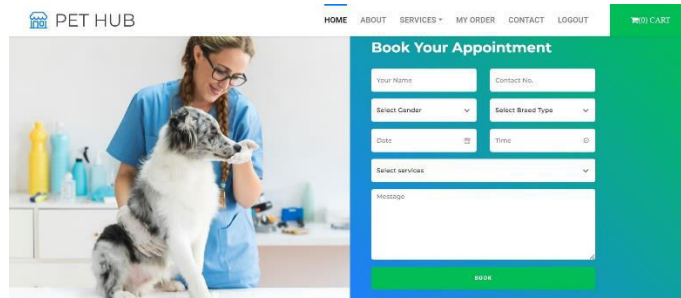


Fig. 6. Appointment Page

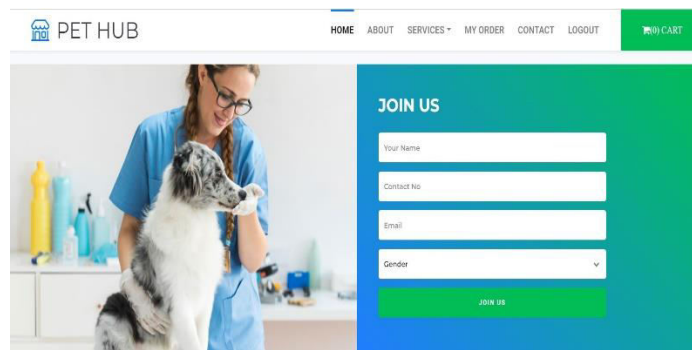


Fig. 7. Join Volunteer's Page

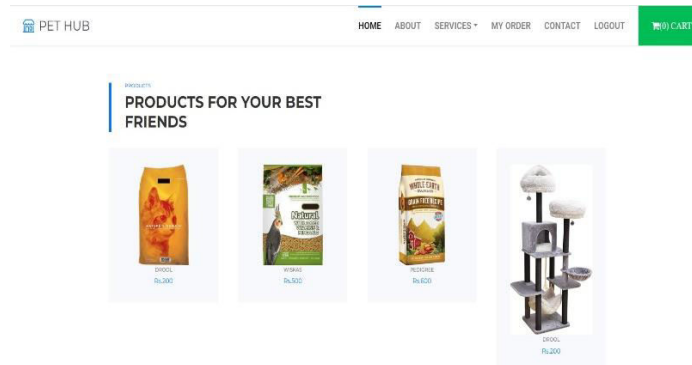


Fig. 8. Buy Product's Page

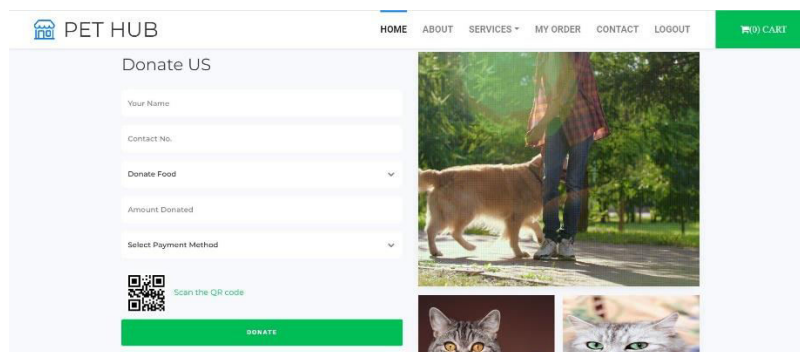


Fig. 9. Donation Page



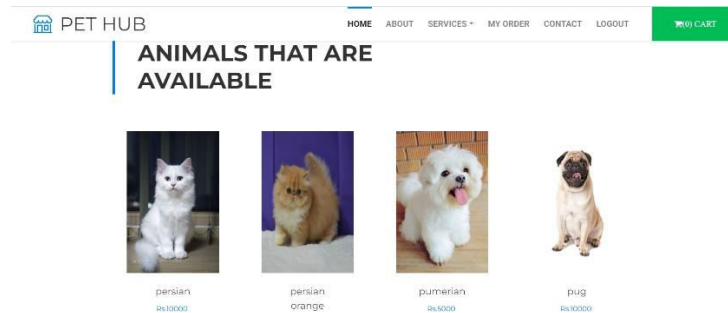


Fig. 10. Adoption Page

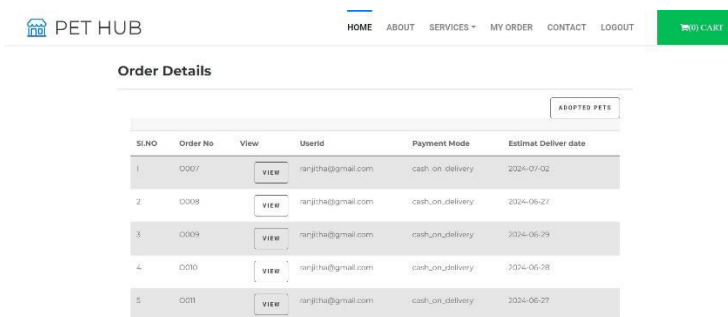


Fig. 11. View Order's Page

Users are kept informed about their activity through real-time updates and notifications. This encourages continued participation. Administrators and shelter owners can tailor services to match the needs of users by using data acquired through the platform. By connecting users, administrators, and shelter owners together to better the lives of stray and abandoned animals, the platform also promotes community engagement. Telling rescue stories inspires people to become involved and give back to the community. To sum up, our software offers a reliable, expert, and user-friendly solution for managing shelters and pet adoption.

### VIII. CONCLUSION

Using HTML, CSS, and PHP, the project sought to create a comprehensive pet adoption and administration system that would serve three primary modules: admin, shelter, and user. Users of this system can adopt pets, buy items, schedule grooming appointments, volunteer, give, and handle orders, all while facilitating an effective adoption process. Adding products, administering shelters, monitoring pet information, tracking adopted pets, viewing donations and volunteer activities, and managing orders and billing are just a few of the administrative functions available. Shelters are able to view donations, effectively manage pet listings, and keep an eye on adopted animals and volunteer activities. Future improvements might incorporate social media for community engagement, expand e-commerce capabilities, strengthen security measures to protect user information and transactions, develop a mobile application for wider accessibility, implement geolocation services for personalized shelter and pet recommendations, and integrate real-time chat features for improved communication. These developments are intended to improve user experience, optimize workflow, and efficiently assist animal welfare programs.

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