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PETMEDPAL - Pet Healthcare Web Application

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ABSTRACT

Given the rising trend of pet ownership and the increasing demand for pet care services, PetMedPal is poised to serve an essential role in enhancing the pet-human bond through technology, ultimately improving pet care outcomes. PetMedPal is a comprehensive pet care web application designed to streamline pet ownership responsibilities, while improving the health and wellbeing of the pets. The application employs a user-friendly interface to provide a variety of features including: monitoring pet health through digital pet profiles, scheduling and setting reminders` for vet appointments, vaccinations, and feeding times, dietary suggestions based on breed, age; and an easy access to the pet's profile for ease of handling which makes it different from the other existing systems. Our ultimate goal is to improve pets' health by making pet owners' healthcare administration easier.

Keywords: Pet Healthcare, Web Application, Django, Html, CSS, JavaScript

INTRODUCTION

A. Background

The development of a comprehensive pet healthcare management web system stems from the growing need for a centralized and user-friendly platform to integrate and streamline the management of pet-related information and services. This innovative solution, named PetMedPal, aims to address the current lack of such integrated platforms, offering pet owners the ability to create user profiles and access a wide range of features, including appointment scheduling, medication reminders, and data storage for their pets; medical history. PetMedPal endeavours to enhance the pet care experience by fostering efficient communication between pet owners and veterinarians while providing easy access to crucial information, ultimately ensuring the well-being of beloved animal companions. Found the necessity for an easy-to-access portal with all pet details. There aren't any current web applications that integrate all the features we deemed necessary to combine technology and healthcare, the idea of PetMedPal was created with the facility to create your own user profile, it'll allow smooth interactions between pet owners and their vets.

PetMedPal is a response to the contemporary society's growing need for effective pet healthcare management. It offers pet owners an easy-to-use platform to plan visits, keep track of medical records, and get timely reminders. PetMedPal ensures access to professional care by enabling remote consultations with veterinarians through the integration of telemedicine services. Proactive pet healthcare is enabled by the platform through community interaction and monitoring of pet health data

B. Motivation

Personal passion and love for animals and a desire to improve the well-being and quality of life for pets helped us to come up with this project. The need for a comprehensive and easy-to-access portal for pet details has become increasingly apparent in today's digital age. Currently, there is a noticeable gap in the market, with no existing web applications that integrate all the essential features pet owners and veterinarians require. This gap inspired the creation of PetMedPal, an innovative platform designed to bridge the divide between technology and healthcare in the pet industry. The platform will offer a user-friendly interface that allows pet owners to create their own profiles, which can be populated with their pet's essential information. This feature is particularly useful for streamlining interactions between pet owners and their veterinarians. It enables pet owners to easily share their pet's medical history, appointments, and other relevant information with their veterinary professionals, fostering more efficient and personalized pet healthcare.

C. Objective

The aim and objective of the PetMedPal web application are to comprehensively address the challenges faced by pet owners in managing their pets' health and well-being. The primary goal is to provide pet owners with a user-friendly interface that makes it easy to schedule appointments and connect with veterinary professionals, thus fostering efficient and effective communication in the pet healthcare process. It has a user-friendly interface, helps in scheduling

appointments, and connecting with veterinary professionals alongside of this the PetMedPal web-app aims to integrate advanced features, such as AI-driven health diagnostics and real-time health monitoring devices.

LITERATURE SURVEY

An automated pet feeder [1] including a web application interface, providing the options to "Schedule feed" for later feeding times and "Feed now" for immediate feeding. In order to meet their requirements and generate employment opportunities, the study suggests a platform that links pet owners with service providers [2]. One of the limitations is the difficulty of taking into account different search circumstances and service factors all at once.

With an emphasis on convenience, the paper[3] suggests a holistic platform that meets the demands of pet owners by providing services such pet food procurement, accessory sales, and adoption. It makes use of HTML, MySQL, and mapping services and stresses adaptation to changing mobile trends, emphasizing the need for a segmented development strategy. User registration, login, and database integration are highlighted as important features and technological advancements for a pet care program [4]. It emphasizes the significance of comprehensive testing for MVC separation and security by enabling easy online appointments for veterinary care and the purchase of pet supplies.The study presented in [5] looks at the variables impacting dog owners' choices about pet health insurance and how much and how often they use veterinarian care. It provides thorough insights into a range of dog and owner characteristics, such as insurance status, in addition to particular elements like sleeping arrangements and financial stress, enhancing our comprehension of the dynamics of pet healthcare.

A comprehensive review presented in [6] helps to assess the proposed models and contrasts the effectiveness of the topic model-based personalization method with that of a baseline model. The paper [7] explores strategies for combining evidence and specific examples to pair users with pertinent products while taking changing user preferences into account. It also goes over the process of creating user profiles, with a focus on how to keep user profiles accurate, unique, and diverse by choosing events that are instructive and integrating a variety of algorithms.

The Pet Care Android Application [8] has features like temporary adopter placement, feeding reminders, and guidance on pet maintenance. The system's key benefit includes raising pet safety awareness and upholding the Pet Safety Act. Significance of user profiles in recommendation systems [9] are emphasized. It covers different strategies for addressing the privacy concerns related to user profiling. Informal learning mechanisms used by developers are examined [10], with a focus on using other people's code as a model for learning instead than just copying it. It also discusses issues with authoring environments and points out online learning alternatives. The paper [11][12] sheds light on the value of pet care and the ways that contemporary technology may both improve the standard of care that animals receive and make it easier for their owners to take care of their cherished companions. In order to promote client-veterinary relationships and animal health, the paper [13] examines how pet owners utilize the internet to research pet health issues. It emphasizes the necessity for veterinarians to assist clients in finding trustworthy online resources. It addresses the kinds of information that people look for online, how to find it, and obstacles such skewed survey findings. It emphasizes how crucial it is to have access to reliable information. Recommender systems optimize recommendations by utilizing dyadic interactions and combining evidence from selected instances and other sources as stated in paper [14]. It emphasizes the significance of precise user profiles and describes a two-step procedure for feature discovery and model design in order to improve system performance.

PROPOSED SYSTEM

A. Problem Statement

We aim to create a pet healthcare mobile application to solve the issues of existing apps like- lack of centralized and user-friendly solution and offer a user-friendly platform.

B. Scope

The scope of this project is to create a pet healthcare web application that makes it easier for pet owners to access their pet's information easily. It aims to address various aspects of pet care, providing a centralized platform for pet owners to manage their pets' health, well-being, and related services. Through this project we aim to help pet owners to avail a range of services for their pets through a user-friendly interface. We have also integrated a calendar to update the vaccination appointments and a bmi calculator in order to check if their pet is in the healthy range.

C. Problems with existing system

To make a user-friendly web page with most of the features for the owners to access the page that fulfil all their requirements we first did some research on the existing system on pet health care. While doing this research we found some features weren't available in the existing websites like

    I.   Vetic- Though this web page had the feature of booking vet appointments, it consisted of limited scope of animals. Services only for cats and dogs along with too many advertisements on webpage made it difficult to navigate.

    II.   Pet Health Network - In this web page mostly concentrated on the current affairs and updates of animal healthcare but the information provided was incomplete along with no other features present on the page.

    III.   The Petcare - This web-page included both Services and products for Pets but the features provided weren't sufficient from a pet owner's perspective. Only offers products like a shopping service doesn't have any service like vet services, grooming services, etc

D.   Features

I.   User Registration: Users can create profiles with personal information, including name, gender, contact details, and address.

II.   Pet Registrations: Pet owners can register their pets, providing details such as pet name, age, gender, breed, and any relevant prior medical information.

III.   Medical Services: PetMedPal enables users to schedule appointments with veterinarians. It provides information about the nearest veterinary clinics, helping users find healthcare services for their pets. Vaccination details, including reminders for upcoming vaccinations and a history of past vaccinations, are readily available.

IV.   Wellness: Users can input information about their pets' living conditions, grooming needs, and walking requirements. This section assists pet owners in managing their pets' daily well-being and ensures they are comfortable and healthy.

V.   Diet Consultations: PetMedPal offers nutrition-related features, including information on dietary needs, BMI (Body Mass Index) tracking, and guidance on foods to avoid.

E.   Technology Stack

I.   Frontend: HTML, CSS, JavaScript, and further scope includes a frontend framework like React for a responsive and interactive user interface.

II.   Backend: Python Django

III.   Database: SQLite for data storage and retrieval.

F.   Experimental Setup

Flowchart of System that is presented in figure 1.1 gives a short brief of our entire project. This figure explains the steps along with main features of the web application. It shows the next step when you start the process of registration of the pet and the owner. Here we have also put up the services that we offer along with the information related to it.
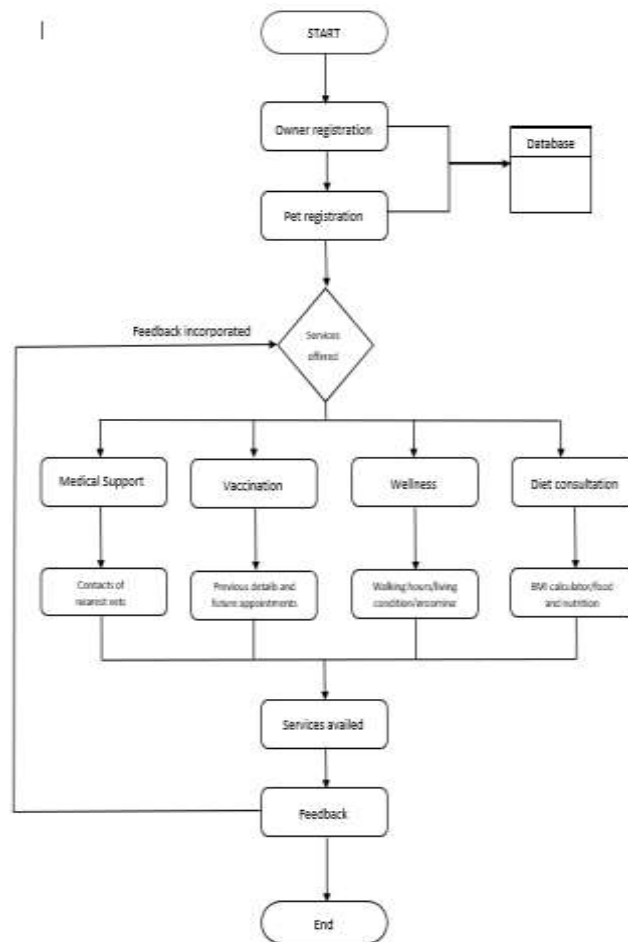

Figure 1.1 Flowchart of system design for PetMedPal

G. System Architecture

The system architecture of the proposed application is depicted in figure 1.2. The application first provides an option for the user to register and then login to that account to access the services required. The id and password are stored in a database to provide security in access. The next module used is Owner and Pet Registration that allows users to enter details of their pets and themselves so that it can be accessed easily. The Services module includes 4 sub types, including vaccination, medical support, wellness and diet consultation. Finally, the feedback is taken from the user and it is incorporated into the system to make the application better.
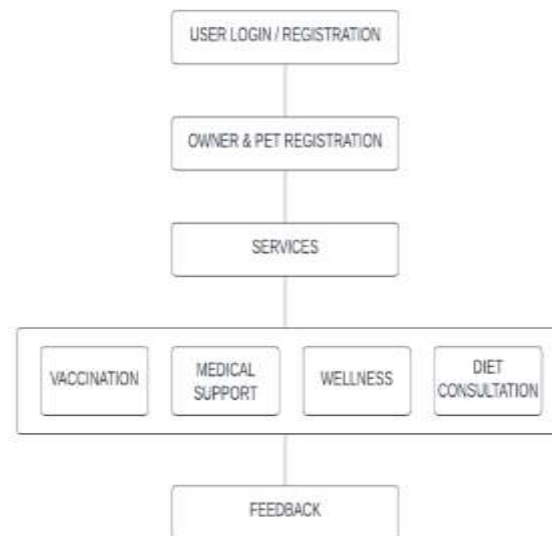
Figure 1.2 System Architecture for PetMedPal

H. Web Designs

The front end of the web design is shown in figures 1.3 i.e. Wellness, figure 1.4 for depicting the BMI calculator and figure 1.5 for depicting the calendar for tracking the vaccination schedule, etc.

I.   Wellness Page: Once the account is created, the user will be able to access all the services on the web page. We offer 4 basic services, namely Medical Support, Vaccination. Wellness and Diet Consultation. Select the required services, for example medical support. This further has more services available.

Figure 1.3 wellness page

II.   BMI Calculator: We have also integrated the BMI calculator for pets so that the user can check if their pets are in perfect health or not. Further if required we also provide diet consultation for the pets based on the research we have undertaken.

Figure 1.4: BMI calculator

III.   Calendar: User can add previous vaccination of the pet and also the get the notifications of the pet's due vaccination.
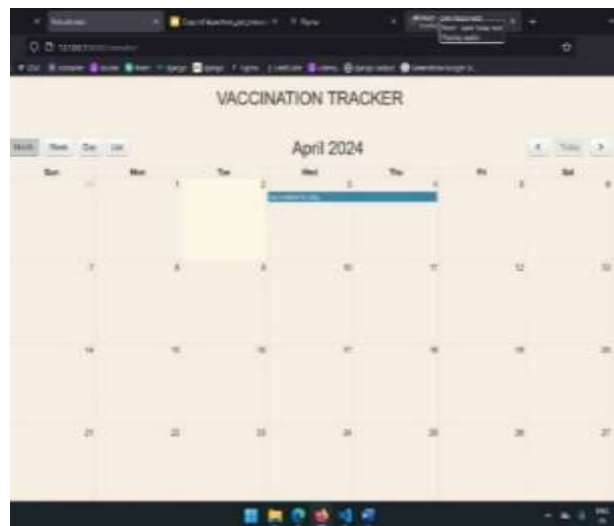

Figure 1.5: calendar

RESULT AND DISCUSSION

This Project is focused on making it easier for pet lovers to access and utilize their pets' details and veterinary documents. It also provides a wide range of features like Exercise details, Vet Appointment reminders and more. In order to make the web-page more efficient we have also integrated GPS for the near-by vet locations along with integration of the calendar to book the appointments with the doctors for the pets. Key considerations for users include data security, regular updates, cross-platform accessibility, and the cost structure. These applications are essential tools for modern pet owners, offering convenience and peace of mind in caring for their beloved animals.

The functionality of our website can be inferred from the following figures.

I.   Registered User: Here the image displays the names of the registered users in the database as shown in figure 1.6
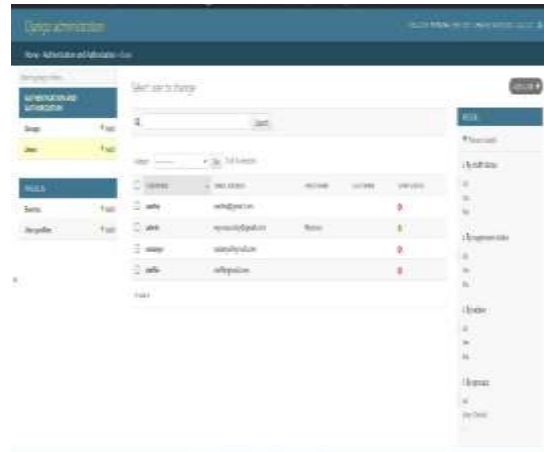
Figure 1.6: registered User

II. Vaccinations: Here the image displays the vaccination appointments that is filled in by the owner of the pets as shown in figure 1.7. This will be supported by proper schedules to track the future vaccinations.
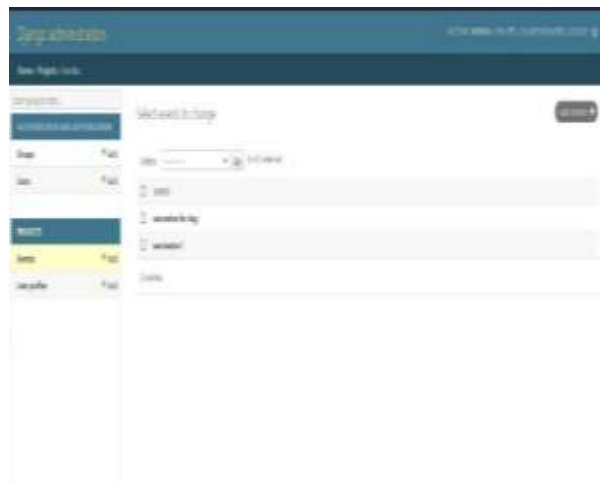

Figure 1.7: vaccination appointments

III. User profile with their details: Here the profile of the users along with their details filled in by them are made available in the backend as shown in figure 1.5. This user profile will be available to administrator and the notifications can be given to the user based on the requirements.
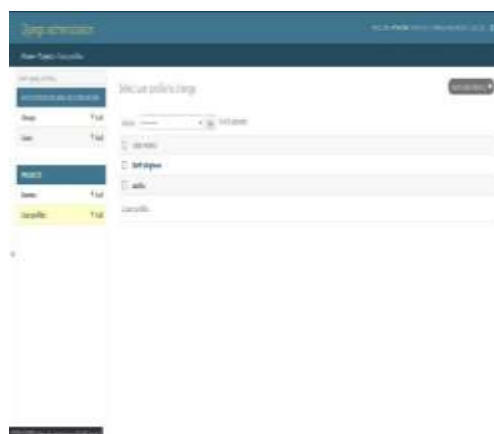

Figure 1.5: user profile and their details

CONCLUSION

PetMedPal presents a promising solution to the challenges faced by pet owners in managing their pets' health and well-being. By offering a user-friendly and centralized platform, it aims to streamline pet healthcare, enhance communication with veterinarians, and promote proactive and efficient pet care.

As the pet healthcare industry continues to evolve, PetMedPal is well-positioned to adapt and offer innovative solutions. By addressing the needs of pet owners and their beloved animal companions, it has the potential to make a meaningful impact on the pet care experience, ultimately ensuring the well-being of pets and strengthening the bond between pets and their owners.

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