

Enhancing the existing pet health monitoring and food habit management system with an efficient and modern application

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Abstract -Nowadays technologies based on Android Operating System making a high impact on people. As it provides instant services or responses to users. The proposed paper is about an android based application that has a straightforward and user's friendly interface, easy to access, and well-organized content that provides services for pet animals and stray animals. The reason behind this proposed system is lots of people find difficulty in taking care of their pets or few people want to help any stray animal so they can do it from this platform. The Android-based application has mainly three sections: Veterinary Doctor's Contacts, Food Item's and Rescue Team Contacts which are easy to use and it provides location tracking to search nearest veterinary hospital to reach faster. This application not only helps pet owners but also encourages people to help and save the lives of stray animals too.

Key Words: Veterinary Doctor's Contacts, Food Item's Section, Rescue Team, Location Tracking, Mobile Application.

1. INTRODUCTION

Between September 28 and October 9, 2020, a survey of 3,258 pet owners was commissioned by the global animal health association, HealthforAnimals, and global healthcare communications consultancy Pegasus, an Ashfield company, part of the UDG Healthcare PLC. The results showed that the Covid-19 pandemic is leading to delayed or missed care for pets in many countries, which is causing some veterinaries to worry that pet health may suffer as a result. And pet owners are also worried because they feel helpless for their pets. Due to such an increasing number of issues, it needs to be solved adequately. So, to provide proper health care without any confusion we proposed this paper. This paper shows the design of the mobile application based on Android to carry out activities related to the pet like if you see any stray animal or any pet which needs help then from this application you can find the contact number and help that pet. The proposed system consists of three main sections are Veterinary Doctor's Contacts, Food Item's, and Rescue Team Contacts. The system also allows users to help injured stray animals. With the platform provided, it will be a lot easier for people to look after and provide help to their beloved pet animals. Also, pet owners get other services like a guide for how to take care of pets, which food can give them, which medicines are helpful for them in different circumstances. The proposed applications frequently serve to provide users with related

essential facilities in health management not only for home pets but also for stray animals. Therefore, this project aims to implement Pet Health Monitoring and Food Habit Management system with an efficient and modern application which will help people for taking care of their pet easily. It will advise the user to upkeep, feed, and take proper care of their pets.

2. Body of Paper

The proposed system frequently serves to provide users with related essential facilities in health management not only for home pets but also for stray animals. This Android Application stores the description of the Rescue team, Food items, and Doctor's contact number which makes it users easier to find the best service for their beloved pet. It contains three components: Veterinary Doctor's Contacts, Food Item's, and Rescue Team Contacts. Pet owners can easily get an idea about food and medical help needed for their pets. For pet care, the user will also get a service of doctor recommendation through which user can operate their pets from home if it is possible. Different Rescue teams and doctors' contact numbers information is stored securely using a database which makes it users easier to use this facility for their pet of their choice by contacting them. New pet owners can easily find which food should be given to their pets through this application. Users can get the following help requested by them any time. In this study, the mobile application architecture includes the following headings:

- User Registration
- Creating Pet Profile
- Adding post
- Veterinary Doctor's list
- Rescue Team
- Food Items

All the above services are provided just by registering to the application, all the user details are stored safely and securely in a database. After that, a user has to create a pet profile and fill in the entire required information. If it is a stray animal, then there is no need for such profile creation. It will provide the nearest veterinary hospital addresses to the user. If it is an injured stray animal, then by sharing the location with the rescue team, they will reach out to that location for helping purposes.

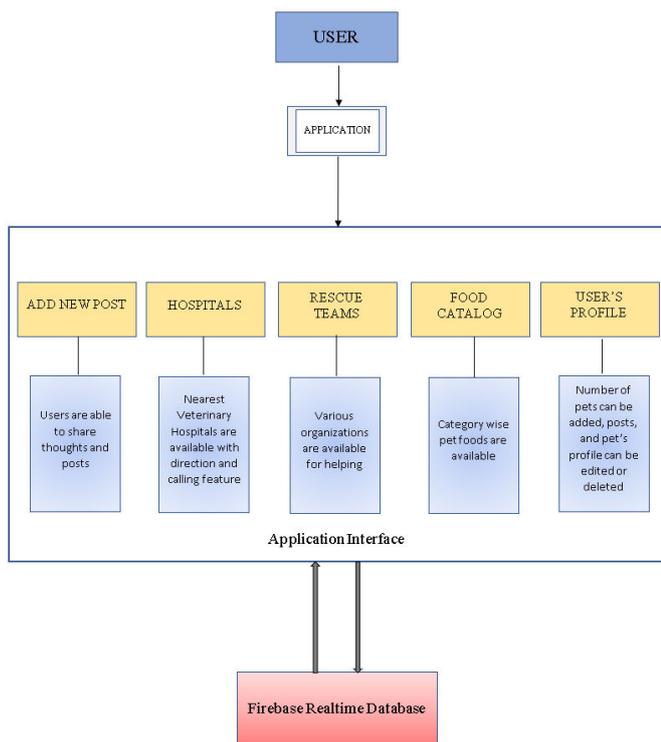


Fig:1. Block diagram of the system.

Representation of data in the application is provided by connecting the server. And the whole process is running on the internet.

STEPS TO FOLLOW

1. Firstly, the user has to register with this application by providing their little information. The system ensures that the information is stored safely. It provides user authentication in which user gets authenticated by their email and phone number. After registering, the user has to create a pet profile in which the user has to provide a few information like a pet name, category, photo, gender, age, and other things. The entire provided information is stored safely and securely in a database.
2. Veterinary Doctor's page contains information about the doctor. It also contains a location tracker which will provide a route to the hospital from your location.
3. Food Page categorized according to animals or birds. After clicking on the prescribed option, it will take you to another page that will contain a food list.
4. Rescue Team Page contains information about several teams, which will come to you for help. As you click on the calling function of any team it will get redirected to the dialing pad and you can ask for help by telling your location.
5. One Post Page is also there which will allow the user to do a post related to animals.

SOFTWARE USED

Android Studio

Android Studio is the official Integrated Development Environment (IDE) for Android app development, based on IntelliJ IDEA . On top of IntelliJ's powerful code editor and developer tools, Android Studio offers even more features that enhance your productivity when building Android apps, such as a flexible Gradle-based build system, fast and feature-rich emulator, unified environment where you can develop for all Android devices, Extensive testing tools and frameworks, Lint tools to catch performance, usability, version compatibility, and other problems, Built-in support for Google Cloud Platform, making it easy to integrate Google Cloud Messaging and App Engine.

DATABASE USED

Firestore Realtime Database

The Firestore Realtime Database is a cloud-hosted. Data is stored as JSON and synchronized in Realtime to every connected client. When you build cross-platform apps with our iOS, Android, and JavaScript SDKs, all of your clients share one Realtime Database instance and automatically receive updates with the newest data. The Realtime Database is a NoSQL database and as such has different optimizations and functionality compared to a relational database. The Realtime Database API is designed to only allow operations that can be executed quickly. This enables you to build a great Realtime experience that can serve millions of users without compromising on responsiveness.

MODULES

Registration Module

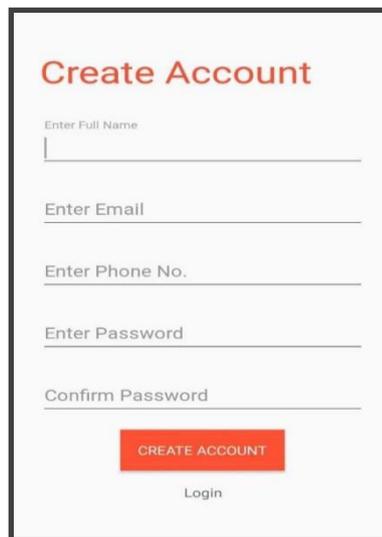


Fig:2. User registration page

The registration module is created for doing registration of users. On this page, a user has to fill few details like Full Name, Email, and other things. This entire data is called authentication credentials. For the creation of the registration page, XML (eXtensible Markup Language) file and Java class file are used.

Pet Profile Module

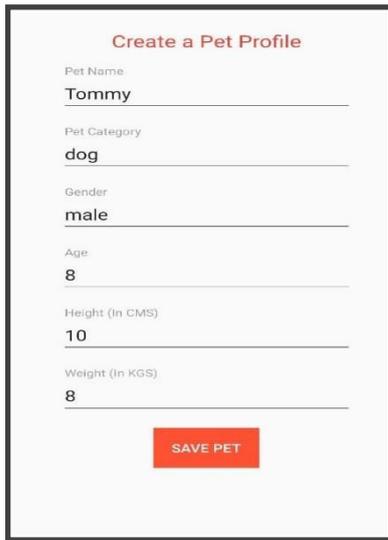


Fig:3. Pet Profile page

The Creating Pet Profile Module is for pets. The user has to create their beloved pet's profile by filling a form that includes Pet Name, Category, Height, Weight, and many more. After clicking save, a pet profile will be getting created. This page is created using XML files and Java class files.

SignIn Module

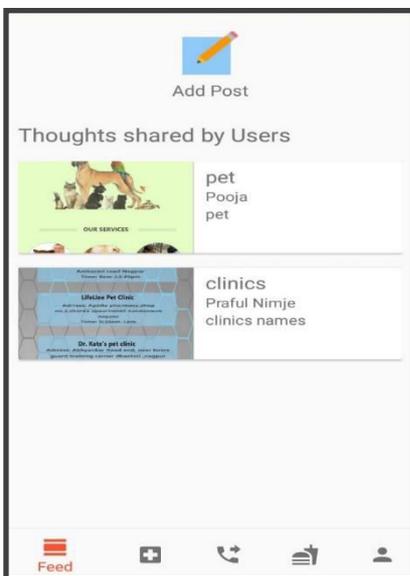


Fig:4. SignIn Page

Through Sign In page, users can get into the application easily just by entering registered email and password. It Authenticates users with their email addresses and passwords. The Firebase Authentication SDK provides methods to create and manage users that use their email addresses and passwords to sign in. Firebase Authentication also handles. This is created by using an XML file and Java class file.

User's Profile Module

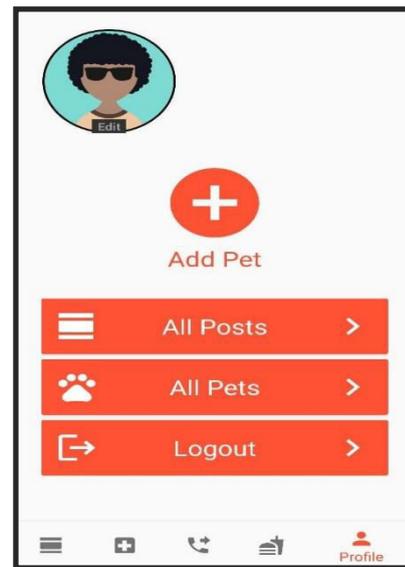


Fig:5. User's Profile page

On the User's profile page, there are few sections like All posts, All pets, and Logout. It also contains an option to add a pet. Through which users can add details about any pet animal. All post sections will include all posts created or posted by a user. All pets section will include data about the number of pets added by a user.

Add Post Module

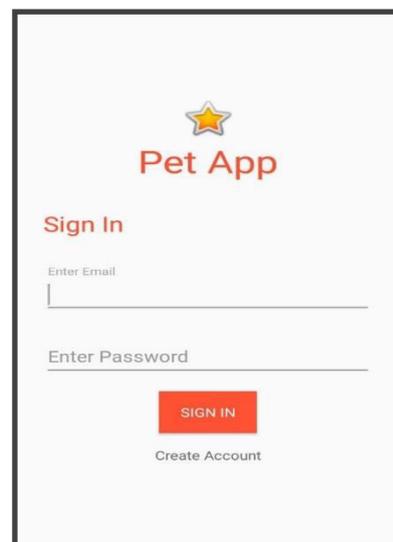


Fig:6. Add Post page

On this page, user can post their views or thoughts about animals. For creating a post, they have to add a title, caption, and picture. The entire data on the post will get stored in a database which is the Firebase Realtime Database. The Firebase Realtime Database uses data synchronization every time data changes.

Veterinary Doctor's Module

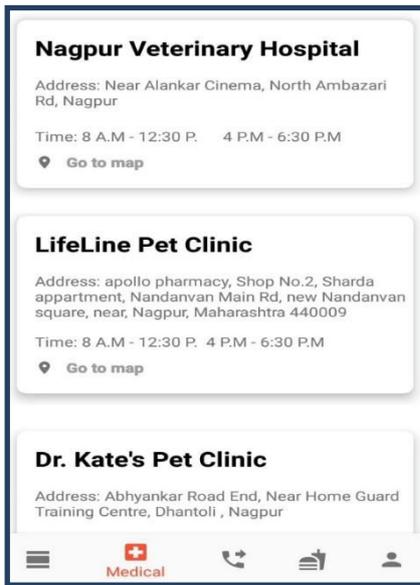


Fig.7. Veterinary Doctor's Page

On Veterinary Doctor's Page, details about doctors are mentioned like the Doctor's Name, Hospital Name, Contact Number, Address, and other details. The user can contact any doctor from home and ask their query. A Location Tracking feature is also provided that will help users to reach out to the nearby hospital. So, in an emergency user can take their pet to the hospital.

Food Item's Module

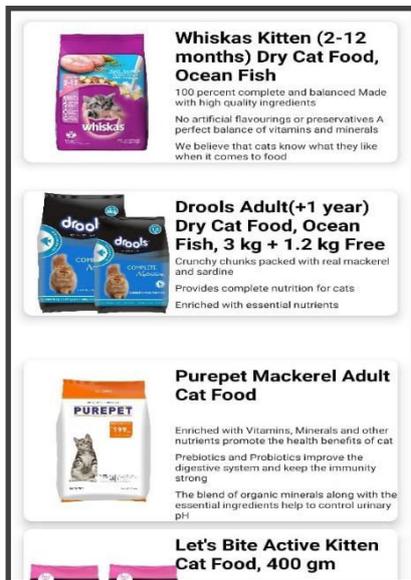


Fig.8. Food Catalogue Page

Food Item's Page is for guiding users, which food they can feed to their pets. This page contains categories like dogs, cats, fish, etc. Users can opt for food according to the given category easily. As the user clicks on the required category, they will get a food catalog.

Rescue Team's Module

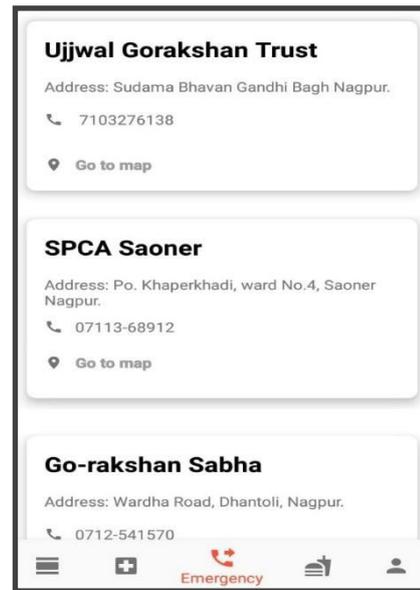


Fig.9. Rescue Team Page

On Rescue Team Page, details of rescue teams like Team Name, Contact Number, Address are provided. As any user help, they have to just click on calling the function, and it will get redirected to the dialing pad. As you share your location information a team will reach you as soon as possible.

3. CONCLUSIONS

This "Pet Health Monitoring and Food Habit Management system with an efficient and modern application" will contain the Doctor's contact details, Rescue team contact details, and Categorized food items catalog that will help people for taking care of their pets easily. If they need any veterinary doctor's help so they can easily contact them by using this application. It contains a feature of location tracking that will help users to find a nearby veterinary hospital. If any person wants to help an injured stray animal so they can ask for help with this application by using the rescue team feature. It also allows users to share their thoughts by posting it on application about saving an animal or how they take care of their pets and many more. In the future, we will provide recommendations for hospitals and food for user's pets by notifying them through SMS.

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