

**ANIMAL LOVER: A MOBILE APPLICATION FOR DOMESTIC
ANIMAL/PET CARE**

BY

NAME: MD. ABU SAYEM

ID: 172-15-10146

NAME: Safia Khatun

ID: 172-15-9933

&

NAME: Rakib Uddin

ID: 172-15-10162

This Report Presented in Partial Fulfillment of the Requirements for the Degree of
Bachelor of Science in Computer Science and Engineering

Supervised By

Mr. Ahmed Al Marouf

Senior Lecturer

Department of CSE

Daffodil International University

Co-Supervised By

Shah Md. Tanvir Siddiquee

Assistant Professor

Department of CSE

Daffodil International University



DAFFODIL INTERNATIONAL UNIVERSITY

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APPROVAL

This Project titled “ANIMAL LOVER: A MOBILE APPLICATION FOR DOMESTIC ANIMAL/PET CARE”, submitted by MD. ABU SAYEM, ID No: 172-15-10146 and Safia Khatun, ID No: 172-15-9933 and Rakib Uddin, ID No: 172-15-10162 to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 11 September, 2021.

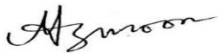
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Daffodil International University



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Supervised by:



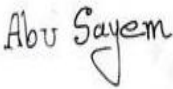
Ahmed Al Marouf
Senior Lecturer
Department of CSE
Daffodil International University

Co-Supervised by:



Shah Md. Tanvir Siddiquee
Assistant Professor
Department of CSE
Daffodil International University

Submitted by:



MD. ABU SAYEM
ID: 172-15-10146
Department of CSE
Daffodil International University



Safia Khatun
ID: 172-15-9933
Department of CSE
Daffodil International University



Rakib Uddin
ID: 172-15-10162
Department of CSE
Daffodil International University

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Finally, we must acknowledge with due respect the constant support and patients of our parents.

ABSTRACT

Mobile Technologies are making a huge impact in our daily lives with an advancement technology, a rule based expert system allows the end-user to enable new types of systems. Especially the availability of Android OS based more user friendly GUI and economical smart phones gives new possibilities for a continuously monitoring of pets such as dogs/cats. Animal Lover is an android application which is an animal or pet care system. This system aims to provide a non-cumbersome way to take care of your pets based on mobile apps. We are half the design approach and functional component of this system. The system was developed on the basis of domestic pet experts as well as animal lovers. The results were divided into two parts: the development of a mobile app for animal lovers and veterinary doctors/medicine analyzing the applications' functions through research objectives. It's true that Human being is the best creation by Allah. But nature has to adapt all kinds of lives for all's goodness. As humans, we can make our own things perfect but the others can't. This project is driven to guide the daily necessities of pets like food, doctor, healthcare etc. Proposed project also connects with the 'Adopt' system where anyone can share an adoption post for the poor souls. People can take advantage by creating a profile. Containing some Blogs will deliver good knowledge to the owner. This app is secured through authentication measures and uses a current database to keep records updated all the time.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Pet is a domestic animal. The pet population in Bangladesh has grown from 1 million in 2015 to 2 million in 2020. On an average 20,000 pets are adopted every year. Now a days, petting is just not only from financial point view but also became a new trend. Sometimes having a pet can be a stressful and exhausting experience. So to tackle this situation, this application can make it easier and non-exhausting way to take care of your pet. Lots of location based application are growing up by mobile devices with GPS. No pet-care systems and application are available in Bangladesh yet. With recent advances in information technology, smart mobile device can be used to take advantage to advice and guide what kind of care needs to be taken and also provide easier way to solve the problem which is faced by owner of the pet. When facing trouble with your pets, this application can be used. People who want to sell their pets can request for to adopt their pets and the interested people who want to adopt pets will response on the request. This application is easily accessible on mobile phones at anytime and anywhere.

1.2 Motivation

At present, the number of animal lovers in Bangladesh are increasing day by day. But taking care of pets can be troublesome. And to solve the issues, our app/work will create a bond between people with the total cooperation of animals. We will provide food lists for each probable pets, disease and cure solution, animal adopting option, blogs containing knowledge on pets and information of the pet doctors. We want to be known as a shelter for those animals who want the least love from humans.

1.3 Objective

The world's nature is being changed and people are becoming helpless day by day. We hope that our project will provide support who loves animals and pet them. Because by using this app, they will be able to know the preferable foods for their pets, what to do when their pet will suffering from a disease, a list of pet professionals contact info, also a feature for those who want to have pets and those who want to sell them.

1.4 Expected Outcome

Through the application, pet owners will learn how to take care of their pets properly and those who want to adopt pets, can look for their desired animal and adopt them.

1.5 Report Layout

Chapter 1: Introduction

This chapter describes work inspiration, motivation, project objective and outturn of the program.

Chapter 2: Background

The background is important and this chapter discusses the background related work such as comparison with other projects and finds out the problem of the project, the challenges which are face to do the project.

Chapter 3: Requirement Specification

This chapter defines many important things of the project are requirements such as the use case model, business process modeling and the logical database.

Chapter 4: Design Specification

The purpose of this chapter is the design of the project. Two types of design which are front-end design and back-end design for this project.

Chapter 5: Implementation and Testing

This chapter shows the implementation and testing system of the project by the project screenshot. After completion of any project, testing data and its success tell is the project ready to live.

Chapter 6: Impact on Society, Environment and Sustainability

This chapter, we covered impact on society, environment, limitations obstacle and achievement.

Chapter 7: Conclusion and Future Scope

Every project has some limitation and how it can be overcome and also the future implementation scope is discussed in this chapter.

CHAPTER 2

BACKGROUND

2.1 Introduction

Internet has changed the world in a significant way. In this modern world, we are becoming more and more dependent on online based technology. We rely on the internet for each and everything in life. We have tried to make an android application named Animal Lover which will make easier to maintain pets, also to adopt pets.

2.2 Related Works

Animal Lover is an android application which is implemented to help the animal lovers and pet owners. In Bangladesh, there is no other app like Animal Lover.

2.3 Scope of the Problem

People have been deceived by many online service providers a lot and they might fear of being conned. It is difficult to trust people on internet, especially when people are seeing a post for adoption of a pet, people might think that the information on that pet might not be real.

2.4 Challenges

Every task has challenges. When we were developing this project, we have faced some challenges and tried our best to cope up with them. Some main challenges are described below:

1. Lack of internet connection might be our main challenge as Animal Lover is an online application.
2. We should build our application properly and make sure it works smoothly and also user friendly.
3. Making our system fully secured.
4. Data privacy and maintenance is one of the most challenging issue for us.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Business Process Modeling

In this section, we will discuss the main structure by the business process model of the Animal Lover which defines the workflow of the applications.

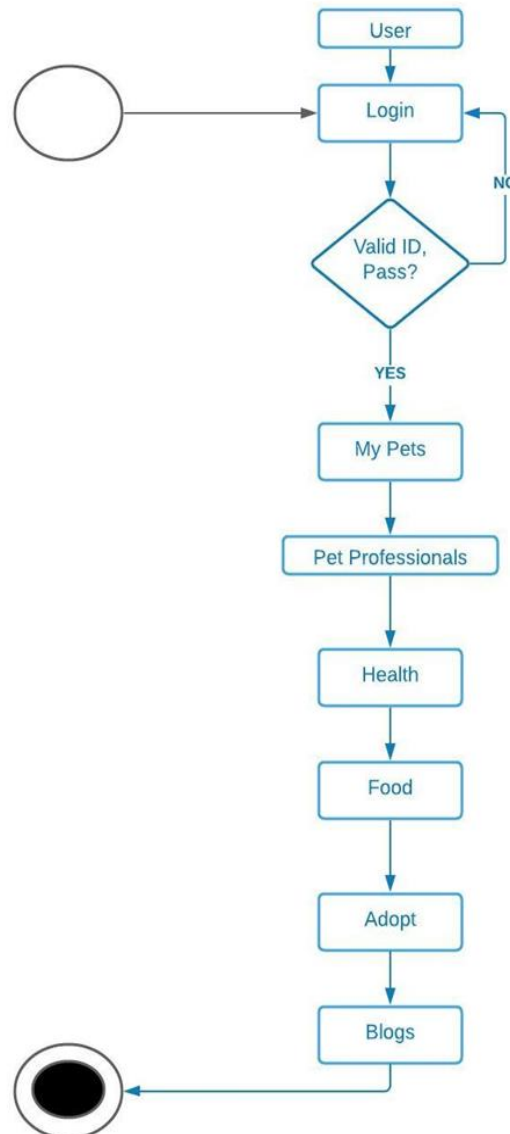


Figure 3.1: Business Process Modeling

3.2 Requirement Collection Analysis

Developer is the one with the highest power. He can add, update or delete pet professional's info, health section, food information and blogs. A user can add, view his pets, pet professional's info, health section, food information, and blogs and adopt/sell his pets.

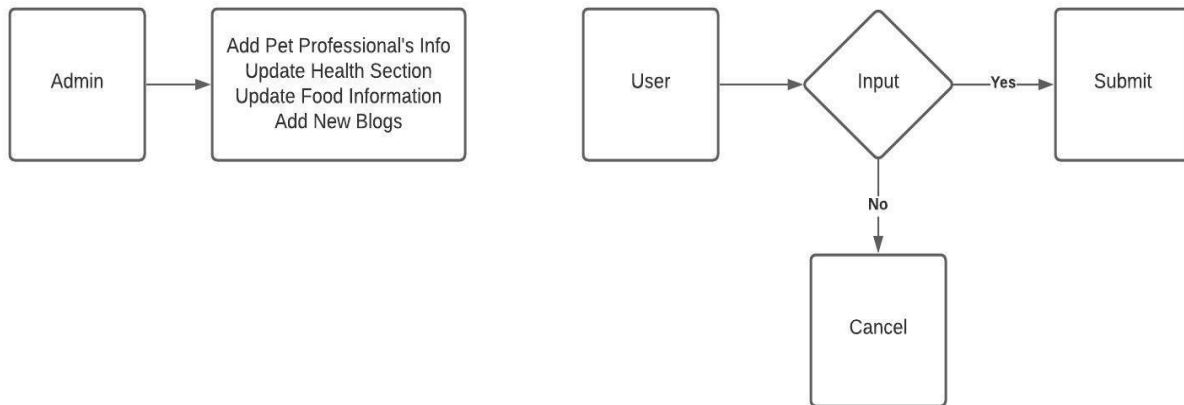


Figure 3.2: Requirement Collection Analysis

3.3 Use Case Modeling and Description

A use-case model is a model of how different types of users interact with the system to solve a problem. First of all, a user has to create an account, then he might add his pet, view health section, pet professional's information, view blogs, view food list for pets, sell or adopt a pet.

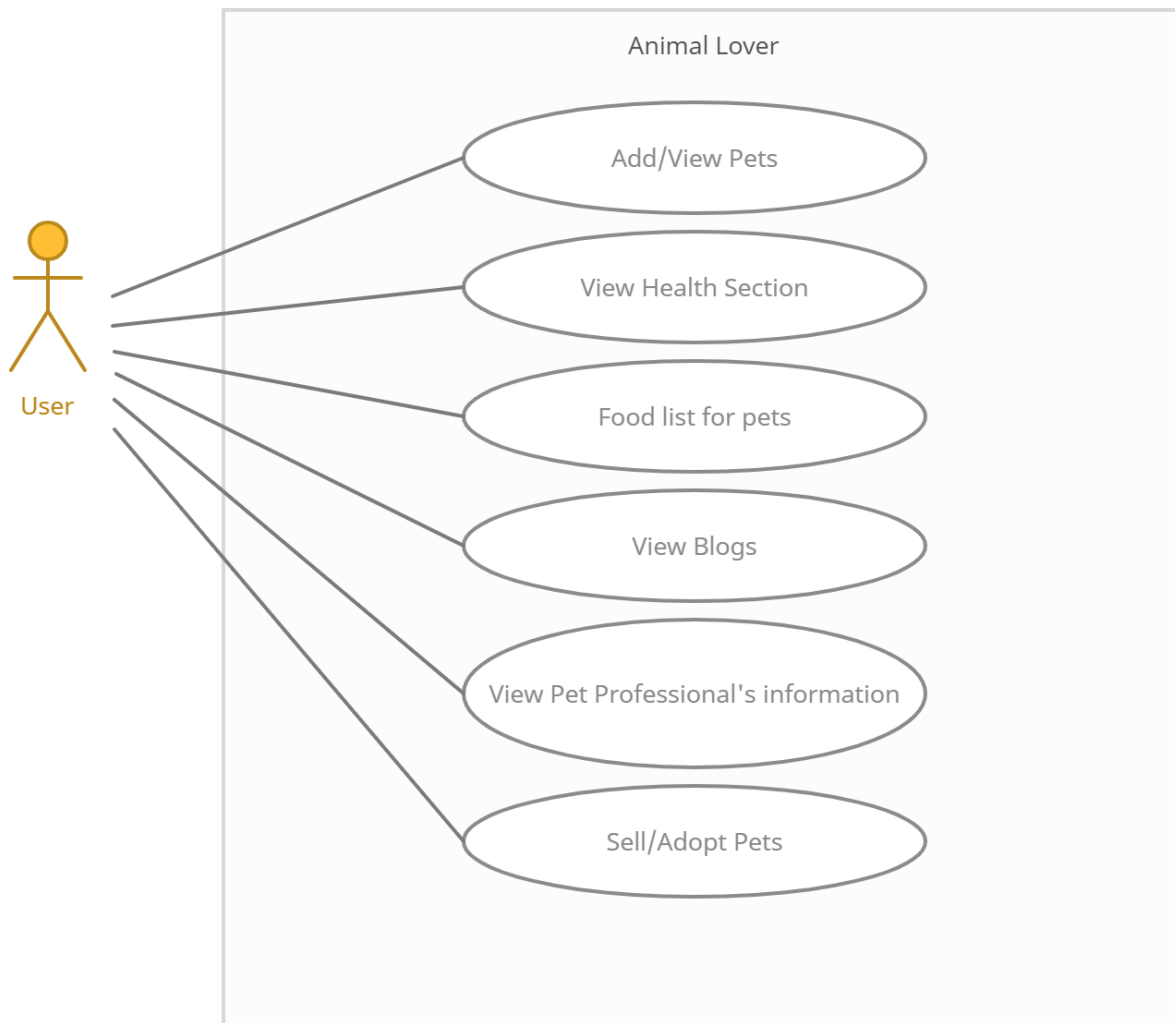


Figure 3.3: Use Case Modeling and Description

3.4 Logical Data Model

All the data will have to be in the database which is shown in Logical Data Model figure and it will be the current time responsible. Data will transfer from database to android application.

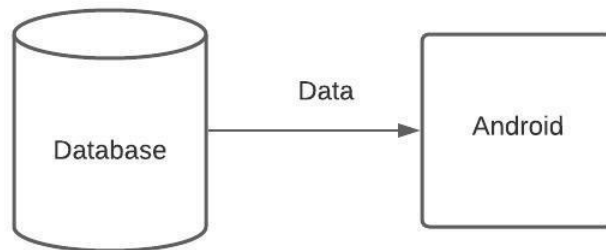


Figure 3.4: Logical Data Model

3.5 Design Requirements

Design requirements are very important for mobile application. It attracts the user to use. So, to complete the design, we must have mobile application design skills. For this, we have to know the various types of computer programming languages and design tools like adobeXd. Market analysis can be a good trick for the design. We have to give proper attention to design the database so that it works appropriately and easily.

CHAPTER 4

DESIGN SPECIFICATION

4.1 Front-End Design

Front-End is the place where the user interacts. So, considering this factor, we have created a user friendly and smooth design. Every user can easily use this application.

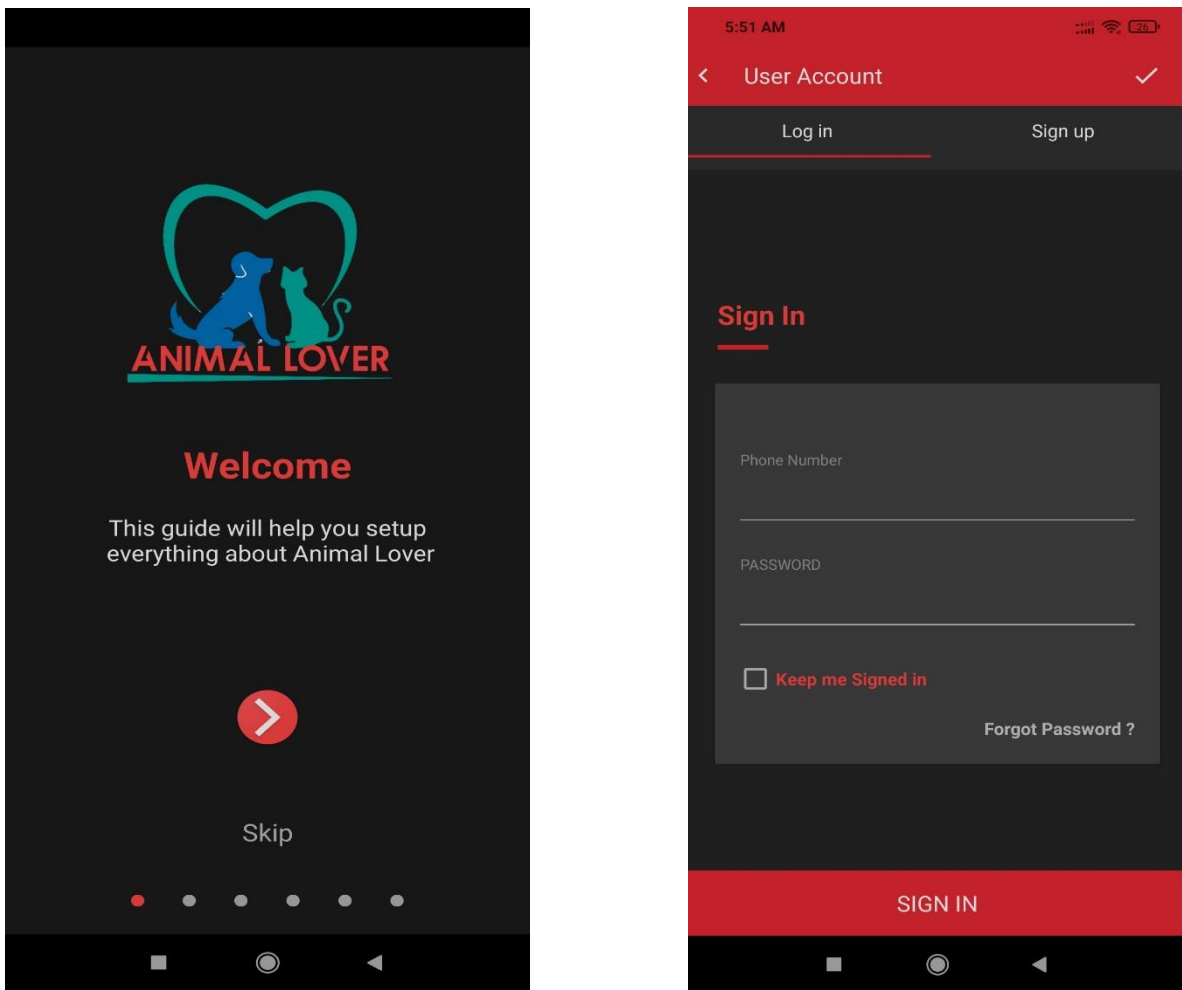


Figure 4.1: Front-End Design

4.2 Back-End Design

Basically, in software development back-end means rendering server side. Usually, the backend programming consists of three parts: application, server and database. For database we have used Firebase Realtime Database and other implemented back-end technologies that are Java, Firebase Cloud Messaging, Android Networking libraries.

4.3 Interaction Design and UX

We have tried to make our project UX design as simple as possible. Because we have researched on the internet and visit various site, used various android applications. Then we made the UX design of our application.

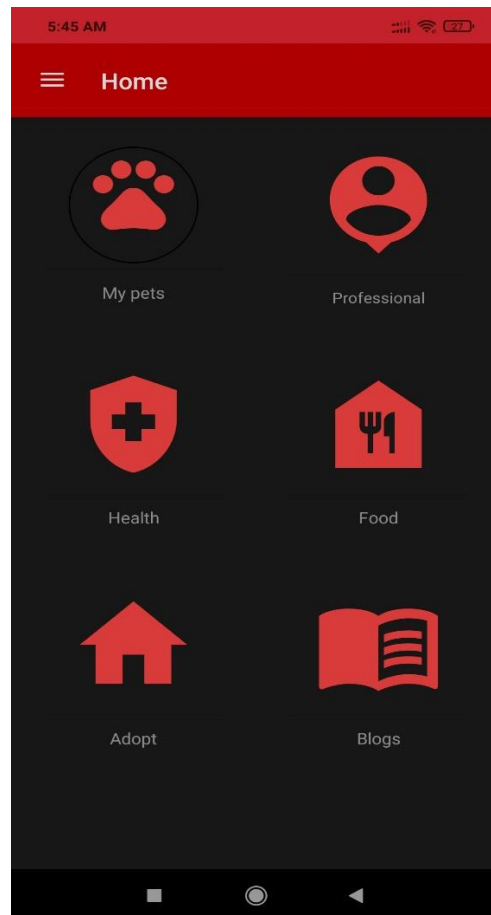


Figure 4.2: Interaction Design and UX

4.4 Implementation Requirements

It was our first service-related work. So, we had to learn a lot of new technologies and spent a huge time to fulfill all the requirements.

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Implementation of Database

Design and implementation of the database are fundamentals for data storage of any kind of software application. In this project, we have used Firebase Database which is a cloud-hosted NoSQL database that lets developer store and sync data between users in real time. The database collects too much data for its data model.

5.2 Implementation of Front-end Design

Front-end design is very essential because of its visualization to the users. Developing a design for an application, we have to consider user friendly and smooth front end. It is very difficult to make the perfect design that attracts all.

SignUp View

In the signup view, we have the project title, logo, fields for taking signup information and a signup button.

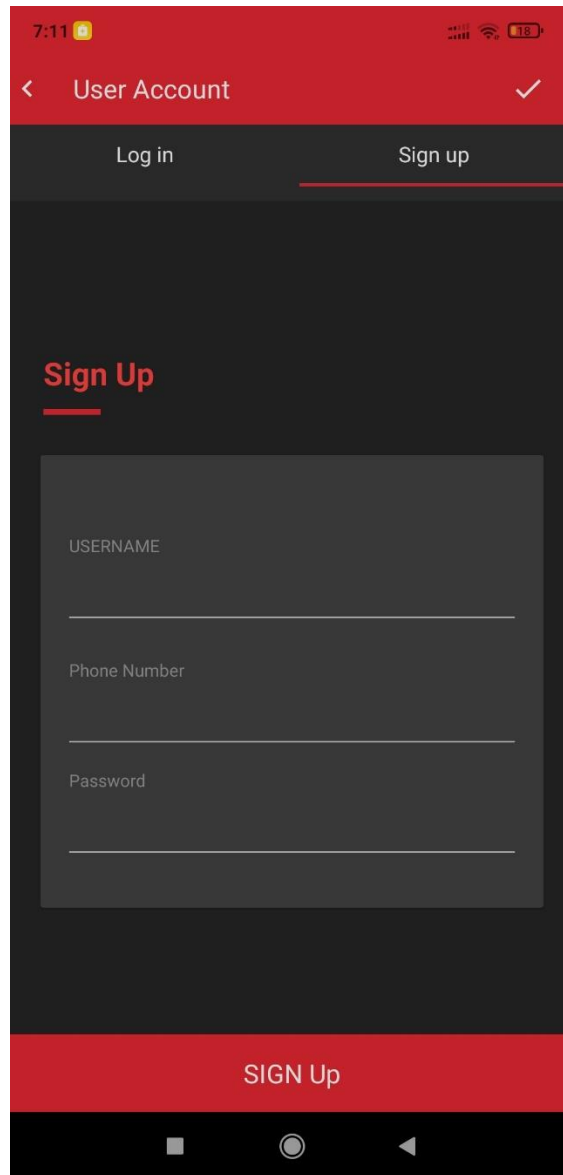


Figure 5.1: Sign Up View

Login View

In the login view, we have the project title, logo, fields for taking login information and a login button.

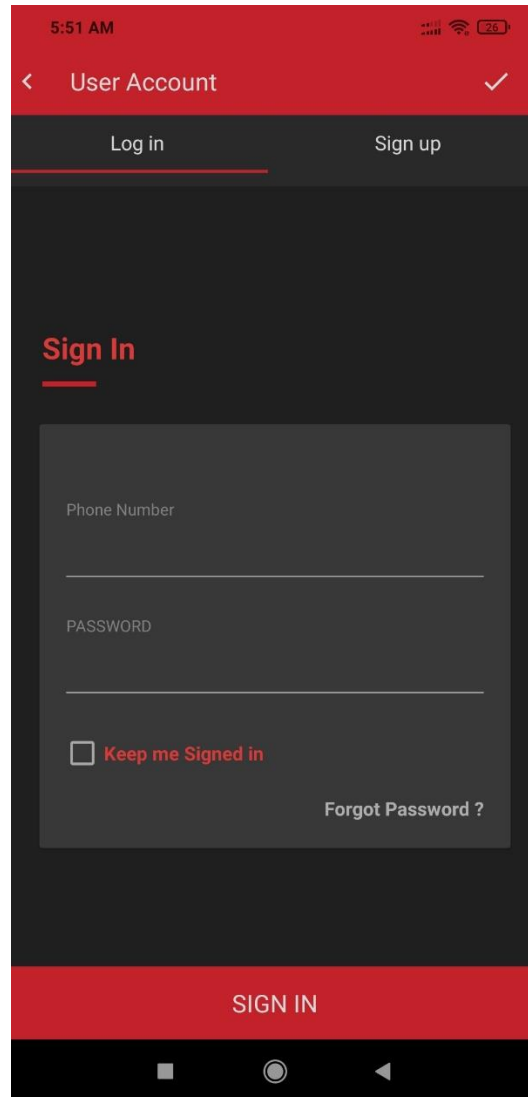


Figure 5.2: Login View

Home View

Home view shows all the features of the app. User can see his own pet, information about pet professionals, health section, food list for pets, sell or adopt or sell pets and view various blogs on pets.

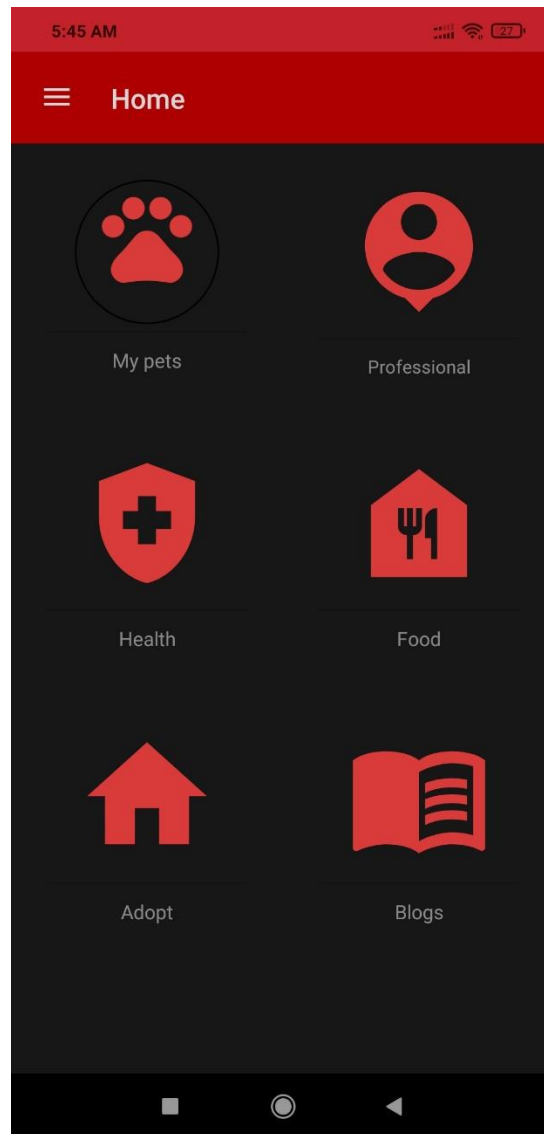


Figure 5.3: Home View

Navigation Drawer

On top left corner of home page, there is a navigation drawer which directs to user's profile, home, user's order, login/logout and about section.

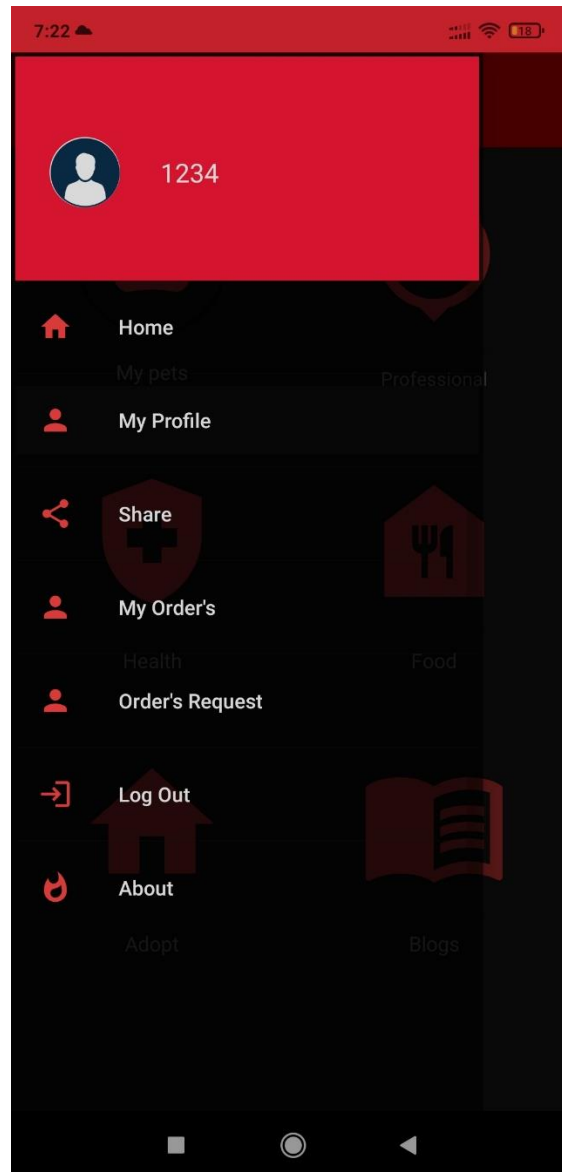


Figure 5.4: Navigation Drawer

About

About view contains the information of the honorable supervisor and the students how developed this application.

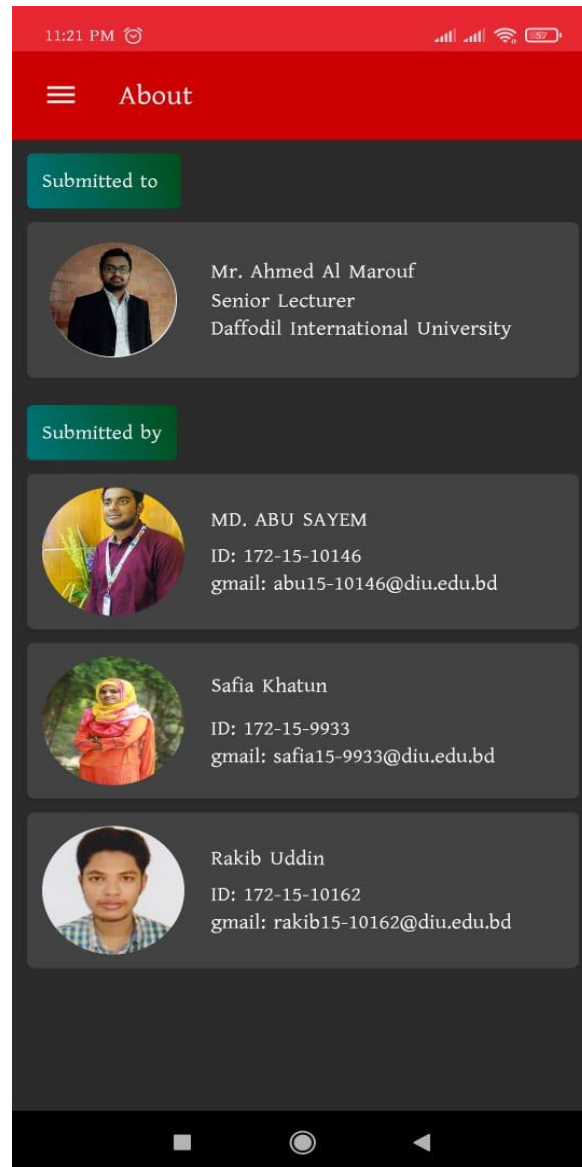


Figure 5.5: About

5.3 Testing Implementation

User and Password Error Validation

Whenever a user gives wrong input on password or mobile number, the application will show an error message.

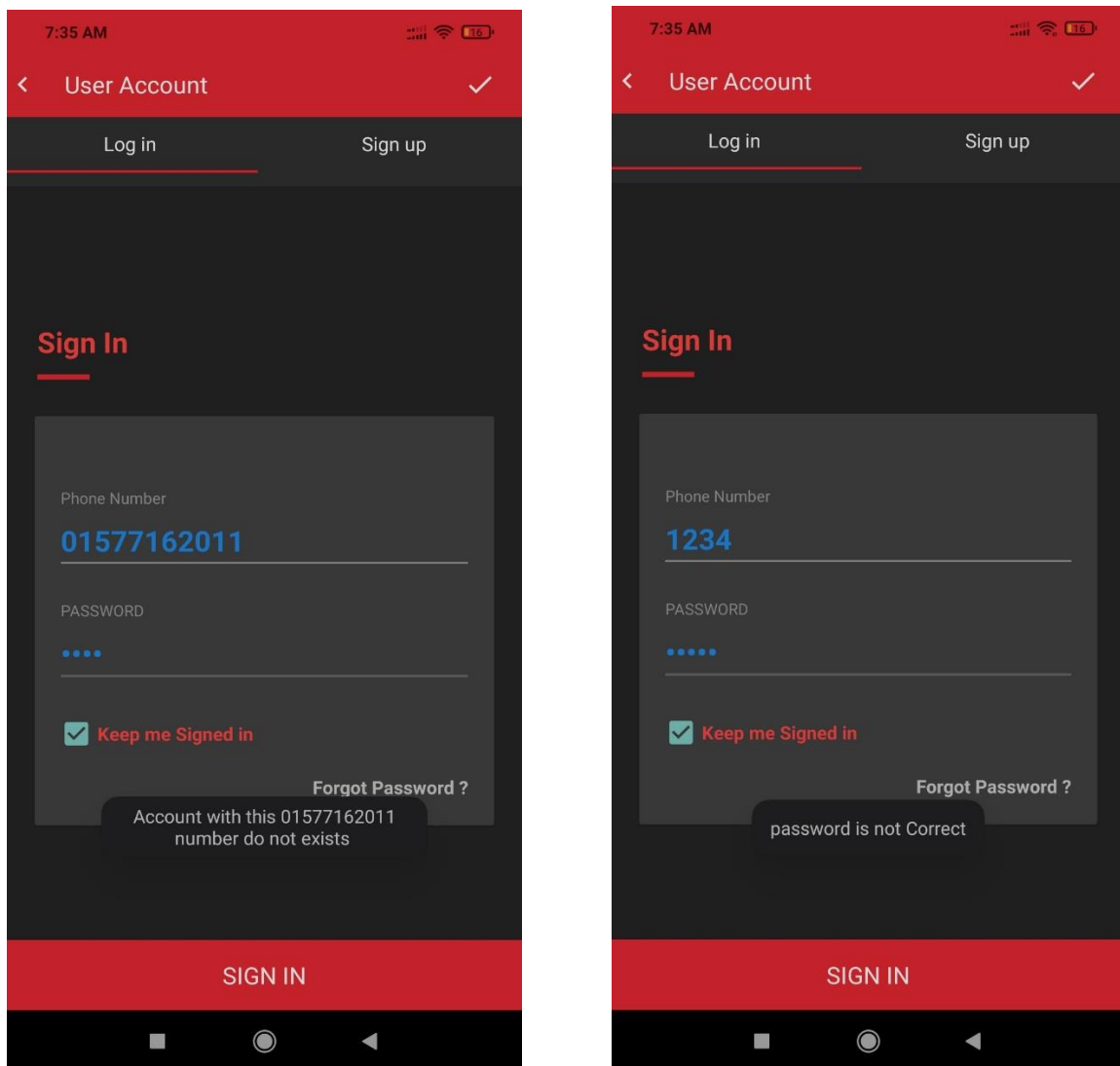


Figure 5.6: User and Password Error Validation

Profile View

Profile section contains user's name and phone number and the information about his pets. There is also a button to permanently delete a user's account.

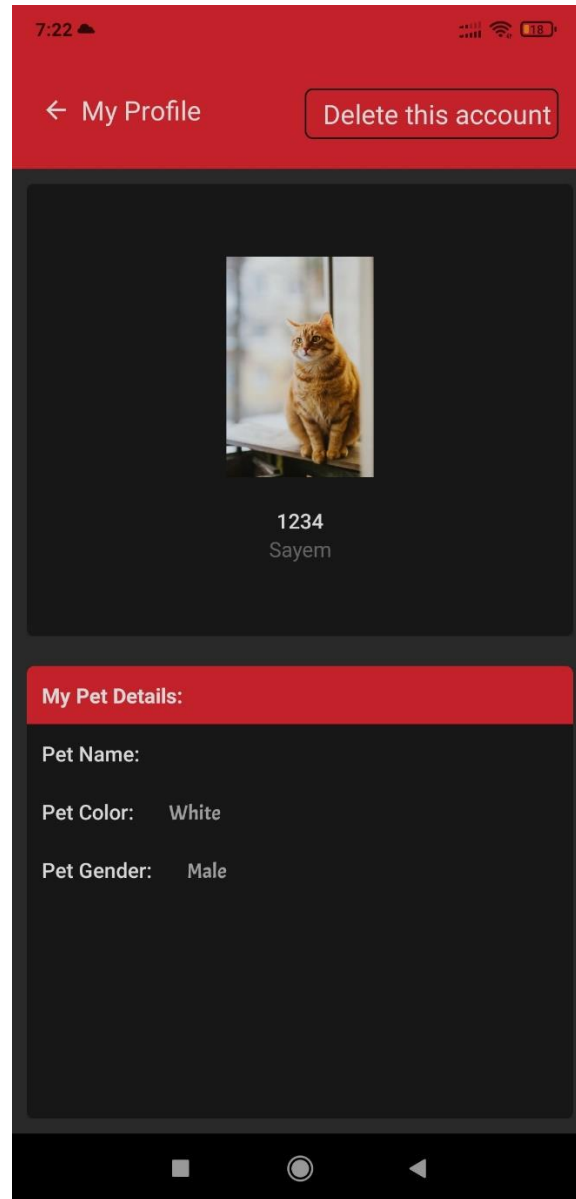


Figure 5.7: Profile View

My Pets

My pets section lets a user to add his pet.

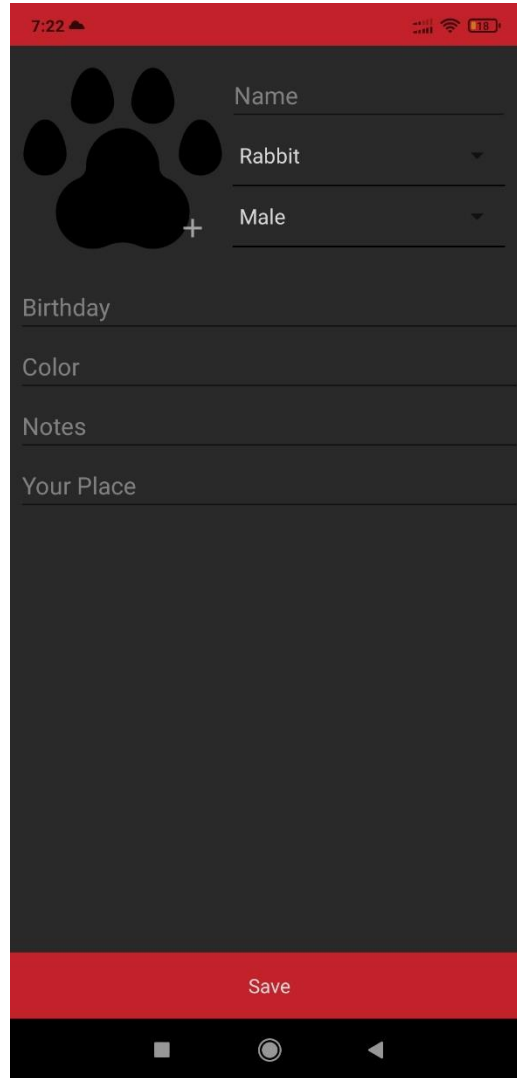


Figure 5.8: My Pets View

Pet Professional View

In pet professional view, user can find information about pet professionals. There is also a search button to find out a specific professional.

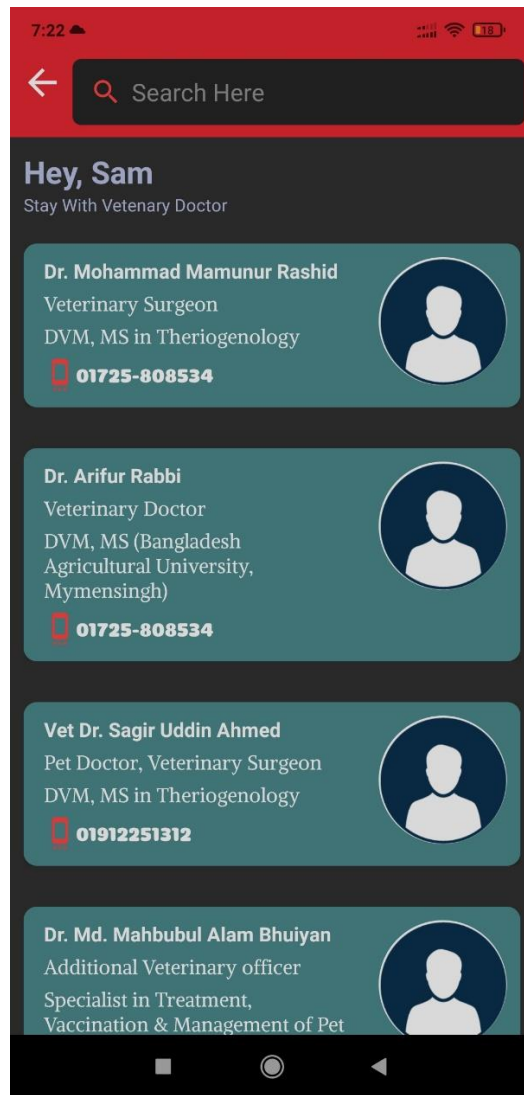


Figure 5.9: Pet Professional's View

Health Section View

In health section view, user can find three sections: pet diseases and medicines and first aid for them.

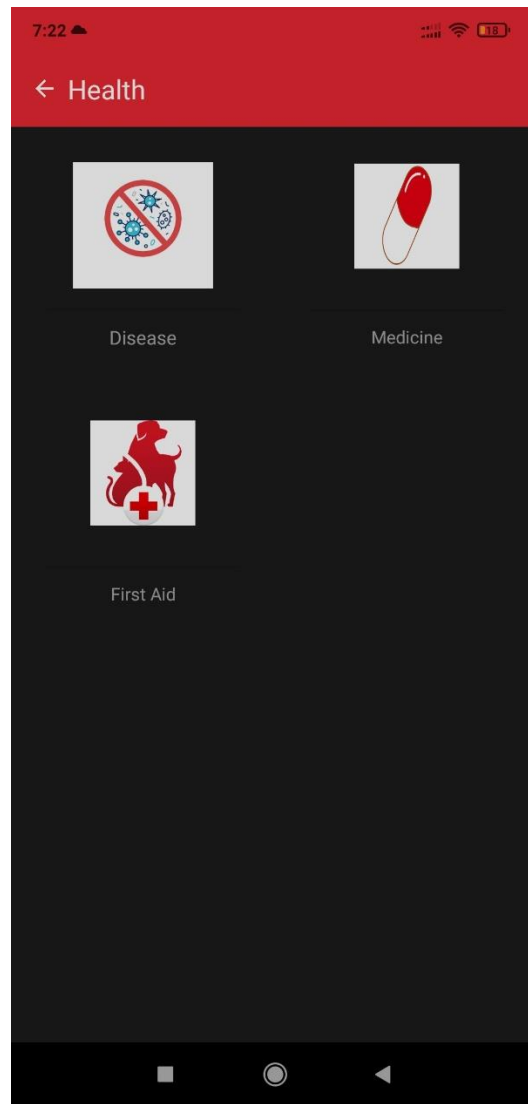


Figure 5.10: Health Section View

Disease Section View

Disease section view contains information on various animal diseases.

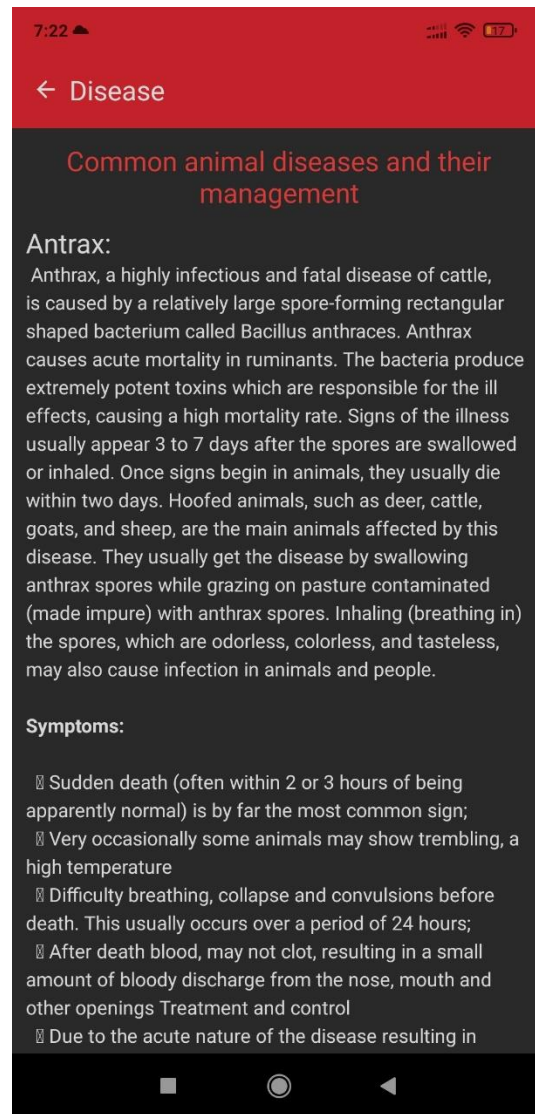


Figure 5.11: Disease Section View

Medicine Direction of Pets View

Medicine direction of pet's view shows a list of pets. After clicking on any name of pet on this page, user will be directed to that pet's medicine suggestion page.

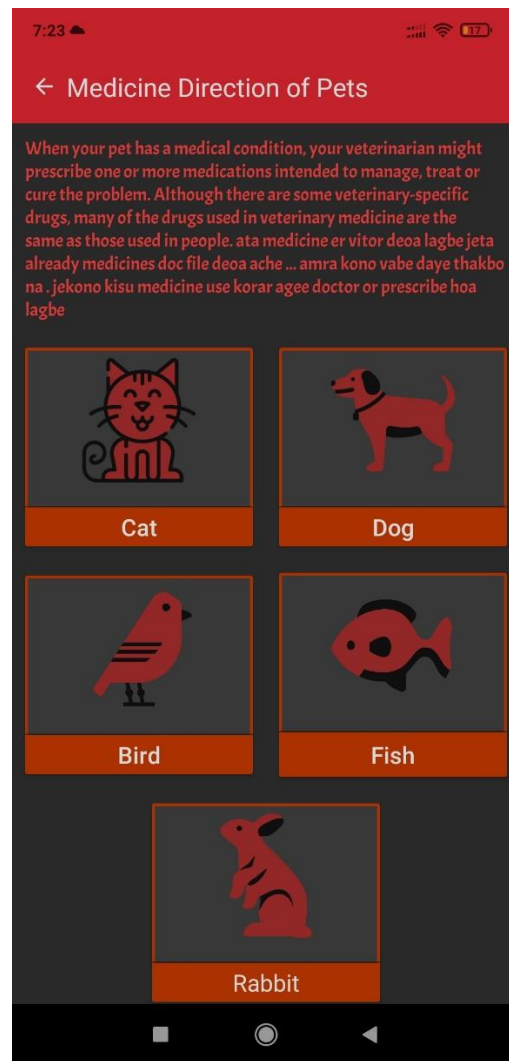


Figure 5.12: Medicine Direction of Pets View

Medicine's Suggestion View

Medicine suggestion view contains the medicine list of a certain pet. In the figure 5.3.8, medicine suggestion for cat is shown.



Figure 5.13: Medicine's Suggestion View for Cat

Pet's First Aid Kit View

Pet's first aid kit view gives suggestion about what a first aid kit for pets should contain.

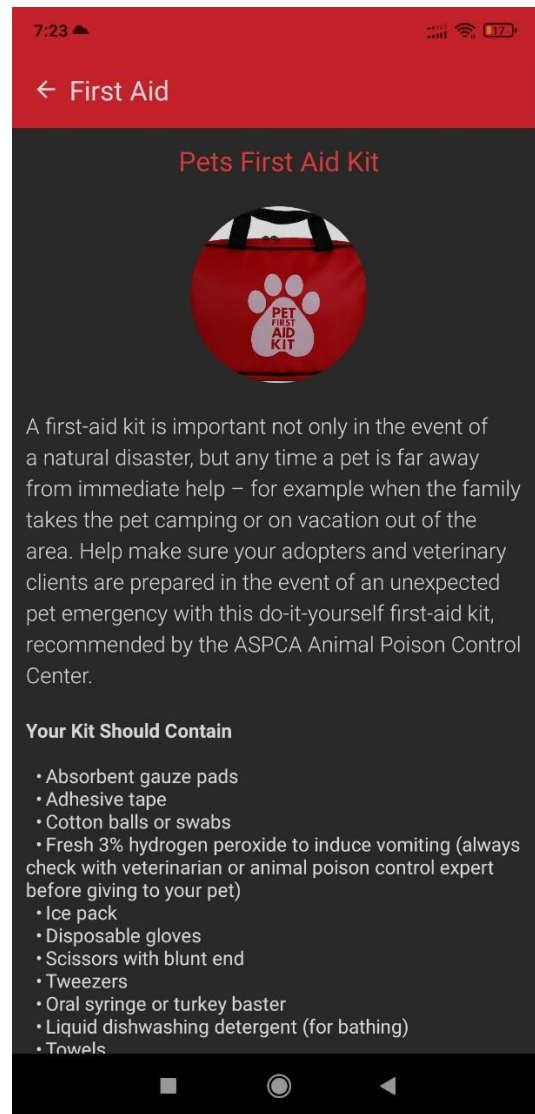


Figure 5.14: Pet's First Aid Kit View

Food's View

Food's view shows a list of pets. After clicking on any name of pet on this page, user will be directed to that pet's food suggestion page.



Figure 5.15: Food's View

Specific Food View

Specific food view shows food list of a certain pet. In the figure 5.3.11, food list for bird is shown.

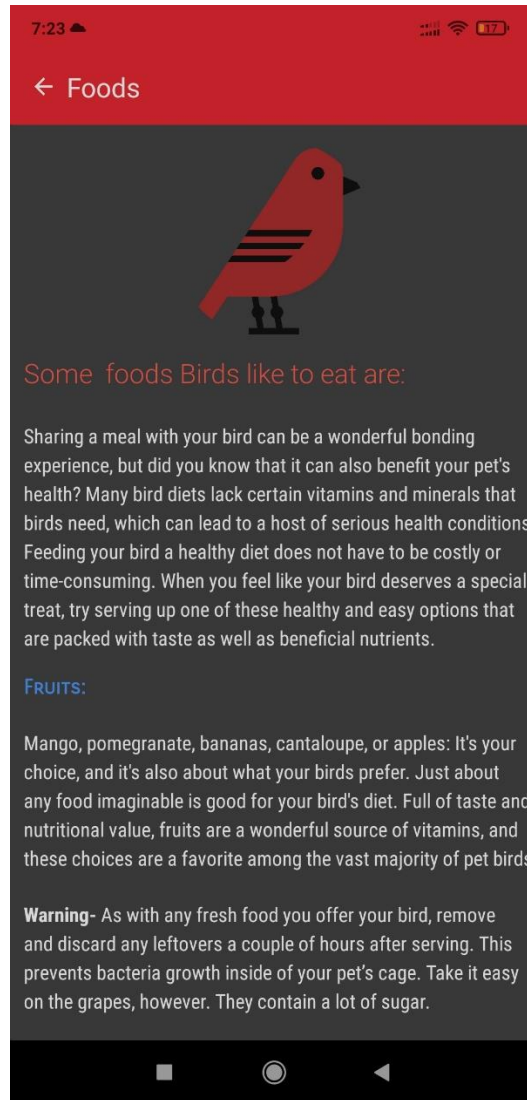


Figure 5.16: Specific Food View

Adopt/Sell Pets View

Adopt or sell pet's view contains information about pets which are available to adopt. There is a plus button which lets a user to add a pet for sell.

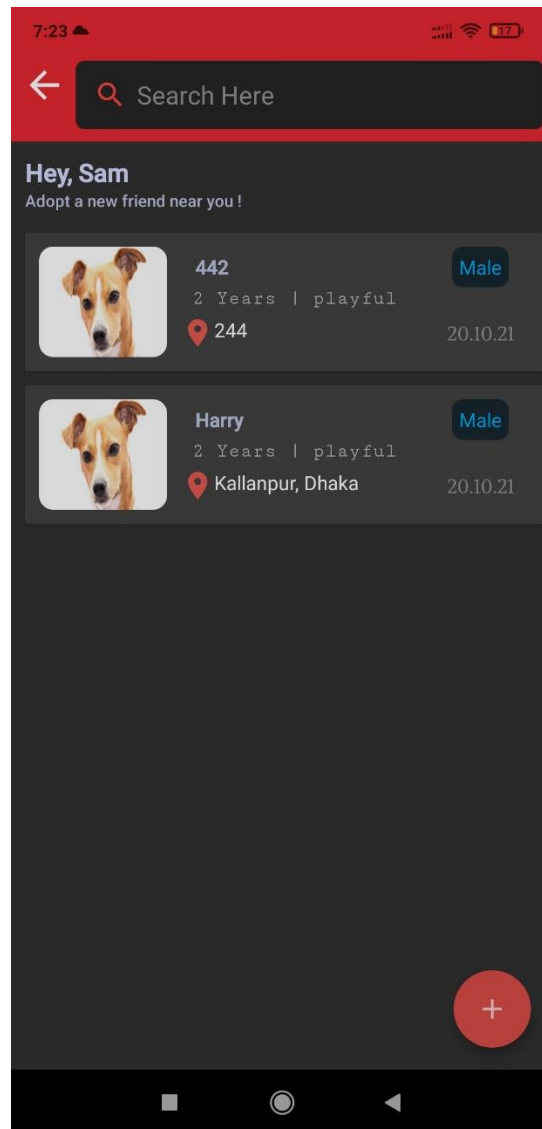
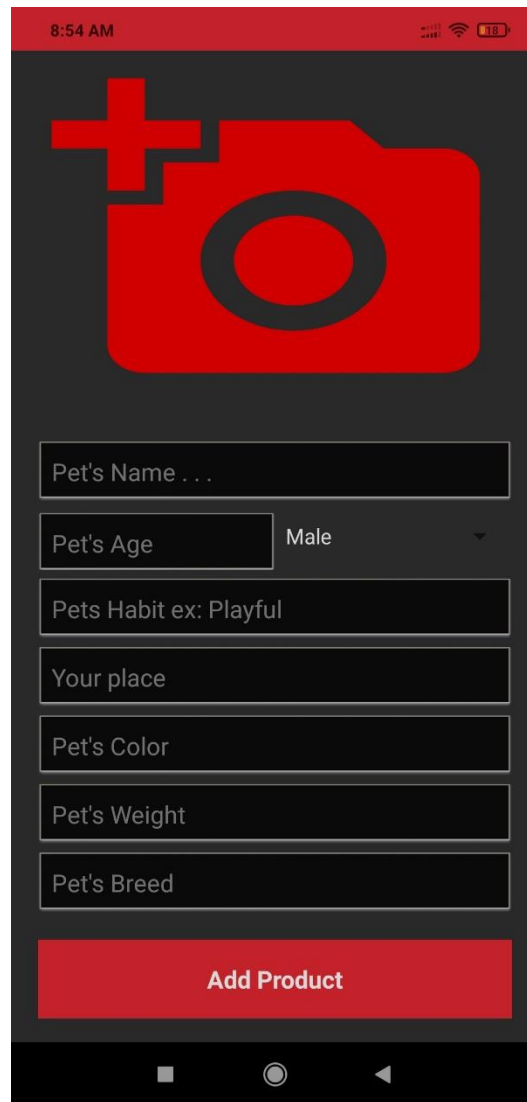


Figure 5.17: Adopt/Sell Pets View

Sell Pet View

Sell pet view takes input about the pet which the user wants to sell.



The screenshot shows a mobile application interface for adding a pet product. At the top, there is a red header with the time 8:54 AM and status icons for signal, Wi-Fi, and battery. Below the header is a large red icon of a camera with a plus sign, indicating a photo upload feature. The main form consists of several input fields: 'Pet's Name . . .', 'Pet's Age' (with a dropdown menu currently showing 'Male'), 'Pets Habit ex: Playful', 'Your place', 'Pet's Color', 'Pet's Weight', and 'Pet's Breed'. At the bottom of the form is a prominent red button labeled 'Add Product'. The device's navigation bar is visible at the very bottom.

Figure 5.18: Sell Pet View

Blogs View

Blogs View contains a list of blogs about pets. By clicking on any post, user will be directed to that desired post.

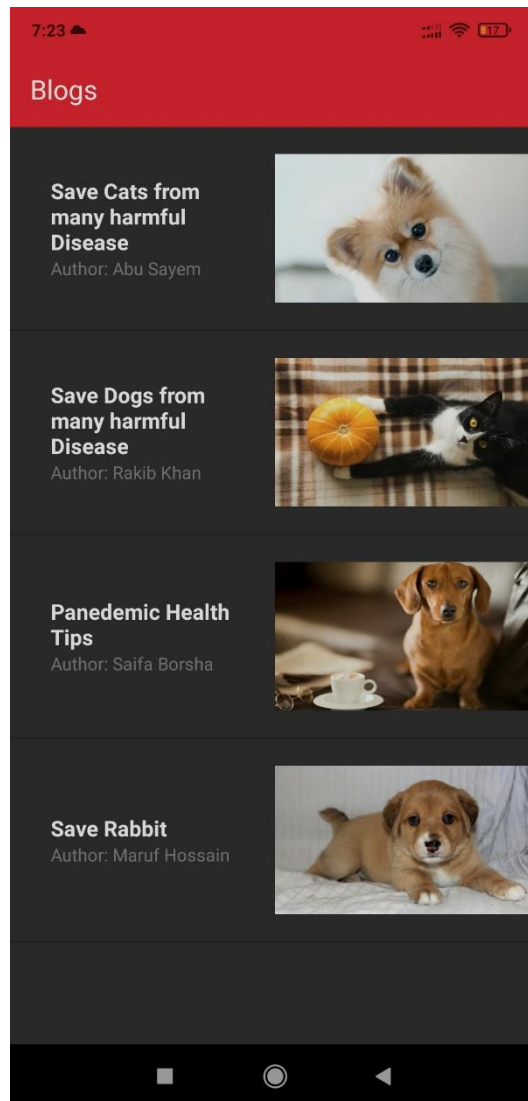


Figure 5.19: Blogs View

Specific Blog View

This view contains a certain blog post that the user wanted to see.

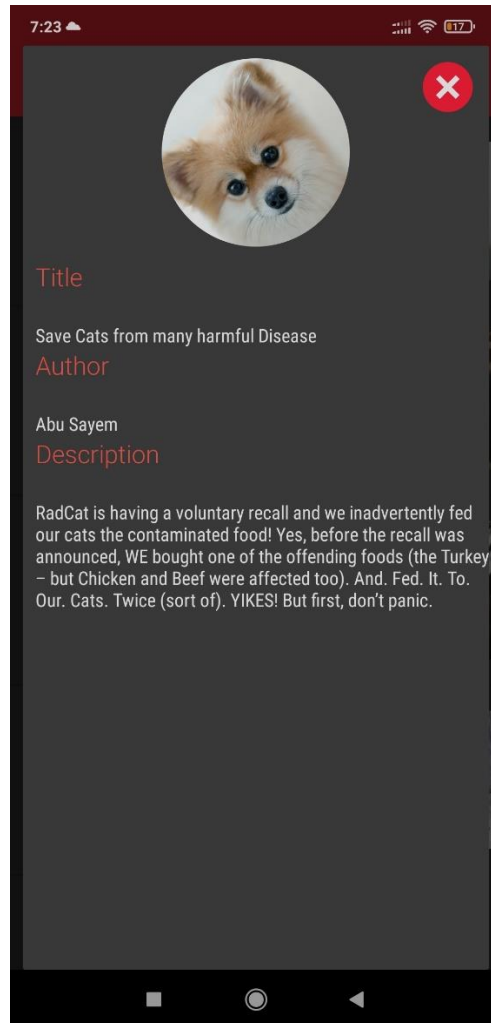


Figure 5.20: Specific Blog View

CHAPTER 6

IMPACT ON SOCIETY, ENVIRONMENT AND SUSTAINABILITY

6.1 Impact on Society

This application will be beneficial to those who love animals. People can sell their pets and interested people can buy pets. This application is also quite informative about pets (for example, information about pet professionals, disease and medicine direction of pets, blogs on pets etc.).

6.2 Limitation

No application is perfect. Every system has some limitations. The limitation of our projects are written below:

- No routine is generated for the pet's food.
- Need more details of pet's emergency services.
- Animal rescue should be included.
- Pet adaptation needs some features.

6.3 Obstacles & Achievements

During the development of the application, we have faced a lot of obstacles and successfully overcame most of them. Some of the obstacles were:

- Firebase handling for pet adaptation system.
- Bottom Sheet library is updated. So, it wasn't working.
- Data Collection for pet's medicines, health etc.
- veterinary doctor managing.

Finally, after developing the project, we have successfully achieved:

- Created a system for pet's health, medicine in emergency moments supports.
- Contacted with some veterinary doctor and managed them for emergency support.
- Pet's Adoption System Created for whom have a more than one or more pet.

CHAPTER 7

CONCLUSION AND FUTURE SCOPE

7.1 Discussion and Conclusion

People loves to have pets because whenever nobody is there for them, their pets will always be there for them. They offer loyalty, protection, love and friendship to their master. But many animals' lovers fear that, they won't be able to take care of an animal because they don't know how to do that. For this reason, we chose to develop this project which will help the people to take care of their pets properly. Also, this application can become a platform to sell and adopt pets. These services will reduce user's wastage of time and fear as our application is quite resourceful.

7.2 Scope for Further Developments

Due to limitation of time, knowledge and experience, we couldn't develop some features of our project. In future, we want to develop those features one by one. Those features are:

- Consultation with pet professionals directly from app.
- Develop web application for the better admin maintenance of server and android app.
- Request feedback.
- Publish the app on Play Store.

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- [1] Stack overflow for solving bugs, available at << <https://stackoverflow.com/> >>, last accessed on 05-07-2021 at 12:00 P.M.
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