

Paw Care: A Proper Health Monitoring System for Pets

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Abstract— The increasing number of pet owners in Bangladesh is going rapidly and it needs a centralized platform for getting the whole service through one dedicated platform. As an innovation we are introducing a iOS App which is designed for empowerment by providing customize offerings for both Urban and Rural Area. Our App features Six major service: 24/7 vet consultation (online), Artificial Intelligence (CHAT - GPT) Symptom checker, make an appointment(offline) Emergency rescue, Pet shop (All materials including medicines), Health monitoring tools. By generating Artificial Intelligence for symptom check and real time consultations, we ensure accurately planned advice and timely medical intervention. Offline appointment and emergency rescue ensures the best planned organized platform, The health monitoring systems allows to maintain the database of scheduled vaccinations, deworming or as like medical regulations. Furthermore, Pet shop provides best e-commerce pet materials sites in a organized way. Paw Care's intuitive design. also, with a focus on accessibility and reliability. Our project demonstrates the potential of digital solutions in revolutionizing pet healthcare and fostering a more informed and connected community of pet enthusiasts.

Keywords: Artificial Intelligence, Pets, Symptoms, Diagnosis, Health

I. INTRODUCTION

In a developing country like Bangladesh, pet and farm animal health issues are mostly overlooked or treated poorly. Left untreated, these animals often suffer from worsening health conditions. Additionally, the amount of vet services available in Bangladesh is insufficient. With that in mind, we are presenting a concept of a mobile app which can aid both pet and farm animal owners, by

diagnosing the symptoms, providing vet call assistance and giving nearby vet locations to the users.

Our work proposes a concept of the app, named “PawCare”, which can provide services like vet consultant calls, AI based symptom checker for animals, health reminders, nearby vet locations and an emergency rescue option. Although the app is being targeted for pet owners in urban areas, animal farmers in the rural area of Bangladesh should get support from it. The app should be classified for several categories of animals, for cats, dogs, pet birds, cattle, goats, ducks and chickens. Additionally, the app should support Bangla language along with English. We have constructed a high-fidelity design of the apps interface in a project in Figma app, starting from the loading screen up to options and vet services.

We have also conducted a need finding survey from google forms, with questionnaire about the idea, user friendliness and recommendations, and distributed it.

We have got several responses from the survey as of now. Some of the key responses include the need of high efficiency and good AI symptom checking precision, with the tradeoff of processing time. Also, locating vets and diagnosis of diseases are the most common suggested approaches. Easy navigation through the app is the most suggested approach, from the need finding survey.

We have checked several app stores about the uniqueness and reliability of this project idea. We have

found some android apps which have similar features, but none of them have Bangla language customizations. We have searched the iOS app store as well, and did not find any similar app. We believe that adding Bangla language as an option would improve the accessibility and user-friendly design of the app. In Figma, we have designed the interfaces with the same screen ratio of iPhone 14 and 15 Pro.

II. RELATED WORKS

A. Conditions of Animal Care in Bangladesh

The field of veterinary care in Bangladesh isn't enough to diagnose animal and pet symptoms within time, and results in delayed treatment and low efficiency.

Additionally, many animal farmers are lacking the idea of animal health, and their lack of knowledge results in reduced farm output and animal deaths. To solve the issue and improve conditions, some vet clinics were organized around cities, but in a densely populated country like Bangladesh, they are not enough to provide services to all pet and animal owners in both urban and rural areas.

We have investigated the Google Play Store and found similar apps, but as of our knowledge there is no such app in Bangla language which targets both pet owners and farmers in android phones, or have an AI based symptom checker. We have also investigated the Apple store which has some pet health-based apps, but none of them provide Bangla language support or AI based symptom tracking system. Most of the apps are from pet stores, which provide shopping systems and e-commerce features for users. [1]

B. Our idea

We believe our project contains the idea of a complete vet app, but we can improve it further by implementing additional ideas like pet caring system, suggestion forums for animal farmers to increase productivity and ensure animal care, increased AI accuracy, provide offline features for users with limited internet connectivity or by expanding the animal category list, and expanding the birds category.

III. METHODOLOGY

In the need finding survey, we asked people about their pets, what challenges they faced, and what they wished about. We listened carefully to their ideas and used this information to build the app. We made sure the app was easy to use, even for people who aren't very tech enthusiast. We also tested the app with a group of people to get their feedback and make it even better.

Building the Key Features: We built the AI symptom checker using a lot of data. This helps the app give users helpful advice when their pets aren't feeling well. We

also integrated features like online vet consultations, emergency rescue contacts, and reminders for vaccinations.

Designing the PawCare app: We designed the app with a focus on making it easy to use and understand. We wanted to make sure it was simple for everyone to navigate. We have cloud server for store all important information [2]

Connecting: We made sure all the different parts of the app worked together smoothly. For example, the app needs to communicate with the cloud server to access information, connect with vets, and send reminders.

We followed a step-by-step approach, focusing on user needs, building a system, and constantly improving based on feedback.

IV. DESIGN REQUIREMENTS AND NEEDFINDING STUDY

A. Study Design



Figure 1

We conducted user surveys to determine the needs before the needs before designing the prototype. With the help of experts, the survey was created to collect detailed data from Bangladeshi vet care app. This Paw Care app were randomly assigned to receive the survey based on several List of People. A Google form was used to gather data over Six weeks, From November 3 to December 21, 2024 and the participants could attend anytime during this time frame at their convenience. The first section of the survey was dedicated to obtaining informed consent from the participants and ensuring ethical compliance. This part included a detailed description of the project and its objectives. The second section gathered demographic data. Some major survey questions for the need finding study are listed in the Table.

B. Participants

Among the 51 survey participants (74.1%) people are in Urban area and (25.9%) are rural area. Kind of pets animal Cat(59.3%), Dog (11.1%), Bird(29.6%),Cow(7.4%),None (7.4%)&No

animal(3.7%),No(3.7%).Manage pet health records
Paper based(29.6%), Digital records(33.3%),don't keep
records(44.4%).comfortable with online app
yes(66.7%),No(11.1%),Maybe(22.2%). Premium feature
foe pet care app Vet consultation Yes (29.6%), No
(22.2%), Maybe (48.1%).

MONITORING PET HEALTH	
Q1.	<i>What challenges do you face while monitoring your pet health?</i>
Q2.	<i>How often do you find difficulties or accessing veterinarians during emergencies?</i>
EVALUATING HEALTH MONITORING PRACTICES	
Q3.	<i>How do you currently monitor your pet's health?</i>
TECHNOLOGY AND HEALTH MONITORING MANAGEMENT	
Q4.	<i>Have you ever used any health monitoring mobile app for your pets?</i>
Q5.	<i>How important is it for you to have access to real time health monitoring management tools on a mobile device?</i>
Q6.	<i>What features in a health monitoring management app seem to be the most useful to you?</i>

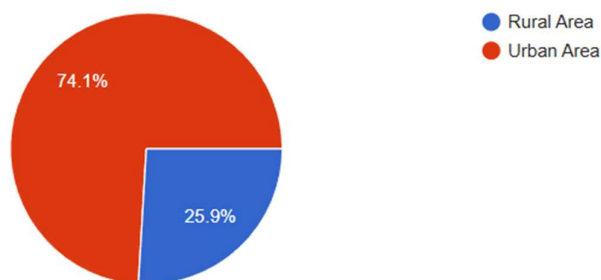


Figure 3: Users response based on which area they live
Most responses were from users living in urban area.

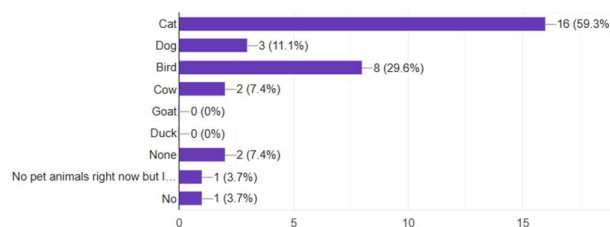


Figure 4: Users response based on what animals they have
Most users have cats as pets, followed by dogs. A few users had cows and other farm animals.

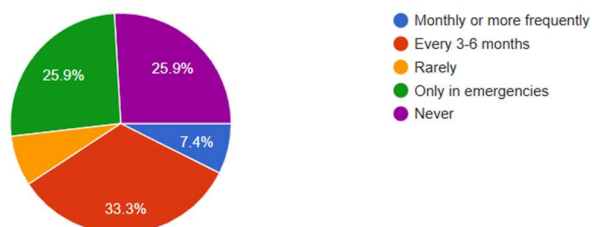


Figure 5: Users response based on how frequently they consult a vet
Most users never consult vets.

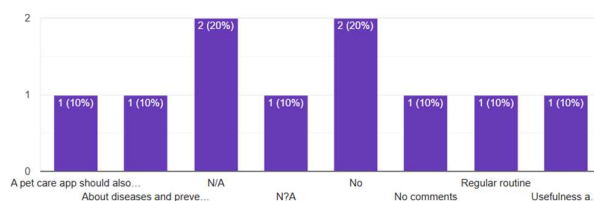


Figure 6: Users give their recommendations

C. Findings and Data Analysis

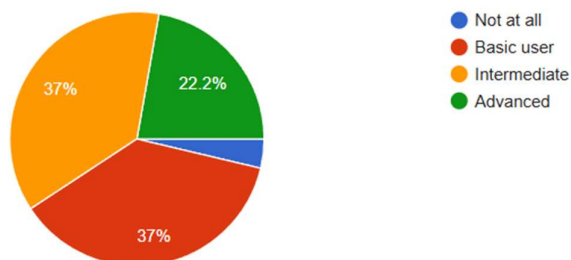


Figure 2: Users response based on their technological expertise
Most users have basic experience of technology.

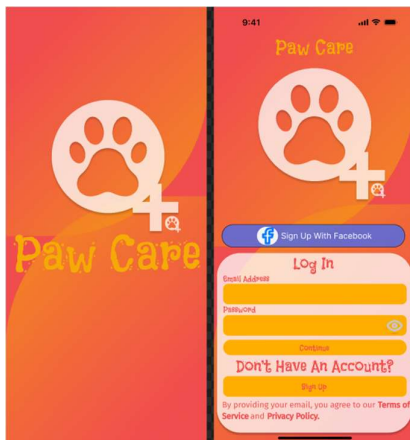
V. USABILITY EVALUATION

SUS Score

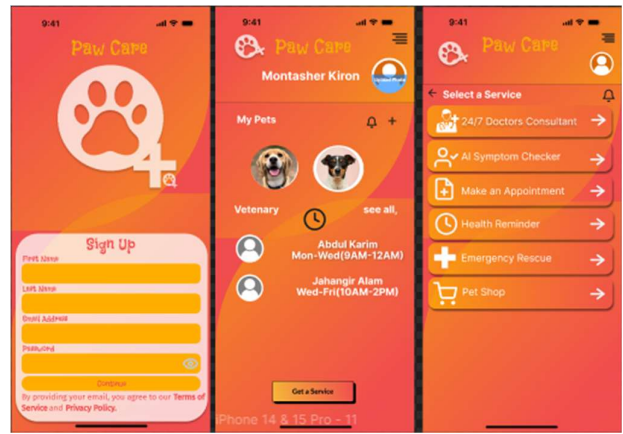
The system's usability analysis, derived from the collected data, reveals a mean SUS score of 75.77 which is indicative of favorable usability where the value 68 is a threshold for marginal usability. The median score stands at 75, signifying that half of the users rated the system's usability above this value, which reinforces the system's overall positive reception. The standard deviation of 14.85 points to moderate variability in user perceptions, suggesting that while many users found the system highly usable, there were others who rated it lower, indicating room for improvement. The adjective rating for the mean score of 75.77 assigned to the system is 'Good', which aligns with the quantitative data and further substantiates the system's usability efficacy. Correspondingly, the system has been graded as 'C', which, in the context of usability grading, signifies that the system is considered good and acceptable but not excellent. The acceptability rating of 'Good' complements the other metrics, confirming that the system is well-received by the majority of its users. [3]

We've been really encouraged by the response of the survey of PawCare app idea. People appreciated having a reliable source of information, the ability to easily connect with veterinarians, the user friendliness and the helpful reminders for important care tasks. [4]

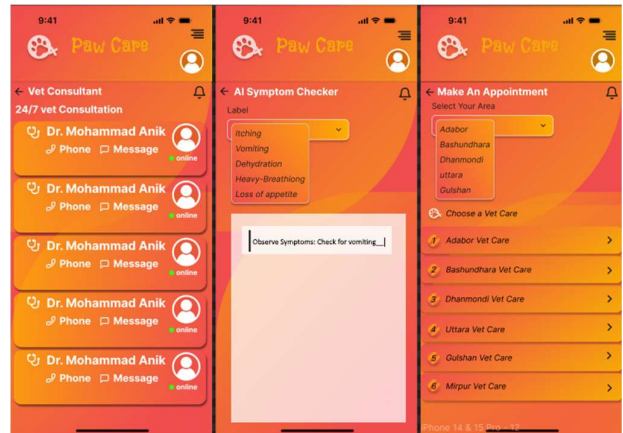
Most of the reviews have told us that PawCare idea has helped them feel more confident and less stressed about their pets' health. Most people claimed that the app idea has made it much easier for people to find veterinarians and get the help they need for their pets. We believe that the idea of PawCare will likely help pet owners make better decisions about their pets' care, resulting in healthier animals. [5]



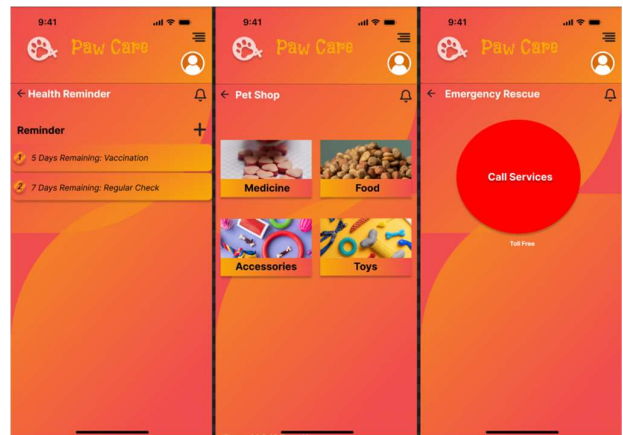
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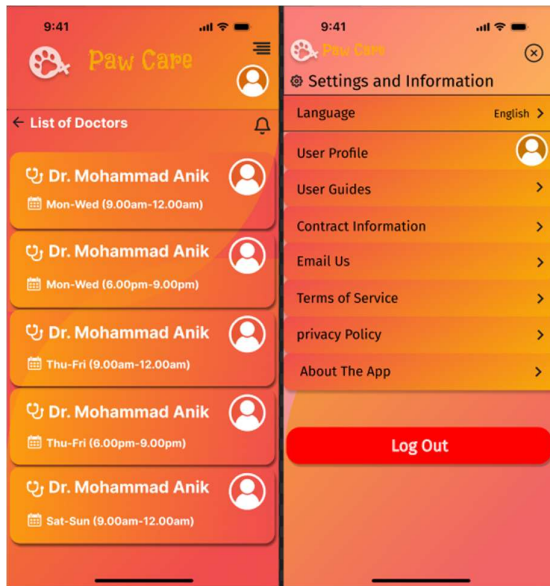
B



C



D



E

VI. DISCUSSION

For a pet owner, it can be hard to find a good vet, get the right information about pets' health, and remember all the things they need to do for their pets care. [6]

PawCare was created to make things easier. It has many features to help people take good care of pets such as: -

Find helpful services: People can use PawCare to find nearby vets, pet shops, and even emergency rescue services. [7]

Checking pet's symptoms: If the pets aren't feeling well, PawCare can help people figure out what might be wrong. [8]

Talking to a vet online: People can chat 24/7 with a vet directly through the app, even in the middle of the night.

Track pet health: People will be able to store all their pet's medical records in one place, like vet appointments with our build in cloud server [9]

PawCare is designed to be a one-stop shop for all an owner's pet needs.

PawCare aims to give pet owners the tools and information they need to make the best decisions for their pets' health and happiness. [10]

VII. CONCLUSION

We believe that our proposed "PawCare" app can improve the animal healthcare system in Bangladesh significantly, with further development. As our needfinding survey suggested, this app should focus on ease of navigation, simple UI and overall user centered design, with the accessibility of Bangla language. We can

still make a lot of changes and improvements to this idea.

With that in mind, we are concluding our project with the hope of an implementation of the idea in building an app which can improve the overall condition of animal care in Bangladesh.

VIII. REFERENCES

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