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Wagging Tails – An Android App for Dog

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Abstract: *The increasing popularity of pets, especially dogs, has led to a surge in demand for pet-related services and products. Pet owners face numerous challenges when it comes to taking care of their furry friends, including finding reliable information about pet care, scheduling veterinarian appointments, and finding high-quality pet products. To address these challenges, we are developing a mobile application called Wagging Tails using the technologies like flutter and dart. The primary problem that Wagging Tails aims to solve is to provide pet owners with a comprehensive platform for managing their pet's needs. The application includes features like adoption of a dog, veterinarian appointment scheduling, and access to pet products and essential information. The purpose of this project is to develop a user-friendly and feature-rich mobile application for pet owners. The main objective is to provide pet owners with a one-stop solution for managing their pet's needs, including adoption, healthcare, and access to high-quality pet products. The application aims to be accessible to users of all technical backgrounds and to provide a seamless user experience. We used the Flutter and Dart technologies to develop the mobile application, which includes a user-friendly interface and seamless functionality. The application includes features like adoption of a dog, veterinarian appointment scheduling, access to pet products, and essential information. In conclusion, the Wagging Tails project is a comprehensive mobile application that provides pet owners with a one-stop solution for managing their pet's needs. The application includes features like adoption of a dog, veterinarian appointment scheduling, access to pet products, and essential information. The application aims to be accessible to users of all technical backgrounds and to provide a seamless user experience.*

Keywords: Android Studio, Flutter, Dart

I. INTRODUCTION

If, like us, you imagine a future in which humans and animals reside in peace and harmony. This is the place to be if you see animals with the same eyes as people. It's a world where we may feel proud of our efforts to aid people in need while yet being left speechless. There hasn't always been a special place in humans' hearts for dogs. Prior to the 18th century, when the expression "man's best friend" became popular, dogs were largely used for economic reasons by humans. Even while their employment duties have dropped, their significance at home has grown. Canines, whether as pets, sports partners, or support dogs, provide a measurable amount of quality to the lives of the people with whom they share their worlds. We assist pet owners in caring for their animals, who in turn show them unconditional love and compassion. Wagging Tails is a simple Android app targeting dog owners who want to maintain the health, happiness, and well-being of their dogs. This software is the ideal companion for dog lovers everywhere, thanks to its simple UI and extensive capabilities. Whether you're a first-time dog owner or a seasoned pet parent, Wagging Tails makes it simple to monitor your dog's health and well-being. This app has everything you need to keep your dog healthy and happy, from daily exercise to medication routines. With Wagging Tails, you'll have everything you need to always put your dog's well-being first.

II. PROBLEM STATEMENT

To build an effective application for dogs in which a single app can provide all the necessary care, information and a helping hand for grieving pet owner. In addition to it, it has a special AR based feature that is used for searching the breeds. It also features a one-of-a-kind function for dog adoption through an NGO.

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III. LITERATURE REVIEW

Base Paper: (Paper by Tushar Shelke, Shaksham Shahu, Aditi Godar, Manisha Talewar, Jyoti Thaker)

This study is based on an Android programme that gives a categorization of illnesses for various conditions affecting animals and pets based on symptoms and the measures that must be taken. Finding nearby veterinary facilities and communicating with doctors more efficiently can both help with animal rehabilitation. This would also help with providing appropriate consultations as quickly as possible. Using this programme, veterinarians may self-register on the portal, and the admin panel will check their identification and may virtually consult with a doctor, as well as identify the condition, describe its symptoms, and propose measures. It is not feasible to contact the general care shop or the business that sells animal food directly. The animal database cannot be searched by breed. Locating locations on a map may be difficult or difficult to perform correctly.

The purpose of this system is to provide you with a simple way to care for your pet via a mobile application. The procedure was developed with the help of domestic pet professionals. It provides all relevant information on the person in charge of caring for the animal, and its location may be tracked. The user cannot purchase medications or items or verify their availability. The pet has no breed identification.

This research outlines an online survey of a sample of veterinarians to assess whether or not they should allow the usage of mobile technology. An application for veterinarians that allows users to discuss their dogs' medicines with doctors and take the necessary precautions. to assess how mobile technologies are being utilised and perceived in clinical veterinary practises. Because roving veterinarians do not have a permanent office, mobile technology may help them more than small animal veterinarians who visit patient farms.

This study presents the results of a survey on an app used by veterinarians. Using the survey, we first received 50 responses to determine what the Veterinary community wanted from the app. Based on this feedback, the writers developed a smartphone app and delivered it to the original survey respondents. This programme includes tools for searching the lexicon of veterinary terms and any associated acronyms.

Despite the profusion of smartphone applications, Sri Lankan veterinary institutes continue to use paper books to record pet care and immunisation regimens. This study piece tries to change this tradition by building a smart system for dogs. An application that records a pet's birth data, including height, breed, colour, and any ailments it may have, as well as its whole medical history. It also has a feeding system. Unlike other programmes, this one has the advantage of allowing the user to choose which programmes to use independently or simultaneously based on their preferences. There is also a feeding system. The application's data storage capacity is quite low. There were less exact findings. Other dogs may be added to the system to enhance it, and version control and error detection can be used to keep the programme up to date.

This survey looks at dog adoption and measures to improve dogs' living circumstances. Even if there are animal shelters, some of them are cruel to stray animals. Essentially, this programme is a gathering area for people to get together and play with the dogs. One of the most significant constraints may be the use of solely HTML, CSS, and JScript. They can use more high-level terminology to improve the accuracy and presentation style of the findings. Furthermore, this website just provides the adoption feature. By adding extra features, a single website may be transformed into a multi-use website. Support for Android development will benefit the project. One of the most significant constraints may be the use of solely HTML, CSS, and JScript. They can use more high-level terminology to improve the accuracy and presentation style of the findings. Furthermore, this website just provides the adoption feature. By adding extra features, a single website may be transformed into a multi-use website. Support for Android development will benefit the project.

The current initiatives to address the issues with registration and sensing mistakes are presented in this document. This article evaluates the current state of the art in augmented reality. The user may view the real world via ARfuses the real and the imaginary.3-D registered.

Initially, this study highlights domestic and worldwide augmented reality research and developments. Second, it describes the key augmented reality technologies, programming languages, and industries. Finally, it forecasts how augmented reality technologies, such as AR cloud, will evolve in the future. Researchers have paid close attention to augmented reality technology. Thanks to computer vision and artificial intelligence, substantial progress has been achieved in augmented reality.The level of human-computer interaction, display equipment performance, and tracker

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registration accuracy have all improved dramatically. In terms of display technology, the size and expense of augmented reality glasses that may offer customers the sensation of submersion cannot keep up with public demand. In terms of interaction mode, more natural and multi-user augmented reality interaction technology need future development. The current tracking registration approach only uses a limited amount of scene data, such as feature point information, resulting in an incomplete understanding of the system's connection to the environment.

IV. SYSTEM DESIGN

The Wagging Tails Android application's system architecture is built utilising the Flutter framework and the Dart programming language. The programme is built on a client-server architecture, with the client being the mobile app running on the user's device and the server being the backend that saves and retrieves data. The display layer, application layer, and data layer comprise the application's three-tier architecture. The presentation layer contains the application's user interface components, such as the tabs for dog adoption, veterinarian appointment, treats, and basics. The application layer is in charge of the application's business logic, such as user authentication and data processing. The database and storage for the application, which is hosted on the server, are included in the data layer. The application interfaces with the server using a RESTful API, which handles data transmission and reception between the client and server. The API endpoints are intended to handle the application's many functions, such as establishing and retrieving user profiles, scheduling veterinary appointments, and buying items from the basics page. The system architecture is meant to be scalable and versatile in the future, allowing for the easy addition of new features and capabilities.

Login/Registration System:

Services for authentication and authorization that manage user login and registration.
User data storage is used to maintain track of information such as a user's name, email address, and password.
User roles and permissions are used to govern access to various portions of the system.

Adoption System

A system for storing pet information in order to maintain track of pets that are offered for adoption. For interested adopters, application submission capability is available. The shelter staff approves and rejects applications.

Appointment System

This feature allows adopters to schedule a visit with dogs and shelter workers.

Goodies and Essentials System

Stores product information to keep track of available pet supplies. Adopters can purchase things using a shopping cart and checkout capability. Inventory management allows shelter personnel to control stock levels and obtain fresh supplies.

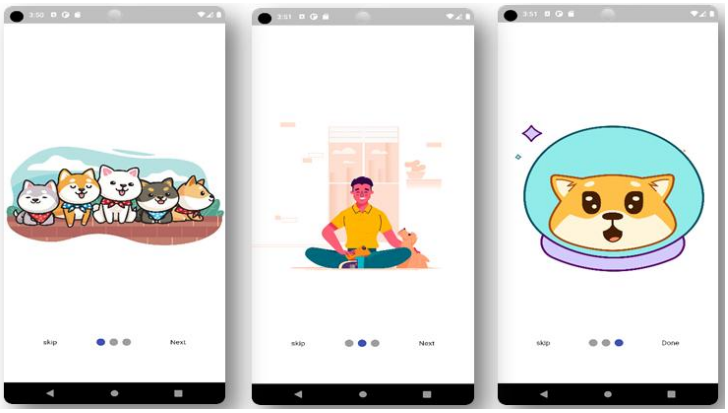

Fig 1: - Splash Screen 1 Fig 1.1: - Splash Screen 2 Fig 1.2: - Splash Screen 3

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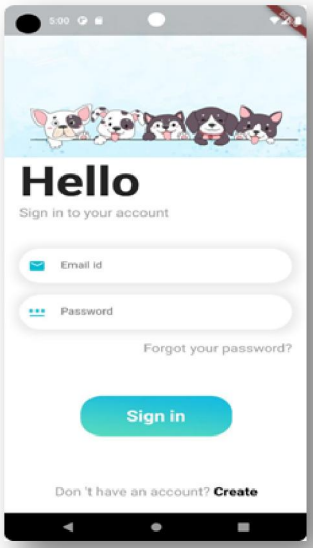

Fig 2: - Log In

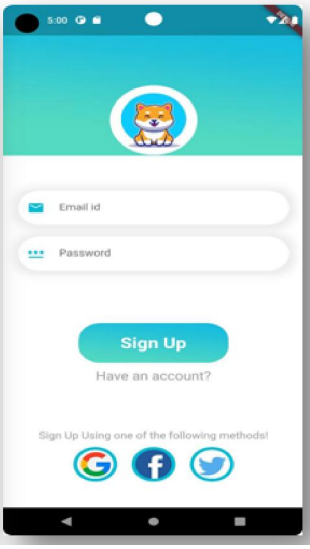

Fig 2.1: - Sign Up

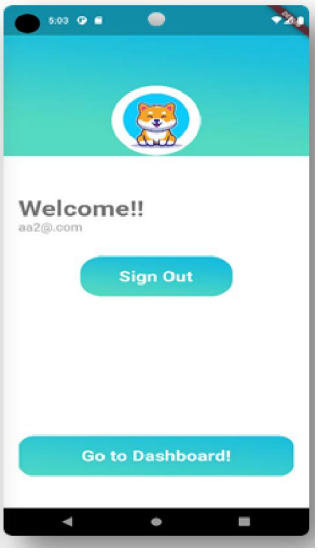

Fig 2.2: - Sign Out Page

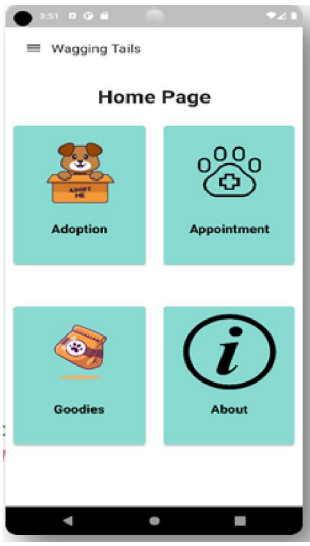

Fig 3: - Home Page

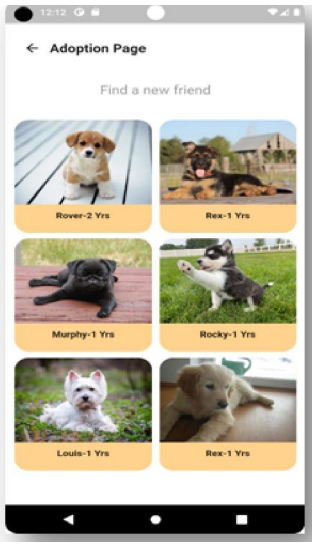

Fig 4: - Adoption Page

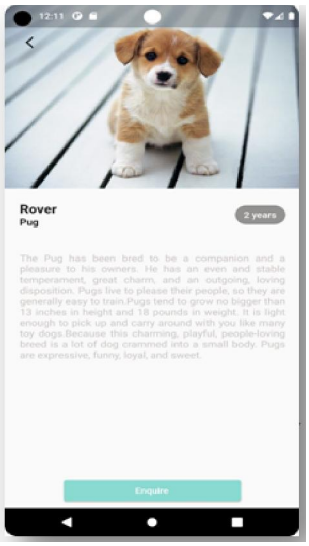

Fig 4.1: - Adoption Page Details

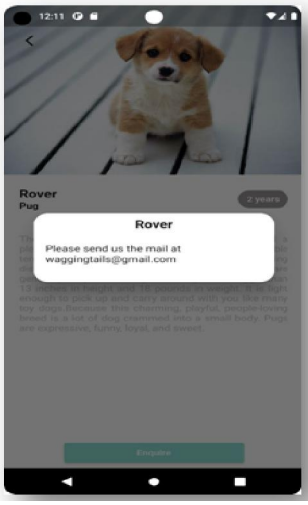

Fig 4.2: - Pop Up Window

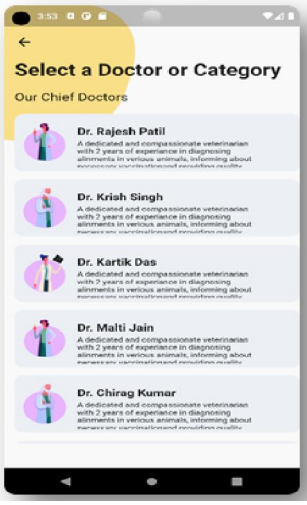

Fig 5: - Appointment Page

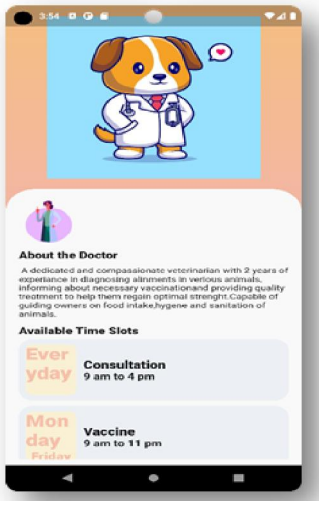

Fig 5.1: - Appointment Details

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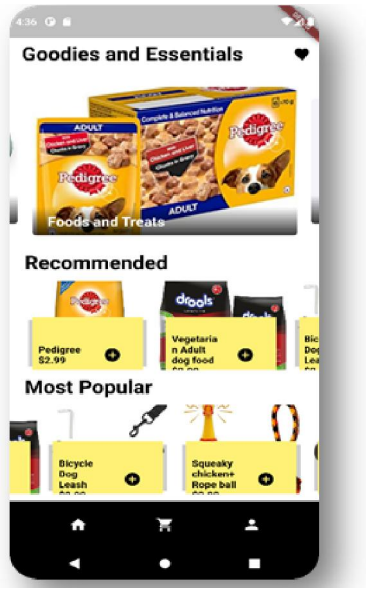

Fig 6: - Goodies

Fig 7: - About Us

Fig 7.1: - Follow Us Pop Up

V. RESULTS

Using Flutter and Dart, an Android application named "Wagging Tails" was created.
The app has the following tabs: dog adoption, veterinarian appointment, goodies and essentials.
Users may use the app to look at available dogs, arrange appointments with their veterinarian, and buy items and necessities for their pets.
The application's login page was designed with validation for the username and password fields. The application was rigorously evaluated using a
variety of testing approaches to guarantee that it fulfils both functional and non-functional criteria. The project was finished on schedule and within the projected budget.
The team effectively addressed project risks and challenges that developed during the development process. The project produced a high-quality Android app that benefits dog owners and potential adopters.

VI. CONCLUSION

In conclusion, the "Wagging Tails" Android application creation was a success. The team was able to construct a user-friendly and functional application that fits the project's criteria and objectives by utilising Flutter and Dart. The app allows users to search for suitable dogs, arrange appointments with their veterinarians, and buy products and necessities for their pets. To guarantee user security, the application's login page was created with validation and a "Forgot Password" option. The project was finished on schedule and on budget, and the team successfully handled risks and difficulties throughout the development process. During the testing process, the application was assured to be of high quality and to fulfil all functional and non-functional criteria.

VII. FUTURE WORK

- Social Features: Including social features like a buddy list, groups, and messaging allows dog owners to engage with one another and share their dog's experiences. To help users interact and socialise with their dogs, the app may also contain features like event creation, group walks, and playdates.
- Training: The software may feature modules for basic obedience training, commands, and behaviour modification for dogs. Machine learning algorithms may also be used by the app to personalise training programmes depending on the dog's breed, age, and personality.

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- Health Tracking: The app can have a feature that tracks the dog's health data like weight, activity level, and food intake. The app can provide personalized health recommendations and alerts to the owner based on the data collected.
- Virtual Vet Consultation: The app might include a function that monitors the dog's health statistics, such as weight, activity level, and food consumption. Based on the data collected, the app may give the owner with personalised health suggestions and notifications.
- Augmented Reality: Augmented reality (AR) elements in the app allow the user to engage with their dog in a virtual world. AR elements such as games, training programmes, and interactive toys can be used to improve the user's engagement with their dog.

  Wearable Technology Integration: To measure the dog's activity level, sleep habits, and behaviour, the software may link with wearable technology devices such as Fit Bark and Whistle.

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