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Pet's Adoption using React Native & Node Js

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ABSTRACT: During the pandemic, there has been an increase in the adoption of stray animals from animal shelters. While some people still choose to buy pets from pet shops, our aim with this application (developed as a React Native project) is to encourage adoption over shopping. In India, the most commons practice is to buy dogs, cats, and other animals from pet shops or individuals whose pets have had offspring.

Currently, most adoption processes are time-consuming and exhausting. Thus, the main purpose of our project is to create a platform that simplifies these processes and gives a new lease of life to stray animals. We chose to develop this platform as a mobile app because smartphones have become an integral part of our lives, especially during the pandemic, and their usage has significantly increased.

Our project utilizes React Native for front-end development, providing a cross-platform solution for mobile application development. For the back-end, we use Node.js, a powerful JavaScript runtime, and Mongo DB database.

React Native allows us to build high-performance, scalable applications with attractive and functional user interfaces. With Node.js and Mongo DB, we can develop a robust and efficient back-end server and store data in a flexible manner.

The primary objective of our app is to facilitate the adoption of stray animals.It provides a user-friendly interface and automates several aspects of pet welfare. By leveraging React Native, Node.js, and Mongo DB, we are confident in delivering a seamless and efficient experience for users and animal rescue shelters alike.

KEYWORDS: Adoption, Animal Shelter, Mobile Application, Stray Animal, Rescue Stories

I. INTRODUCTION

Animal adoption in India is generally done by buying dogs, cats, cows from pet shop or buying from the people whose pets have had babies. There are very few people who adopt stray pets. There are 76 lakhs of domestic animals entering animal shelters worldwide annually out of which 27 lakhs are euthanized. So, the number of euthanized animals can be reduced if people adopt pets instead of buying them from pet markets. The dog catchers in India behave roughly with dogs which is something we need to change. The inspiration of this project is an Android and IOS app for people to be more aware of the stray animals awaiting to get adopted around India.

II. RELATED WORK

These problems have been identified by many researches over the years and taken action to solve them. There are numerous apps regarding pet adoption. The main problems with these apps are that they only focus on pets like dogs and cats, rest of the animals such as rabbits. There are no filters for animals and their breeds too. So in our application prototype we overcame these inefficiencies.

There is a huge increase in the usage of mobile phones since 2013. So to cover most of the population in India we chose to build an application.proactive measures to address them. While there are numerous apps available for pet adoption, they often exhibit certain limitations. The predominant issue lies in their narrow focus on popular pets like dogs and cats, disregarding other animals such as rabbits. Additionally, these apps commonly lack robust filters for different animal species and breeds, making it difficult for users to find their desired companions.

Recognizing these inefficiencies, we have taken a proactive approach in our application prototype. We have designed our app to cater to a diverse range of animals, including not only dogs and cats but also lesser-known pets like rabbits, birds, and reptiles. Moreover, we have implemented comprehensive filters that allow users to refine their search based on specific animal types, breeds, sizes, and other relevant criteria. By addressing these shortcomings, our

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application prototype aims to provide a more inclusive and user-friendly experience for individuals seeking to adopt pets of various species and breeds.

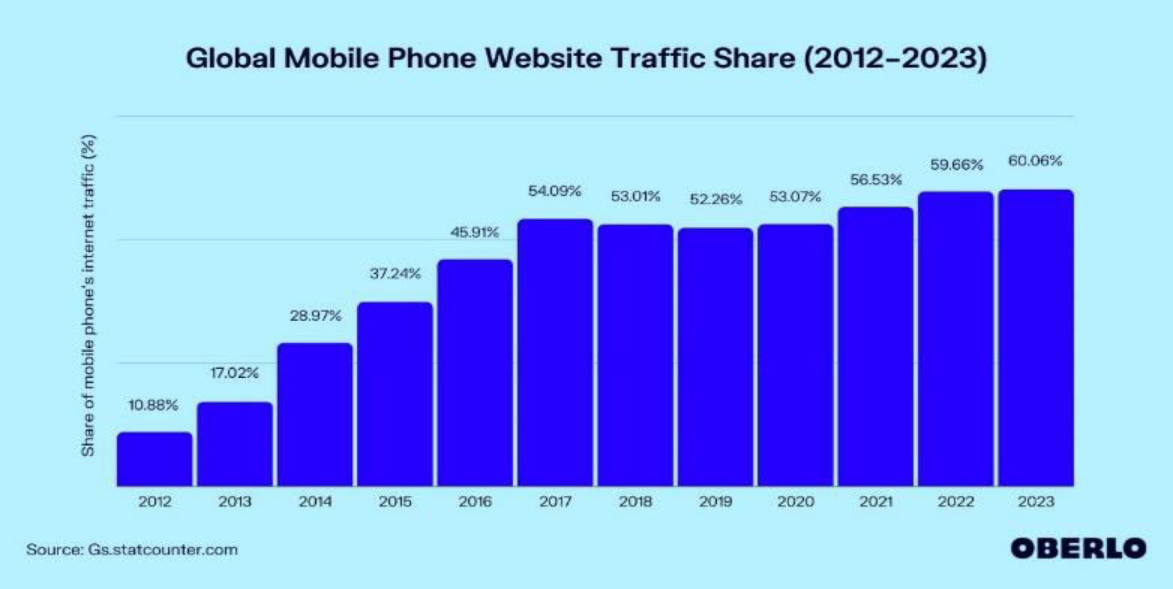

Fig-1:-Growthrateofmobilephoneusers

With these improvements, we aspire to facilitate the seamless and efficient adoption process for both animals in need of homes and compassionate individuals looking to provide them with a loving environment.

III. LITERATURE SURVEY

SANTY, SANTY & KARUNA, RYAN & BUDIMAN, ALVIN. (2018). E-DOPT: A MOBILE APPLICATION FOR PET ADOPTION IN INDONESIA.TELKOMNIKA (TELECOMMUNICATION COMPUTING ELECTRONICS AND CONTROL). 16. 2137. 10.12928/TELKOMNIKA. V16I5.8074.

Organizations that are willing to take in stray animals do exist, but these organizations commonly have been having issues with lack of space and funding. Because of the increasingly large numbers of homeless animals, animal shelters are often stretched on resources and are only able to provide basic necessities for the animals. Individuals may then adopt any of the stray animals Most shelters require adopters to complete an application. In addition to basic contact information, applications may include questions in the following areas:

Housing situation (renting vs owning)
Number and type of other pets that adopters own
Adopter experience with pets.

H. Liu and X. Meng, "JSP-Based Pet Adoption System," 2019 International Conferenceon Virtual Reality and Intelligent Systems (ICVRIS), 2019, pp.231234,doi:10.1109/ICVRIS.2019.00064.

The system is substantially separated into four modules: user handling module, pet handling module, pet adoption module and pet statistics module. Through Eclipse, MySQL, etc., utilizing SSM frame, bootstrap frame, and related JSP technology. Among them, the modal 6 box in the bootstrap frame to reduce the number of JSP pages When viewing pets, I chose a plugin written in pure CSS to complete the user-visible layout of the waterfall flow. In the adoption of the pet statistics module, the plug-in provided by Echarts is used to complete the production of the chart, making the data look more vivid and more intuitive. It also provides the ability to upload images to a local server for administrators to download and use. When the user logs in, the user name of the user is determined according to the username that is logged in, and the identity of the user is an General member or administrator checks the

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permission and moves to the page corresponding to the permission. When logging in, you have the option to remember your password. Two functions can be entered to make the design more user- friendly.

R. Herdika& E. K. Budiardjo,"Variabilit&Commonality Requirement Specification on Agile Software Development: Scrum, XP, Lean, & Kanban," 2020 3rd International Conference on Computer and Informatics Engineering (IC2IE), 2020,pp.323-329,doi: 10.1109/IC2IE50715.2020.9274564.

This research succeeds in discovering the commonality and variability practices between the agile method. We found eight similar practices and eight variability practices among the agile method. In section IV each method uses the same requirement specification, user story. Each method writes the user story with requirement mapping to establish the user requirement, splitting the user story into a specific one, prioritizing and estimating the effort as it is easier for the team to negotiate the iteration goal. Another agile practice related to getting the right user story is to do continuous feedback by verification and validation with testing and stakeholder's review. Last, each method does continuous planning according to the feedback. Each method also used artifacts to keep the feature list and manage the requirement. All methods utilize Kanab board to get a better picture in managing the user stories.

IV. METHODS

This project is developed using Agile Development Model. This model has focuses on iterative development. Agile methods or agile processes generally promote a disciplined project management process that encourages frequent inspection and adaptation, a leadership philosophy that encourages teamwork, self-organization and accountability, a set of engineering best practices intended to allow for rapid delivery of high-quality software, and a business approach that aligns development with customer needs and company goals.
Agile development is a popular approach in the software industry due to its emphasis on flexibility and customer satisfaction. It enables teams to adapt to changing requirements and deliver valuable software incrementally. Here are a few additional lines about the Agile development model:
The Agile Development Model, which has been adopted for his project, is a highly effective approach that emphasizes iterative development. Agile methods and processes are designed to foster a disciplined project management process, encouraging regular inspection and adaptation. This model embraces a leadership philosophy that prioritizes teamwork, self-organization, and accountability, empowering individuals to take ownership of their work.

In addition to its focus on project management, Agile also promotes a set of engineering best practices that enable the rapid delivery of high-quality software. These practices include continuous integration, automated testing, and the use of cross-functional teams, ensuring that the software is developed efficiently and with minimal defects.

Furthermore, the Agile Development Model adopts a business approach that aligns development efforts with customer needs and company goals. By embracing close collaboration with stakeholders, Agile teams ensure that the developed software meets the expectations of the end-users and contributes to the overall objectives of the organization.

Through its iterative nature, Agile allows for regular feedback and the incorporation of changes throughout the development process. This iterative approach ensures that the final product closely aligns with the evolving requirements and preferences of the customers, leading to higher customer satisfaction.

Overall, the Agile Development Model provides a comprehensive framework that promotes adaptability, collaboration, and value delivery. By leveraging this model, his project is well-positioned to achieve success by efficiently delivering high-quality software that meets customer expectations and supports the company's overarching goals.

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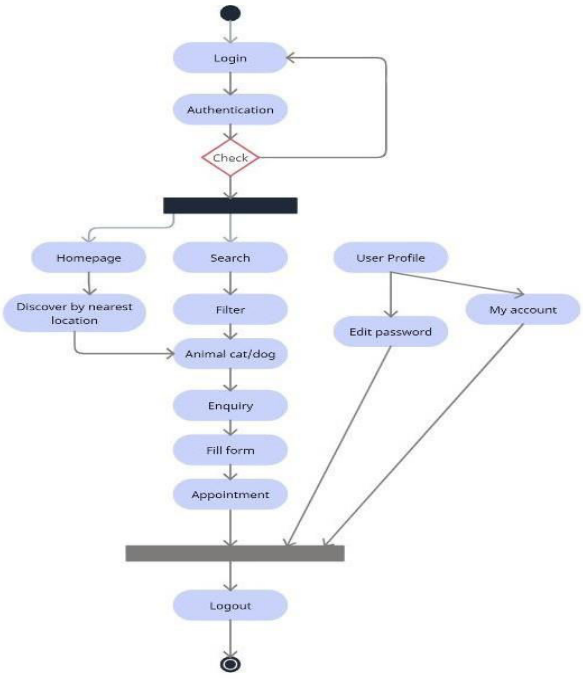
V. SYSTEM ARCHITECTURE

Thesystemisdesignedusingsystemactivitydiagram.

SystemActivitydiagram:

Given is system activity diagram; it shows the flow of theapplication.Firstregistereduserlogintosystembyenteringcorrectcredentials.Afterlogin,usercanseehomepage feed where user can find animal, also user canfindanimalbyusingsearchandfilteroption.Userhasoption of updating profile where he/she can update theirname, password etc. The homepage The feed is displayedbasedontheuser'slocation.Userscanseeavailableanimalsfortheadoptionfromtheanimalshelterorganizationbased ontheirlocation.Userscanfillanapplication form upon finding their potential pet and canschedule an appointment. Also, users can click on option"chat" to reach out to the organization if they have anyqueries.



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VI. RESULTS

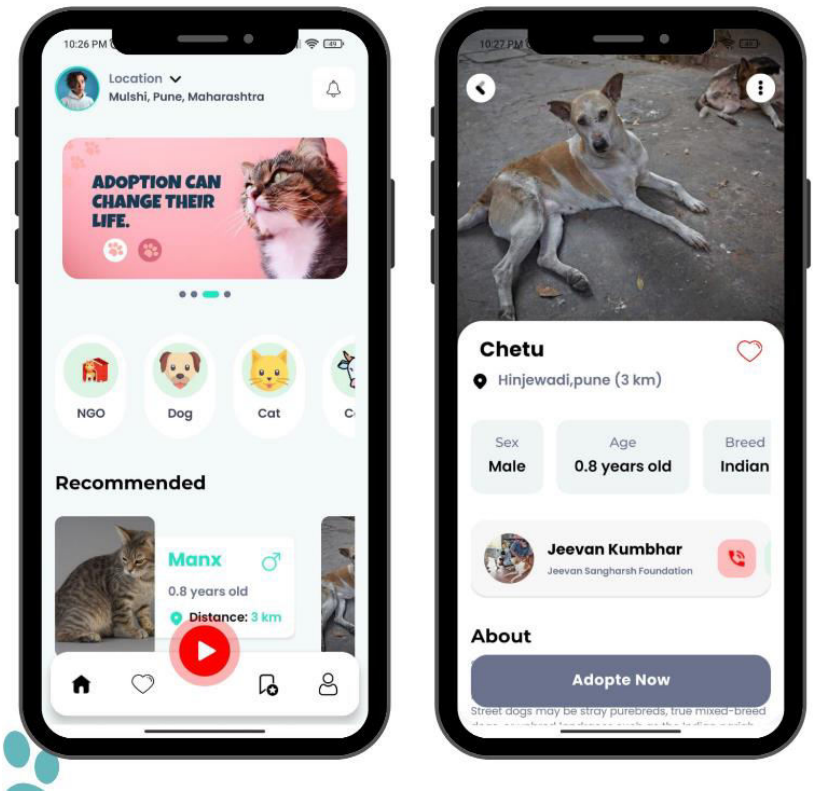

Fig. Result

VII. EVALUATION

Various types of testing, including Unit testing, Integration testing, Load and Stress testing, were conducted on our app's prototype. The testing team provided valuable suggestions for enhancing data management within the application and achieving a faster response rate. These recommendations will be incorporated into the next version of the app. Following the completion of Acceptance testing, the updated app will be released on both the Google Play Store and the IOS App Store.

VIII. FUTURES SCOPE

Upon publication of the app, our team will commence working on a set of exciting new features. These additions will include:

- Implementation of a built-in chatting system, enabling users who upload pictures of pets and those interested in adoption to communicate with each other.
- Establishment of a pet food store within the app, offering a wide selection of pet food at affordable prices.
- Creation of a dedicated Veterinarian section, allowing users to seek professional assistance and advice from veterinarians regarding their pets' healthcare needs.

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IX.CONCLUSION

We have successfully developed the prototype of our Pet Adoption Application, focusing on several key objectives:

- Raising awareness: Our application aims to inform users about stray animals in their vicinity that require assistance and care.
- Reducing euthanization: By connecting people with stray animals, we strive to decrease the number of animals that are euthanized due to lack of resources or attention.

- Empowering compassion: Our app provides an opportunity for kind-hearted individuals to make a difference in the lives of helpless animals by offering them support and care.
- Inspiring others: Users can share their personal stories of rescuing pets, serving as a source of motivation for others to take similar compassionate actions.
- Through these objectives, our Pet Adoption Application seeks to foster a community of animal lovers and make a positive impact on the lives of stray animals.

X.ACKNOWLEDGEMENT

We as a part of our final project at VESP, we had the privilege of developing and thoroughly testing the app under the expert guidance of Prof. Dipali Deshmukh.

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