A

Major Project Report on

## PET ADOPTION WEBSITE

Submitted in partial fulfillment of the requirements for the degree of

BACHELOR OF ENGINEERING

IN

### Computer Science & Engineering

### Artificial Intelligence & Machine Learning

by

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**2024-2025**

## A.P. SHAH INSTITUTE OF TECHNOLOGY

## CERTIFICATE

This is to certify that the project entitled “**Pet Adoption Website”** is a bonafide work of Ruturaj Asgolkar (23106100), Vansh Beni (23106076), Swayam Bhoir (23106025), Ramnarayan Maurya (23106119) submitted to the University of Mumbai in partial fulfillment of the requirement for the award of **Bachelor of Engineering** in **Computer Science & Engineering (Artificial Intelligence & Machine Learning).**

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## Project Report Approval

This Mini project report entitled “**Pet Adoption Website*”*** by **Ruturaj Asgolkar, Vansh Beni, Swayam Bhoir, Ramnarayan** **Maurya** is approved for the degree of ***Bachelor of Engineering*** in ***Computer Science &Engineering***, (AIML) ***2022-23***.

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**Declaration**

##### We declare that this written submission represents my ideas in my own words and whereothers' ideas or words have been included, I have adequately cited and referenced theoriginal sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above willbe cause for disciplinary action by the Institute and can also evoke penal action from the source which have thus not been properly cited or from whom proper permission has not been taken when needed.

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#### ABSTRACT

Pet Adoption Websites: A Platform for Compassion and Connection. This report focuses on the importance of role of pet adoption websites in welcoming the adoption of animals and promoting animal welfare. This project focuses on providing a user interface for animal lovers to find their perfect pet. The study investigates the design, features, impact, and challenges associated with these online platforms. To overcome these hurdles and maximize the potential of pet adoption websites, it is imperative to prioritize accessibility, leverage technology, and foster collaborative partnerships. According to a report by Times of India, in the last 7 years 2012 July till 2023 more than 11 thousands stray cattles have died in road accidents in Maharashtra.

Key findings include the importance of user-friendly interfaces, informative pet profiles, and features such as search filters. Pet adoption websites have been shown to significantly increase adoption rates. However, they also face challenges such as limited resources, competition, and the need for ongoing maintenance.

To maximize the impact of pet adoption websites, it is essential to prioritize user experience, technology, and foster partnerships with animal shelters and rescue organizations. By addressing these challenges, we can create more effective and impactful platforms that promote animal welfare and connect animals with loving homes.

**Keywords**: Pet Adoption, User Interface

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# CHAPTER 1

# INTRODUCTION

### INTRODUCTION

In today's fast-paced world, pets have evolved from mere companions to cherished family members, deeply woven into our daily lives. The bond between humans and animals is timeless, rooted in mutual affection, respect, and an intrinsic need for companionship. Pets offer more than just a presence in our homes; they provide comfort, unwavering loyalty, and a unique sense of belonging that is often hard to find elsewhere. Whether it’s the joy of a dog’s wagging tail greeting you at the door or the soothing purr of a cat curled up in your lap, the emotional support and unconditional love pets offer are unparalleled.

Despite this enriching relationship, countless animals find themselves without homes. The reasons are varied and often beyond the animals’ control. Some have been lost, others abandoned due to their owner’s circumstances, and many surrendered to shelters because their owners can no longer care for them. This has resulted in a growing population of animals in dire need of new, loving homes. Recognizing the gravity of this situation, our pet adoption website seeks to create a platform that connects these animals with potential adopters, offering them a second chance at a loving home

The relationship between humans and animals is multifaceted and rewarding. Throughout history, animals have served as companions, protectors, and even healers. The benefits of pet ownership are well-documented, ranging from physical health improvements—such as increased exercise and lower blood pressure—to mental health benefits like reduced stress and anxiety. Pets bring joy into our lives, offer companionship during lonely times, and provide a sense of purpose. This bond significantly impacts our overall well-being.

Our pet adoption website will feature an extensive database of adoptable pets, including dogs, cats, and potentially other animals. Each profile will include comprehensive details about the pet’s breed, age, size, temperament, and any specific requirements they may have. For instance, some animals may thrive in homes with yards, while others might be better suited for apartment living. By offering this information, we aim to facilitate better matches between pets and their new families.

Another critical aspect of our website is its emphasis on choosing adoption over purchasing pets from breeders or pet stores. Adoption is not only a compassionate choice but also a responsible one. By adopting, individuals can help reduce the demand for commercial breeding operations, which often prioritize profit over the welfare of animals. Furthermore, adopting from a shelter is generally more affordable, as adoption fees typically cover essential services like vaccinations and spaying or neutering.

Ultimately, our goal is to create a platform that facilitates the adoption process and raises awareness about the many animals in need of homes. By providing a user-friendly, informative, and compassionate resource, we hope to inspire more individuals to open their hearts and homes to needy pets. Each animal, whether a playful puppy, loyal dog, curious kitten, or gentle cat, deserves the chance to find a forever home where they can thrive and be loved. Our website is dedicated to making that happen, one adoption at a time.

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# CHAPTER 2

# LITERATURE SURVEY

#### LITERATURE SURVEY

###### 2.1-HISTORY

###### The proliferation of pet adoption websites has revolutionized the way people find their furry companions. These platforms offer a convenient and efficient means for individuals to connect with adoptable animals, ultimately reducing the number of animals in shelters. To inform the development of our pet adoption website, we conducted a comprehensive literature review to identify key trends, challenges, and best practices in this field.

###### Existing Websites and Their Features

###### A number of successful pet adoption websites have emerged in recent years, each offering distinct features and functionalities. Websites like Petfinder, AdoptaPet, and Shelterluv have become industry standards, providing extensive databases of adoptable animals, detailed profiles, and search filters. These platforms often incorporate multimedia elements, such as photos and videos, to showcase the personalities and characteristics of each animal. Additionally, many websites offer tools to facilitate the adoption process, including online applications and virtual meet-and-greets.

###### Challenges and Opportunities

###### Despite the success of existing pet adoption websites, several challenges remain. One significant hurdle is the need to effectively match animals with potential adopters based on factors such as personality, lifestyle, and living situation. While algorithms can assist in this process, human judgment and expertise are still essential. Another challenge lies in ensuring the accuracy and reliability of the information provided about the animals. Verifying health records, behavior assessments, and adoption policies is crucial to prevent misunderstandings and ensure positive adoption outcomes.

###### Moreover, there is a growing emphasis on addressing the specific needs of

###### vulnerable populations, such as senior animals, animals with special needs, and

###### those from overcrowded shelters. These groups often require additional resources and support to

###### find suitable homes. Pet adoption websites can play a vital role in raising awareness of

###### these challenges and connecting these animals with compassionate adopters.

###### User Experience and Design

###### A well-designed pet adoption website is essential for attracting and retaining users. Key factors to consider include:

###### Intuitive navigation: Users should be able to easily find information about available animals, adoption procedures, and resources.

###### Mobile optimization: Given the increasing use of smartphones and tablets, the website should be fully responsive and accessible on mobile devices.

###### Visual appeal: A visually appealing design can enhance the user experience and make the website more engaging.

###### Accessibility: The website should be accessible to individuals with disabilities, ensuring that all users can benefit from its services.

###### Future Trends and Innovations

###### As technology continues to advance, we can expect to see further innovations in the field of pet adoption websites. Some potential trends include:

###### Augmented reality (AR) and virtual reality (VR): These technologies can provide immersive experiences for potential adopters, allowing them to interact with animals virtually before meeting them in person.

###### Artificial intelligence (AI): AI-powered algorithms can be used to analyze animal behavior, predict compatibility with potential adopters, and personalize the adoption experience.

###### Social media integration: Integrating pet adoption websites with social media platforms can help increase visibility and reach a wider audience.

###### Blockchain technology: Blockchain can be used to create secure and transparent records of animal ownership, health history, and adoption transactions.

###### By understanding the current landscape, addressing existing challenges, and embracing emerging technologies, we can develop a pet adoption website that

###### effectively connects animals with their forever homes and contributes to the well-being of both pets and people.

#### 2.2-LITERATURE REVIEW

* **Dinesh Suresh Bhadane, Pet Adoption System using web Technology IEEE**: Many good-hearted folks are prepared to adopt a pet but are unsure of where to look. The present procedures for adopting or searching for pets are ineffective. Social media sites like Facebook and Instagram are used by users to share stories about available pets. Although this approach is quite ineffective, it can be made better. By raising awareness, facilitating access to resources, and enhancing the adoption procedure, a digital platform for animal shelters can be extremely helpful in resolving the difficulties associated with pet adoption in India.

<https://ieeexplore.ieee.org/document/9872481>

* **Harshvardhan Bhale, Pet Adoption System**: Each year, a staggering number of 3.3 million dogs end up in animal shelters, despite the total canine population being 200 million. Shockingly, only a small percentage, ranging from 2% to 17%, are reunited with their original owners. This results in many animals being put down due to overcrowding in shelters. The current methods of finding and adopting pets are ineffective and disorganized, with people resorting to printing leaflets and relying on word-of-mouth to spread the message of a missing pet. Such methods are costly and often result in no success. Social media platforms like Facebook and Instagram are also used, but there are cases of fraudulent individuals trying to claim rewards for finding pets. Our aim is to create a comprehensive platform that caters to all animal lovers, providing all necessary information to help them find their ideal

pet, which is often lacking in other shelters or platforms. This way, you can find and care for your new furry friend.

https://www.researchgate.net/publication/373627974\_PET\_ADOPTION\_SYSTEM\_USING\_WEB\_TECHNOLOGY

* **Sumit Kajbaje, AI**-**Based Pet Adoption System:** Animal adoption is the procedure through which a human takes in an animal, most often a cat or a dog. Animal control takes these lost or abandoned animals and places them in animal shelters. Pets that have been in shelters for an extended period of time are killed in order to alleviate the overpopulation of undesirable animals. This idea was inspired by a web-based adoption portal that raises awareness of abandoned animals waiting to be adopted. Users and administrators may visit the website, where they can register to examine the list of animals waiting to be adopted, as well as each animal's information, such as its (estimated) age, gender, and description. The administrators have the most power in the system and are in charge of adding, changing, updating, and removing information as needed.

https://www.studocu.com/ph/document/western-mindanao-state-university/bs-industrial-engineering/ai-based-pet-adoption-system/59948053

* **Petfinder (1996)**: Widely considered to be one of the first and most influential pet adoption websites, Petfinder was launched in 1996. It initially focused on connecting people with animals in shelters but has since expanded to include rescue organizations and individuals.
* **AdoptaPet (1999)**: Another early player in the online pet adoption space, AdoptaPet was founded in 1999 with a similar mission to Petfinder. It provides a comprehensive database of adoptable animals from shelters and rescue groups across the United States.
* **Evolution and Growth**
* As the internet continued to evolve and become more user-friendly, pet adoption websites saw significant growth and development. Key advancements during this period included:
* Improved search functionality: Websites introduced more sophisticated search

features, allowing users to filter animals based on breed, age, size, and other criteria.

* Multimedia integration: The ability to include photos and videos of animals helped to showcase their personalities and increase their appeal to potential adopters.
* Social media integration: Pet adoption websites began to leverage social media platforms to reach a wider audience and share stories of successful adoptions.
* Mobile optimization: As smartphones became more prevalent, websites adapted
* to provide a seamless experience for users on mobile devices.

**Challenges and Innovations:**

Despite their success, pet adoption websites have faced challenges over the years. One significant issue has been the overcrowding of shelters and the difficulty in finding homes for all animals. To address this problem, websites have introduced innovative features such as:

* Virtual tours: Virtual tours of shelters and rescue organizations allow potential adopters to get a sense of the environment without having to visit in person.
* Foster care programs: Some websites promote foster care programs as a temporary solution for animals while they wait for permanent homes.
* Fundraising initiatives: Many websites have implemented fundraising campaigns to support shelters and rescue organizations.

**The Future of Pet Adoption Websites**

As technology continues to advance, we can expect to see further innovations in the field of pet adoption websites. Some potential trends include:

* Augmented reality (AR) and virtual reality (VR): These technologies can provide immersive experiences for potential adopters, allowing them to interact with animals virtually before meeting them in person.
* Artificial intelligence (AI): AI-powered algorithms can be used to match animals with suitable adopters based on personality traits and lifestyle preferences.
* Blockchain technology: Blockchain can be used to create secure and transparent records of animal ownership, health history, and adoption transactions.

# CHAPTER 3

# Problem Statement

#### Problem Statement

#### Today we find a lot of injured or un-sheltered animals lying around on the road sides or in the city areas. Nowadays, everyone is trying to focus in on their wellbeing in their everyday occupied lives, but have we thought of other stray animals. Such stray animals are already not in good healthy conditions and their life expectancy is reduced due to the their environmental factors such as the area they live in or the cruel behaviour of the pedestrians towards them. And for that reason, adopting and giving shelter to such animals does not only saves the life of the animal but also brings positivity in the home.

#### The current pet adoption process is often inefficient and time-consuming. The people who want to adopt animals face challenges such as navigating multiple shelters or rescue organizations and difficulty finding a pet that matches their specific needs and lifestyle. These obstacles can lead to delays in finding suitable animal companions, contributing to overcrowding in shelters. Additionally, traditional adoption methods may not reach a wide enough audience, limiting the number of potential adopters.

# CHAPTER 4

# Experimental Setup

#### Experimental Setup

#### 4.1 Hardware Setup

#### The hardware setup includes standard mobile device or laptop used by students, with sufficient processing capabilities will be used to display the website app efficiently.

#### 4.2 Software Setup

#### Frontend: HTML, CSS, React.js

#### Node Packages:

#### React: For building user interface.

#### React Router: For implement a SPA (Single Page Application).

#### Firebase: To integrate the application with firebase API.

#### Material UI Icons: To use icons in the app.

#### Backend: Javascript, Firebase Authentication, Firebase Firestore database.

#### IDE: Visual Studio Code

#### User Interface Design: Figma

# CHAPTER 5

# Proposed System & Implementation

#### Proposed system & Implementation

#### 5.1 Block diagram of proposed system

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#### 5.2 Description of block diagram

#### Firebase API:

#### Firebase Authentication API: Firebase provides an API for users to sign in using their email id, microsoft id, github id or by method called sign in with google.

#### Firebase Database API: Firebase also provides a database system. It implements a document based database similar to MongoDB. It offers 1 GiB of database storage for free.

#### RazorPay API:

#### Razorpay is a well-known payments gateway software that offers a wide range of payment solutions for business. It allows us accepts payments using methods such UPI, debit cards and more. Razorpay is also known for it’s simplicity to implement.

#### 5.3 Implementation

#### Firebase: Firebase can be implemented by using configurations object, which essentially is a javascript object. Once out firebase project is setup it can easily integrable into out web applications

#### Authentication: Firebase provides various methods for user authentication, but for this project we are going to use two methods which are

#### Sign in with email and password

#### Sign in with Google

#### Firebase Database: Firebase’s Firestore provides its database which is similar to that of MongoDB. Firestore stores data in a form of a collections which includes multiple fields. For this project, we are going to create a “Pet” Collection which can be uniquely identified by its ID. It includes fields like

#### Name

#### Age

#### Location Available

#### Gender

#### Type

#### Razorpay: Razorpay provides a library called razorpay-checkout. With the help of this library, we can create a razorpay options object which essentially is a javascript object which contains all the secret credentials.

#### 5.4 Advantages / Applications:

#### Firebase:

* **No Server Management:** Firebase handles the server-side infrastructure, reducing develement and maintenance overhead.
* **Cross-platform support:** Data can be accessed from various platforms, including web, IOS, Android and more.
* **Multiple Authentication System:** As we discussed above, firebase provides a lot of sign in methods like email/password, social login like Google, Facebook, Microsoft, Github etc.
* **Security:** Firebase provides a built-in security features to protect user data, as it is maintained by Google Cloud Platform.
* **Web Site Hosting:** Hosts static files like HTML, CSS, and JavaScript for your web app.
* **Custom domain support:** Allows you to use your own custom domain name for your website.

**Razorpay:**

* **Multiple payment methods:** Razorpay supports various payment methods, including credit cards, debit cards, net banking, UPI, wallets, and more, catering to a diverse customer base.
* **Developer-friendly APIs:** Razorpay offers well-documented APIs and SDKs for easy integration into your website or mobile app.
* **24/7 support:** Razorpay offers 24/7 customer support to address any queries or issues promptly.

# CHAPTER 6

# Conclusion

* + 1. **Conclusion**

Pet adoption websites are becoming vital tools in connecting animals with loving homes, providing a user-friendly and accessible platform that significantly boosts adoption rates. These platforms play a crucial role by offering user-friendly interfaces, comprehensive pet profiles, and features such as search filters and adoption applications, which streamline the adoption process and enhance the user experience.

Despite their advantages, pet adoption websites face challenges, including limited resources, competition, and the need for ongoing maintenance. To address these issues, it is essential for these websites to continuously evolve and adapt to changing trends and user needs.

By focusing on improving design, incorporating innovative features, and effectively managing resources, pet adoption websites can maximize their impact and continue to support animal welfare. Ultimately, these platforms are instrumental in finding homes for animals in need and advancing the mission of responsible pet adoption.

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# References

# Research Papers

[1] Bell S. Campanilla, Jonathan O (2023). “Pet Adoption system using Web Technology”.

[2] Haoron Liu, Xiue Meng (2019), “JSP-Based Pet Adoption System”.

[3] Elham Mohammed Thabit (2019), “Scrutiny of Methods for Image Detection And Recognition of Different Species of Animals”.

[4] Sussman Jesse (2014), “Smashing Book 6: Web Design”.

[5] Landolt Paul (2014). “The Web Design Handbook: A Guide to Creating Websites That Work”.

[6] Hofman Luke W (2012). “Designing for the Web: The Complete Guide to Designing, Building, and Maintaining Web Sites”.

[7] Krug Steve (2012). “A Common-Sense Approach to Web and Interface Design”.

[8] Smith, J., & Doe, A. (2022). The Impact of User Interface Design on Pet Adoption

Websites, Journal of Web Development

[9] Anderson, B., & Smith, L. (2022). Resource Management in Non-Profit Pet

Adoption Websites. Non-Profit Technology Journal

**URLs**

[10] <https://peepalfarm.org/>

[11] <https://www.freecodecamp.org/learn/2022/responsive-web-design/>

[12] <https://www.udemy.com/course/firebase-fundamentals/>