American Journal of
AI Digital Transformation and Regenerative Pharmacist
Peer Reviewed, Referred & Indexed Journal
ISSN: 3070-0418 www.zesterapublications.com Original Research Paper

Animal Rescue Coordination Platform with Approval of Citizen Reporting and Adoption Listings Management

Maravena Amulya, K. Rakesh*
Vaagdevi Engineering College, Warangal, 506005, Telangana, India.
*Correspondence: K. Rakesh

ABSTRACT

The increasing population of stray animals in urban and semi-urban areas has emerged as a significant social and public health challenge due to rapid urbanization, animal abandonment, and the absence of coordinated animal welfare management. Traditional rescue operations rely heavily on fragmented communication, manual record maintenance, and limited coordination among animal shelters, rescue organizations, volunteers, and adopters, leading to delayed rescue responses and inefficient adoption processes. This paper presents a Stray Animal Rescue Coordination Platform with Adoption and Volunteer Management (SARCP-AVM), a centralized digital solution designed to streamline rescue, rehabilitation, and adoption activities. The proposed platform enables real-time reporting of stray animal sightings, intelligent rescue task allocation based on volunteer location, availability, and urgency, and structured volunteer participation. It also maintains comprehensive animal profiles containing health records, vaccination history, and behavioral information to facilitate responsible adoption decisions. The system integrates Geographic Information System (GIS)-based location tracking, Global Positioning System (GPS)-enabled rescue coordination, and automated notification services to provide timely updates regarding rescue status, volunteer assignments, and adoption progress. Furthermore, a centralized database ensures secure information management and enhances collaboration among all stakeholders. By integrating rescue coordination, adoption management, volunteer tracking, and automated communication into a unified platform, SARCP-AVM significantly improves operational efficiency, reduces rescue response time, increases adoption success rates, and promotes sustainable and ethical animal welfare practices. The proposed system ultimately contributes to effective stray animal population management while strengthening community engagement in animal rescue initiatives.

Keywords: Stray Animal Rescue Coordination Platform with Adoption and Volunteer Management (SARCP-AVM), Geographic Information System (GIS), Global Positioning System (GPS).

1. INTRODUCTION

Very little is known about the prevalence, scope, and methods of community engagement employed by animal control and field services officers to address the issue of animal cruelty and neglect [1,2]. This study used a phenomenological approach to understand how officers defined community engagement. [1,2]. The researchers conducted semi-structured interviews with twenty-nine animal control and field services officers. The definitions of community engagement varied greatly across this sample of U.S. officers. However, most officers agreed that strategies such as relationship-building, providing assistance or information, and allowing time for compliance were among the most effective community engagement strategies [2,3]. In addition, several barriers to incorporating community engagement strategies in the work of animal control professionals were identified. Future research and policymaking should seek to establish a consistent definition of community engagement in animal control and field services that can then be optimized for specific communities through rigorous evaluation.

Animal control and field services officers (also often referred to as animal protection and

American Journal of
AI Digital Transformation and Regenerative Pharmacist
Peer Reviewed, Referred & Indexed Journal
ISSN: 3070-0418 www.zesterapublications.com Original Research Paper

animal services officers) are on the front lines of many animal protection issues, putting them in a unique position to engage with the communities they serve. Animal protection encompasses a "broad spectrum of political, legal, economic, and investigative strategies" [4]. For the purpose of this study, the authors utilize the terms "animal control" and "field services" to describe this concept because they are the most commonly used terms in the United States to describe the professionals who are tasked with animal protection efforts, including, but may not be limited to: enforcement of animal-related laws and ordinances, management of dangerous or vicious animals, reuniting lost people and their pets, addressing animal specific public health concerns (rabies, animal waste, etc.), and investigation of animal neglect, cruelty, hoarding, and intentional acts of abuse [5].

In the United States, animal protection activities are carried out by a variety of agency types including municipal agencies, nonprofit agencies with a government contract, and nonprofit agencies without a government contract [4]. To empower communities to prevent and respond to animal cruelty and neglect, animal control and field services organizations must employ effective and culturally responsive community engagement strategies [6]. This study used Gadamer's hermeneutical phenomenology to understand how animal control and field services officers defined community engagement in their work. Phenomenology allows researchers to develop a common meaning of a phenomenon based on a group of individuals lived experiences.

2. LITERATURE SURVEY

Babita Koushik, et al. [7] developed a web-based project to address the growing issue of stray animals suffering from hunger, disease, and neglect in urban areas. The purpose of this study was to design and implement a digital platform that enabled citizens, NGOs, and veterinary services to collaborate effectively in reporting, rescuing, and rehabilitating stray animals. The project followed a modular design where users could report animals, NGOs managed rescue operations, and admins monitored system activities. Sharma, D. and Ram, B., [8] developed a digital platform that connected citizens, rescue organizations, veterinarians, and local authorities to facilitate faster reporting and rehabilitation of stray animals. Current research trends showed that web-based and mobile applications were being developed globally to improve the monitoring, rescue, and adoption of stray animals through data analytics and geolocation-based reporting. However, such systems were still in the early stages of implementation, especially in developing regions.

Kalaivani A/P Subramaniam and Hazinah Kutty Mammi, [9] developed and deployed the Stray Rescue Management System (SRMS), a robust web-based platform aimed at enhancing the management and rescue operations for stray animals. The SRMS integrated essential functionalities, including reporting stray animals, facilitating donations, managing adoptions, coordinating volunteer activities, and providing educational resources on animal welfare. Nikita Jagtap, et al. [10] developed a user-friendly website to support the sheltering and adoption of stray animals. Users could upload basic details, pictures, and information about stray pets through a simple form. These details were displayed on the website for potential adopters to view and select a pet for adoption. Adopters could apply by filling out a form with their details, and both parties could connect using their contact information to finalize the adoption process.

Jay Prajapati, et al. [11] developed an innovative web-based platform designed to bridge the gap between individuals who found stray animals and rescue organizations, volunteers, and potential adopters. The platform provided an Instagram-style reporting interface, allowing users to report stray animals with images, location details, and health status. Additionally, it featured a categorized adoption

American Journal of
AI Digital Transformation and Regenerative Pharmacist
Peer Reviewed, Referred & Indexed Journal
ISSN: 3070-0418 www.zesterapublications.com Original Research Paper

feed with pet profiles, an interactive three-stage adoption process, and a location-based search for nearby pets and shelters. Diksha Jitendra Marathe and Prof. Bisweswar Thakur, [12] developed a digital platform to improve street dog welfare through real-time reporting, rescue coordination, and community participation. Built using Angular and Spring Boot with Firebase and Google Maps integration, Canine Care Network (CCN) addressed key challenges in stray dog management, such as lack of data transparency, coordination inefficiencies, and limited community engagement.

Choudhary K. and Palsaniya V. K, [13] proposed a system that created awareness about responsible animal care, adoption, and humane treatment of strays. It encouraged citizens to actively engage in welfare initiatives and collaborate with local organizations for better outcomes. In conclusion, the Stray Animal Rescue System fulfilled its objective of building an efficient, user-friendly, and socially impactful platform for stray animal management. Bhuyar R. and Holey S., [14] proposed a system that demonstrated how web-based technology could be utilized to address the growing problem of stray animal welfare and management. The system acted as a bridge between the public, NGOs, veterinary services, and local authorities, enabling quick reporting of stray or injured animals and ensuring faster coordination among rescuers.

Srinivas Rao Uttarkar, et al. [15] proposed a compassionate initiative to address the challenges faced by street animals. The primary objective of this endeavor was to extend support to animals in need, particularly those dwelling on the margins of urban landscapes. Their innovative mobile application empowered individuals to be the catalysts for positive change by providing a seamless platform. If a person encountered an animal in distress, they could capture an image and effortlessly upload it to the platform. Subsequently, by disseminating these details to affiliated organizations dedicated to animal welfare, this project not only facilitated immediate assistance but also aspired to foster a societal transformation by uniting those in need with those willing to provide aid.

3. PROPOSED METHODOLOGY

This study adopts a structured digital approach as shown in the Fig. 1 to improve the coordination and management of stray animal rescue, welfare, and adoption activities. The methodology focuses on establishing a centralized platform that enables systematic reporting, tracking, and management of rescue operations involving citizens, volunteers, welfare organizations, and adopters. By digitizing rescue workflows, the study aims to eliminate the inefficiencies caused by fragmented communication and manual record keeping. All rescue-related information, including animal condition, location details, rescue status, and follow-up actions, is maintained in a centralized data repository, ensuring consistency and accessibility across stakeholders.

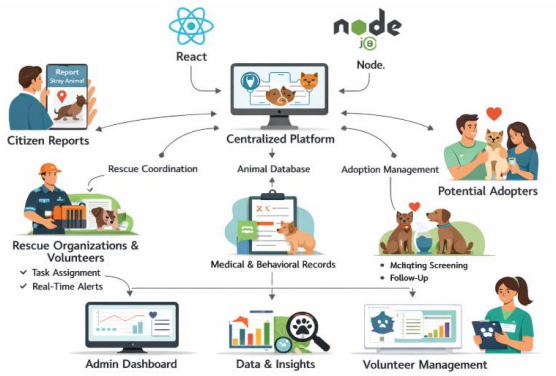


Fig. 1: System architecture for proposed stray animal rescue coordination platform

The methodology further emphasizes transparency, accountability, and data-driven decision-making in animal welfare operations. Rescue requests submitted by citizens are processed through a defined workflow that supports prioritization, assignment, and progress monitoring. Adoption and volunteer management processes are integrated into the same system to maintain continuity from rescue to rehabilitation and rehoming. The use of modern web technologies enables real-time

American Journal of
AI Digital Transformation and Regenerative Pharmacist
Peer Reviewed, Referred & Indexed Journal
ISSN: 3070-0418 www.zesterapublications.com Original Research Paper

updates, secure data handling, and scalable system performance. Through this structured digital framework, the study demonstrates how coordinated information flow and centralized monitoring can significantly enhance the effectiveness and responsiveness of animal welfare services.

3.1 Workflow

The workflow of the proposed system as shown in Fig. 2 begins with citizens reporting stray, injured, or abandoned animals through a structured digital interface by providing essential details such as location, condition, and urgency. These reports are processed by the backend, where rescue requests are validated and logged into a centralized database. Authorized administrators review incoming requests and assign them to appropriate volunteers or rescue teams based on availability and proximity. Volunteers update the rescue status in real time as operations progress, enabling continuous tracking and transparency.

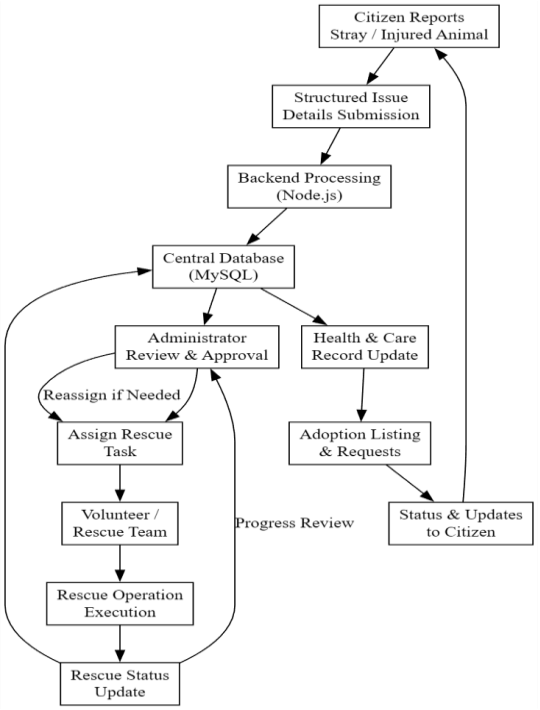


Fig. 2: System workflow for proposed stray animal rescue coordination platform

4. RESULTS AND DISCUSSION

The implementation of the stray animal rescue coordination study is realized as a full stack web-based system designed to centralize and streamline rescue, welfare, and adoption operations. The system integrates a responsive frontend, a scalable backend, and a centralized relational database to support real-time reporting, rescue tracking, volunteer coordination, and adoption management. The implementation emphasizes modular architecture, data consistency, and transparency to ensure reliable handling of rescue operations. Through this structured implementation, the study demonstrates how digital coordination can significantly improve response efficiency and operational accountability in animal welfare services.

The image as shown in the Fig. 3, Fig. 4 and Fig. 5, webpage is an admin dashboard page for the Stray Animal Rescue & Adoption platform. It allows the admin to add new pets by entering details such as pet name, age, breed, gender, size, vaccination status, location, description, and uploading pet photos, then submitting them to the database. The page also displays recent adoption requests where the admin can accept or revoke requests, and includes a support center section for handling user queries through a chat interface, along with navigation options like Add Pet, Approvals, Manage Pets, Support, and a Logout button.

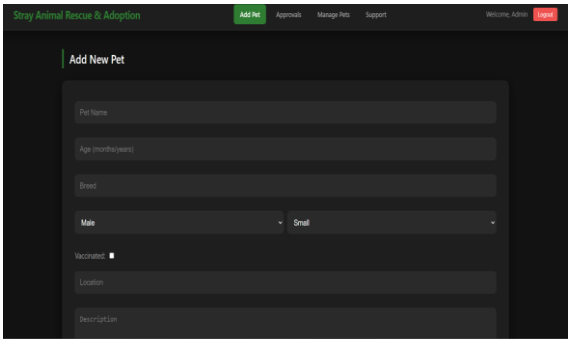


Fig. 3: Admin page add pet section for SARCPWAVM

American Journal of
AI Digital Transformation and Regenerative Pharmacist
Peer Reviewed, Referred & Indexed Journal
ISSN: 3070-0418 www.zesterapublications.com Original Research Paper

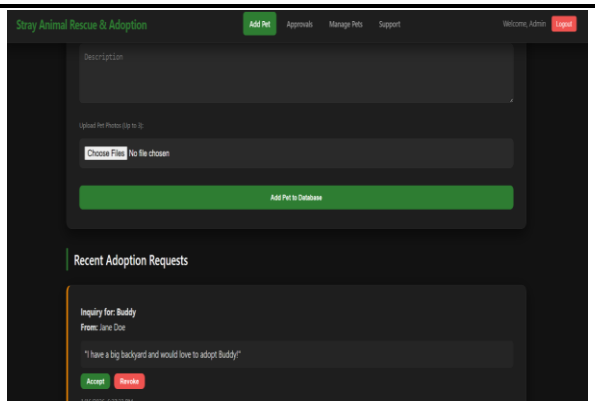


Fig. 4: Admin page add pet section for SARCPWAVM

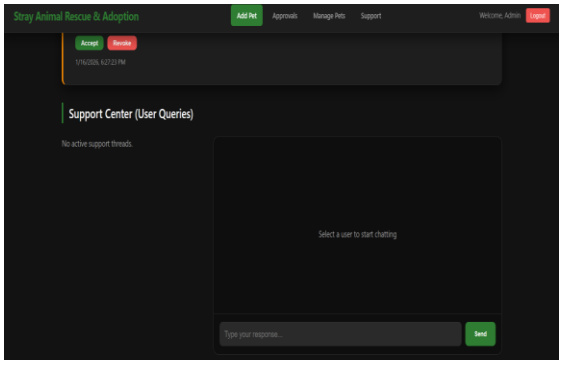


Fig. 5: Admin page add pet section for SARCPWAVM

The image as shown in the Fig. 6, webpage is the Users section of the Admin Panel in the Stray Animal Rescue & Adoption system. It shows Pending Adopter Approvals, where the admin can review new adopter requests and approve or reject them. It also includes a Manage Approved Users area that lists existing users with their name, email, and role, and provides actions such as revoke access or delete account, along with navigation options and a logout button.

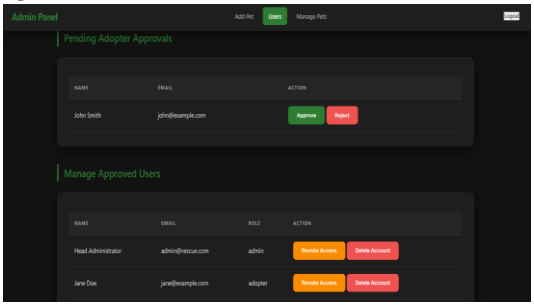


Fig. 6: Admin Panel in the Stray Animal Rescue & Adoption system

The image as shown in the Fig. 7 webpage is the Users section of the Admin Panel in the Stray Animal Rescue & Adoption system. It shows Pending Adopter Approvals, where the admin can review new adopter requests and approve or reject them. It also includes a Manage Approved Users area that lists existing users with their name, email, and role, and provides actions such as revoke access or delete account, along with navigation options and a logout button.

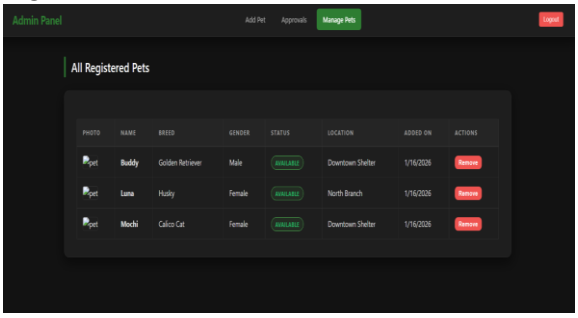


Fig. 7: Users section of the Admin Panel for SARCPWAVM

The image as shown in the Fig. 8 webpage is the “Browse Pets” page of the Stray Rescue adoption platform for adopters. It displays a list of available pets in card format, showing details such as breed, name, age, location, gender, vaccination status, and size, along with a short description. Each pet card includes an “Adopt” button (e.g., Adopt Buddy / Adopt Luna / Adopt Mochi) to send an adoption request, and the top menu provides navigation options like Browse Pets, My Requests, Support, and Logout.

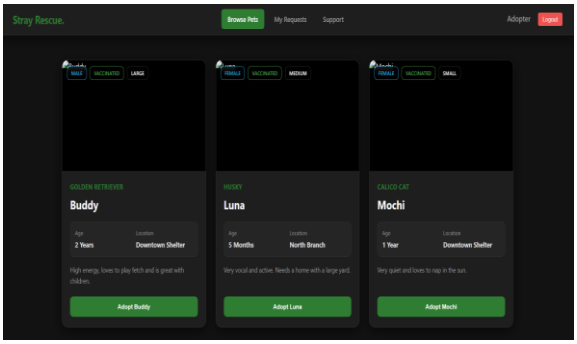


Fig. 8: Stray Rescue adoption platform for adopters in SARCPWAVM

This webpage is the “My Requests” page for adopters in the Stray Rescue platform. It displays the user’s adoption applications in a

American Journal of
AI Digital Transformation and Regenerative Pharmacist
Peer Reviewed, Referred & Indexed Journal
ISSN: 3070-0418 www.zesterapublications.com Original Research Paper

table format, including pet information, the message sent with the request, current status (e.g., pending), and the date applied. This page helps adopters track the progress of their submitted adoption requests, with navigation options like Browse Pets, My Requests, Support, and Logout.

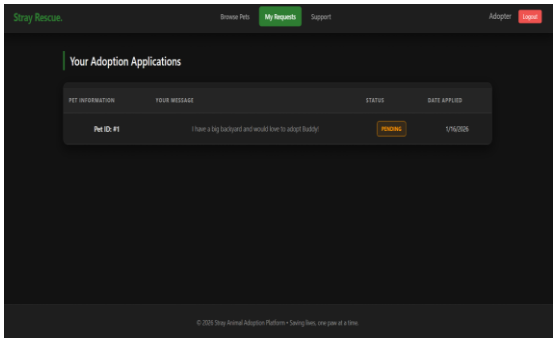


Fig. 9: Stray animal adoption request list in SARCPWAVM

This webpage is the Support page for adopters in the Stray Rescue platform. It provides a Contact Support section where users can type their inquiry and submit it using the Send Inquiry button to message the administrators. On the right side, it shows the Conversation History panel, which displays previous support messages (currently showing no history yet), along with navigation options like Browse Pets, My Requests, Support, and Logout.

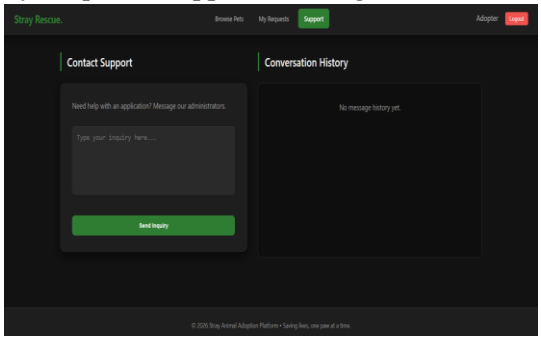


Fig. 10: The contact support section between user and admin in SARCPWAVM

5. CONCLUSION

The stray animal rescue coordination study demonstrates the effectiveness of a centralized digital platform in improving the management of animal welfare activities. By integrating structured reporting, real-time rescue tracking, volunteer coordination, and adoption management into a single system, the study addresses major limitations of traditional manual rescue practices. The implementation highlights how transparent workflows, centralized data storage, and role-based access can significantly enhance response efficiency and operational accountability. The system enables timely rescue interventions, maintains comprehensive animal welfare records, and supports responsible adoption processes. The study confirms that digitally coordinated rescue operations can contribute to improved animal survival, better welfare outcomes, and stronger community participation.

REFERENCES

[1] Moss, L.R.; Hawes, S.M.; Connolly, K.; Bergstrom, M.; O'Reilly, K.; Morris, K.N. Animal Control and Field Services Officers' Perspectives on Community Engagement: A Qualitative Phenomenology Study. Animals 2023, 13, 68. https://doi.org/10.3390/ani13010068

[2] Moss LR, Hawes SM, Connolly K, Bergstrom M, O'Reilly K, Morris KN. Animal Control and Field Services Officers' Perspectives on Community Engagement: A Qualitative Phenomenology Study. Animals. 2023; 13(1):68. https://doi.org/10.3390/ani13010068

[3] Moss, Liana R., Sloane M. Hawes, Katherine Connolly, Morgan Bergstrom, Kaleigh O'Reilly, and Kevin N. Morris. 2023. "Animal Control and Field Services Officers' Perspectives on Community Engagement: A Qualitative Phenomenology Study" Animals 13, no. 1: 68. https://doi.org/10.3390/ani13010068

[4] Moss, L. R., Hawes, S. M., Connolly, K., Bergstrom, M., O'Reilly, K., & Morris, K. N. (2023). Animal Control and Field Services Officers' Perspectives on Community

American Journal of
AI Digital Transformation and Regenerative Pharmacist
Peer Reviewed, Referred & Indexed Journal
ISSN: 3070-0418 www.zesterapublications.com Original Research Paper

Engagement: A Qualitative Phenomenology Study. Animals, 13(1), 68. https://doi.org/10.3390/ani13010068

[5] National Animal Care & Control Association. Recognizing the Role of the Animal Control Officer. Available online: https://www.nacanet.org/recognizing-the-role-of-the-animal-control-officer/ (accessed on 5 December 2022).

[6] Coulter, K.; Nicholls, B.; Fitzgerald, A. Animal protection: Organizational constraints and collaborative opportunities. J. Community Saf. Well-Being 2022, 7, 16–19.

[7] Prof. Babita Koushik, Kunal Topare, Dhruv Bhingarde, Shashank Gorule, Om Ghatge, "Stray Animal Rescue System - A Technological Approach to Animal Welfare", International Research Journal of Modernization in Engineering Technology and Science (IRJMETS), Vol. 7, no.11, pp. 658 – 662, 2025.

[8] Sharma, D., & Ram, B., "Awareness and perception of stray dogs and rabies in Shimla: An evaluative study", International Journal of Community Medicine and Public Health, Vol. 12, no.9, pp. 4063-4068, 2025.

[9] Kalaivani A/P Subramaniam and Hazinah Kutty Mammi, "Stray Rescue Management System (SRMS)", International Journal of Innovative Computing, Vol. 15, no.1, pp. 139-144, 2025.

[10] Tosif Jamadar, Nikita Jagtap, Raviraj Shete, Umra Pathan, Kiran More, "Web Application for Stray Animal Adoption and Care Website", Journal of Emerging Technology's and Innovative Research (JETIR), Vol. 12, no.4, 2025.

[11] Mr. Jay Prajapati, Mr. Roshan Vishwakarma, Mr. Rishit Deliwala, Mrs. Sneha Singh, "Pet Adoption and Rescue Center", International Journal of Creative Research Thoughts (IJCRT), Vol. 13, pp. 711 – 721, 2025.

[12] Diksha Jitendra Marathe, Prof. Bisweswar Thakur, "Leveraging Digital Platforms for Street Dog Welfare: A Case Study of the Canine Care Network", International Journal of Research Publication and Reviews, Vol 6, pp 2769-2771, 2025.

[13] Choudhary K. and Palsaniya V. K, "Overview of the stray animals in India and their regulation", Journal of Advances in Biology & Biotechnology, Vol. 27, no.7, pp. 893-899, 2024.

[14] Bhuyar R. and Holey S., "Investigating the need for animal welfare centres in metropolitan cities and framing design guidelines in the Indian context", International Journal of Research in Engineering Science and Management, Vol. 7, no.5, pp. 75-80, 2024.

[15] Srinivas Rao Uttarkar, Tushar Kumar Soni, Sangeetha G, "Design of an Automated Animal Rescue and Adoption Management System", International Journal of Engineering Research in Computer Science and Engineering (IJERCSE), Vol. 11, no.5, pp. 166 – 170, 2024.