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DEVELOPMENT OF AN INTERACTIVE WEB-BASED SYSTEM FOR STRAY CATS AND DOGS (PAWS LEAGUE WELFARE)

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INDUSTRY
SULTAN IDRIS EDUCATIONAL UNIVERSITY**

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**DEVELOPMENT OF AN INTERACTIVE WEB-BASED SYSTEM FOR
STRAY CATS AND DOGS (PAWS LEAGUE WELFARE)**

TIONG FUI LING

**FINAL YEAR PROJECT REPORT SUBMITTED IN FULFILMENT OF THE
REQUIREMENTS FOR THE AWARD OF THE BACHELOR OF SOFTWARE
ENGINEERING (EDUCATIONAL SOFTWARE) WITH HONOURS**

**FACULTY OF ART, COMPUTING AND CREATIVE INDUSTRY
SULTAN IDRIS EDUCATIONAL UNIVERSITY**

2023



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I certify that all the materials in this final year project report are my own creations. If any other person's or group's work, whether it was published or not was used such as books, essays, papers, or materials in other media, I have previously acknowledged it using the proper academic etiquette. I also understand that the information in this final year project reports has not yet been published or submitted for consideration by any university for any other programmes, certificates, or degrees.

22/2/2023

Date

Student's Signature

Supervisor's Clarification

I acknowledge that I have read this paper and in my opinion this paper is adequate in terms of scope and quality for the purpose of awarding the Bachelor of Education (Information Technology / Multimedia / Computerized Design) with Honors.

26 Feb 2023

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ACKNOWLEDGEMENT

First, I grateful to Sultan Idris Education University for giving me the chance to have my degree study there. Despite facing numerous accusations and challenges during the Covid-19 pandemic, I was able to successfully finish this thesis in six-month time.

I would like to take this chance to thank everyone who was directly or indirectly involved, especially my supervisor Madam Harnani binti Mat Zin and the lecturer for this Final Year Project course, Madam Asma Hanee binti Ariffin, who provide me a lot of advice and guidance so that I could finish this thesis in one semester.

Besides, I would like to take this chance to thank to my parents and my siblings, who give fully support and encouragement to me when I faced difficulties. They never stop offering me counsel so that I can finish my final year project successfully on time. Indeed, I appreciate and will always be grateful for all their assistance and sacrifices on me.

Last but not least, not to mention the other classmates who have expressed a lot of interest for carrying out this final year's project. I appreciate all your support and encouragement. Perhaps this thesis cannot be completed flawlessly without the assistance and advice of friends.



ABSTRAK

Pada masa kini, sistem berasaskan web untuk haiwan liar adalah perkara biasa, tetapi malangnya, ia datang dengan fungsi yang terhad. Ia disebabkan oleh fungsi terhad yang benar-benar boleh membantu menyelesaikan masalah yang dibawa oleh haiwan liar, justeru laman web ini diabaikan. Oleh itu, projek bertajuk "*Development of an Interactive Web-Based System for Stray Cats and Dogs (Paws League Welfare)*" dicadangkan. Kesusahan akibat haiwan liar itu dikumpul daripada penduduk Jalan Repok Sarikei. Selain itu, keperluan untuk sistem juga diminta. Sistem ini dicipta dengan menggunakan *extreme programming (XP)* sebagai metodologi. Selepas sistem dibina, ia diuji oleh 10 pengguna iaitu penduduk Kawasan Jalan Repok dan 3 orang pentadbir Love and Rescue Animal Clubs. Hasil keseluruhan pada antara muka pengguna adalah baik. Kebanyakan fungsi juga boleh diterima oleh pengguna dan pentadbir. Walaupun sistem ini ringkas dengan ciri dan fungsi yang kurang, tetapi keputusan penilaian dan penerimaan secara keseluruhannya baik. Senarai penambahbaikan ciri dan fungsi diperoleh dan boleh dipertingkatkan lagi untuk mencapai kriteria termasuk keberkesanan dan kecekapan sistem. Diharapkan sistem ini dapat digunakan secara meluas oleh semua penduduk, agar lebih ramai haiwan liar dapat diselamatkan.



DEVELOPMENT OF AN INTERACTIVE WEB-BASED SYSTEM FOR STRAY CATS AND DOGS (PAWS LEAGUE WELFARE)

ABSTRACT

Nowadays, the web-based systems for stray animals are common, but unfortunately, it's come with limited functions. It is due to the limited functionality which can really help to solve the problems bring by the strays, hence these websites are neglected. Thus, the project entitled "Development of an Interactive Web-Based System for Stray Cats and Dogs (Paws League Welfare)" is proposed. The inconvenience caused by stray animals was gathered from residents of Jalan Repok Sarikei. Additionally, requirements and needs for the system were also solicited. The system was created by using extreme programming (XP) as the methodology. After the system was built, it is tested by 10 users which is residents of Jalan Repok Area and 3 admins of Love and Rescue Animal Clubs. The overall result on the user interface is good. The most functionalities are also acceptable by the users and admins. Although the system is simple with less features and functionalities, but the assessment and acceptance results were overall good. A list of improvement of the features and functionalities are obtained and can be further enhanced to achieve the criteria including effectiveness and efficiency of the system. It is hope that this system can be widely used by all the residents, so that more strays are rescued.

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LIST OF ABBREVIATIONS

HTTP	Hypertext Preprocessor
MySQL	Structured Query Language
NGO	Non-Governmental Organization
PHP	Hypertext Preprocessor
SDD	Software Design Document
SDLC	Software Development Life Cycle
SRS	Software Requirements Specification
STD	Software Test Document
XAMPP	Cross-platform, Apache, MySQL, PHP, and Perl
XP	Extreme Programming

LIST OF APPENDIX

- A Questionnaire
- B Software Requirements Specification (SRS)
- C Software Design Document (SDD)
- D Software Test Document (STD)



CHAPTER 1

INTRODUCTION



Based on the Law Inside Dictionary, stray animal means an animal which for the time being has no identified owner. Stray cats and dogs are inherently problematic and judgements regarding when a cat or dog is a stray varies from country to country and may be subject to local and national regulations. Indeed, any cat or dog, found unaccompanied by a responsible person in a public place may, in some countries, be considered as stray and collected accordingly. Conversely, at the other end of the scale, unwanted cats or dogs, whose owners have revoked all care giving responsibilities may if they survive for long enough, be able to reproduce and rear young. Though this generation of dogs may be genuinely ownerless and, in some instances, feral, their survival rates are invariably low, and their reproductive success is likely to poor. Nowadays, people disgust stray animals and even meet once hit once



as they scared about rabies. Rabies is an acute, often fatal disease of animals caused by an attack of the rabies virus on the nervous system. It usually transmitted through the bite of a rabid animal includes the cats and dogs. The elimination of stray animals and strict quarantine procedures have reduced the number of rabies infections in the developed world, although it remains a serious concern in underdeveloped countries, accounting for almost 33000 deaths per year (Murray et al., 2013). Each year, approximately 2.7 million dogs and cats are killed every year because shelters are too full and there is not enough adoptive house. Approximately 7.6 million companion animals enter animal shelters nationwide every year. Of those, approximately 3.9 million are dogs and 3.4 million are cats.

Based on Md. Shamsul Arafin et. al (2017), the website is a collection of different web pages which are running under one domain name such as www.google.com. Website and web pages are using interchangeably, but one website can contain many web pages (Website 2014). The website is a collection of documents, graphics, or information where a user can have the complete experience according to their need. There are two types of websites, which is static and dynamic. A static website is usually created by using HTML and CSS which display the same information for a very long time. Static websites are very uncommon these days. Whereas dynamic websites become popular because of their usability and ease to update functionality. A dynamic website is easy to maintain through a simple browser interface. The design and the content should reflect the target of the audience and the purpose of the site (Lawrence & Tavakol 2007, 2008).



Many activities and campaigns have been organised throughout Malaysia, not only by the government but also by NGOs, to raise awareness among people. For example, a campaign has been organized in schools to teach these young people how to properly handles pets. They organized public activities related to animal awareness and developed several online techniques to keep up with current technology trends. NGOs have proposed a variety of method to prevent stray animals becoming homeless. Creating an online platform to connect people with NGOs if they want to surrender stray animals or adopt pet is one of the techniques proposed. However, when the public is unaware of the technique, it produces poor results. As a result, it is believed that the technique chosen should be tailored to the learner's context rather than being generalised to all solutions, and that people will be more aware of the platform that can connect them to animal shelters. As a result, this project will create a platform for NGOs and the public that provides adaptable user-friendliness features based on the content of the context in which the learners are learning. It is believed that by doing this so, this online platform will serve as a link between NGOs and animal lovers everywhere.

Therefore, Paws League Welfare is developed. Paws League Welfare servers as information desk of the public who like to know about the stray animals in Repok area Sarikei. Through this, residents of Repok area Sarikei who are interested to help stray animals and the staff or volunteer of Love & Rescue Animal Club Sarikei can conveniently access to the information anytime. This is a website supports interaction between residents and the staff to take action to give helps to the stray animals. One of the important functions is residents can make report when they see stray animals around through this website and the staffs can get the information and then can take



action to catch or bring back the stray animals to help them by taking care of them. By this, stray animals can get a temporary shelter and have people take care of them and nobody can hurt them again. Besides, staff can upload the picture and the information of the animals on the website then the residents can search the website to get the information and they can make decision to adopt the animals.

Accessibility of this Paw League Welfare is user-friendliness and context might be defined differently by different people. In this project, accessible would mean that the platform can be access on various search engine such as Google, Microsoft Edge, and Safari. Context of the platform will be in English language to make it more user-friendly.

Number of stray animals especially stray cats and dogs around the residential area at Repok Sarikei increase and bringing many troubles to the residents. Stray animals bringing nuisance like faeces in the garden, scratched bin bags, vocalisations during mating times are seriously affect residents' life (Gilhofer et al., 2019; Gunther et al., 2018, 2015; Uetake et al., 2014). Faeces and scratched bin bags cause the area to become dirty, messy and produce peculiar smell. Vocalisation during mating time disturbs residents' sleep especially at night. The most serious matter is the rabies causes panic among residents. Rabies is a fatal viral disease. Dogs and cats are responsible for the spread of rabies. Rabies is mainly transmitted through the bites of the rabid animals and the stray cats and dogs are highly included. Based on the case report, in Saudi Arabia, dogs are the most common source of human bites and there

have a total of 11069 animal bites in humans were reported from 2007 to 2009, and dogs were responsible for most of them, followed by cats. Hence, a web-based stray animals helping system known as Paws Welfare League is developed to overcome these problems.

Residents felt annoyed of the problems brought by stray cats and dogs every day. Residents treat the stray cats and dogs badly most of the time. Some of the residents putting down the stray cats and dogs using cruel methods. According to Animal Act 1953 in part IV – Prevention of Cruelty to Animals, Section 44(1) stated that any person who cruelly beats, kicks, ill-treats, overrides, overloads, tortures, infuriates or terrifies any animal, he or she shall be guilty of an offence of cruelty and shall be liable to a fine of two hundred Ringgit or to imprisonment for a term of six months or both. This law clearly showed that how animal is important to be treated fair enough just like human being. The existence of this act helps to prevent animal abuse among public community and it also to ensure the safety of animal. Therefore, to help residents not to break the law and protect the stray cats and dogs are not harmed, Paws League Welfare web-based system is developed.

Besides, if the stray animals were brought or caught by the Government like district council, some of them choose to euthanize the animals. This is due to some reasons included no places to place the animals, the animals old and sick and they decide not to treat them, etc. Hence, to avoid this condition, residents need to cooperate with the NGO to save the strays. So that the strays can have opportunity to live. In order to save this poor life, this project is created.



Furthermore, if the stray animals were caught by wicked person, they may carry out illegal breeding and selling. They would like to use cats' and dogs' reproduction to make profit. The dogs and cats breeding industry contain breeding facilities in which dogs and cats are treated like puppy and kitten producing machines and never given any love and attention or even the opportunity to stretch their legs. These dogs and cats usually kept in filthy cages that are barely any larger than their own bodies, causing them extreme suffering and distress. Besides, breeders will force dogs and cats to reproduce repeatedly until their bodies wear out from the strain of being continually pregnant in such impoverished, harsh conditions. At that point, female dogs and cats are worthless to the breeder and are often taken from the place, auctioned off or even killed.



1.3 Objectives

The objectives of the project are as follow:

- a) To identify main problems related to stray cats and dogs among residents of Repok Sarikei using survey by questionnaire method.
- b) To develop an interactive web-based system known as Paw Welfare League to help stray cats and dogs.
- c) To test functionalities of Paws Welfare League.





1.4 Research Question

The research questions are listed as follow:

1. What are the main problems that you faced regarding to the stray cats and dogs?
2. What are the important criteria that should involve in an interactive web-based system?
3. What is the respondents' opinion regarding to the functionalities of Paws League Welfare web-based system?

1.5 Scope



Paws Welfare League offers significant benefits for individuals and Non-Government Organizations. Therefore, the scope of this web-based system included function, content, target user and geographical area.

1.5.1 Function

The function is on specific features to develop a web-based system by using PHP (phpMyAdmin) and Laragon.



1.5.2 Content

The main content of the system is stray animals helping web-based system known as Paws Welfare League. This system contains all the animals' detail include the picture and Love & Rescue Animal Club Sarikei contact details.

1.5.3 Target User

The 2 target users for this web-based system are:

- a) Residents Repok Area Sarikei
- b) Love & Rescue Animal Club Sarikei Staff / Volunteer

Table 1.1: Functionalities for both target users

Resident Repok Area	Love & Rescue Animal Club Sarikei Staff / Volunteer
Make report when they see stray cats and dogs	Take action to catch / bring back the cats and dogs.
Become volunteer to help the stray cats and dogs - Take care - Feeding - Take bath for the animals	Work together with the volunteer (Resident Repok Area) to take care of the animals.
Make donation	Receive the donation to provide the

- Money - Food - Basic needs	animals a better life.
Seek for adoption	Show pictures and details of the animals to let Resident adopt.
Make adoption request	Approve or reject the adoption request.
View adoption request status and notification	Approved: After approved the adoption request, will send notification, and send the animal to the resident (new owner). Rejected: Give reason why the adoption is rejected Ex. reason rejected: That resident has a history of abandoned animal.

1.5.4 Geographical Area

This web-based system is developed for the residents in Repok Area in Sarikei, Sarawak. Sarikei is a town and the capital of the Sarikei District in Sarikei Division, Sarawak. Repok is a state constituency in Sarikei, Sarawak that has been represented in the Sarawak State Legislative Assembly since 1969. The state constituency was created in the 1968 redistribution and is mandated to return a single member to the Sarawak State Legislative Assembly under the first past the post voting system.

1.6 Significance of This Study

Significance of this study is based on benefits of the target users and the stray animals. By having this website, can cultivate residents' love for stray cats and dogs and learn to help animals. Before this, residents will hurt or hit the animals once they see them around the housing area as they do not want the stray animals to come near to their house especially near to their children. But after having Paws League Welfare, they learn to give helps animals first by make report to the Love & Rescue Animal Club and other activities. By this, also can control the number of stray cats and dogs to control population at Repok area Sarikei. Besides, for the stray cats and dogs, they can get helps in food, temporary shelter, or a new home (owner). In Love & Rescue Animal Club, animals provided by a shelter, meals, and medical care. Animals are taking good care in the Love & Rescue Animal Club. Strays are safe in Love & Rescue Animal Club as they will not get hurt anymore. After the strays have better condition, staff will upload the details of the animals to let other residents to adopt to get a new home for them.

1.7 Conclusion

In conclusion, the aim of this project is to develop a web-based system to help stray cats and dogs around Repok area Sarikei. Although stray cats and dogs bring problems to residents' daily life, but they are also a life and they have right to live. Human, wisest of all creatures should be protect the other creatures to balance the ecological. Paws League Welfare can help to increase the efficiency in term of communication



between public and Love & Rescue Animal Club as public can easily contact to the club to save the strays and it also allows residents to adopt the animals.

