

ANIMAL RANGER WEBSITE DESIGN: ANIMAL ADOPTION PLATFORM

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Abstract

Currently, both government and non-government organizations such as animal shelters performing rescue and adoption of stray animals. Although the ecosystem is not running well, some animal lovers still adopt stray animals from the shelter. Information that is limited and unclear is also faced by shelters and animal lovers in performing rescue and adoption. We created the Animal Ranger website based on problems. Analysis and system planning are based on interviews with animal shelters and questionnaires for animal lovers, using the UML method. Animal Ranger website was expected to encourage stray animal rescue and adoption of the ecosystem by animal lovers and animal shelters.

Keywords: animal adoption, animal report, adopter, animal shelters, websites.

INTRODUCTION

Shelters are a non-profit organization engaged in animal rescue and are a forum created by the community to save stray animals, save those who are sick for treatment, provide homes with shelters and can provide adoption of animals that have been saved to the community. While animal lovers or what the author calls *rangers* are people who like or care for animals and some of them actively contribute to adopting animals, reporting for rescue to animal *shelters*, or also in saving individual stray animals.

Article 1 number 42 of Law 41/2014 states that animal welfare is all matters relating to the physical and mental condition of animals according to the animal's natural behavioral standards which need to be implemented and enforced to protect animals from inappropriate treatment by anyone towards animals used by humans. In Republic of Indonesia Government Regulation Number 95 of 2012 Article 83, animal welfare is applied to every type of animal whose survival depends on humans.

According to previous research, Education Center about Pets in Kelapa Gading by Susanto, W., & Gandha, MV (2015), the authors know that there is a need for

educational institutions regarding how to care for animals properly. Caring for animals well can have positive impacts as quoted in *The Role of Pets in Retired Employees' Stress Levels* by Juliadilla, R., & Hastuti H., S. (2019) saying that keeping pets can have a positive impact for physical and psychological health in humans, especially the elderly and retired employees. Of course, these positive things can be obtained by raising good animals too.

To support the animal reporting, rescue and adoption ecosystem, the authors propose a solution in the form of *a website Animal Ranger* which is a platform to bring animal lovers together with animal *shelters* in the rescue and adoption of stray animals and is a platform that is in line with *the behavior of* animal rescue and adoption that occurs in the field by animal lovers and animal *shelters*. This solution will be adjusted and developed based on data collection obtained through *research* and *UI results design*, and implemented in the form of *a website* that can be accessed via *the desktop site* or *mobile site*.

The formulation of the problem discussed are as below:

1. How to encourage an ecosystem of rescue and adoption of stray animals?
2. How can the platform created be accepted and used by animal lovers and shelters?
3. What is the method for finding and resolving the root of the problem of animal rescue and adoption?

The purpose of this writing is as below:

- a. Building the *Animal Ranger* website as a platform to bring together animal lovers with animal shelters in rescuing and adopting stray animals.
- b. Create a platform in accordance with animal rescue and adoption behavior that occurs in the field by animal lovers and animal shelters.

- c. Collect data by validating directly through interviews and questionnaires with end-users, namely animal shelters, and animal lovers.

RESEARCH METHODS

The research method used was a data collection method by distributing questionnaires to animal-loving community social media such as Facebook groups, Slack, and Line Square, conducting interviews with shelter officials, and conducting literature studies. The authors also carried out industry analysis and financial analysis to analyze *Animal Ranger's capabilities* as a business and designed Animal Ranger by creating *Unified Modeling Language* (UML) modeling.

RESULTS AND DISCUSSION

The results achieved are in the form of a *website application design Animal Ranger*, which is a forum for bringing together animal lovers (*rangers*) and *shelters* in a *website-based animal adoption and rescue ecosystem* that can be accessed from computers and *mobile phones*. *The Animal Ranger website* itself has user coverage throughout Indonesia to reach all reports and animal adoptions by animal *shelters* and animal lovers who the author calls *rangers*.

Problem analysis

From the results of the analysis questionnaires and interviews, the authors conclude several problems that exist in the animal reporting, rescue, and adoption ecosystem:

- a. It is difficult to report animals by animal lovers and rescue animals by shelters because there is no adequate platform for reporting abandoned animals.
- b. There are still few animal lovers who want to adopt animals from *shelters*.

- c. Not many animal lovers know the closest shelter to where they live. In fact, to provide an animal rescue report, you need to know the closest location to the environment so that the rescue can be handled immediately.
- d. The feeling of worry because the reporter and potential adopter are not verified is a difficulty for the shelter. There are frequent reports of fading and reporting data that are unclear and irresponsible. During the adoption process, shelters are afraid of potential adopters regarding misuse of adoption, such as being resold or being taken to a slaughterhouse.

Problem Solution

With the above problems, the *Animal Ranger platform* itself was created to solve various existing problems.

- a. A platform was created for animal reporting from animal lovers and rescues carried out by *the shelter*. In this way, we hoped that the difficulties of reporting and rescuing stray animals will become clear, complete and can be handled immediately and more efficiently.
- b. A platform created for the adoption of verified animals from *shelters* for animal lovers. We hope that the number of stray animal adoptions by animal lovers from *shelters* can increase. Adopted stray animals can provide new space for the latest stray animals to be rescued so that an animal rescue and adoption ecosystem is created.
- c. The personalization system based on favorites and the nearest location helps animal lovers to be able to adopt from the nearest *shelter* based on their favorite animal. Likewise, *shelters* can receive reports of animals around the *shelter location* according to the animals they accommodate.

- d. *Profile system strength* to verify animal lovers and *shelters*. As a requirement for animal lovers who are called *rangers* to be able to carry out adoptions and *shelters* to carry out rescues and open adoptions to *rangers*.

System planning

With *the Animal Ranger website*, *rangers* can report animals that can be rescued by the nearest animal *shelter* based on reporting locations throughout Indonesia. *Rangers* can also adopt animals for free or for a fee based on *shelter policy* and personalization of the animal chosen and the adoption location close to where they live. To carry out an adoption, *rangers* are required to fulfill data called *profile strength* as verification of eligibility to adopt and is used to help *shelters* conduct surveys of potential *adopters* such as location, building type, family members, ID card, commitment, and others. Likewise, animal *shelters* also have a *strength profile* to verify things like state documents, addresses, photos, number of animals, and so on so that it can be ensured that the animals reported to the shelter are valid and also animals that are ready to be adopted with various conditions such as having been vaccinated, sterilized, and also with special needs such as blind, lame, special food.

Rangers and animal *shelters* can communicate with each other via WhatsApp on their respective profiles or on reporting and adoption pages. On the rescued and adopted page, the relevant party from *the ranger* or *shelter* can provide the latest information regarding rescues and adoptions that have been done. They also can *share* on social media to share positive impact on joining in rescuing and adopting animals. *The Animal Ranger website* itself is separated into two sides *of the website*, namely the *client side* and the *server side*. The *client side* is used as a place to interact with users and to display relevant information, while the *server side* is used to process all user requests to *the server* or *database*. To connect the two sides, the author uses the API

as a bridge between the two sides. By separating the parts that interact with users and the parts that interact with *the server*, it can simplify *the website's ability* to develop. The technology used by *the Animal Ranger website* varies. On the client side, *the Animal Ranger website* uses a UI library from Facebook called React JS to make it easier to build the UI. Meanwhile from *the server side the Animal Ranger website* uses the Flask Python *framework* to process user requests and access *the database*. For *the database* itself, *the Animal Ranger website* uses MongoDB, which is a NoSQL *database* which has better *performance than databases* based on table relationships such as MySQL. Then to store various photos and images, *Animal Ranger uses Clouldinary*, a *cloud-* based photo and video management service. The reason for using Clouldinary is that apart from being used as a place to store photo assets, Clouldinary can function as a CDN and has photo transformation functions which can make assets on the *Animal Ranger website* more optimized.

Using Use case Diagram

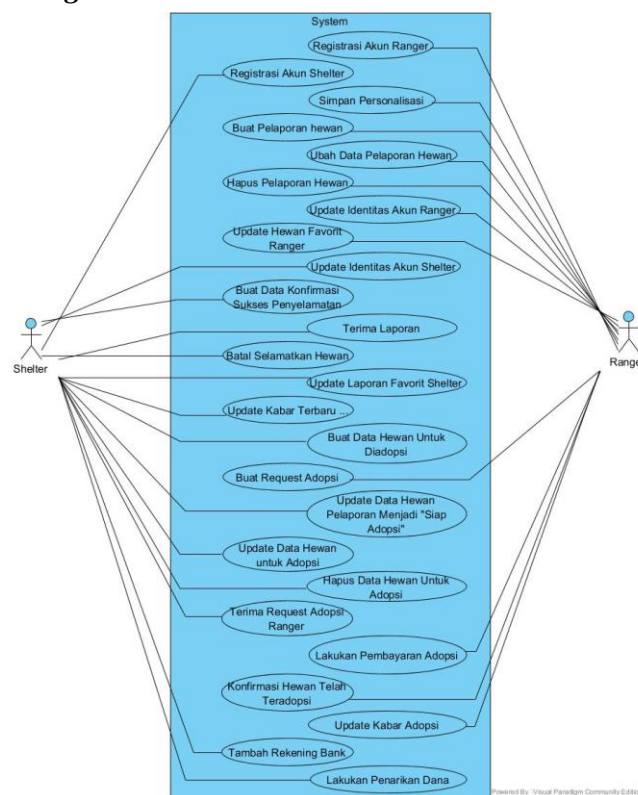


Figure 1. Use Case Diagram
Source: Personal Data

In designing the system for *the Animal Ranger website*, the author used UML modeling such as *Use Case Diagrams* and *Class Diagrams*. *Use Case Diagram* is a diagram that can illustrate the actors involved in the *Animal Ranger website system* and is used to determine *use cases* or interactions that can be carried out by these actors to the system (Satzinger, Jackson and Burd, 2016: 81). Through *the Use Case Diagram*, the author divides the actors into two, namely the *shelter actor* and the *ranger actor*. Each actor has a different *use case*.

Using Class Diagrams

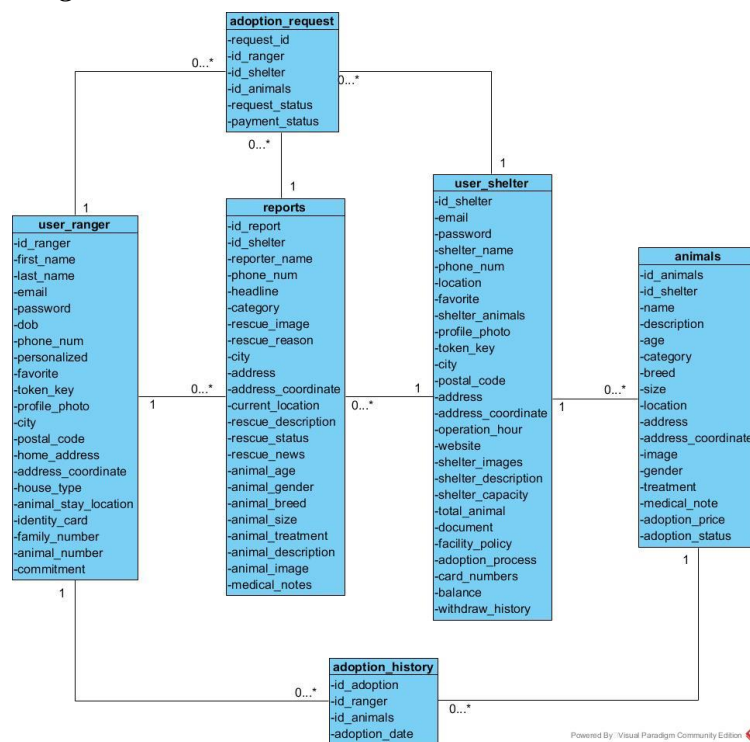


Figure 2. *Classes Diagram*

Source: Personal Data

Apart from using *Use Case Diagrams*, the author also uses *Class Diagrams* to describe the schema of *the database on the Animal Ranger website* which consists of entity objects, each of which has attributes and names. *Class Diagram* itself is a model that supports creating schemas for MongoDB, namely *the database that Animal Ranger uses*.

Users Interfaces (Landing Page)

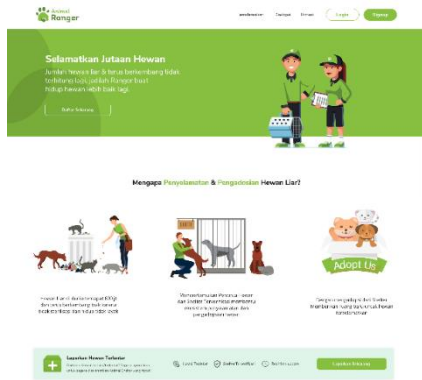


Figure 3. Landing Page – 1
Source: Personal Data

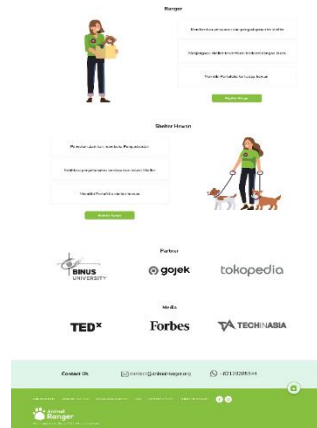


Figure 4. Landing Page – 2
Source: Personal Data

The first page when a user comes to *Animal Ranger* is the landing page. The landing page has issues raised regarding the rescue and adoption of stray animals. There is also information regarding reporting abandoned animals. At the bottom there are features that can be used as a *ranger* or animal *shelter* and each has a *button* to register as a *ranger* or animal *shelter*. Furthermore, there are logos of partners and media that collaborate with *Animal Ranger* which is compensation from CSR (*Corporate Social Responsibilities*), and the media that covers it. The logos in the image are examples. Finally, there is information to contact *Animal Ranger* via Email and WhatsApp.

Users Interface (Homepage)

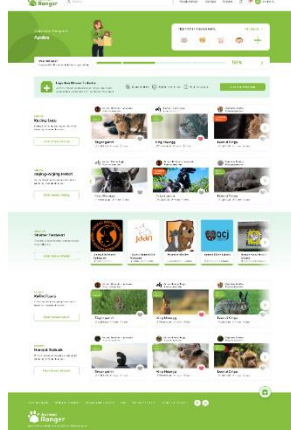


Figure 5. Homepage – Desktop
Source: Personal Data



Figure 6. Homepage - Mobile
Source: Personal Data

The "Home" page is the initial page that is displayed after the user logs in either as a *ranger* or *shelter*. Users can search by using the search feature at the top of the *header*. Near the *banner*, there is information regarding user personalization if the user logs in as a *ranger*. Then there is information about how many users have filled in the *strength profile* in percentage form. *Profile strength* will be needed to carry out several activities on the *Animal Ranger website*. For *ranger* accounts, *profile strength* is required to carry out adoption activities from the shelter. For *shelter* accounts, *profile strength* is needed to carry out animal rescue activities and create animal adoption posts.

On the "Home" page, if the user logs in using a *ranger account*, a list of animal posts that are ready to be adopted by the *ranger will be displayed*. In addition, the *ranger* can see a list of nearby *shelters*, making it easier for the *ranger* to contact the *shelter*. If the user logs in using a *shelter account*, what is displayed is a list of posts from animal reports made by the *ranger*.

Users Interface (Ranger Animal Personalization Module)

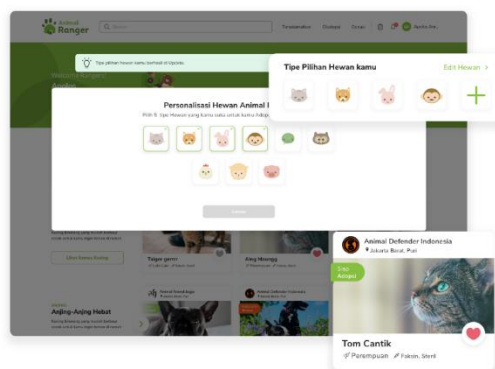


Figure 7. Animal Personalization *Pop-Up*
Source: Personal Data

The animal personalization module is a form of adjusting animal categories based on the animals the *ranger* is interested in. By personalizing the animal, the animal category that will be displayed on the "Home" page is the animal category based on the animal personalization that the *ranger has selected*. After saving the animal

personalization, it can be changed to the animal personalization again. When selecting an animal category, a maximum limit of 5 animal categories is given so that not all animal categories can be selected at once. Then *rangers* and *shelters* can save each other's posts to their favorite lists by pressing the heart button. Location personalization is also carried out based on the closest location on the "Home" page for posts visible from the *ranger* or *shelter side*, and when sending animal reporting notifications to the nearest *shelter*.

Users Interface (Rescue Module)

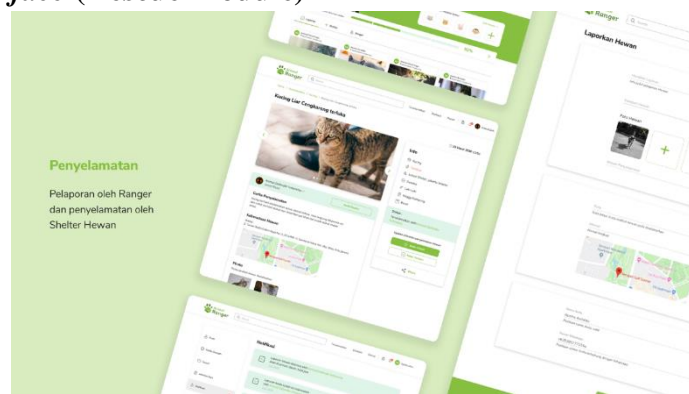


Figure 8. Rescue Module
Source: Personal Data

The rescue module is a module that focuses on animal rescue and reporting features on *the Animal Ranger website*. There are several specific *user interfaces for this module such as a form page* for animal reporting for rangers, a detail page for each animal report, and an *edit form page* for animal reporting.

Users Interface (Adoption Module)

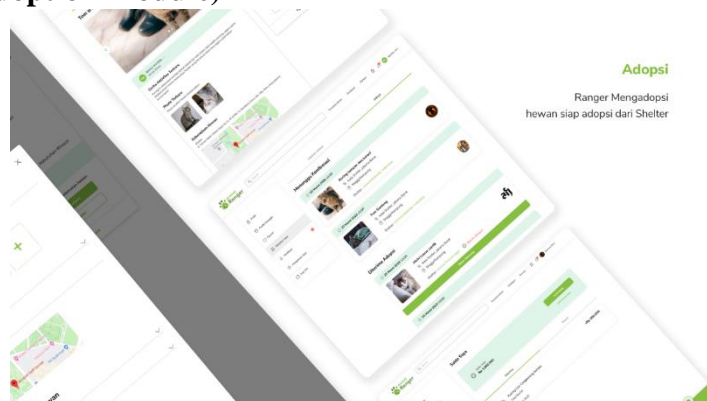


Figure 9. Adoption Module
Source: Personal Data

The adoption module is a module that focuses on animal adoption features on *the Animal Ranger website*. There are several specific *user interfaces for this module such as a form page* for animal adoption for shelters, a detail page for each animal adoption post, and an *edit form page* for adoption posts.

User Interface (*Profile Strength Module*)

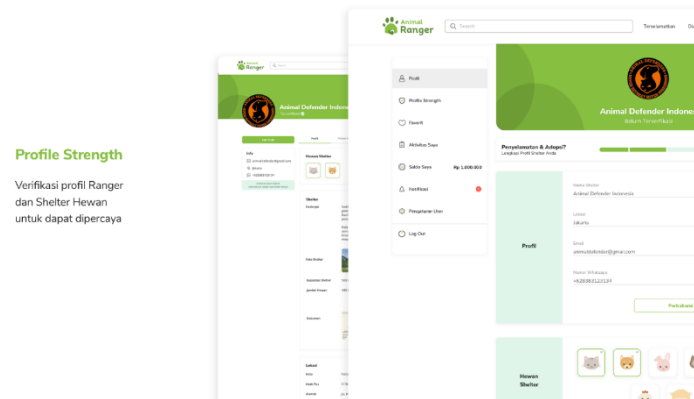


Figure 10. Module *Profile Strength*

Source: Personal Data

Profile strength is a feature to verify user data on *the Animal Ranger website*. *The Animal Ranger website* requires users, both *rangers* and *shelters*, to complete the required data on each user's profile to be verified before they can carry out activities such as rescuing animals for *shelters* and adoptions for *rangers* or opening adoptions from *shelters*. The strength of the *profile strength* can be seen in the *progress bar for the profile strength* on the profile page and the "Home" page. After the user fills in the data in the *strength profile*, this data can be seen by other users so that other users believe that the user is truly a verified user.

CONCLUSIONS AND SUGGESTIONS

Based on the results of the analysis and design that has been done, it can be concluded that the design of *the Animal Ranger website* has the potential to help and solve problems that commonly occur in the animal reporting and adoption process, which include:

1. The difficulty of reporting animals by animal lovers and animal rescue by animal *shelters*.
2. Lack of information regarding animal *shelters* around the community, especially for animal lovers.
3. There are still very few animal lovers who want to adopt animals from *shelters* according to the results of a survey conducted by the author.
4. *Shelters* are worried about potential *adopters* and animal reporters because the reporters and potential *adopters are not verified*.

Animal Ranger Website Platform provides solutions to these problems with solutions such as:

1. Providing an ecosystem for animal rescue and adoption for the community by creating a *website-* based *platform* that supports both of these things.
2. Provide information about the location of animal *shelters* around the community, especially animal *shelters* that are close to *ranger locations* or animal reporting locations.
3. *The Animal Ranger website* can act as an intermediary medium as well as promotional media for animal *shelters* so that people understand more about the role and functions of animal *shelters* which can lead to increased public interest in adopting animals from *shelters*.
4. The existence of a verified user feature with a *strength profile system* on the *Animal Ranger website* provides a sense of security and trust in the rescue and adoption of animals by *rangers* and *shelters*.

The suggestions that can be given to support the development of *the Animal Ranger website* so that it becomes better in the future are:

1. *Website* development in the form of a *tracking* feature for both rescue and adoption.
2. *in app chat* feature as a communication medium between *rangers* and *shelters on the website* so that it does not require dependence on third party applications.
3. Expansion of development towards *mobile platforms* with the creation of a *mobile application* for *Animal Ranger*.

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