

Pet Care Information System at Darussalam Pet Shop Based on Android

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Abstract: Modern technology has changed people's lifestyles, including how to raise pets. Pet is an animal kept at home or in a cage and exclusively cared for by its owner. Recently, more people owning pets. This had led to questions related to the hygiene and health of pets. An unkempt pet can cause problems for the owner, so numerous pet stores have emerged to help owners provide their animals with the care they require. However, many pet shops still use a manual system, which is considered ineffective for service, and utilizing information technology will make jobs easier while improving accuracy and information quality. Based on the problems described above, an application is required to assist and facilitate the pet shop itself and customers in caring for their pets. The research goal is to design and build suitable applications. In this journal, the researcher utilized both the Quantitative research methods and the Waterfall method for application development. For testing, the researcher used the Likert Scale. The Likert Scale calculation yielded a total score of 80.3 (Satisfied). Therefore, it can be concluded that the application is operating as intended and makes it easier to obtain pet-related information for user and manage schedules and incoming orders for administrators.

Keywords: Information System; Likert Scale; Pet Care; Quantitative Research; Waterfall Method;

INTRODUCTION

Technology advances have caused Indonesian people to experience a significant shift in lifestyle. This phenomenon also includes the habits of how people care for their pets. A pet is an animal kept at home or in a cage that is solely cared for by the owner (Magfira & Nurcahyo, 2020). Recently, more people's enthusiasm for owning pets has grown, especially among the upper middle class. This increase raises issues regarding pet hygiene and health. Unkempt pets can cause problems for their owners, such as transmitting germs, viruses and parasites that can spread to fellow pets and even humans (Fauziah, Mubarak, & Kurniati, 2018). As the number of pets has increased, a large number of pet shops have also appeared to help owners properly care for their pets. A pet shop is a shop that provides services as well as food and accessories for pets (Nurnawati & Wibowo, 2020).

An information system is a framework that facilitates resources (both human and computer) to transform incoming data into information outputs and accomplish company goals (Nugraha, 2018). Care, known as medical intervention, is any attempt to prevent, treat, or manage a disease. According to Nurhidayati and Nur, Android is a software operating system based on Linux (Nurhidayati & Nur, 2021). However, many pet shops still use manual method of recording orders for goods and services, which is considered ineffective and inefficient in operation. And because of the advancement of technology at an ever-increasing rate, a drawback of not using technology is without a doubt. The utilization of information technology will simplify work while enhancing precision and information quality (Elvida, Alhafiz, & Hasim, 2021). Pet shop falls under this category as well.

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Pet Care Information Systems are platforms created to prevent, treat, or manage an illness affecting pets. Previous research that discusses the use of technology, especially software as applications in a pet shop, is conducted by Fitri Purwaningtyas, namely "Sistem Informasi Penjualan Pada Lucky Paw's Petshop Berbasis Web". The study's findings indicate that the system's presence can make it easier for admins to report transactions and aid in-shop promotions (Purwaningtyas, 2017). The second research, "Aplikasi E-Commerce Petshop Dengan Fitur Petpedia" by Robby Rachmatullah et al., has concluded that using the application will facilitate and provide security to its users (Rachmatullah, Kardha, & Yudha, 2020). From the examples described above, it is essential to have an android-based application to assist and facilitate the pet shop itself and customers in caring for their pets. The application built still provides previous features from previous studies such as pet shop services and simple pet pedia, but added new features such as adding clinic, grooming and hotel service bookings for pets. The application was developed using Kodular with a firebase database. Kodular itself is a website tool that offers block-based programming for developing Android apps.

METHOD

Research methodology is a set of studies intended to enhance the conceptualization of the research, test the system to address the issue at hand, and concentrate on the goals that must be reached to address the issue (Siddik & Nasution, 2018). In this instance, the researchers utilized both the Quantitative research methods and the Waterfall method for application development. The application development method is a patterned process used to develop applications, which is a standardized procedure used to create applications, the first step in creating a system is to analyze its requirements; the second is to design it around those requirements; the third is to implement the design into a program; then test whether the system is running well; and the fifth and final step is to maintain the system (Rachmatullah, Kardha, & Yudha, 2020). As shown on the pictures below :

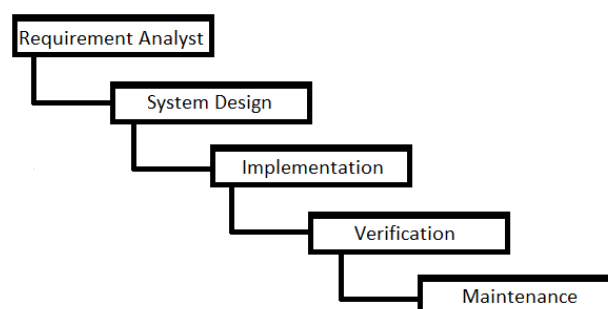


Figure 1. Research Steps

Quantitative research methods are research analysis activities where the calculation process uses numbers and has an established sample and population. Data collection is the step of collecting data related to a problem to obtain the data needed to investigate and solve the problem (Mayasari, Suendri, & Fakhriza, 2022). The data collection method of this journal uses interview techniques, observation techniques, and questionnaire techniques:

Interview

An interview is the asking of questions related to the topic in the research. Interviews were conducted on 9 June 2022 with the pet shop owner and the veterinarian who was on duty at the time.

Observation

Observation is a technique of collecting data carefully, systematically, and directly through observation and recording to find out the general description of the system (Frandian & al., 2022).

Questionnaire

A questionnaire consists of several written questions that are addressed to the respondent. In this research, there were 30 respondents answered the questionnaire which was collected via Google Forms.

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RESULT

Requirement Analyst

Understanding the software that users want and knowing the limitations of the software. To get this understanding can be obtained through surveys, discussions and interviews. A flow map is a diagram that describes a series of processes in detail and reveals the connections between processes (instructions) in a system or application that uses specific symbols. The planned flow map system can be summed up as follows:

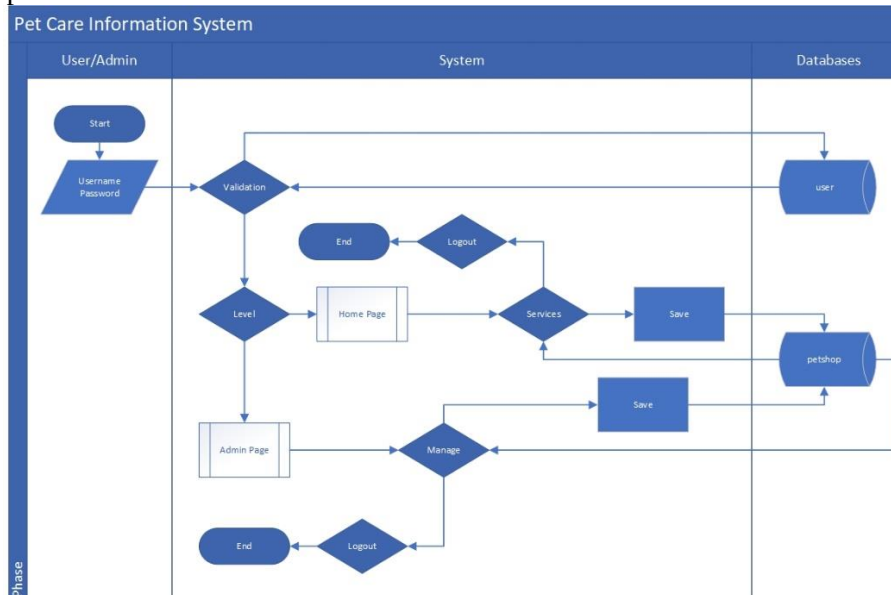


Figure 2. Flow map

System Design

System design is analyzing system requirements of the devices and describing them with a circuit/picture, researchers use UML for modelling. UML (Unified Modelling Language) is a modelling description containing symbols that can describe a detailed description of what the system needs (Suendri, 2019). One example of UML is a use case diagram, use case diagram is a diagram that elaborates on the actions performed by software, both actors and actors. The purpose of the use case diagram is to find out the functions in a system and who has access to these functions (Irawan & Simargolang, 2018).

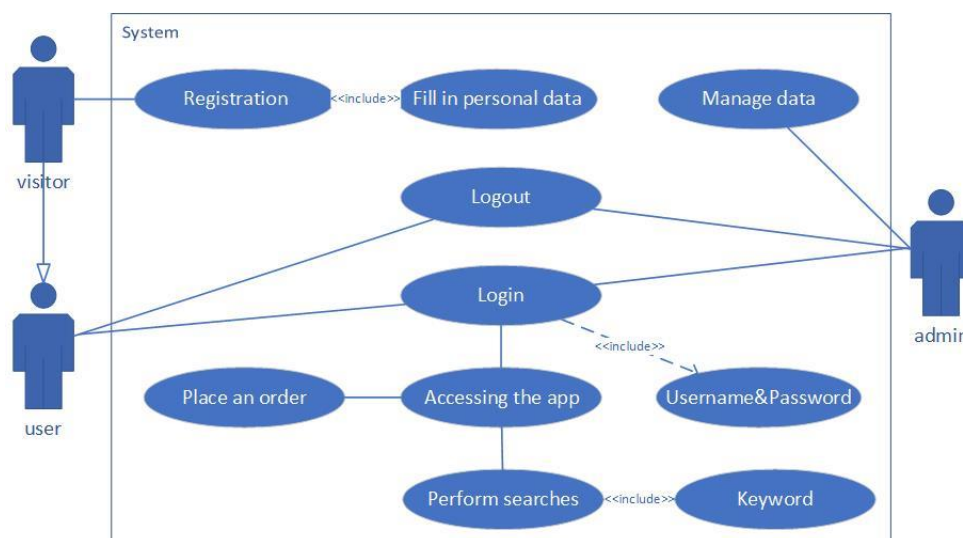


Figure 3. Use Case Diagram

*name of corresponding author

Implementation

The created system architecture will then be transformed into a program. one example is the login page is a page used to access the application by entering your Username and Password. Users and administrators can access the application through the login page. If the login is successful, the admin will be taken to the admin page, while the user will be taken to the home page. If visitors have not registered in the application, they can register on the Registration Page.

Figure 4. Login Page and Registration Page

The home page displays several sections including, meal scheduling, recorded vaccine history, and simple information about diseases that may infect pets.

Figure 2. Home Page

The pet shop page contains products sold/offered by Darussalam Pet shop, this page contains goods, the information presented is in the form of item names, stock items and item prices. And there are many other pages that researchers did not include in this journal

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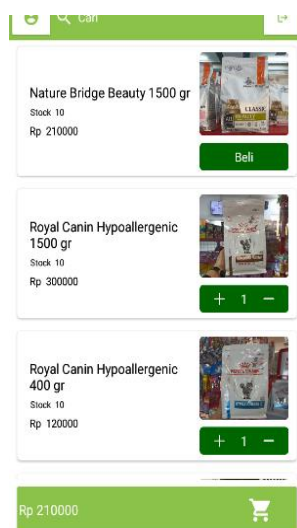


Figure 3. Pet shop Page

Testing

Testing is done by proving research using Likert Scale counts. Likert Scale is a comparison used in measuring perceptions, attitudes and opinions of groups and individuals towards the emergence of a phenomenon (Buton, Kaunang, & Jocom, 2019). The test results were obtained through a questionnaire (Rusakamto, 2021) in the form of 4 questions given to 30 respondents. Each answer is given a score, Strongly Agree = 5 points, Agree = 4 points, Fair = 3 points, Disagree = 2 points, Strongly Disagree = 1 point. The results of the questionnaire can be seen in the table below:

Table 1. Questionnaire Result

No.	Question	SA	A	F	D	SD
1	Is the app working properly?	7	17	4	2	0
2	Is the app useful and helpful?	10	14	6	0	0
3	Is the app easy to use?	9	15	6	0	0
4	Does the app have an attractive interface?	7	16	7	0	0

The score is then multiplied by the number of respondents.

Table 2. Total Point

		Question 1		Question 2		Question 3		Question 4	
		Number of Respondents	Number of Points	Number of Respondents	Number of Points	Number of Respondents	Number of Points	Number of Respondents	Number of Points
SA	5	7	35	10	50	9	45	7	35
A	4	17	68	14	56	15	60	16	64
F	3	4	12	7	21	6	18	7	21
D	2	2	4	9	18	0	0	0	0
SD	1	0	0	0	0	0	0	0	0
Points		119		120		123		120	

The Actual Value is obtained after calculating the total number of Total Points.

$$\text{Total points} = 119 + 120 + 120 + 123 = 482$$

The Ideal Score is obtained after multiplying the achievement of the total score X number of respondents X number of questions.

$$\text{Ideal Score} = 5 \times 30 \times 4 = 600$$

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So the final data is obtained,

Table 3. The Calculation Results

No.	Question	SA	A	F	D	SD	Point
1	Is the app working properly?	7	17	4	2	0	119
2	Is the app useful and helpful?	10	14	6	0	0	120
3	Is the app easy to use?	9	15	6	0	0	123
4	Does the app have an attractive interface?	7	16	7	0	0	120
Total Actual Value							482
Total Ideal Value							600

Lastly, to calculate the Overall Result, the formula used is :

$$\text{Overall Result} = x 10\% \frac{\text{Total Actual Value}}{\text{Total Ideal Value}}$$

$$\text{Overall Result} = x 100\% \frac{482}{600}$$

$$\text{Overall Result} = 80.3$$

The overall result obtained in the calculation is a value of 80.3 (Satisfied) ((Buton, Kaunang, & Jocom, 2019)

Maintenance

The fifth stage in the waterfall development model is the maintenance of the application, both to fix system bugs and add new application features. One of the system's bugs encountered when maintenance the system is when the login system experienced an error when identifying the admin as a user. To fix it, the login system between the admin and user has been separated.

DISCUSSIONS

This research was formed to develop an android-based Pet Care Information System at Darussalam Pet Shop to simplify a few works which are still handled manually in an attempt to provide better pet care. Researchers have been through a series of phases. The process starts with collecting data, designing the system, implementing the design, and testing the system. The researchers utilized both the Quantitative research methods and the Waterfall method

The result of this study is the creation of an android-based pet care information system. When performing testing to determine whether or not the system has issues when it is used, it was revealed that the system functions without any issues, but still needs more improvement to offer a better system.

CONCLUSION

Based on the result and discussion described previously regarding Pet Care Information System at Darussalam Pet Shop Based on Android, the following conclusions are: first, the application is operating as intended. Second, the overall results of the Likert scale of 30 questionnaires amounted to 80.3 (Satisfied), which proves that the system makes it easier to obtain pet-related information for the user so they would provide better care for pets, as for administrators, the system makes it easier to manage schedules and incoming orders.

Researchers realize that this study has many shortcomings. However, the results of the author's research are useful and can be used as a reference for future researchers. The researcher's recommendations for improvement in the future study are to provide pet pick-up and delivery features and host a chat feature between the store and service users.

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