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Design And Implementation Of It Helpdesk Application Using Knowlegde Management System Approach

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ABSTRACT

The agency, Helpdesk is part of a department that executes methods for collecting data from various sources and is assigned to serve and respond to user needs. In the development of Helpdesk this can provide services, solve problems and provide solutions to the problems of hardware, software, network, and applications or things related to office work. The Web helpdesk also helps to accelerate information and address problems. The IT assistance help is still applied to solve the problem of every institution currently only send email, via phone and chat app via Android. If there is a problem related to the technical work, the party will contact IT by telephone or chat, sometimes IT negligent to inform its clients where the drive is completed or is working process. For that I created an application that aims to overcome it. IT is expected that the Helpdesk application uses the Knowlegde management System approach to shorten the time of problem handling, providing solutions to the same problem that does not reissue, provide a legitimate and controlled IT job report, and also achieve the objectives of the employment satisfaction to the workers.

1. Introduction

Seeing the current era of globalization, rapidly growing technology brings us to the modern era, which is fast paced, especially in providing information services and website-based services. Nowadays, many sectors of life penetrate the internet to facilitate the work to be done. No doubt, the computer becomes an important tool in supporting this. But in fact many things are found when using this computer device. Complaints and problems encountered when using a computer can be helped through the Helpdesk feature which is an important part of finding solutions to problems faced by computer users.

The progress of aid applications in the world of work can execute problems quickly and provide solutions to all existing problems both when working individually, in groups and organizations. Helpdesk supports input to solve problems that occur obstacles. This application assistance facility is not so many users. Therefore, the authors try to get involved in dealing with problems and provide input to technicians in real-time. This is believed to be able to shorten time and work effectiveness. In this case the writer helps overcome the problem at hand. at PT. Panairsan Pratama both issues related to Hardware, Software, & Network or networks and other obstacles related to information technology.

At present the assistance techniques used by PT. Panairsan Pratama only via email messages, via telephone and chat applications on Android. For example, when there are problems related to media devices, they will directly contact the technician via the office telephone or via message via the Android chat application. But there are always complaints from users about the problem being handled. Because technicians sometimes forget to tell the development to the user about the progress of the problems the user is facing.

With this problem, an IT helpdesk management application was made using the Knowledge Management System approach that aims to accommodate all the gaps and make it as a technician's job report. From the advantages of this application, making it easier for users to make requests for handling problems .that will be addressed to technicians, so as to provide comfort in work to minimize the occurrence of problems.

In this condition the concept of knowlegde (knowledge) is needed to help in identifying problems based on experience and information from experts that have been there before and then responded with new

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information in solving problems that rely on human resources. In addition, management knowlegde is also needed to assist new employees in adapting to routine and in overcoming changes that occur. And to help provide knowledge from the experience of old employees to new employees.
The design and design of the IT Helpdesk application using the Knowlegde Management system approach by transferring two understandings of existing knowledge namely, Tacit & Explicit Knowledge understanding where in the application there are users who provide tacit understanding which only provides information that is sourced from problems that occur without knowing the cause, while the admin can provide two insights at once Tacit & Explicit Knowledge, namely by providing knowledge that is still in the head that has not been documented, is changed to Explicit Knowledge, which is knowledge that has been documented and can be accessed easily so that it is easy to learn it. From references taken by combining and developing existing systems and features, so that this research becomes better than the accessibility and handling of problems that occur to be controlled.

2. Research Methods

2.1 Data collection.

This research was conducted so that the data obtained can be the information needed, to achieve the research objectives, the authors carry out the stages of the necessary requirements so that all goes according to plan, for that the authors do:

1. Observation.
   Visiting the company directly and making direct observations of existing objects to get the data needed by the author for research purposes in the company.
2. Hearings.
   Conducting consultations with company officials aiming to collect data by conducting regular question and answer questions based on research targets, by consulting companies.
3. Literature Study.
   The research method used is data collection by comparing research in similar journals with research titles relating to the issues contained in this study.

2.2 Application Development Stages.

In the process of developing research applications, researchers used the waterfall method. Namely the stages of support in the process of application development, so that the making of applications in accordance with expectations and the stages using the waterfall method as follows:

1. Analyze the need for software to be used
2. The stages of designing applications as needed
3. Making the application coding
4. Doing testing
5. Perform regular checks and maintenance.

2.3 Stages of Design in the Form of Flowchart.

In the Flowchart image, shows the flow of the program to be made. From there explained how the program in analyzing and solving problems, as well as providing legitimate reports in order to help the work of technicians in the company.

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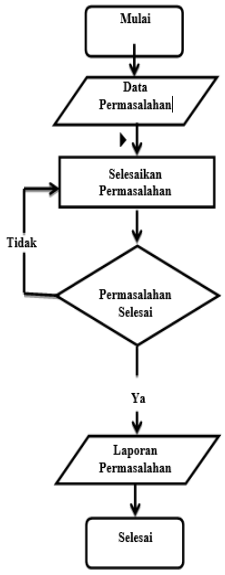

Fig 1. Flowchart

3. Results and Discussion

The following are the results and discussion for creating an IT Helpdesk system based on this website. Where users can do reporting related to IT resources through a website that has been provided and can be accessed, there are 2 users or users namely admin or technicians and users (officers who register tickets). The following are required system requirements for designing a web-based IT Helpdesk application to be designed:

1. Admin page or IT technician:
   - Admin login.
   - Admin can manage ticket data.
   - Admin can see all tickets or complaints submitted.
   - Admin can add ticket problem classification.
   - Admin can view and recap ticket reports..
2. User or client page:
   - Users log in.
   - Users can create new tickets.
   - Users can see the status of the proposed ticket.
   - Users can view ticket reports that have already been completed.
   - Users can view and recap reports

3.1 Designing the Program Flow

In designing the modeling application that is used to explain the flow of the application program that will be created. The following is an illustration of a Use Case diagram consisting of an admin page, and a user page:

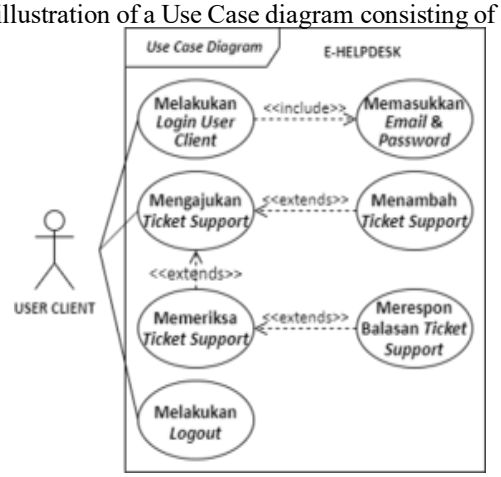

Fig 2. Use case Diagram User Client

In Figure dialog or interaction between the Client Client and the IT Helpdesk system, log in, submit a ticket, check a ticket, log out.

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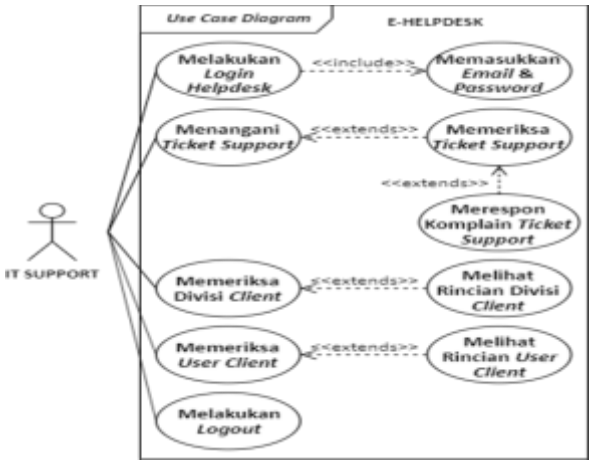

Fig 3. Use Case Diagram IT Support or admin

shows the interaction of IT Support with the system, which is to login, handle ticket support, check the client division, check the client user, and log out. Also after logging in you can respond to complaints from users, see adding clients and users.

3.2 Implementation

At this stage it can be seen how the program interacts with the application user to be applied. After testing the system and the data obtained are as follows:

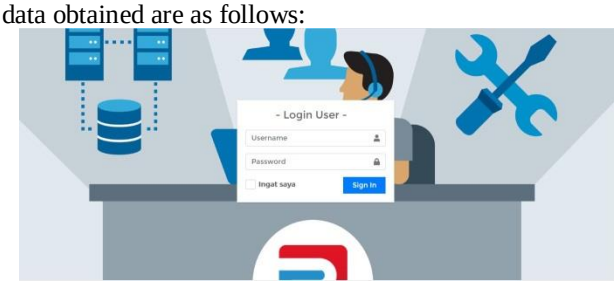

Fig 4. Home page

Very user (admin & user) has the same login view, it's jeust been differentiated based on access rights

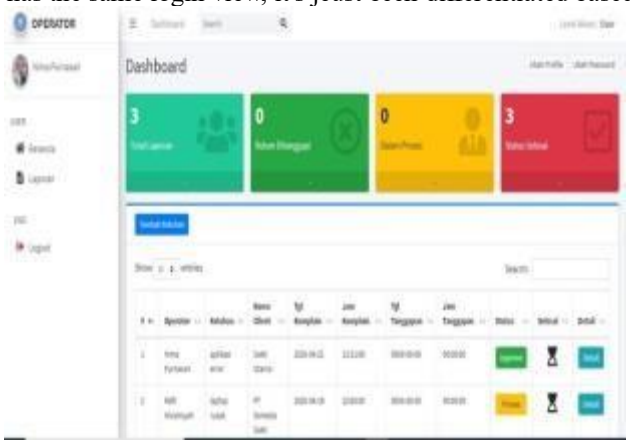

Fig 5. User Dashboard page

You can see that there are several menus for user access levels, namely adding complaints, displaying reports and logging out. And also in the upper right corner there is a menu to change profile & change password.

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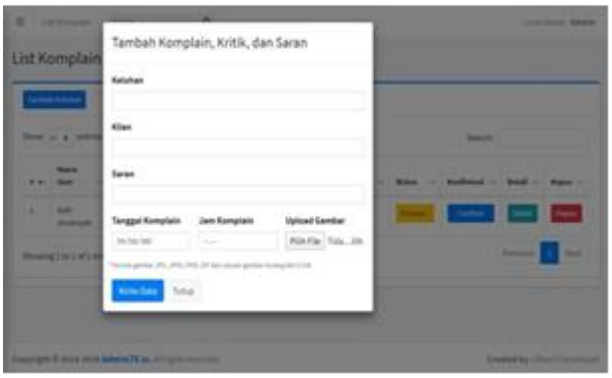

Fig 6. Page file a ticket

You can see how the user submits a complaint that will be addressed to the IT technician. Provide complaints that occur filling clients and giving advice to technicians. In this case the user acts as tacit knowledge which approaches to convey information based on the circumstances that occur

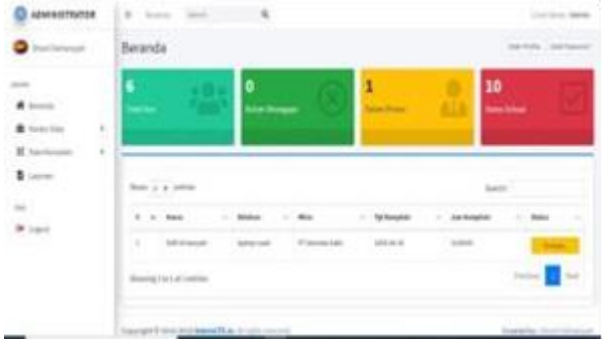

Fig 7. Admin Dashboard page

Seen there are several menus for admin access level, on the left sidebar there are the homepage, master data, complaint data and reports. Then in the right corner there is a menu to change profiles and change passwords

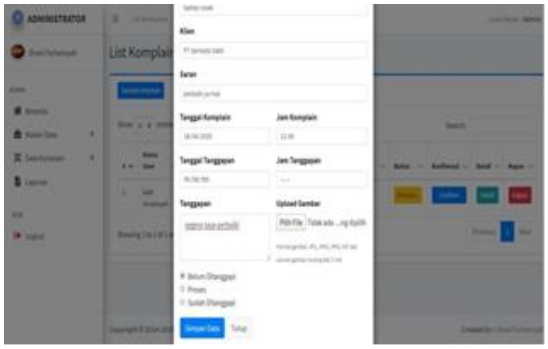

Fig 8. Page handles tickets

Can be seen how the IT admin in responding to a complaint ticket from the user. In this case the admin acts as a tacit and explicit knowledge which is to provide information from the knowledge owned and describe it in a structured manner

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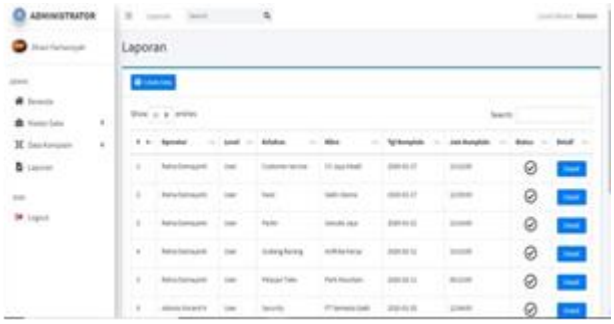

Fig 9. Recap report page

Seen all the results of tickets that have been completed and can be seen by the admin and user.

3.3 System Testing Table

Table 1. User System Testing

No	Scenario	Time accessed		Input	Next stage	The approach used
		Windows	Mobile			
1	User Login	0,81s	1,40s	Username dan password	Home page	Tacit knowledge
2	Filing a complaint	1,19s	1,21s	Complaints, suggestions	Report sent	
3	Details of the complaint	1,21s	1,43s	-	Details of the complaint report	
4	Logout	1,81s	1,92s	Confirmation out	Exit the system	

Table 2. Admin System Testing

No	Scenario	Time accessed		Input	Next stage	The approach used
		Windows	Mobile			
1	Admin Login	1,68s	2,41s	Username dan password	Home Page	Tacit & Explicit Knowledge
2	Checking complaints	1,28s	1,40s	Response, status and confirmation	Updating database	
3.	Look at the report	3,17s	3,41s	-	Report table	
4	Detail laporan	1,18s	1,25s	-	Details of the complaint report	
5	Master data user	1,29s	1,36s	Add and edit users	Updating database	
6	Master data klien	1,38s	1,47s	Add editing and deleting clients	Updating database	
7	Logout	2,11s	3,10s	Confirmation out	Exit the system	

4. Conclusion

Based on research conducted, the authors can draw conclusions that problems in reporting complaints related to information technology and the system that is still running use email and telephone, making it difficult to see the results of reports of any complaints that have occurred. The role of the Knowlegde Management System in the helpdesk application helps in the distribution of knowledge, so that the role and implementation of the program can be summarized as follows:

1. Speed up the course of performance in solving problems that occur.
2. Provide certainty to the user if the problem has been processed or not.
3. Can provide a valid report to the technician.
4. Make it easier to control the work of technicians.
5. Provide specific knowledge to users in providing solutions to problems..

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