

Web-Based IT Helpdesk Ticketing System at PT. Dayacipta Kemasindo

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Abstract

An IT helpdesk is a software or system that helps users troubleshoot their IT facility through one or more points of contact. Then, it allows users to troubleshoot, track their problems, and get help with products or services. PT Dayacipta Kemasindo, in carrying out administrative processes, and work in the office, cannot be separated from the use of IT, so if there is a problem with IT facilities, it requires assistance from the IT department. However, there are several problems, one of which is that the department that reports disturbances and damage often does not know how long it will take for their issues to be handled because the process of queuing for work is not clearly visible, so it seems relatively slow. The purpose of this research is to develop an IT Helpdesk system for trouble reporting and monitoring repair work. The result of this research is a system that can be used by the IT department to help monitor incoming assignments and work.

I. INTRODUCTION

In the era of Information Technology development, almost all work and activities carried out within an organization will always be related to IT. The helpdesk can also be called a management system to help meet user needs regarding questions[1], which can be utilized by consumers and is responsible for assisting in overcoming problems related to usage [2].

A helpdesk is a service unit that handles problems related to using Information and Communication Technology (ICT) facilities in an organization. The helpdesk provides a form of service that organizations can use ICT services. This unit's services include installation, software troubleshooting, computer servicing and maintenance. A helpdesk is a software or system that helps users solve their problems through one or more points of contact. Then, it allows users to troubleshoot issues, track their topics, and get help with products or services. For some organizations, the help desk also means a department offering suggestions or fixes to support user operations. The helpdesk can also be called a management system to help meet user needs regarding questions, services, technical support, or complaints about organizational IT services by utilizing a recorded system by providing tickets to facilitate tracking of completion actions or repair processes by IT staff [1].

The helpdesk is where problems or issues are reported, arranged sequentially, and organized from a general perspective. The helpdesk also functions as a complement to a service function and is responsible a source of solving problems or other issues (help-d esk-world.com). The process of this helpdesk is to help company workers who submit technical issues to the support team so that concerns can be conveyed and can be resolved [3].

Based on this background, this study aims to develop a recorded reporting system, referred to as the IT helpdesk, by issuing reporting tickets so that handling problems and disturbances can be tracked. The results of this research are expected to help departments that report damages in monitoring the status of their requests and can also make it easier for the head of the IT department to control the work of staff. His research was conducted to provide solutions to any complaints that occur. Basically, the purpose of making this system is to improve the quality of existing services in the IT department and produce a system that can answer every complaint that often occurs.

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II. RELATED WORKS/LITERATURE REVIEW

1. Helpdesk

The helpdesk is a central point where problems or issues are reported and arranged in an orderly and organized manner. From a general perspective, the helpdesk is a complementary part of a service function and is responsible for solving problems or other issues. A helpdesk is a department or position of a company that serves or responds to user technical questions. The helpdesk is used to answer client questions. Questions and answers can be submitted via telephone, email, web or fax. Even helpdesk software makes it easier for people to run the helpdesk to find general answers quickly [4].

The helpdesk is the central point of contact within an organization. Employees who contact the helpdesk can find answers to questions and solutions to problems encountered, such as problems at work, problems using computers, working with software applications, and accessing a network. Or to a printer and other technical questions. Based on the definitions above, it can be concluded that a helpdesk is a part or application program within a company that handles queries and complaints, both from internal and external parties, by providing the necessary information and solutions [5].

The helpdesk is the centre point where problems or issues are reported and arranged in an orderly and organized manner. From a general perspective, the helpdesk is a complementary part of a service function and is responsible as a source of service and is reliable as a source of solving other problems. Generally, a held desk is a structure or program that handles all forms of complaints from various parties by providing services to provide information and solutions to users. Helpdesk commonly used by companies and universities that provide network services and organizations that want to offer quick solutions to customers [6].

2. Ticketing

Ticketing is a trouble ticket (or problem report, as it is also called) used within an organization to track the detection, reporting, and resolution of various problems. Trouble ticketing systems stem from manufacturing a paper-based reporting system. Now, most are web-based and related to customer relationship management, such as call centres or e-business [7].

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3. Website

The website is an application that contains multimedia documents (text, images, sound, animation, video) that use the HTTP (Hypertext Transfer Protocol) protocol and, to access them, use software called a browser. A website or site can be interpreted as a collection of pages that are used to display text information, still or moving images, animation, sound, and or a combination of all of these, both static and dynamic, which form one a series of interrelated buildings where each is connected by a network of courtyards[4]

III. METHODS

This research method uses Experiment Research. Experimentation is scientific research in which the researcher manipulates and controls one or more independent variables and makes observations on the dependent variables to find variations that appear along with working these independent variables. Further explained, the manipulated variable is called the independent variable, and the variable whose effect will be seen is called the dependent variable. Furthermore, the data collection method used in this study is as follows:

a. Observation.

Data collection techniques by conducting research and direct observation of the problems taken.

b. Interview.

In this stage, hold a question and answer directly with the IT Helpdesk coordinator..

IV. RESULTS

1. Analysis of Ongoing Company Information Systems

In preparing the research, analyze the information system currently running at PT. Dayacipta Kemasindo namely:

1. Filing problems with IT facilities that occur at PT Dayacipta Kemasindo still use paper which is done manually. Therefore some issues arise because the results of reports or records are not made into information, so you cannot see the history of complaints that have occurred.
2. Filing problems with IT facilities that occur at PT Dayacipta Kemasindo, both software and hardware, before filling in the paper, submitting complaints using the telephone first and then remotely if the problem occurs on

a computer, and if the problem occurs on an error printer, IT staff performs direct visit to the department that requires handling of the printer.

This study aims to provide a helpdesk system, namely, all complaints about IT facilities using a web-based IT helpdesk to solve the problems of all complaints submitted and to see all complaints history that occurred and reports to management on complaints received or resolved.

2. Analysis of the Running System

Analysis of the current running system in the IT helpdesk submission process that is currently running at PT Dayacipta Kemasindo can be described as follows:

1. The user contacts the IT staff by using a mobile phone and telephone extension to take action.
2. The user fills out the problem submission form at the IT facility, such as problems with the printer or network error and gives it to the IT staff.
3. IT staff make direct visits to departments in need and complete the handling of problems that occur.

a. Use Case

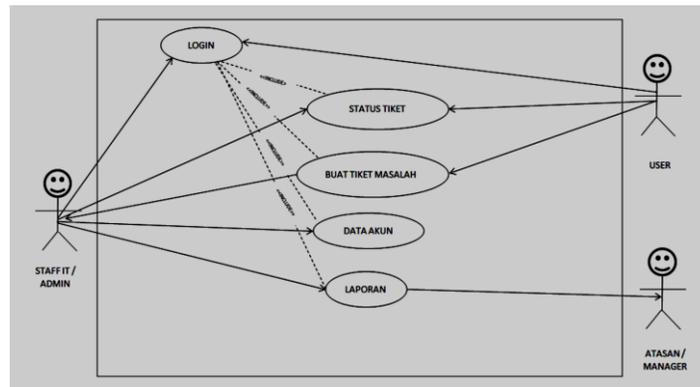


Fig. 1 Use Case

This diagram describes the functioning of the system from the perspective of external users in a way and terminology that they understand, and the plan describes the functional requirements that have been defined. Figure 1 shows a use case diagram for documenting functional and non-functional requirements. The figure shows three system users or actors: Staff/Admin, user, and Manager. These actors use the appropriate system defined in the functional requirements. Each actor or user interacts with each applicable provision which is grouped into sub-systems. Complaint data input by consumers continued to view complaint data by operators while administrators can process data for operators, technicians and devices.

b. Activity Diagram

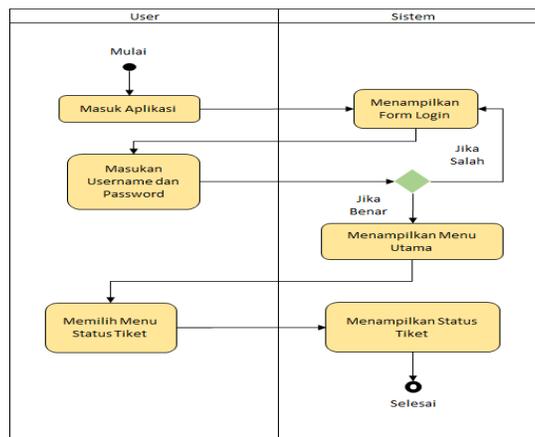


Fig. 2 Ticket Status Activity Diagram

Figure 2 displays the activity diagram for input data for ticket status. This diagram begins with the user entering the application into the system and showing the login form. Entering the username and password by the user and the

system will display the main menu in the ticketing system. The user selects the ticket status, and the system displays the ticket status.

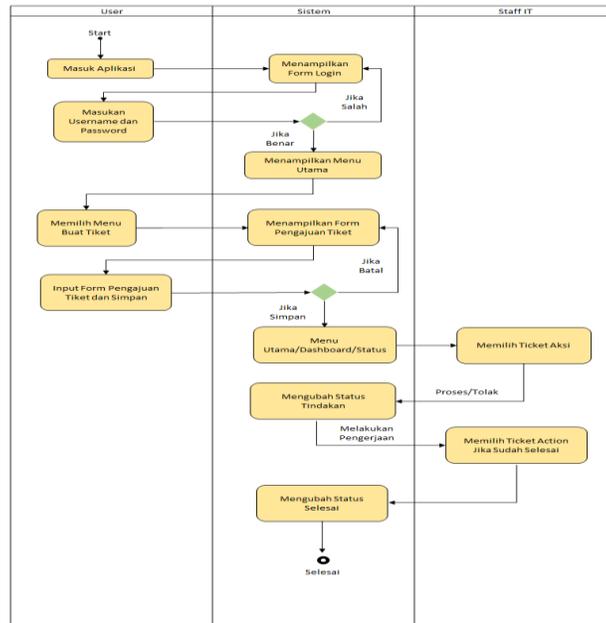


Fig. 3 Making Tickets Activity Diagram

Figure 3 shows the activity diagram for making tickets. The user enters the system application, displays the login form, inputs the username and password and displays the Main Menu.

In the main menu, the user selects the create ticket menu and submits a ticket, the IT staff selects an action ticket, and the system changes the ticket status.

c. Class Diagram

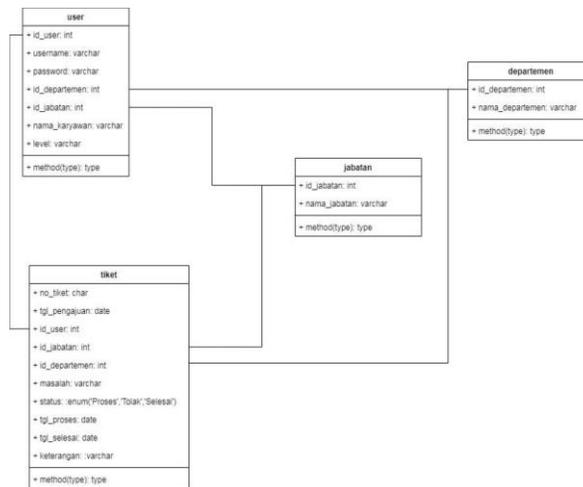


Fig. 5 Class Diagram

After analyzing using activity diagrams, the next step is to identify the entities involved in the system represented using classes. The class (entity) identified is the user, ticket and position, as shown in Figure 4. The class defined in the figure is an entity class which is an abstraction of the data stored in the database.

V. DISCUSSION

1. Program Design

The computer equipment used in this programming system must have good specifications to facilitate the program's running. Supporting suggestions in implementing a computerized system are needed because these supporting facilities can make an automated system run as it should. Therefore, before implementing an automatic system, several preparations are required, both in terms of the need for hardware and software as a means of supporting the program, namely as follows:

1. Database: PhpMyAdmin
2. Server : Fortiget 60E & Winbox
3. Text Editor: Sublime Text 3
4. Framework: Bootstrap
5. Web Browser: Google Chrome
6. Processor : Intel Xeon E5-2620
7. CPU: 2.00 GHz
8. Memory : 32GB
9. Printers: Inkjet

2. Design Excellence

The advantages that are expected to be achieved by designing a Web-Based IT Help Desk Ticketing system at PT Dayacipta Kemasindo are as follows:

1. Submission of problems at IT facilities already using the system and no longer using paper.
2. IT staff can monitor all incoming hardware and software complaints.
3. IT staff can provide reports to management regarding IT facility complaints that are received and resolved simply by exporting files to excel.

The object of this research is PT. Dayacipta Kemasindo. The idea of the EDP Head Office has a goal: the company has a sound system for dealing with problems and can record all complaints on IT facilities through the system. This department has the duty to input data from a program that is in PT. Dayacipta Kemasindo.

a. Login

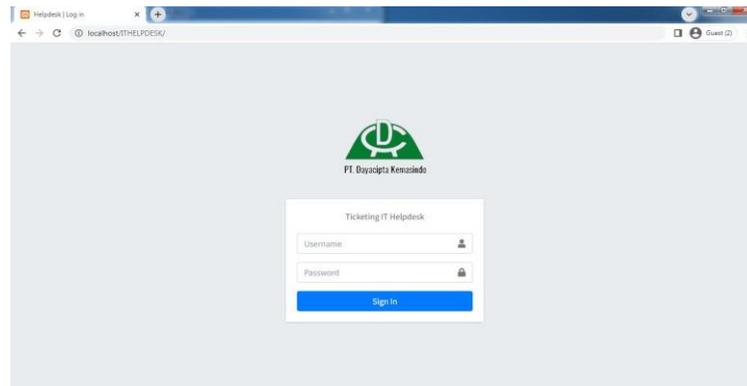


Fig. 6 Login Menu

Process Name : Login

Function : To enter the ticketing helpdesk website

Display Form : Figure 6

Process Description: Fill in the username and password to enter the ticketing helpdesk website.

b. Main page

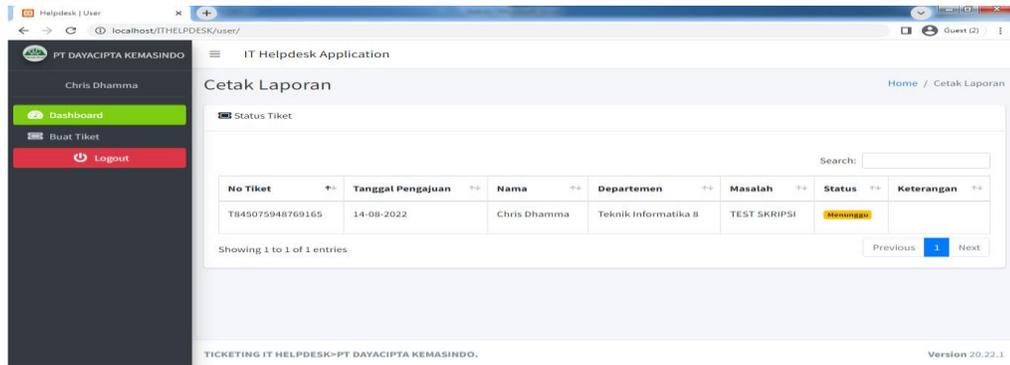


Fig. 7 Main page

Process Name : Main Page
Functions : To manage ticket status, create account data tickets and reports
Process Description: Displays the existing menu

c. Ticket Making

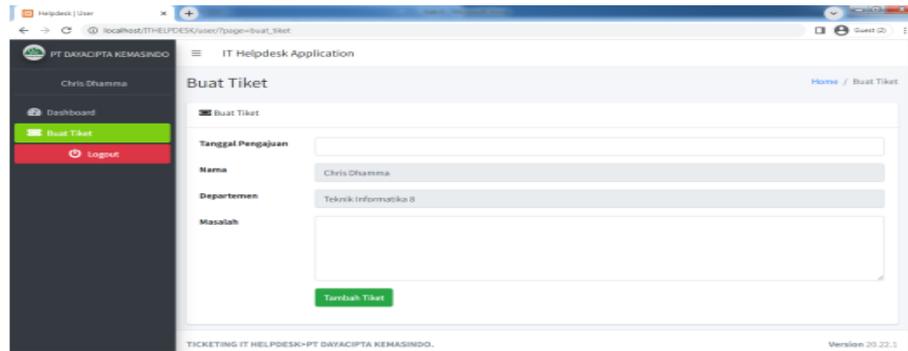


Fig. 8 Ticket Making

Process Name : Ticket Making
Function : Displays a form for creating trouble tickets
Process Description: Users fill out the ticket submission form on problems that occur in IT facilities, both software and hardware.

d. Issue Ticket Approval

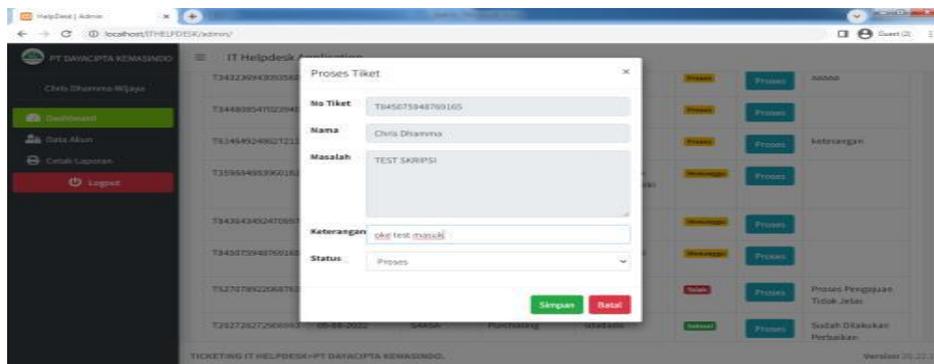


Fig. 9 Issue Ticket Approval

Process Name : Issue Ticket Approval
Function : Take action on problem tickets received by IT staff
Process Description: IT staff carries out the approval process on problem ticket submissions made by users

VI. CONCLUSIONS

Based on the description that has been discussed, it can be concluded from the formulation of the problem regarding the IT Helpdesk Ticketing System, namely as follows:

1. The Web-Based IT Helpdesk Ticketing System at PT Dayacipta Kemasindo is designed, so that problem submissions no longer use paper and use the system.
2. Submission of problems in IT facilities has been computerized and integrated with the database.
3. The Web-Based IT Helpdesk Ticketing System at PT Dayacipta Kemasindo was created to make it easier for IT staff to monitor all incoming complaints to IT facilities, both hardware and software.
4. IT Support can answer all complaints about IT facilities at PT Dayacipta Kemasindo through the Web-Based IT Helpdesk Ticketing System.
5. Make it easier for IT staff to make reports received or completed with export excel

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