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Original Article

Design of Information System Model for the Help Desk

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Abstract **-** *The development of information technology (IT) in life is now in a very good stage. Good resources must support the use of IT in every layer of activity. IT can also be applied to activities such as IT support, where all activities are recorded using IT media. From several conditions, recording this activity is still done manually, so it isn't easy to see reports of activities. We propose to create an activity recording system for IT support called Ticketing Support. Ticketing support is now a very good and important role in helping activities from IT support. To make the ticketing support system, we propose using the classic method, SDLC (Software Development Life Cycle), where there are five stages of SDLC. First, do a functional and non-functional needs analysis. Second, make the system design adjusted to the first stage. Third, testing the system that has been made. Fourth, implement the system for users. And finally, it is to maintain the system. The result of designing this system is to help increase activity in recording, where the results of this activity increase to 60%.*

Keywords **-** *IT-support, SDLC, Ticketing Support*

I. INTRODUCTION

Technological development is the main requirement for a company or organization to facilitate its business activities to achieve maximum goals. Supported by advanced technology, it will only improve the quality and performance of an organization or company. The website as an example of the application of information technology is one example of technological development that can provide easy access to information.

The company "X" is a company engaged in securities services established in 2011 and until now for the operations of the company has not used a computerized information system, especially IT support as company support which is considered very significant, both in terms of support for customers (outdoor) and support towards the company itself (indoor). With the development of the company and the increasing mobility of IT, a Ticketing Support information system is needed that helps support IT performance both indoors and outdoors.

The importance of good administrative management by operational section is expected to be able to record all activities carried out by the operational admin optimally [1]. Based on the research results that have been done, there are several problems. First, creating a ticketing support application does not mean that the recording process is integrated (multi-user) but only focuses on computerized media that is still considered classic (MS. Excel). Second, the research that has been done also does not show the reports that have been made, so the company becomes troubled.

We propose to create a recording system for integrated (multi-user) IT support for companies, and also, the system created will be able to display reports based on date and year. In designing the ticketing system, we applied the SDLC method. SDLC is a classic method where all activities are carried out sequentially, starting from the analytical stage of the needs to the maintenance of the system.

The rest of the paper is structured as follows: in section 2, we review the related works. In section 3, the proposed approach is presented. We present experiments and results with discussion in section 4. Finally, we conclude the paper and highlight the future work in section 5.

II. RELATED WORD

A system can consist of several subsystems or part systems. Components or subsystems in a system cannot stand alone independently[2], [3], [12]. Components or subsystems interact and interact with each other to form a unity so that the goals or objectives can be achieved [4], [5], [13]. Information is the meaning of relationships and interpretation of data that allows someone to make a decision. Information is valuable if the information affects the decision-making process better. An information system is a concept to adopts people, technology, and information to develop the decision support system in an internal organization[6], [7], [14]. In the process of information systems designing the problem of optimal information resources distribution in computer systems is one of the most paramount tasks. Such problems arise upon designing information systems based on computer systems [8], [9]. An analysis is the

decomposition of a complete information system into its parts to identify and evaluate problems, opportunities, obstacles, and expected needs so that improvements can be concluded. SDLC models consist of analysis, design, code, and testing [10], [11].

The help desk is a management system to help deal with customer/user needs related to questions, services, technical support, or complaints against certain products & services by utilizing a numbering system (ticket request) to facilitate tracking of settlement actions coordinated by a team [2], [3]. This team usually consists of one or several people in charge: of accommodating, classifying, and prioritizing ticket requests through various channels such as E-Mail, Website, or Phone, and assignment of ticket requests to units that are responsible and can resolve these problems. If necessary, escalate ticket requests to higher management levels, monitor the duration & completion status, and log all the steps taken and the status of the ticket request completion.

III. PROPOSED APPROACH

In this section, we present an approach to developing IT support. The proposed approach has two parts: the SDLC model and the proposed approach.

Fig.1 SDCL Model

The SDLC model section is divided into five parts: requirement analysis, system design, system testing, implementation, and maintenance. Requirement analysis is the process of analyzing and gathering system requirements that follow the domain of behavior information, performance, and interface (interface) needed. These needs are documented and seen again with customers. The design system will translate requirements into a software design that can be estimated before coding is made. This process focuses on: data structures, software architectures, interface representations, and procedural details. The testing system is carried out on internal logic to ensure all statements have been tested in the testing system. Functional external testing to find errors and ensure that inputs will provide actual results as needed. Maintenance and software that has been delivered to customers will change. These changes can be an error because the software must adjust to the environment (new peripherals or operating systems) or because customers need functional development or performance.

A. Proposed Approach

This section will explain some parts of the system, such as customer data, operational schedule, report, training data, and data service.

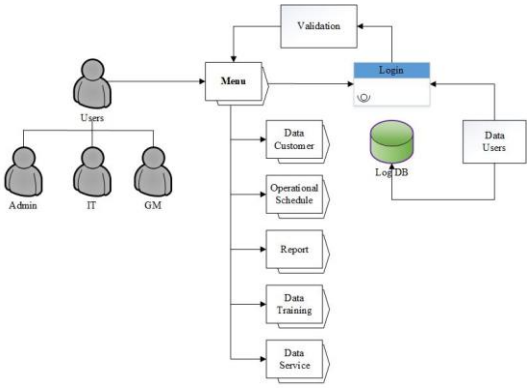

Fig. 2 The proposed approach

Admin operations log in, then choose the customer data menu, then the system will display the customer data record. The operational admin selects the customer-added menu. The system will display the form added by the customer. The operational admin performs customer data entry, after which the system displays a dialog box whether the data that has been inputted will be saved to the database or not. If so, the system will display the new customer data on the record. Otherwise, the system will display the previous customer record data again. Operational schedule, admin operations log in, then select the schedule menu. The system will display the schedule data record, and then the operational admin selects the menu to add a schedule, then the system will display the added schedule form. The operational admin performs the data entry schedule, after which the data dialog box displays whether those that have been inputted will be saved to the database or not. If so, the system will display the new schedule data on the record; otherwise, the system will display the previous schedule data record. The report, operational admin, and general manager login then select the report menu. The system will display the report page, and then the operational admin selects the report to be printed. The operational admin inputs the operational period, and after that, the system will display a dialog box whether the specified report will be printed or not; if yes, then the system will display a preview of the operational report that you want to print, otherwise the system will return to the initial report page. For data training, the IT support login then chooses the training menu, and then the system will display the training data record, then IT support selects the training add menu. The system will display the added training form, then IT support performs training data entry, and the system will display what data dialog that has been inputted will be saved to the database or not; if so, the system will display new training data on the record, otherwise, the system will display the previous record training data. Data service, IT support logging in then selecting the service menu, then the

system will display the service data record. IT support selecting menu added service, and the system will display the added service form. IT support doing data entry settings. After that, the system will display what data dialog those inputted will be saved to the database or not. If so, the system will display new service data on the record; otherwise, the system will display the previous service record data.

B. Experiments and Results

In this section, the results of the study will be explained. The results section of this study is divided into three, system testing, system implementation, and a comparison of the old system and new system.

C. System testing

The test conducted is black-box testing. In black-box testing, testing is only done by executing or executing units or modules, then observing whether the module results follow the desired procedure. Testing is done to determine the steps in conducting the test. Testing is done by running the ticketing application to support the operational part of the web browser. After the application is run, a series of function tests are performed on each application module, and if it is following the design, the testing is considered valid.

D. System implementation

This stage continues the fifth phase of SDLC activities, namely testing and implementation. This stage applies a system so that it is ready to operate. Things that need to be prepared include hardware and software specifications. The login page will ask for a username and password for user authentication; if the admin user displays the menu as a whole, if the user supports IT, only a portion of the menu will be displayed. The login page can be seen in Figure 3.

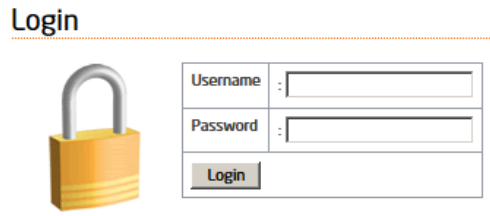

Fig. 3 Login system

In the user module, a list of users will be displayed as in Figure 4, then if the button is added, a user input module will appear, and if the edit button is pressed, the edit user module will appear.

Fig. 4 Data user

The service module will display a list of services, as shown in Figure 5. Then when you press the add button, a service input module will appear, and if you press the edit button, service editing will appear. The admin and user can access this module.

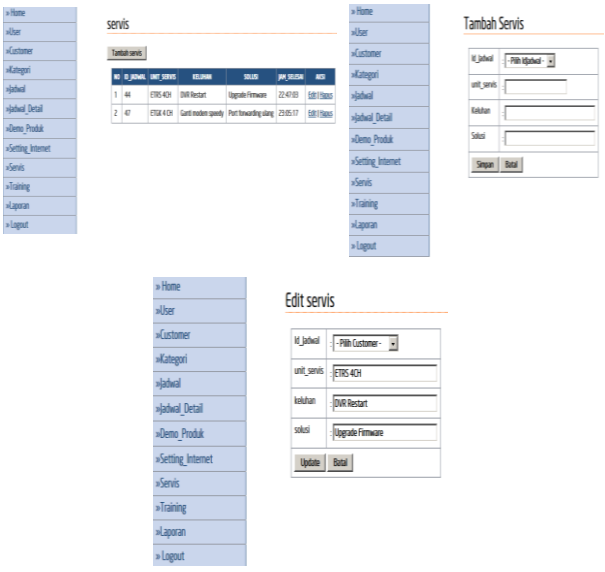

Fig. 5 Data service

E. Comparison of old system and new system

Table 1. the comparison between the old and new concepts

Menu	The old system (%)	New System (%)
Data Customer	**60**	**84**
Schedule	**55**	**85**
Report	**60**	**78**
Data Training	**65**	**89**
Data Service	**70**	**97**

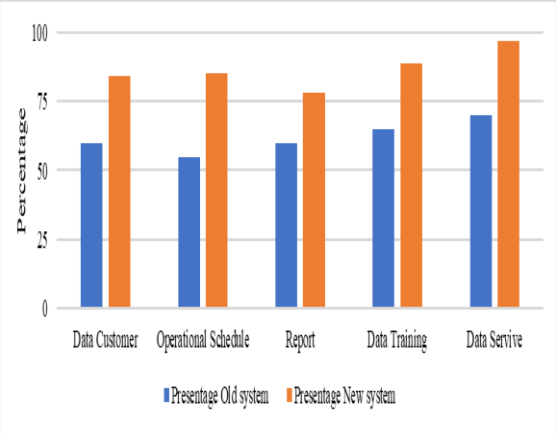

Fig.6 Comparison of old system and new system

V. CONCLUSION AND FUTURE WORK

Based on the description, discussion, and analysis that the author has done in the previous chapters, it can be summarized as follows: With ticketing, applications support the web-based client-server can simplify and accelerate operational admin work in IT support operational scheduling. The operational admin can well organize the operational history of IT support. Job-status updates can be monitored by both the operational admin and general manager. Produce operational IT support reports delivered accurately and reliably to the operational admin and general manager. This ticketing support information system is still very simple regarding the performance appraisal process. It is hoped that the performance appraisal process can be developed for the better. The ticketing support information system is also still manual in receiving scheduled data order sources from the sales department, so it is expected that the author can develop this ticketing support application integrated with the sales department in the future.

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