INFORMATION SYSTEM MANAGEMENT DATA EMPLOYEE INTEGRATED E-PPA AND ATTENDANCE SCHEDULE (STUDY CASE: PT. RUMAH SAKIT MARY CILEUNGI HIJAU)

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Abstract - PT Rumah Sakit Mary Cileungsi Hijau as a big company providing health care and had many employee’s. Those employee’s data had to well organized. Calculating and controlling the schedule working which is divided 24 hours each day. Effectivity and efficiency time schedule in payroll unit is question abled if not supported by an information system which is can control the schedule perfectly. Applying the quality and centered information system hopefully can support efficiency and effectivity employee’s working time schedule and can give an accurate information administration employee’s data for the leader to control hospital operation. One of company effort to support that goals is implementing the good computerized system, which is can give fast and accurate information.

Keywords: Human Resource Information System, Attendance, Employee, Hospital

I. Introduction

PT. Mary Cileungsi Green Hospital is a health service provider company in Cileungsi area of Bogor Regency. This hospital has type C class. Therefore, its health services generally includes outpatient services, inpatient services, emergency installation (IGD), Intensive Care Unit (ICU), ambulance, laboratories, radiology.

In fulfilling its services to consumers, hospitals are assisted by hundreds of employees divided into many work schedules and service units 24 hours a day. Therefore, the effectiveness and efficiency of work time of the payroll unit is very doubtful in the process of calculating attendance data and controlling work schedules.

Due to the lack of centralized employee administrative data - such as permit information for doctors / nurses / midwives / pharmacists, information on employees' employment contracts, retirement employee information – has caused a problem at recruitment unit performance, that is inefficiency of providing information to the leadership or relevant unit heads.
From the explanation, it can be concluded that the application of qualified information systems to support efficiency and effectiveness in processing data and monitoring employee information at PT. Mary Cileungsi Hijau Hospital is very necessary so that it can support the company's business processes.

At the present, the hospital has implemented a fingerprint technology and information system to process employee attendance data. However, the information system still has many obstacles and has not been maximal in supporting ongoing business processes.

A. Research Problem

Based on the problem identification above, we formulated a problem that arises, namely:

a) How to design and develop system can be make processing and searching employee data simple?

b) How to analyze the company's needs to obtain effective and efficient information?

c) How to make an information system that can provide supervision, control and determination of employee work schedules?

II. Research Methodology

A. System Development Life Cycle (SDLC)

Alan Dennis (2015: 1-5), in his book System Analysis & Design Object-Oriented Approach with UML, System Development Life Cycle (SDLC), stated that there is an information system method which can provide benefits and support business process needs with creating a needed design form.

SDLC has 4 basic stages, namely planning, analysis, design, and implementation, where those stages will illustrate a system development cycle.

a) Planning is the basic stage to understand why an information system must be built and how the developer will build the system.

b) Analysis is the stage of determine who the system user is, what the system will do, where the system will be used, and when the system will be used.

c) Design is the stage of deciding how the system will operate in terms of hardware and software related to the design of the application interface, database, and report design that will be needed.

d) Implementation is a stage that is divided into 3 stages, namely development, implementation, and analysis of subsequent system development.

B. Prototype

Alan Dennis (2015: 9) in his book System Analysis & Design An Object-Oriented Approach with UML, the prototype model methodology is a form of performing the analysis, design, and implementation stages simultaneously and repeatedly in one cycle until a system finished.

The prototype method is very suitable to be used in a project which the user needs criteria are still unclear and have a very short development time.

Figure 1. Prototype Development Model
C. Black-Box

Alan Dennis (2012: 454) in his book Analysis and Design System, Black-Box Testing is one of the most commonly used methods of testing applications and has a focus on testing objects based on program design specifications at the design stage.

III. Results and Discussion

From the results of the analysis of the problems, we try to propose the design and development of information systems based on the diagrams that we present in the form of use case diagrams, activity diagrams, class diagrams of personnel information systems.

A. Proposed System
1) Activity diagram

a. Activity diagram for PPA Submission

![Activity Diagram for PPA submission]

Figure 4. Activity Diagram for PPA submission
Explanation of the activity diagram PPA submission:
1. On the form for submission of absenteeism, all employees select the type of application then the system will automatically calculate the remaining leave.
2. The process is continued to the stage of filling in the information. Inserting of the name of the substitute employee is done when official exchange chosen. It is continued to the process of selecting the start and end dates of submissions.
3. After the employee stores the data, the system will make the submission number and log the transaction.

b. Activity Diagram for PPA approval

![Activity Diagram for PPA approval](image)

Figure 5. Activity Diagram for PPA approval
Here is an explanation of the PPA approval activity diagram:
1. Approval of absenteeism can only be done by the unit head office at the minimum and not the name itself. The process starts from selecting list in form of PPA approval where employee absenteeism request to be declined or approved.
2. After selection and saving data completed by leader, the system will automatically send an e-mail to the applicant.

Here is an explanation of the Recapitulation Attendance activity diagram:
1. The process starts from the data withdrawal menu where the payroll unit selects the period, year, and IP address from the location of the fingerprint machine.
2. After the completed process of withdrawing data from the machine, the results stored will automatically appear in the following table and the close timesheet button will be active to proceed to data breakdown process.

3. If the process is successfully carried out, then the display will immediately move to the recap attendance page and all section heads will be able to directly access information on the employee report menu.

2) Class diagram

Figure 7. Class Diagram
3) **Application**

Here are some of the implementation result of the running application:

![Home User Recruitment and Supervisor](image1)

Figure 10. Home User Recruitment and Supervisor

![Home User Payroll and Director](image2)

Figure 11. Home User Payroll and Director
Figure 12. User interface for PPA submission

Figure 14. User interface for PPA Approval

Figure 15. Notification Email PPA
Figure 16. Data Attendance machine

Figure 17. Attendance Recapitulation Results

Figure 18. Dashboard Attendance Recapitulation Results 1
Figure 19. Dashboard Attendance Recapitulation Results 2

Figure 21. User Interface for Contract Employee List

Figure 22. List of Employees Retirement Period
4) Testing

In testing this employee data information system, we use the Black Box method where this method emphasizes in testing the functions of the information system.

<table>
<thead>
<tr>
<th>ID</th>
<th>Form</th>
<th>Modul</th>
<th>Function</th>
<th>Scenario</th>
<th>Expected Result</th>
<th>Testing Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Submission of PPA by emptying the type of request</td>
<td>PPA Process</td>
<td>PPA Process</td>
<td>The user saves the request without selecting the type of request</td>
<td>Message “Field belum terisi” appears</td>
<td>SUCCESS</td>
</tr>
<tr>
<td>2</td>
<td>Submission of PPA by filling in the mandatory field</td>
<td>PPA Process</td>
<td>PPA Process</td>
<td>User fill in all existing mandatory fields and save them</td>
<td>A confirmation dialog appears, if you select &quot;OK&quot; then the data will be saved and will move to PPA status</td>
<td>SUCCESS</td>
</tr>
<tr>
<td>3</td>
<td>Approving PPA</td>
<td>Approving PPA</td>
<td>Selecting to approve PPA</td>
<td>The user select PPA list which will be approved</td>
<td>The user presses the button “Setuju” for approving the employee’s request and approved request information will be send to employee by email automatically.</td>
<td>SUCCESS</td>
</tr>
<tr>
<td>4</td>
<td>Declining PPA</td>
<td>Approving PPA</td>
<td>Selecting to decline PPA</td>
<td>The user select the PPA list that will be rejected</td>
<td>The user presses “Tolak” button, a dialog will be appeared which explaining the reason for the decline from the leader, declined request information will be send to employee by email automatically.</td>
<td>SUCCESS</td>
</tr>
<tr>
<td>5</td>
<td>Sending announcements by emptying the mandatory field</td>
<td>Announcement</td>
<td>Announcement form</td>
<td>Sending announcements by emptying the mandatory field</td>
<td>Warning message appears.</td>
<td>SUCCESS</td>
</tr>
<tr>
<td>6</td>
<td>Sending announcements by filling in the mandatory field</td>
<td>Announcement</td>
<td>Announcement form</td>
<td>Sending announcements by filling in the mandatory field</td>
<td>Confirmation message appears.</td>
<td>SUCCESS</td>
</tr>
</tbody>
</table>

Based on the results of the tests above, the obtained test results are analysis based testing and design of the system needed appropriate with expected results. All interfaces users, scenarios, and data streams are functioning properly and produce the right processing system output.

IV. Conclusions

After analyzing, designing, implementing, and testing the personnel information system at PT. Mary Cileungsi Hijau Hospital, we draw the following conclusions:

a. The design of a personnel information system is able to provide and simplify the process of searching and processing employee data, from the staffing unit and from the employee in carrying out submission process of new employee request and employee absenteeism request.

b. Employee information system can reduce paper usage costs by communicating via e-mail.

c. Employee information system can provide the right information to evaluate and make decisions in terms of staffing. Besides that, the employee information system provides convenience for leader to make decision about employee needs.

References


