

Information Systems Bedroom Patients Dr. Soeradji Tirtonegoro Klaten

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Abstract—RSUP Dr. Soeradji Tirtonegoro Klaten is a hospital that provides several classes of inpatient services. This hospital has 22 inpatient rooms, with a capacity of 409 beds. In the business process, there have been problems where there is no information on the display / picture of the room and bed, the facilities provided, room rates, rooms that are still empty and rooms that are already in use, this can result in longer service in registering inpatient care until it requires time for 20 minutes. The research method that the authors do consists of data collection methods and systems development methods . For the data collection method the author uses the method of observation, interviews, literature study, and documentation. Meanwhile, the system development method that the author uses is the waterfall method with a framework of information systems built using Laravel, the database using MySQL, and for the code editing tool using sublime text. The result of this research is an information system of Dr. Inpatient Bed Room. Soeradji Tirtonegoro Klaten is website-based, the system runs according to its function based on the system test using the blackbox method.

Keywords : Laravel, Inpatient, Dr.Soeradji Tirtonegoro Klaten, Patient Bed Room, Information System.

I. INTRODUCTION

The hospital is one of the means of health efforts that organizes health service activities[1], which play a role in supporting the achievement of an optimal public health degree. One of the health service efforts carried out by the hospital is inpatient services. Hospitalization is one of the dominant factors of hospital services and is a very significant financial income for the continuity of the hospital organization in the future, so it is necessary to make efforts to improve the quality in health services[1]–[4].

RSUP dr. Soeradji Tirtonegoro Klaten is a government-owned hospital under the Ministry of Health of the Republic of Indonesia, which has a vision of "Excellence in public services to realize an advanced Indonesia by 2024". Therefore, hospital management always tries to improve its performance and professionalism in providing health services, so that it can achieve this vision. The availability of information about inpatient services makes a very important work system in providing services within the hospital. In particular regarding the information display/images of rooms and beds, the facilities provided, room rates, rooms that are still empty and rooms that are already used, where the information is not systemized which makes it difficult for officers to provide information to patients, this can result in a longer time. services in registering inpatient. The system currently running from the inpatient process flow of the emergency room is that the patient gets an inpatient order from the emergency room doctor, the patient's family submits the letter to the officer to find a room/room for inpatient care, the officer identifies patient data related to determining the room to be searched (General Patients / BPJS, Adult Patients/Children, Men/Women, Requiring Regular/Intensive Rooms, Diagnosis of Patient Diseases, etc.), the Officer (Room Finder) confirms (Telephone via aipone) to the room clerk, asking if there is an empty room for Patient A, with diagnosis B, the clerk (room finder) motivates/provides related information (what room will be occupied, room facilities, room rates, rights

and obligations of both the patient and the patient's family, etc.), After the Officer (Room Finder) gets a room for inpatient care, the family is asked to sign the Inpatient Approval Letter, Be The files (Inpatient Order and Approval Letter) are returned to the Patient's Family, to be submitted to the Doctor in charge of the ER, the Doctor submits the letter to the Patient Delivery Officer, to immediately escort the Patient to the Inpatient Room and submit the files to the Inpatient Room Officer. While the process flow of inpatients is allowed to go home, the doctor allows the patient to go home after stating that patient A has recovered, the room clerk submits files related to administration to the patient's family, to be submitted to the Patient Account Administration Officer, the Patient Account Administration Officer processes The file is to be used as an Inpatient Administration Completion Receipt. The receipt is submitted to the administration committee/patient's family in the form of 2 receipt attachments. For the Appendix 1 Receipt given to the Patient's Family, and for the Appendix 2 Receipt given to the Room Officer, Administration is complete, the patient is allowed to go home[5]–[7].

II. RESEARCH METHODS

The system development method is a systematic or orderly method that aims to analyze the development of a system so that the system can meet needs. In essence, the waterfall model system development method is the work of a system that is carried out sequentially or linearly[8]–[14]. From the user side is also more advantageous because it can plan and prepare all the needs of the data and processes that will be required, in this study the authors use method waterfall as in Figure 1 below:

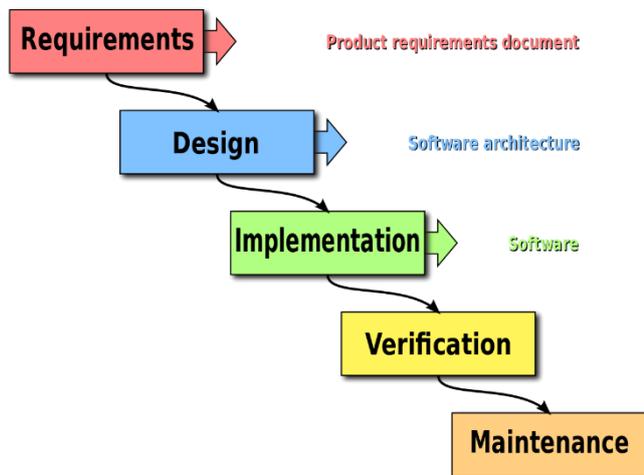


Figure 1. Waterfall Model System Development

The explanation of each Step is:

2.1. Requirments

Gathering the complete requirements then analyzed and defined the needs that must be done completely in order to produce a complete design.

2.2. Design

This stage is done before coding. This stage assists in specifying hardware and system requirements and defining the overall system architecture.

2.3. Implementation

The program design is translated into codes using a predetermined programming language. The program that was built was directly tested both on a unit basis. In this stage, programming is carried out. The software development is broken down into small modules which will be combined in a later stage. In addition, at this stage, an examination of the module is also carried out, whether it has fulfilled the desired function or not.

2.4. Verification

This stage combines the modules that have been made and this test is carried out to find out whether the software made is in accordance with the design and there are still errors or not.

2.5. Maintenance

Operate the program in its environment and carry out maintenance, such as adjustments or changes due to adaptation to the actual situation. This is the final stage in the waterfall model. Software that has been run and performed maintenance. Maintenance includes fixing errors that were not found in the previous step. Improved system unit implementation and improved system services as new requirements.

III. RESULT AND ANALYSIS

Needs analysis is the first stage in the Waterfall system development model. This analysis is needed in making a new system, this is needed to find various kinds of problems faced in the development of an information system in order to provide an effective and efficient work step where the existing system is analyzed to make it easier to identify and evaluate the information system. So that it will be known an alternative solution to problems that arise in the system

analysis process. This stage defines the system requirements to be developed. its relation to the information system developed by the author. The needs analysis is divided into:

3.1 Functional Requirements

The proposed system design framework is structured on the basis of the desired activities and reports as follows:

1) Input

Entering room and bed data, provided facility data, room rate data.

2) Process

Processing rooms that are still empty and rooms that are already used.

3) Report

It consists of data reports on the use of bedrooms and rooms that are still empty, as well as the number of patients who are still active, and patients who have returned home.

3.2 Non-Functional Requirements

This system requires several software and hardware applications so that the system can run optimally, including:

1) Hardware Requirements

This system requires a set of hardware, namely:

- RAM: 2 GB
- Processor: Intel (R) Core (TM) i-3-2330M CPU @ 2.20GHz 2.20GHz
- System Type: 32 Bit

2) Software Requirements

The need for software in making the Information System for Inpatient Bed Room Dr. SoeradjiTirtonegoroKlaten are:

- Operating System Windows 7 / above
- Composer
- XAMPP
- MySql database

In this system, system components and sub systems are very influential in system development. In making a system design, several stages are considered so that the system can run as expected. The stages in this system diagram include:

1) Running System

Analysis of system problems that are currently running in the Dr. SoeradjiTirtonegoroKlaten still uses the old system, namely the Microsoft Excel application program. The obstacles faced are in the business process so far there are problems where there is no information on the display / picture of the room and bed, the facilities provided, room rates, rooms that are still empty and rooms that have been used, this can result in a longer time. service in registering inpatient care until it takes 20 minutes.

2) Developed System

The system developed by the author, namely "Information System Room Bed Room RSUP dr. SoeradjiTirtonegoroKlaten". Where this application includes information about room availability and rates. By using the system developed, the writer hopes that it will make it easier for officers to manage room data and in making room reports, is an overview of the system being developed:

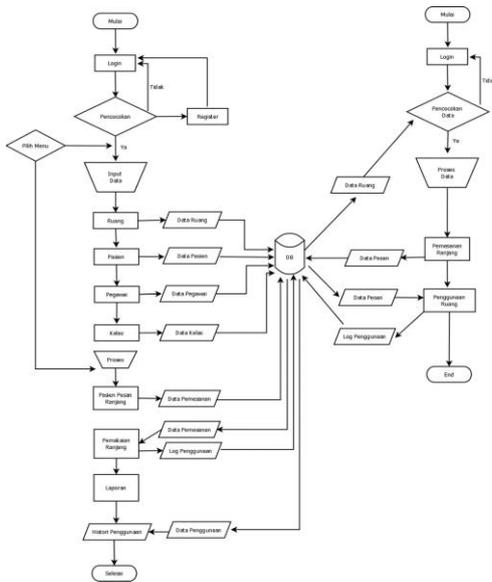


Figure 2. Developed System

3) ContextDiagram

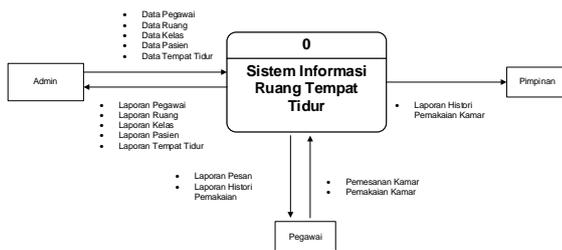


Figure 3. Context Diagram

4) Tiered Chart

A tiered chart depicting an unspecified top level process arrangement (based on existing processes). The following is a tiered chart of the Hospital Room Information System for Inpatient Dr. SoeradjiTirtonegoroKlaten seen in figure 4:

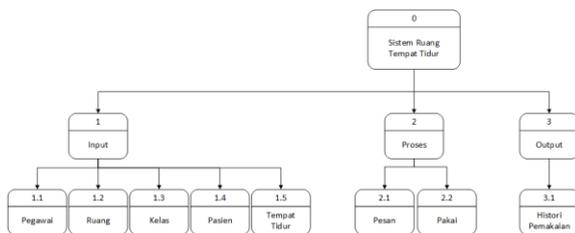


Figure 4. Tiered Chart

5) DAD Admin Level

Data flow diagrams are diagrams used to facilitate understanding of data flow in computer application programs. The data flow diagram consists of several symbols, namely an external entity, a data flow, a process, a data store. The following DAD Admin Level Information System for Inpatient Bed Rooms Dr. Soeradji Tirtonegoro Klaten:

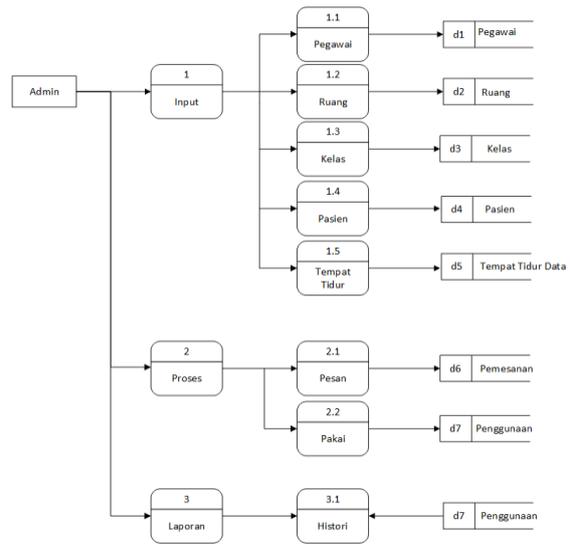


Figure 5. DAD Admin Level

6) DAD Employee Level

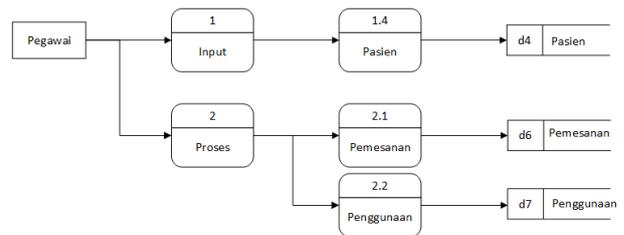


Figure 6 . DAD Employee Level

3.3 Program Testing

To achieve the goal that the system is fit for use, the authors tested the system using the black box method. Black box testing focuses on the functional requirements of the software. Thus, black box testing makes it possible to obtain a set of input conditions that fully utilize the functional requirements for a program.

Table 1. Black Box Testing Table

Test Class	Test Items	Type of Testing	The Value of Praise
Login	Verify Username and Password	Black box	Success
Patient Data	Display patient data Save patient data Update patient data Delete patient data Exit patient data Find patient data	Black box	Success
Employee Data	Employee data display Save employee data Update employee data Delete employee data Exit employee data Find employee data Print employee data	Black box	Success

Room Data Room data display *Black box* Success
 a Find room data

Transaction Data Report Transaction data report display *Black box* Success
 Print transaction data reports

3.4 Program Implementation

After carrying out the system design process that is built and conducting program testing then the design is applied in system development. The system built is the Information System for Inpatient Bed Room Dr. Soeradji TirtonegoroKlaten is website based. The application of system designs that are made and are already running in the flow, namely.

1) Login Page

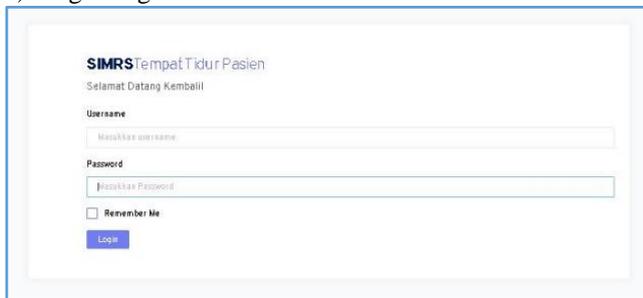


Figure 7. Login page

2) Dashboard Page

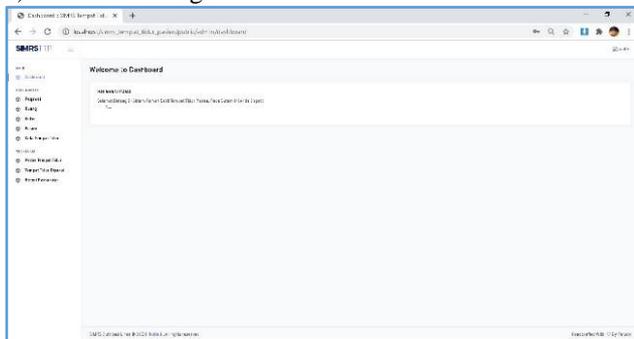


Figure 8. Dashboard Page

3) Employee Page

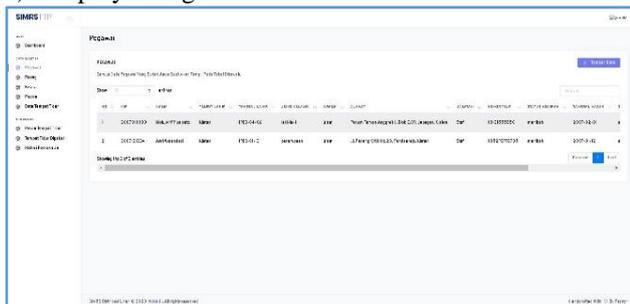


Figure 9. Employee Page

4) Patient Page

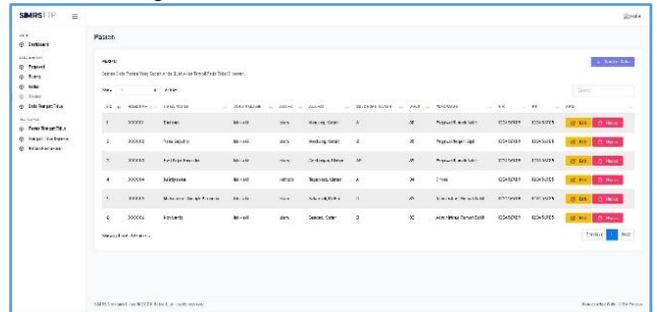


Figure 10. Patient Page

5) Class Page

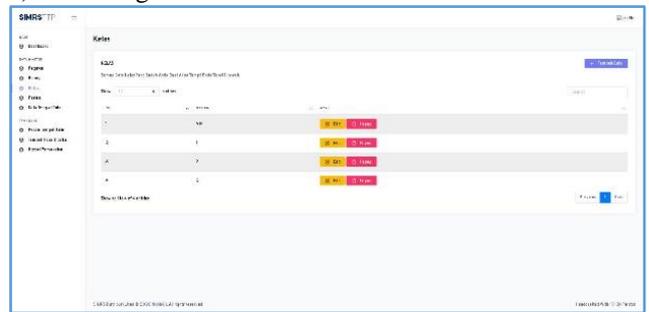


Figure 11. Class Page

6) Courtyard Bed

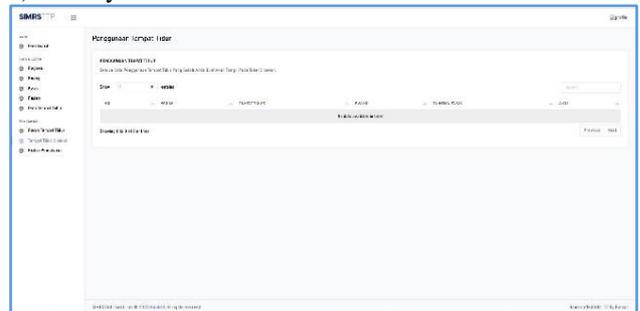


Figure 12. Courtyard Bed

7) Space Page

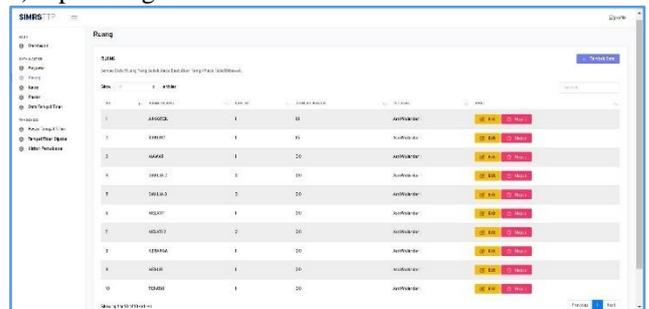


Figure 13. Space Page

8) Bed Use Page

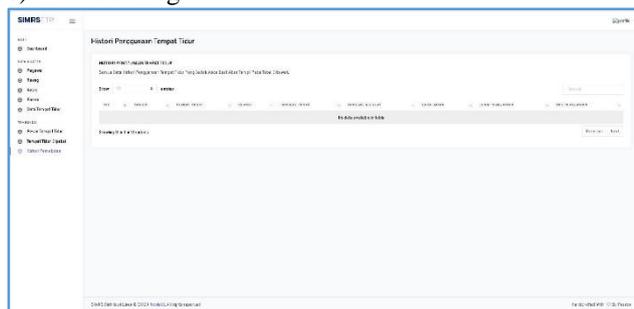


Figure 13. Bed Use Page

VI. CONCLUSION

The conclusion from writing the Information System for Inpatient Bed Room Dr. SoeradjiTirtonegoroKlaten are as follows:

- 1) The information system carried out by the inpatient department which was originally manual can be replaced with a computerized system.
- 2) Information systems also facilitate the performance of officers in providing maximum service to patients.
- 3) With the information system in data processing and information retrieval can be done quickly, accurately, and effectively.

For future implementation and development, the following suggestions are proposed:

- 1) Information System for Inpatient Bed Room Dr. SoeradjiTirtonegoroKlaten is still in simple form, so it still needs development in order to become a better system.
- 2) It is necessary to maintain data because data is a very important source

THANK-YOU NOTE

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