Improvement of Web-Based Patient Receivables Collection Information System at RSU Imelda

[1]**Maristella J. Lumbanbatu**, [2]**Firdama Hulu**
[1,2] Universitas Imelda Medan

ARTICLE INFO	ABSTRACT
Keywords: Patient receivables, accounts receivable payment system, accounts receivable information system	The use of Information Technology (IT) now plays an essential role in the success of an organization's business. By storing information digitally, a company is able to access customer information and process its orders quickly. A doctor can immediately give action to patients after accessing complete patient medical records without having to unpack paper files stored in the hospital. This can be done thanks to the computer-based system used to process information, specifically the Management Information System (SIM). Imelda Perkaja Indonesia Hospital is a Type B referral hospital in Medan City, North Sumatra, where there are often patients who are unable to make payments after treatment both outpatient and inpatient, especially patients pay themselves, where every patient who is unable to pay, this author makes a patient receivables payment system. Management utilizes PHP programming language and MySql database where patient receivables data has been recorded by the computer and the validation process of patient receivables payments, as for several features in this patient receivables information system where patient data input and patient receivables recording can be done.
Email:	

INTRODUCTION

The use of Information Technology (IT) now plays an essential role in the success of an organization's business. By storing information digitally, a company is able to access customer information and process its orders quickly. A doctor can immediately give action to patients after accessing complete patient medical records without having to unpack paper files stored in the hospital. This can be done thanks to the computer-based system used to process information, specifically the Management Information System (MIS) [1]. Management has the task to supervise and plan both in the field of general management, as well as special management such as information technology or information system management. In carrying out these responsibilities and achieving the objectives of the agency, management must understand the condition of information technology and information systems of the agency and decide what governance must be done and how to control it. [2]

Hospitals as places of public health services began to change their management patterns, including BPJS Health, Public Services, Insurance and other payment methods. The shift in the pattern of public health financing for hospital service users from their own costs to financing through third parties, forces hospitals as one of the public health service institutions to be able to compete with other hospitals through ease in patient administration services. Hospitals not only receive revenue from cash payments but also from credit payments for services rendered. Credit receipt occurs when cash is not received directly by patients who have finished treatment at the hospital, but the patient uses a health insurance card or company guarantee so that there is a certain grace period for cash receipt. [3].

Imelda Perkaja Indonesia Hospital is a Type B referral hospital in Medan City, North Sumatra, where there are often patients who are unable to make payments after treatment both outpatient and inpatient, especially patients who pay themselves, where every patient who cannot

*Improvement of Web-Based Patient Receivables Collection Information System at RSU Imelda. **Maristella J. Lumbanbatu, et.al***

27

afford to pay then the patient is required to leave or provide guarantees in the form of objects such as motorcycles, Land certificates and others, the process of recording patient receivables and calculating the collection of overdue patient receivables is difficult to obtain information at Imelda Medan Hospital because the process of recording lists of patients who have collection debts is carried out manually.

METHODS

Data collection techniques in collecting information about the object of this research, namely:

Library Research Methods. Literature writing is a research by collecting the data needed based on books, lecture notes, and other scientific writings that have a relationship with research.

Field Research Methods. Field research is a research directly carried out in the field or the object of research. As for the collection of writing data, it uses two ways, namely:

1. Interview, namely holding questions and answers with management and other parts related to the object of research.
2. Observation is to make direct observations of the object to be studied, regarding the ongoing implementation, especially those related to documents and activities in the system in question.

Laboratory Research Methods. The use of computers or laboratories in system development is discussed.

RESULTS AND DISCUSSION

Based on the analysis and evaluation of the system that is currently running at Imelda Hospital, where the receivables information of RSU Imelda Medan is still a manual system using excel where the cashier has difficulty in recording and calculating the costs of patients who have debts as well as recording financial reporting sourced from patient payments and patient bill information where it is difficult to distinguish which patients have paid off payments and which patients are still running debt payments, so this author made the design of a receivables information system at Imelda Medan Hospital aimed at making it easier for cashiers to process patient debt transactions. The system to be designed is a general patient receivables information system at RSU Imelda Medan using a MySQL database and PHP programming language, it is hoped that the system will be designed to solve problems at RSU Imelda Medan.

The following is the data processing procedure that is currently running at RSU Imelda Medan.
1. Procedure for Recording Receivables

Inpatient units and outpatient units report their patients to cashiers who cannot afford to pay so that cashiers can record and ask for statement requirements to patients to validate data.
2. Payment Procedure

The patient makes a payment to the cashier, then the cashier verifies the data for payment settlement and provides a payment receipt to the patient.
3. Reporting Process

The cashier recapitulates the receipt report and the list of patients who have debts at Imelda Medan Hospital so that the director can re-evaluate.

Data processing procedure

The system procedures running on Generasi Bintang School are as follows:

1. The operator or who serves as the operator submits the Teacher Data Form and Sheet 1 A (Appendix of Approval) to the teacher to fill out.

*Improvement of Web-Based Patient Receivables Collection Information System at RSU Imelda. **Maristella J. Lumbanbatu, et.al***

28

2. After the Teacher fills out the Teacher Data Form completely, the Teacher Form is submitted back to the Operator.
3. The operator receives the Teacher Data Form that has been filled in by the teacher and checks whether the data filled in by the teacher is complete. If it is incomplete, the Teacher data form is returned to the teacher concerned to complete the data.
4. After the Master Data Form has been filled out, the Operator logs in to input the data into the application and is saved. From here the teacher data input process has been completed and can be used for the assessment process.
5. Teachers start grading manually using the Teacher Assessment Form.
6. After grading manually, the form is informed to the teacher and approved by both parties. If it is not approved, the assessor reassesses the teacher. If approved, the assessment form becomes Sheet 1B (Teacher Assessment Appendix) which will be a reference for assessment in the application.
7. Approved sheet 1 B is used as assessment material in the application.
8. The appraiser logs in as an appraiser to be able to input values from sheet 1 B into the application and be processed.
9. After input of grades, the results of the assessment can be seen into teacher competency scores and can be printed.
10. In addition to the Appraisal Teacher, the Principal also has the right to assess teachers with the same process as the Appraisal Teacher.
11. After the teacher assessment results are printed, the print automatically becomes Sheet 1 C (Appendix to the Results of Teacher Performance Assessment).
12. Sheet 1 C is continued for the AKK (Competency Credit Score) assessment process
13. After the Principal completes the AKK assessment process, the results can be seen and printed immediately.
14. Finish

The information system flow aims to find out more clearly about the system procedures carried out by the assessment team in managing teacher performance data.
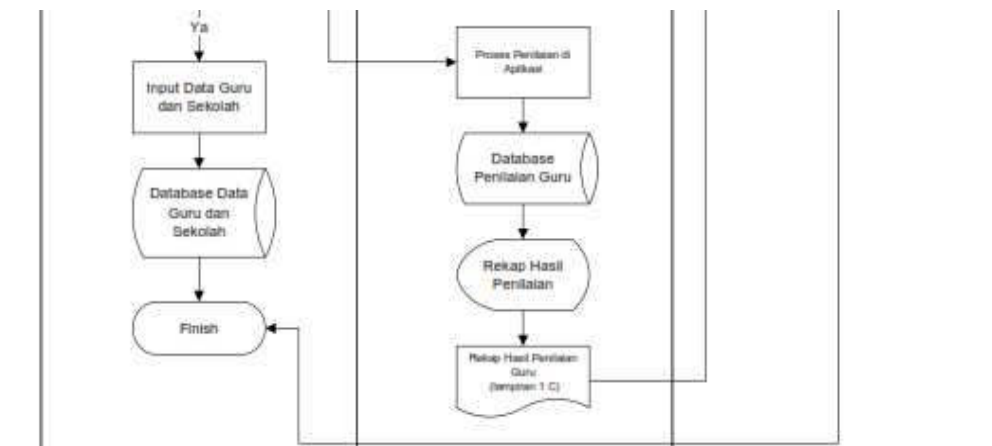

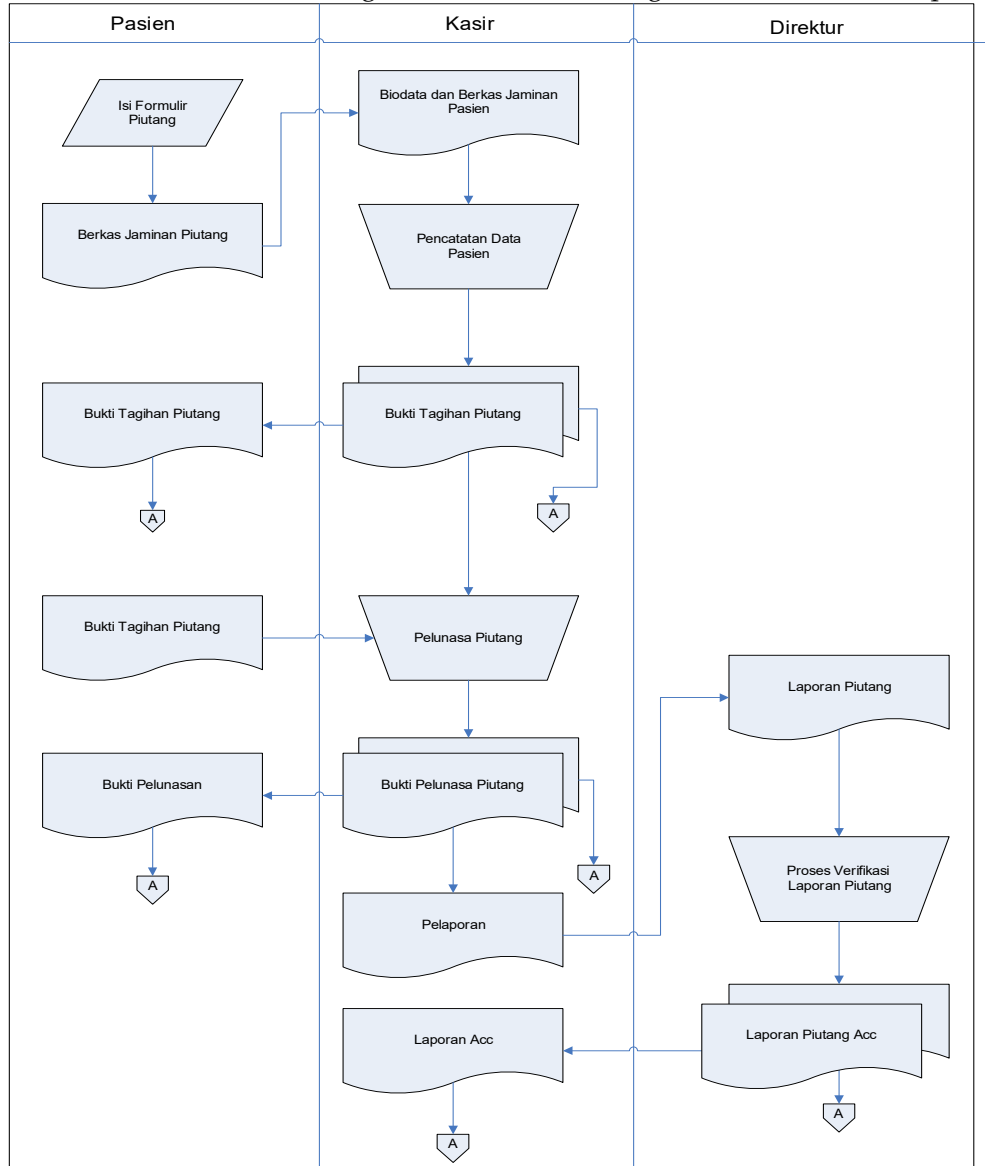**Figure 1**. Document Flow Chart on Star Generation School

Discussion
New System Review

System design is very important after the analysis is complete, because weaknesses can be known, so that with the development of the new system, it is hoped that existing obstacles can be

overcome. The data processing that will be proposed on this system is the process of ordering and shipping systems. In this system design, it is described how a system is prepared to be built into a program application that is useful for its users. An alternative to designing this system is to use document flow charts and context diagrams, which are among the structured development tools.

Global Design

Global design aims to exlain and explain the new system that will be built as a whole. The global design provides an overview for the users of a system, so that it can provide convenience for those who use this system. The global design can be depicted using DFD (Data Flow Diagram) which is described using diagram symbols.

*Improvement of Web-Based Patient Receivables Collection Information System at RSU Imelda. **Maristella J. Lumbanbatu, et.al***

30

SURAT PERNYATAAN HUTANG

Saya yang bertanda tangan di bawah ini :
Nama   :
Umur   :   Tahun
Pekerjaan   :
Alamat   :
No. Telp/ HP :

Dengan ini menyatakan dengan sebenar-benarnya bahwa saya bertanggung jawab untuk membayar biaya pengobatan pasien tersebut di bawah ini yang di rawat di RSU Imelda Pekerja Indonesia, yaitu :
Nama   :
Umur   :
Pekerjaan   :
Alamat   :
No. Telp/ HP : /
Jumlah Biaya :
                    # Nol Rupiah #

Biaya perobatan pasien tersebut yang menjadi hutang saya, akan saya lunasi selambat-lambatnya tanggal secara **TUNAI**

Jika saya lalai atau tidak dapat memenuhi seluruh kewajiban saya pada saat jatuh tempo, maka pihak RSU Imelda Pekerja Indonesia berhak menagih secara paksa kepada saya sejumlah hutang tersebut.

Demikian pernyataan ini saya perbuat dengan sebenarnya, dengan keadaan sehat jasmani dan rohani tanpa ada unsur paksaar dari pihak manapun.

Saksi - Saksi :   **Dibuat di : Medan**
1.   **Tanggal   :**
2.   **Yang Menyatakan**
3.

Jaminan yang ditinggal
1.
2.
3.

Figure 1. Context Diagram of Teacher Performance Appraisal

In the context diagram above, it is explained that the operator entity enters teacher data, to the assessment team. The assessment team receives the data provided by the operator and processes the data to be assessed and given to the principal as a report.

```
    -
    Telp :
    Fax  :
```

Telah terima dari	:
Banyaknya	:
Terbilang	: *Nol Rupiah*

Untuk pembayaran cicilan hutang rekening pasien atas nama :

Nama	:
No. RM	:
Alamat	:
Total Tagihan	:
Total Cicilan	: Rp. 0.00
Sisa Cicilan	:

                    ### TERIMA KASIH ###   ,   :

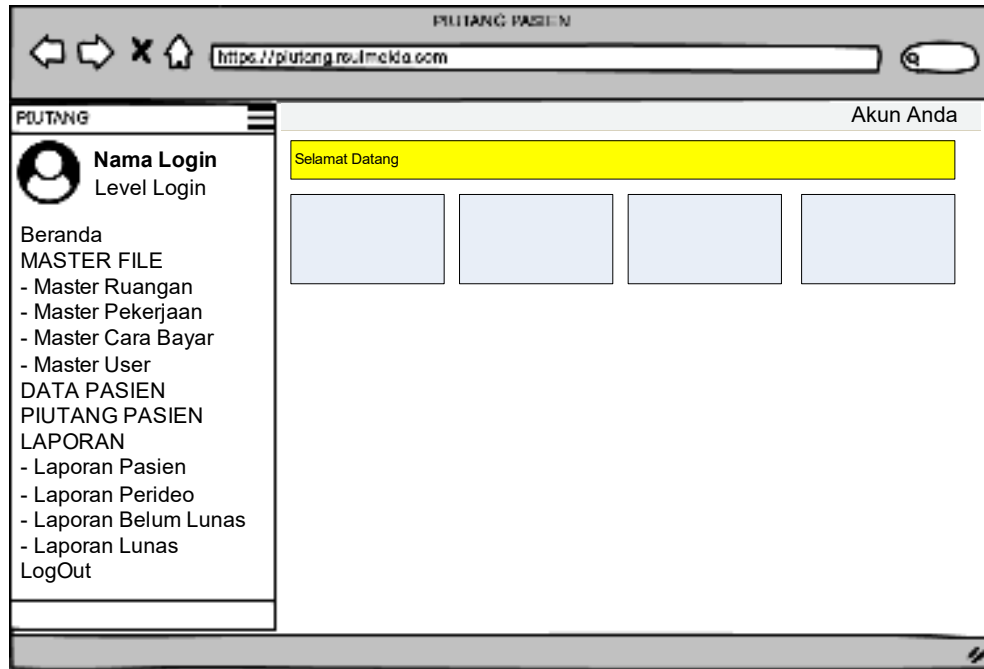**Figure 2.** DFD Level 0 Teacher Performance Assessment

Output Planning

*Improvement of Web-Based Patient Receivables Collection Information System at RSU Imelda. **Maristella J. Lumbanbatu, et.al***

31

Figure 3. Teacher Performance Appraisal Report

Figure 4. School Data Input

Improvement of Web-Based Patient Receivables Collection Information System at RSU Imelda. **Maristella J. Lumbanbatu, et.al**

32

HOME| DATA SEKOLAH|DATA GURU|PENILAIAN

INDIKATOR KINERJA GURU

ID

INDIKATOR KINERJA

SIMPAN   RESET

Figure 5. Input Teacher Performance Data

HOME| DATA SEKOLAH|DATA GURU|PENILAIAN

PENILAIAN KINERJA GURU

NUPTK/NIP

NAMA LENGKAP

PENILAIAN

No	INIDIKATOR	NILAI
JUMLAH HASIL PENILAIAN KINERJA GURU		

SIMPAN   RESET

Figure 6. Input Teacher Performance Appraisal Data

Improvement of Web-Based Patient Receivables Collection Information System at RSU Imelda. **Maristella J. Lumbanbatu, et.al**
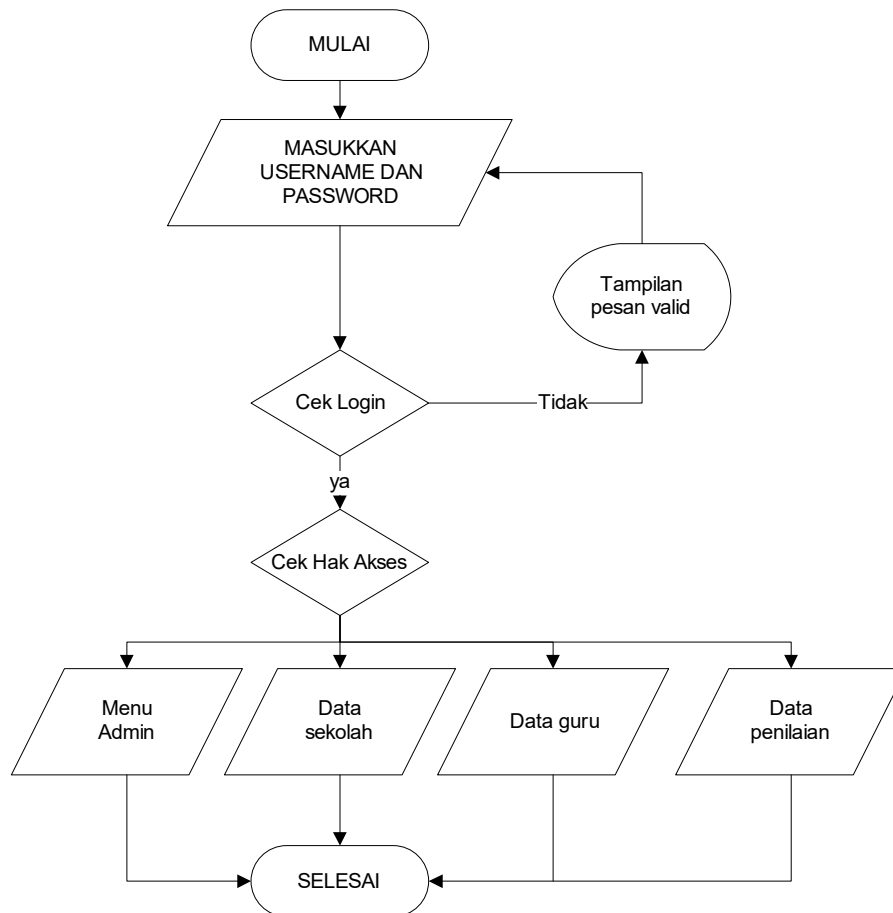
33

Figure 7. Login Procedural Planning

CONCLUSION

With this web-based teacher performance information system, the teacher work system in Generasi Bintang School (Genbi) is easier and more efficient. With this system, the process of making teacher performance data reports in the star school generation will make it easier. In Generasi Bintang School (Genbi), the teacher performance system is no longer manually but systematically. With the web application, there is no need for assessment sheets because the assessment sheets are converted into efficient web pages.

REFERENCE

S. G. Supriyadi and Asnawi, "Nalisis Pengertian Data adalah setiap kumpulan fakta. Contoh : laporan penjualan, gambaran tentang persediaan Tahun 2017," SENASIF, pp. 1694-1701, 2019.

P. A. Ranggi, I. Setiawan and Y. A. Wibowo, "Evaluasi Sistem Informasi Rumah Sakit Ananda Purwokerto Menggunakan Domain Edm Dan Apo Cobit 5," Jurnal Teknologi Informasi dan Multimedia, vol. I, pp. 117-123, 2019.

I. Evitasari, "Pengertian Pengolahan Data," 2 Agustus 2020. [Online]. Available: https://pakguru.co.id/pengertian-pengolahan-data/.

Bakhel, "Pengertian Sistem dan Karakteristik Sistem," Bakhel Share, 1 06 2018. [Online]. Available: https://www.bakhel.com/2018/06/karakteristik-sistem.html.

Putra, "Pebertian SDLC, Fungsi, Metode dan Tahapan SDLC," Salamadian, 1 Februari 2020. [Online]. Available: https://salamadian.com/sdlc-system-development-life-cycle/.

*Improvement of Web-Based Patient Receivables Collection Information System at RSU Imelda. **Maristella J. Lumbanbatu, et.al***

34

P. Setiawan, "Pengertian Informasi," Guru Pendidikan, 28 Juli 2020. [Online]. Available: https://www.gurupendidikan.co.id/pengertian-informasi/.

Ansori, "Pengertian Flowchart : Jenis, Simbol, dan Contohnya," 27 Maret 2020. [Online]. Available: https://www.ansoriweb.com/2020/03/pengertian-flowchart.html.

R. A. Nugraha and G. Pramukasari, "Sistem Informasi Akademik Sekolah Berbasis Web Di Sekolah Menengah Pertama Negeri 11 Tasikmalaya," JUMIKA, vol. IV, pp. 51-60, 2017.

R. Nastainullah, "Tutorial Figma Desain Aplikasi Android," 6 November 2019. [Online]. Available: https://blogs.masterweb.com/tutorial-figma/.

Y. Yudhanto and A. H. Prasetyo, Panduan Mudah Belajar Framework Laravel, Jakarta: PT. Alex Media Komputindo, 2018, pp. 1-17.

A. Muahrdian, "Text Editor Visual Studio Code di Linux," 28 Juli 2017. [Online]. Available: https://www.petanikode.com/text-editor-vscode/.

B. Winarso, "Apa Itu Google Chrome dan Sepenggal Sejarahnya," 23 Maret 2016. [Online]. Available: https://dailysocial.id/post/apa-itu-google-chrome/.

I. M. Perkasa and B. E. Setiawan, "Pembangunan Web Service Data Masyarakat Menggunakan REST API dengan Access Token," ULTIMA Computing, vol. X, pp. 19-26, 2018.

D. Amalia, "Pengertian, Ciri-Ciri, dan Jenis Piutang dalam Akuntansi," Jurnal ID, 30 Desember 2019. [Online]. Available: https://www.jurnal.id/id/blog/pengertian-dan-jenis-piutang-dalam-akuntansi.

*Improvement of Web-Based Patient Receivables Collection Information System at RSU Imelda. **Maristella J. Lumbanbatu, et.al***

35