JURNAL TEKNISI **E-ISSN: 2775-0965**
(Jurnal Teknologi Komputer dan Sistem Informasi)
Agustus 2025, Vol 5, No 2, Hlm. 87 – 92
Available online at http://jurnal.goretanpena.com/index.php/teknisi

DESIGN OF A WEB-BASED PATIENT ADMINISTRATION INFORMATION SYSTEM AT THE ATHA PERDAGANGAN CLINIC

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Abstract : This study aims to design and build a web-based Patient Administration Information System at the ATHA Perdagangan Clinic to improve the effectiveness and efficiency of patient administration services. This system was developed to replace the manual processes currently used, such as patient registration, drug data management, room data management, and recording inpatient and outpatient payment transactions, which are prone to errors and time-consuming. The system development method includes needs analysis, system design using Visual Basic 2010 and Microsoft Access Database, user interface implementation, and system testing. The results of the study indicate that the system built is able to speed up the administration process, minimize data input errors, and produce fast, accurate, and structured reports. The implementation of this system makes it easier for administrative staff to manage patient data, while improving the quality of service at the ATHA Perdagangan Clinic.

Keywords: patient administration; visual basic 2010; database access.

Abstrak: Penelitian ini bertujuan untuk merancang dan membangun Sistem Informasi Administrasi Kepasienan berbasis web pada Klinik ATHA Perdagangan guna meningkatkan efektivitas dan efisiensi layanan administrasi pasien. Sistem ini dikembangkan untuk menggantikan proses manual yang selama ini digunakan, seperti pencatatan pasien, pengelolaan data obat, pengaturan data ruang, serta pencatatan transaksi pembayaran rawat inap dan rawat jalan, yang rentan terhadap kesalahan dan memakan waktu. Metode pengembangan sistem meliputi analisis kebutuhan, perancangan sistem menggunakan Visual Basic 2010 dan Database Microsoft Access, implementasi antarmuka pengguna, serta pengujian sistem. Hasil penelitian menunjukkan bahwa sistem yang dibangun mampu mempercepat proses administrasi, meminimalkan kesalahan input data, serta menghasilkan laporan yang cepat, akurat, dan terstruktur. Implementasi sistem ini memberikan kemudahan bagi petugas administrasi dalam mengelola data pasien, sekaligus meningkatkan kualitas pelayanan di Klinik ATHA Perdagangan.

Kata Kunci: administrasi pasien; visual basic 2010; database access

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INTRODUCTION

In the development of science and technology, information systems are very important. influential in various field. With existence system Information can make it easier for us to process data so that it can save time, space, and costs. To improve health services which is good for the community, there needs to be a change in the system used to be more effective and efficient. Data processing for health services in the community is very important. With data processing, information can be compiled to help the health service process that can present all the needs of public health service information.

ATHA Perdagangan Clinic is one of the health service centers located on Jalan Sisingamangaraja, Perdagangan. The performance of the system in patient services running at the ATHA Perdagangan clinic is still not optimal because data processing is still done using bookkeeping media, many obstacles are experienced by the clinic. The problems at the ATHA Perdagangan clinic include checking patients which is still done manually. In addition to checking patient cards which is still done manually, patient registration has not been computerized.

Due to the above problems, the ATHA Perdagangan clinic utilizes information technology to improve services. health of patients and minimize errors in the manufacturing process. report. Application Which will made on clinic ATHA Perdagangan will be able to run health services easily and efficiently so that activities carried out at the ATHA Perdagangan clinic can run more smoothly.

The novelty of this research lies in: Fully digitizing the patient administration process, previously performed manually at the ATHA Perdagangan Clinic, encompassing the entire workflow from registration to payment and reporting.Integrating patient data modules, medication data, room data, and inpatient and outpatient transactions into a single, connected platform, minimizing data redundancy.

The interface design is simple yet structured, tailored to the needs and resource capacity of small/medium-sized clinics. The use of Visual Basic 2010 and Microsoft Access, which are relatively lightweight and can run on devices with limited specifications, is suitable for healthcare facilities in areas with limited IT infrastructure.

METHOD

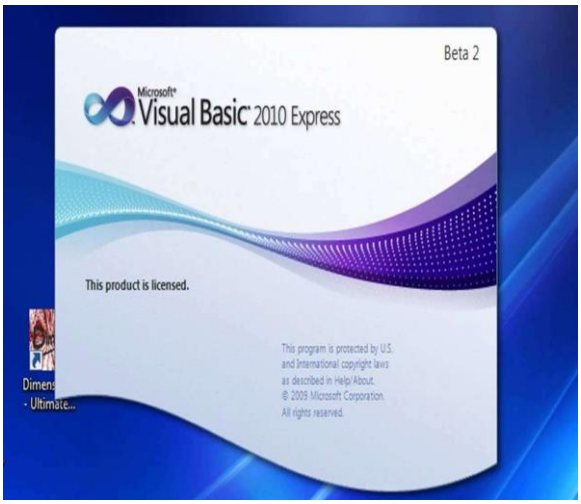

Image 1. Visual Basic 2010

Design is the process of using various principles and techniques for the purpose of defining a device or system to a certain level of detail that allows its physical realization" (Eddy Prahasta, 2014: 488). Design Also can Lots interpreted as following:

Stage after analysis from cycle development system. Definition from needs-needs functional. Preparation For design get up implementation. Describe How a system formed. It can also be in the form of depictions, planning and making sketches or arrangements of several separate elements into a complete and functional unit.

Understanding System

System is a collection of objects that are interrelated and interact with each other, and the relationships between objects can be seen as a designed unit. For reach One objective Which has set" (Tohari, 2014 : 2). As for element system Which meant is as following:

Objective

System The purpose of the system is the purpose of the system being created. The purpose of the system can be the purpose of the

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organization, the needs of the organization, Obstacles within an organization or the structured processes followed to fulfill its mission

Limitation System

System boundaries are something that limits the system in achieving the system's goals. System boundaries can be in the form of regulations in an organization, costs experienced by personnel within the organization, involving infrastructure, amenities, and other existing limitations

Control System

System control or supervision is supervision of the implementation of the achievement of the objectives of the system. System control can be in the form of control over data entry (*Input*), control over data output (*output*), control over data processing, control over feedback and so on.

It can be concluded that the system is a form of integration between one component and another, because the system is different for each case that occurs in the system. Therefore, the system can be classified from several points of view, namely:

System Abstract And System Physique

An abstract system is a system in the form of thoughts or ideas that are not physically visible.

System Natural And System Artificial Man

Natural systems are systems that occur through natural processes, not created by humans.

System Deterministic And System Probabilistic

A deterministic system is a system that operates with predictable behavior, for example a computer system, while a probabilistic system is a system whose future conditions cannot be predicted, because it contains probabilistic elements.

An open system is a system that is related to and influenced by the external environment, while a closed system is a system that is not related to and not influenced by the external environment, working automatically without any interference from external parties.

RESULTS AND DISCUSSION

The results of this test are the results of the display of the program that has been completed. Following is results appearance program system information patient administration at ATHA Trading clinic .

Image 2. Form Data Patient

The patient data form functions to process patient data such as adding, save, edit, wipe, go out, And search. Following is Patient data form display in the image below.

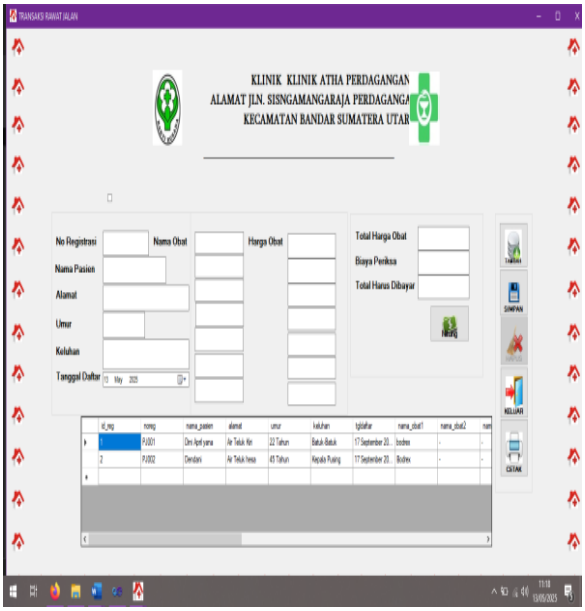

Image 3. Form Data Patient

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Appearance Form Data Transaction Patient Take care Stay

Inpatient payment transaction form functions to process patient payments such as add, save, edit, delete, exit, print and calculate. The following is a display of the inpatient transaction data *form* in the image below.

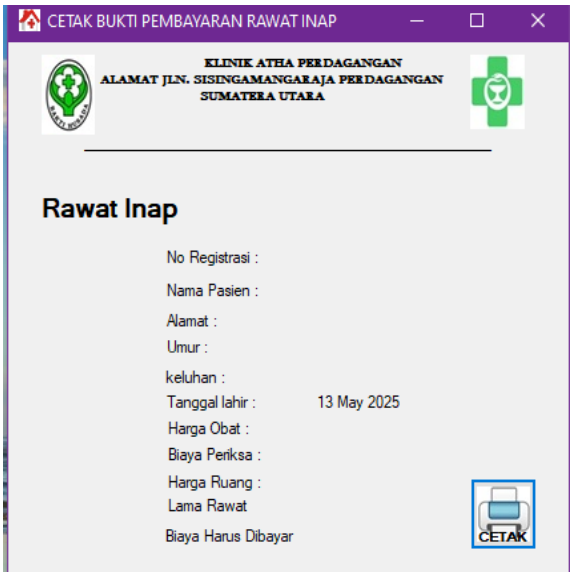
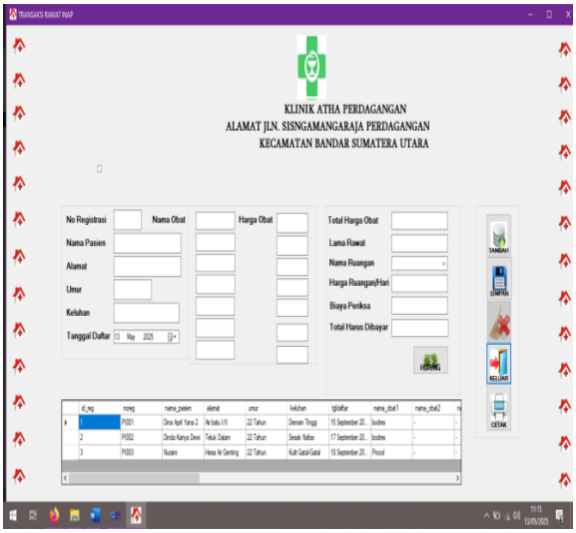


Image 4. Form Data Take Care Stay

Appearance Form Transaction Take care Road

Inpatient payment transaction form functions to process patient payments such as add, save, edit, delete, exit, print and calculate. The following is a display of the outpatient transaction data *form* in the image below



Appearance Form Proof Payment Take care Stay

Proof of inpatient payment form is used to be submitted to the patient as proof payment. Following is appearance form proof of payment for hospitalization in the image below.

Pre-Implementation Aspects (Manual)

Patient Registration – Conducted using handwritten records in books, which is prone to errors and data duplication.

Patient Data Management – Retrieving outdated patient records is time-consuming and inefficient.

Medication Data Management – Recorded manually, making it difficult to track and monitor medication stock levels.

Room Data Management – Scheduling and recording are performed manually, leading to a higher risk of conflicts in room allocation.

Payment Transactions – Calculated manually, increasing the likelihood of errors in billing.

Report Generation – Requires significant time and effort to compile, delaying decision-making.

Service Quality – The overall process is slow, often resulting in long patient queues and extended waiting times.

Post-Implementation Aspects (System)

Patient Registration – Data is entered directly into the system and automatically stored in the database.

Patient Data Management – Records are stored in a structured format, enabling fast retrieval through a search feature.

Medication Data Management – Managed within the system, with stock levels automatically updated upon each transaction.

Room Data Management – The system displays real-time room availability, preventing scheduling conflicts.

Payment Transactions – Costs are calculated automatically based on the services entered into the system.

Report Generation – Reports can be generated automatically within seconds, enhancing efficiency.

Service Quality – Processes are faster, resulting in more efficient and responsive service delivery.

CONCLUSION

Based on the research and implementation results, it can be concluded that the Patient Administration Information System developed at the ATHA Perdagangan Clinic: Can automate patient administration processes from registration and data management to payment transactions. Reduces the error rate in data recording and accelerates information retrieval. Improves service quality by generating fast, accurate reports that meet management needs. Facilitates administrative staff in managing data in an integrated and efficient manner, without the need for high-spec hardware.

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