

## THE HEALTH INDUSTRY THROUGH A VISUAL BASED BASIC SYSTEM

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**ABSTRACT :** The health service industry has unique characteristics compared to other service industries. The health care industry usually has high overhead costs, the development of types of drugs that continue to increase, the type of service that is very varied, and often there is involvement of third parties (health insurance) in terms of payment of services. Creating an information system application design to display a more informative and effective management information system, which is related to the order that deals with data processing, data management, information presentation, analysis, and information conclusions as well as the delivery of information needed for hospital activities. The success of the national health system is largely determined by the performance of each subsystem including the health management subsystem. Within this subsystem, the health information system occupies an important position because it functions as the backbone for gathering, sending, processing, analyzing and publishing information while providing feedback to stakeholders at all levels. The availability of data and information that is accurate, affordable and timely is an absolute requirement for management decision making. Designing Patient Information System Data and Disease in RSM Mencirim 77 Based on Visual Basic, hopes to save time and reduce the problems that exist at RSM Mencirim 77. This Information System Design can input data, store patient diagnostic data that one patient can have multiple diagnoses at each visit, view reports and can directly report to superiors to recapitulate data. This application was created with Visual Basic 2017 programming language and database using Microsoft Access.

**KEYWORDS :** Application, Microsoft Access, Visual Basic 2017

### I. INTRODUCTION

Safe, quality and affordable health services for everyone in the hospital need to rely on information intensively. Information plays a vital role in decision making. Information systems can be used as a strategic means to provide services oriented to customer (patient) satisfaction. At present there is still not much information about the quality of hospital services in our country. This happens because in the hospital it turns out that the concept of quality itself is still lacking attention, there is still a lack of serious management information management systems and there are not many quality standards for health services in hospitals. Health service information systems in individual health efforts consist of clinical information systems, health service administration systems, health service support systems, and health service decision support systems [1]. One of the rapid development of information technology today is the health service administration. system which consists of a billing information system and a patient registration information system.

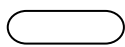
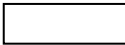
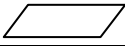

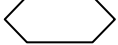



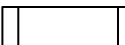
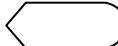


Hospital management information system plays an important role in improving the quality of hospital services such as administrative, legal, financial, documentation, research and education aspects. Computerized can reduce human error (human error) in terms of carrying out its activities and can improve the quality of services provided to patients. Therefore, the use of a medical record information system in a hospital is very important in carrying out service activities for patients. By manually recording it is often found weaknesses in RSM Mencirim 77 such as double numbering, inefficiency of time, difficulty in obtaining patient information, and difficulty in making reports because the data needed to make it not arranged properly making it difficult in the manufacturing process. In addition, the irregular numbering and storage system of medical records also makes it difficult for officers to search for patient status when the patient is re-treated and forgets to bring a treatment card.

Health system success national performance is very much determined by the performance of each subsystem including health management subsystem. In the subsystem, the information system health occupies an important position because it functions as a bone backs to collect, transmit, process, analyze and publish information at once give feedback to stakeholder at all levels. Availability data and information that is accurate, affordable and being on time is an absolute requirement management decision making for support efforts to achieve goals health system national level [2].

## II. REVIEW CRITERIA

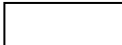

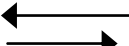

To create, process and manage a database or better known as a database. A database is a collection of tabular data archives that are interrelated to produce information. Data is used as input which will be processed into information. Microsoft Access functions to create a database (database), to create an inventory application program, to create an employee salary application program, to create an attendance application program, data collection program and other applications [3].

Tabel 2.1 Flowchart Symbols

NO	SYMBOLS	FUNCTION
1.		<b>Terminal</b> , to start or end a program
2.		<b>Process</b> , a symbol that shows every processing done.
3.		<b>Input-Output</b> , to enter shows the results of a process
4.		<b>Decision</b> , a condition that will produce several possible answers or choices
5.		<b>Preparation</b> , a symbol that provides a place of processing
6.		<b>Connector</b> , a connecting procedure that will enter or exit through this symbol on the same sheet
7.		<b>Off-Page Connector</b> , is a symbol of the entry or output of a procedure on another sheet of paper
8.		<b>Flow</b> , than the procedure that can be done top down from bottom to top, up from left to right or from right to left
9.		<b>Predefined Process</b> , to declare a set of process steps written as procedures
10.		Symbol for output, which is indicated to a device, such as a printer, and so on
11.		Temporary file storage
12.		Shows Hard Disk input / output (storage media)

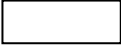
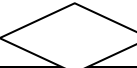


According to Pratama in Rochman and Yanti [4] Information systems are a combination of software, hardware, infrastructure, and trained human resources (HR) in which the four components are interrelated to create a system that can process data into useful information. system model to describe the division of the system into smaller models. The advantage of using a Data Flow Diagram is that it makes it easier for users who are less familiar with the field of computers to understand the system to be worked on[5]. Symbols used in Data Flow Diagrams:

Tabel 2.2 Data Flow Diagram Symbol

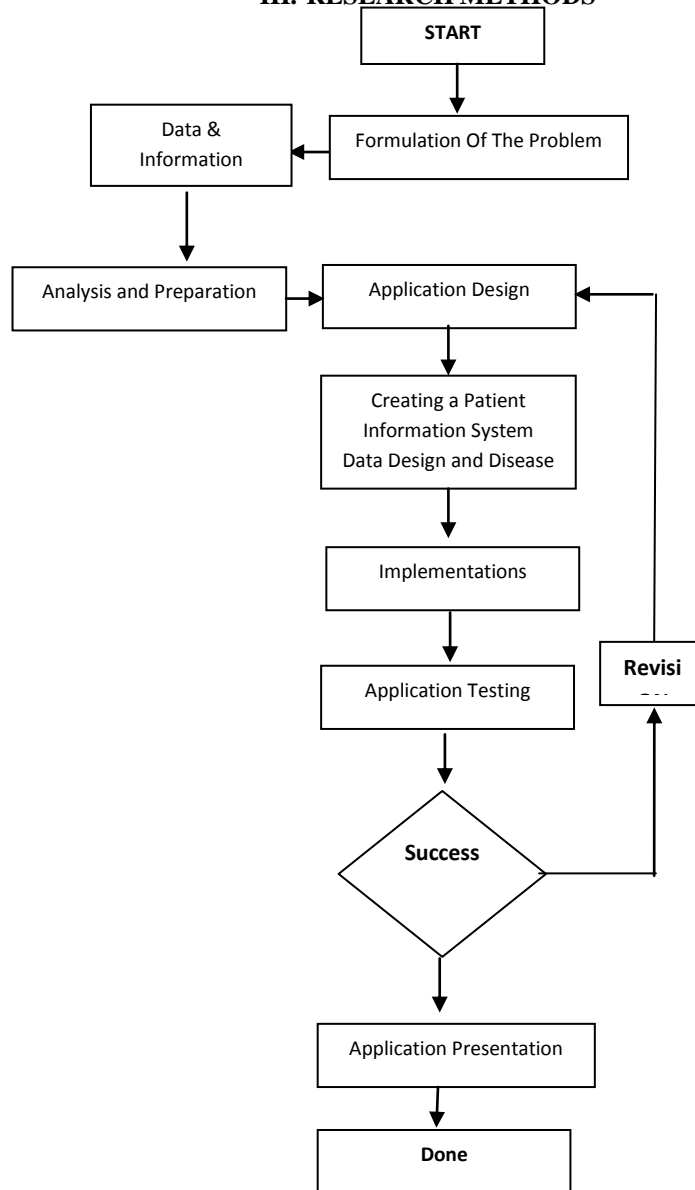
NO	SIMBOL	FUNCTION
1.		<b>External Entity</b> , The system will receive input signals and produce output to the outside environment. Every system must have a system boundary that separates a system from the outside environment.
2.		<b>Process</b> , Describing a work activity carried out by a person, machine, or computer from a data stream that enters the process will produce data flow that will exit the process.
3.		<b>Data Flow</b> , Data flow (DFD) is given the symbol of an arrow which is used to indicate the flow of data to other parts of the system process and given an explanatory name and has meaning
4.		<b>Data Store</b> , This symbol means that the data storage is collected by type for a specific process information base.

Entity Relationship Diagram is a concept that connects the storage of Data Flow Diagrams. ERD is also used to structure data and relationships between data. By using ERD we can test the model without seeing the process that must be done [6]. Entity Relations Model which contains a set of entities and relationships, each equipped with attributes that present all facts can be described more systematically using Entity Relationship (ERD Diagram).

**Tabel 2.3 E-R Diagram Notation**

NO	SYMBOLS	NAME	INFORMATION
1		Entity	This symbol is used to describe a table (data storage).
2		Relation	This symbol is used to describe the relationship between one entity and another.
3		Attribute	This symbol is used to describe the item or field of an entity.
4		Line	This symbol is used to describe the relationship between one entity and another.

**III. RESEARCH METHODS**



**Figure 3.1 Flowchart Research**

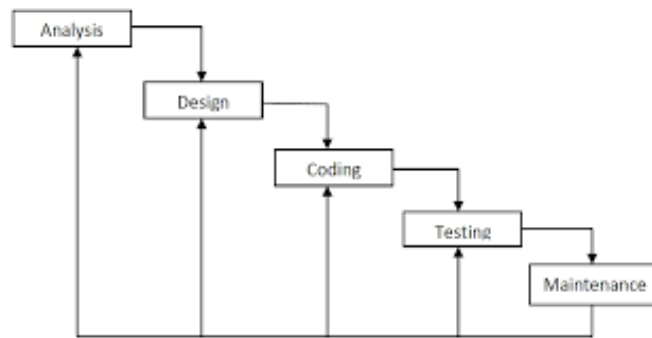


Figure 3.2 Waterfall Method

Context Diagram in Design of Patient Information System Data and Disease at RSM Mencirim 77 is as follows:

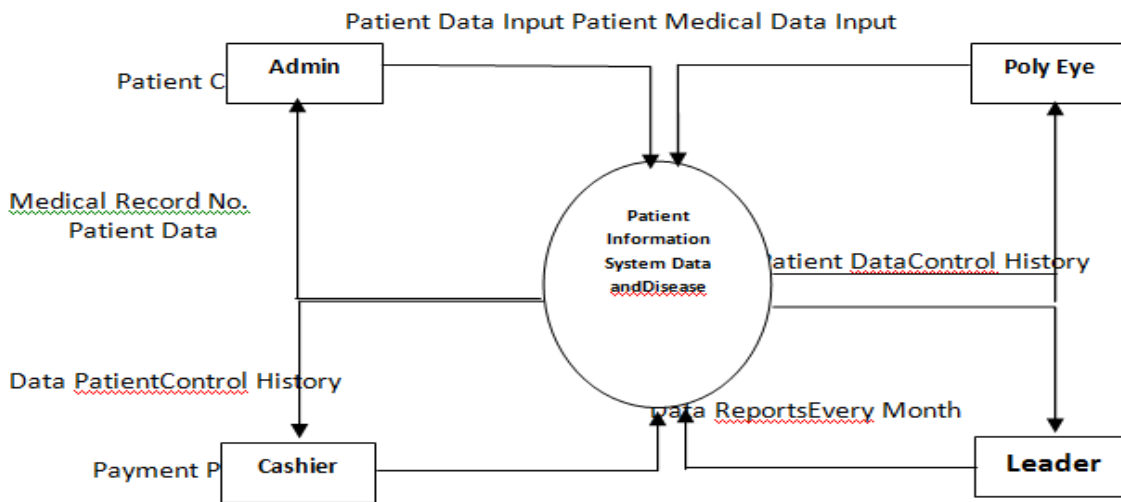


Figure 3.3 Diagram Context of Information System Design

Data Flow Diagram of Patient Information System Design Data and Disease at RSM Mencirim 77 can be described as follows:

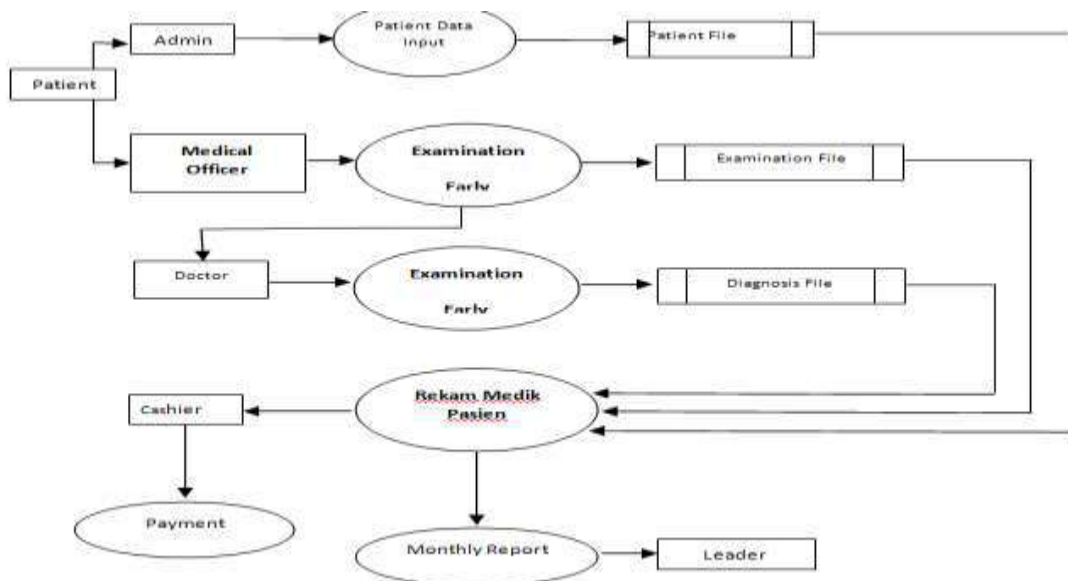


Figure 3.4 DFD Level 0

To explain the relationship between data in a database based on data base objects that have relationships between relations. ERD to model data structures and relationships between data, to illustrate it uses several notations and symbols. For database design a diagram is made that illustrates the data entities involved and the relationships that occur between these entities.

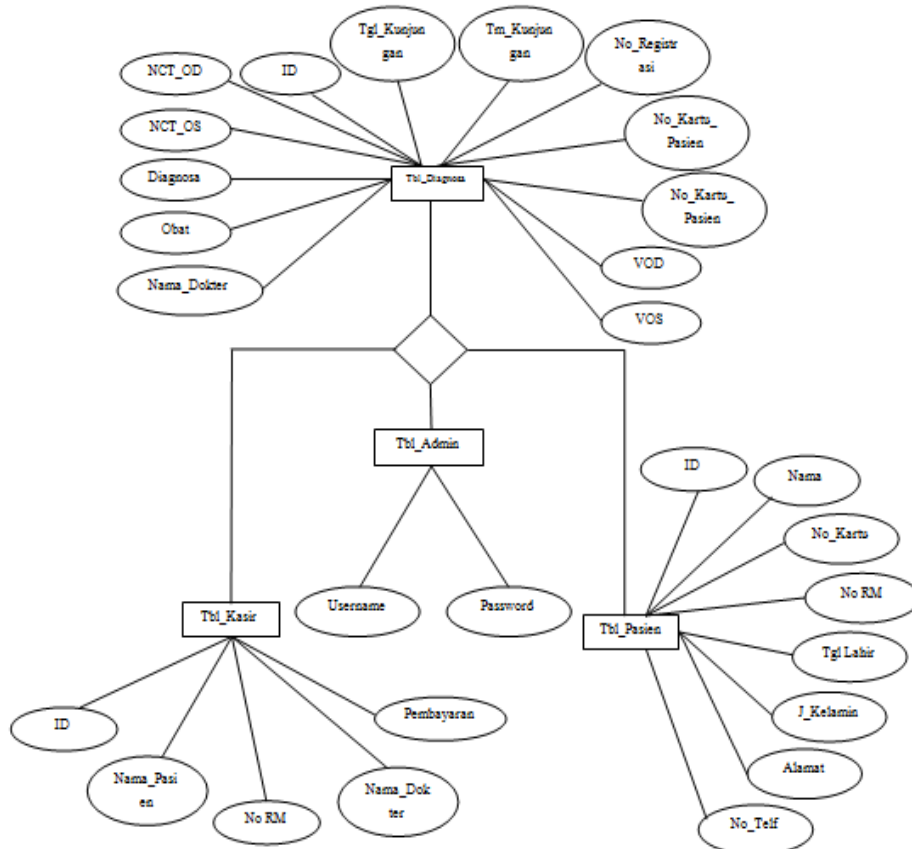


FIGURE 6.1 ERD Design

**VI. RESULTS AND TESTING**

Implementation can only be done if there is already a design and not just an act. This application program also consists of taking several menus and forms that function to input, change, delete, search for data and can store data. The program display in the application is :



Figure 4.1 Login Menu



Figure 6.2 Main Menu



Figure 6.3 New Patient Menu



Figure 6.4 Diagnosis Menu

This menu is for inputting patient medical data that can be stored with 1 patient diagnose. Which consists of VOD (Right Eye Visus), VOS (Left Eye Visus), NCT OD (Right Eye Ball Tension, NCT OS (Left Eye Ball Tension), Doctor diagnoses that have been established by DPJP Doctors (Responsible Doctor), and the last drug that was given.

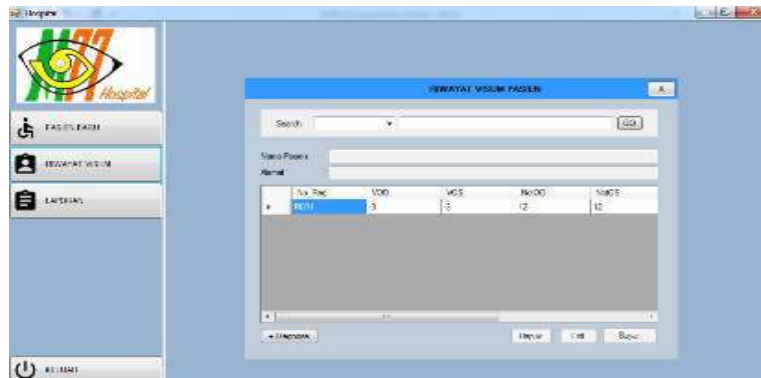


Figure 6.5 Visum History Menu

This menu functions to view or add data that has been previously saved. Here there are also buttons to edit, add new diagnoses, delete and pay. After the patient meets the doctor, he will proceed to the pharmacy and cashier to get medicine and payment. When you want to enter the + Diagnosis menu and add the patient's data, this button will re-enter the diagnosis menu to save new data.



Figure 6.6 Pay Menu



Figure 6.7 Report Menu



No	Id	Id	Id	Id	Id	Id
1	10001	10001	10001	10001	10001	10001
2	10002	10002	10002	10002	10002	10002
3	10003	10003	10003	10003	10003	10003
4	10004	10004	10004	10004	10004	10004
5	10005	10005	10005	10005	10005	10005
6	10006	10006	10006	10006	10006	10006
7	10007	10007	10007	10007	10007	10007
8	10008	10008	10008	10008	10008	10008
9	10009	10009	10009	10009	10009	10009
10	10010	10010	10010	10010	10010	10010

Figure 6.8 Report Menu, Patient Data

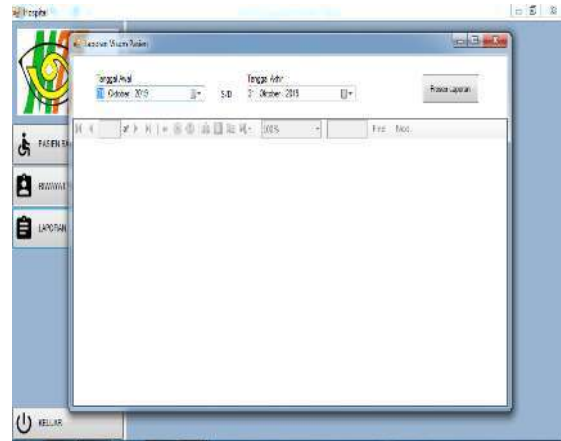


Figure 6.9 Report Menu, Visits

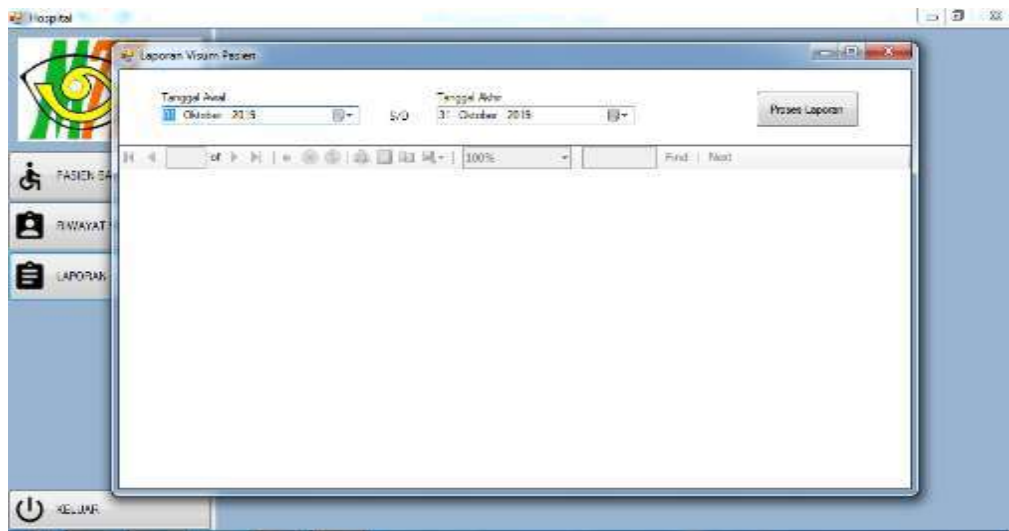


Figure 6.10 Report Menu, Visum History

#### IV. CONCLUSION

1. With this application, it can be easier for employees to input data and search for data without having to search for a medical record that is very time-consuming, and makes it easier for employees to print patient cards, recipes, reports and so on so as to facilitate the performance process from home the sick.
2. With this application it can also make it easier to see medical records when doctors ask questions about previous patient care and be able to diagnose correctly and quickly.
3. With the complete report feature, can help the administration to recap data and report it to superiors.
4. Get daily and monthly report information as needed.
5. With this patient's data collection system, it is expected to avoid duplicating data with different ID numbers.

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