# Yaba College of Technology

**Department of Computer Science**

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**A Project Report**

**On**

**DESIGN AND IMPLEMENTATION OF HOSPITAL MANAGEMENT INFORMATION SYSTEM**

**Submitted by**

| Student Name | Matric Number |
|---|---|
| OWOLABI YUSUF TIMILEYIN | F/ND/21/3210109 |
| OLAJIDE MAYOWA ESTHER | F/ND/21/3210060 |

**Under the support and guidance of**

**Mr. AKINSOLA A.F**

# ABSTRACT

This paper is aimed at designing and implementing an automated system that will alleviate the problem of faced by hospitals in managing their services due to the manual methods of operation. These manual methods, no doubt comes with some inherent problems such as insecurity of files, poor account management and inefficient patient file update system etc. This paper examines an existing information system of a hospital and designs an automated system that can help Medical Doctors and those who handle hospitals' data to perform their work more effectively and efficiently. The System would be developed using virtual basic for front-end and Microsoft Access for data storage. It would provide easy and fast access to stored data as needed by different users with security against unauthorized access.

Keywords: Management system, System design, web application system, Hospital Administration.

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background of the Study

Hospitals are key institutions and there is need for efficient service delivery in the hospital as good health is paramount to a happy society. As a result of this there is need for a system that will enable hospital management in making effective and efficient decision [Oparah, 2006]. Recently, efforts are continuously being made in designing and constructing a user friendly and reliable database system to satisfy hospital or medical management system, [James *et al.,* 2006]. On the other hand, many hospitals and medical centers are still adopting the manual system of hospital management. These methods of medical management system have continued to pose a lot of setbacks and problems to medical practitioners, nurses, patients and other staff in both government and private hospitals.

All large enterprises need the database systems for handling the information [Abdullahi, 2004]. One kind of those enterprises is the hospital. Because of large number of patients, doctors and other staff in hospitals, data processing becomes more crucial. Data Management in hospital can be used for achieving the patient's information, arranging the doctors schedule and accounting business. Doctors should access the patient's record for giving the best diagnosis to cure the patient [Kusis, 2002]. On the other hand patient can access their lab results and all kinds of information that

doctors indicate. Data base hospital helps to control the accounting business easily

In the database management system all information including prescription, survey, and diagnosis of patients can be carried out. 1) All information includes prescription survey, diagnosis of patients. 2) The patients and the doctor can handle all information 3) Patients can take appointment time for visiting and can access their information via interest if the organization is online. 4) Administration can access the statistics about the hospital such as patient's capacity, number of employee etc

General Hospital Calabar. The hospital provide a qualitative Health care services but maintains that they do not just heal mere physical illness which attacks the human body, but a much deeper and holistic healing of the entire human person. These service areas include all the wards (medical and surgical for male and female, pediatrics, chest unit and the maternity section as a whole. Other departments are out patient department (OPD), laboratory department, pharmacy department, central sterling and supply department (C.S.S.D), X- RAY department community medicine and the mobile clinic, and theatre department. The roles of these departments are complementary and depict what they call team-work in patient management, the patient always beings at the center.

The Hospital since its establishment has demonstrated a very keen interest in the staff recruitment and development of highly skilled and very dependable medical and paramedical personnel. Presently, their work force stands at 460. Due to high number of staff and patients, manual paper and

pen method of documenting hospital processes is not longer feasible. Misplacement of records occurs frequently and this among other problems has necessitated the design of a computerized system to manage the hospital processes.

## 1.2 Statement of the Problem

Many problems are encountered with the manual method of handling files. It is quite unfortunate that ESUT Teaching Hospital. In spite of her large medical service and recognition still keep her records manually. The problems associated with this manual system include time wastage, ineffective use of statistical data, and duplication of efforts in records keeping. Delay in decision making, it requires a lot of clerical efforts inability to cope up with daily work load. Slow in responding the queries / enquires, Rodents records, lot of human mistakes, lack of confidentiality of files and high cost of stationary.

This project is aimed at devising a system that will eradicate these above problems and improve medical services to the citizens. This computerization process is believed to be capable of not only solving these problems but many more to be encountered.

## 1.3 Aim and Objectives of the Study

The main aim of this project is to design a computer base hospital management system, capable of eradicating the problems mentioned in 1.2. To achieve the stated aim, the following specific objectives were laid out:

i. Design an easy to use interface capable of storing, processing and retrieval of information

ii. The system will aid in providing a means to ease medical laboratory statistics and improve decision making by reducing processing time, as well as reducing the communication

iii. The system should have multi-user ability as to bridge the gap between the Doctors and other staff still involved in the patient medical care.

## 1.4 Justification of the Study

The researcher during the course of this investigation found out that all the medical keeping record are done manually and having seen the problem associated with the manual system, the researcher calls for a new system in patient related services. The new system is justified in many ways.

The design of the new system will eliminate the problems of the system mentioned earlier by providing quick file retrieval and searches. It will also reduce human errors to the barest minimum and improve confidentiality of files. In summary, the objective is to set an efficient medical database for the advancement of the medical research and analysis.

By providing accurate up to date information on demand, it will minimize redundantly, loss of information will be prevented, the need for volume paper files and unnecessary spending of paper folders, file cabinet will be removed and adequate security will be provided to ensure database system.

Furthermore, the new system is justified when receptionist, medical record clerks in recording would not be our worked again by the implemented of the automatic system.

## 1.6  Scope and Limitations of the Study

The scope of the project covers the development of a computer based database application for use by the these sections (patient state of health,bill payment and address ) at the general hospital to replace their old paper notebook recording system. Any authorized user can add, delete and update data into the database base on their user-assigned-role. It would equally have the facility to give a unique identity for every persons and stores the details of every patient and the staff automatically. It includes a search facility to know the current status of each room in the hospital. A user can search availability of doctors and the details of a patient using the system. The interface is very user-friendly.

The requirements include designing a user interface for the application and providing options for a user to log into the application by supplying the correct username and password combination; register new patient and view a list of already registered patient; to keep records of outpatient and in-patient in the hospital; view patient registered on the database; admitted, discharge, bill patient etc. It also covers writing the background programming to ensure that the interface works with the database through the underlying codes to perform the required actions. It also involves the testing, improvement and optimization of the application.

## 1.7 Project Report Organization

This report is organized into five chapters. The first chapter takes care of introduction: background, aims and objectives, justification and scope of the project. Chapter two surveys the literature review of this work. In chapter three, the project methodology, data collection, analysis, limitations of the existing system, system design, system flowchart and top down design were done. The input, processing and output modules are critically analyzed. In chapter four, system implementation, testing and integration: choice of development tools, system requirements, and testing were carefully done. Finally, chapter five closes up with summary, recommendations and conclusions: limitation, Bill of Engineering Measurement and Engineering (BEME), bibliography, appendices

## 1.8 Definition of Terms

- **Medical Records**: It is the records that spell out the patient's illness and treatment during a particular period for out patients and inpatients.
- **Out Patients**: Any person who goes to receive treatment in the Hospital but does not stay overnight.
- **Ward**: A section in the hospital where inpatient stays and receives treatment on regular bases.
- **Inpatients**: A patient staying and receiving treatment in the hospital.