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APPLICATION AND ANALYSIS OF HOSPITAL INFORMATION SYSTEM IN PATIENT CARE

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Abstract

Hospitals currently use a manual system for the management and maintenance of patient data information. It needs numerous paper forms, data storage devices spread throughout the hospital management procedures. When the hospital management standard is incomplete, it works. The main aim of HIS is to maintain patient care, time effective and cost effective. So, it can be managed in software and the institution resources also schedule cost wise fashion and prefer HIS for maintaining the whole data. It is also highly effective in making error free data which includes ward scheduling, staff scheduling, operating theater scheduling and various facilities waiting lists. All of this information must be managed in an efficient and cost wise fashion so that an institution's resources may be effectively utilized HMS will automate the management of the hospital making it more efficient and error free. It aims at standardizing data, consolidating data ensuring data integrity and reducing inconsistencies.

Introduction

 Hospital management system is new approach of managing and maintaining a hospital details and hospital works and bringing them online which will be very useful to the user.These are comprehensive, integrated, management systems designed to manage the medical, administrative, financial and legal aspects of a Hospital and its service processing. Traditional approaches encompass paper-based information processing as well as resident work position and mobile data acquisition and presentation.

Hospital management system is one of the most important issues in the health care services. Hospitals provide a medical assistance to people. The best introduction for hospital information systems has been made in 2011 International

Conference on Social Science and Humanity, which is;Hospital Management Systems can be defined as massive, integrated systems that support the comprehensive information requirements of hospitals, including patient, clinical, ancillary and financial management. Hospitals are extremely complex institutions with large departments and units coordinate care for patients. Hospitals are becoming more reliant on the ability of hospital information system (HIS) to assist in the diagnosis, management and education for better and improved services and practices. In health organization such as hospitals, implementation of HIS inevitable due to many mediating and dominating factors such as organization, people and technology.

- The Hospital Management System (HMS) is designed for Any Hospital to replace their existing manual, paper based system.

- The new system is to control the following information; patient information, room availability, staff and operating room schedules, and patient invoices. These services are to be provided in an efficient, cost effective manner, with the goal of reducing the time and resources currently required for such tasks.

- A significant part of the operation of any hospital involves the acquisition, management and timely retrieval of great volumes of information. This information typically involves; patient personal information and medical history, staff information, room and ward scheduling, staff scheduling, operating theater scheduling and various facilities waiting lists.

- All of this information must be managed in an efficient and cost wise fashion so that an institution's resources may be effectively utilized HMS will automate the management of the hospital making it more efficient and error free. It aims at standardizing data, consolidating data ensuring data integrity and reducing inconsistencies.

Materials and Methods

Design and Modules

- Reception
- Administration
- Pharmacy
- Laboratory
- Registration
- Discharge Summary

Module Description

Name of the Module-1: **Reception**

The reception module handles various enquiries about the patient's admission and discharge details, bed census, and the patient's movements within the hospital. The system can also handle fixed-cost package deals for patients as well as Doctor Consultation and Scheduling, Doctor Consultancy Fees and Time Allocation

 Sub Modules:

- Doctor visit schedule

- Doctor Appointment Scheduling

- Enquiry of Patient

- Find History of Patient Enquired.

Name of the Module-2: Administration

This module handles all the master entry details for the hospital requirement such as consultation detail, doctor specialization, consultancy fee, and service charges.

Employee

Sub Modules:

- Employee Detail Recording.

- Doctor Type.

- Doctor Master

Relational Database

There are different ways to organize data in a database but relational databases are one of the most effective. Relational database systems are an application of mathematical set theory to the problem of effectively organizing data. In a relational database, data is collected into tables (called relations in relational theory).
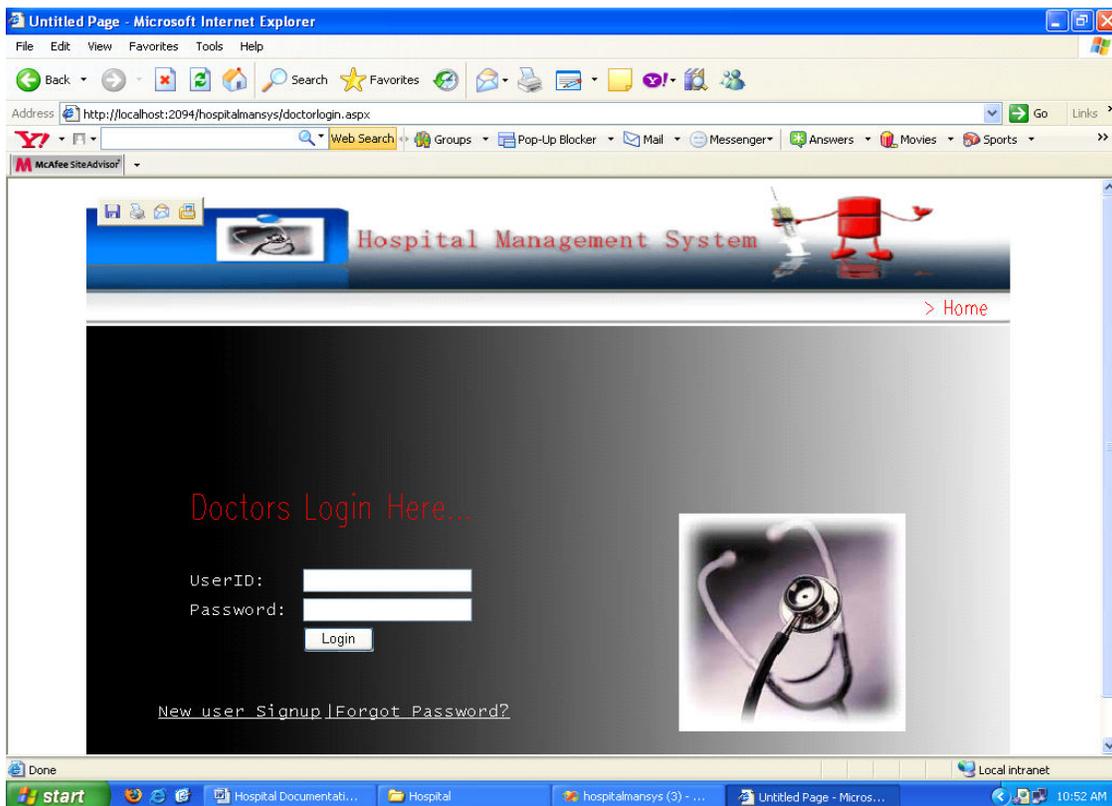
When organizing data into tables, you can usually find many different ways to define tables. Relational database theory defines a process, normalization, which ensures that the set of tables you define will organize your data effectively.
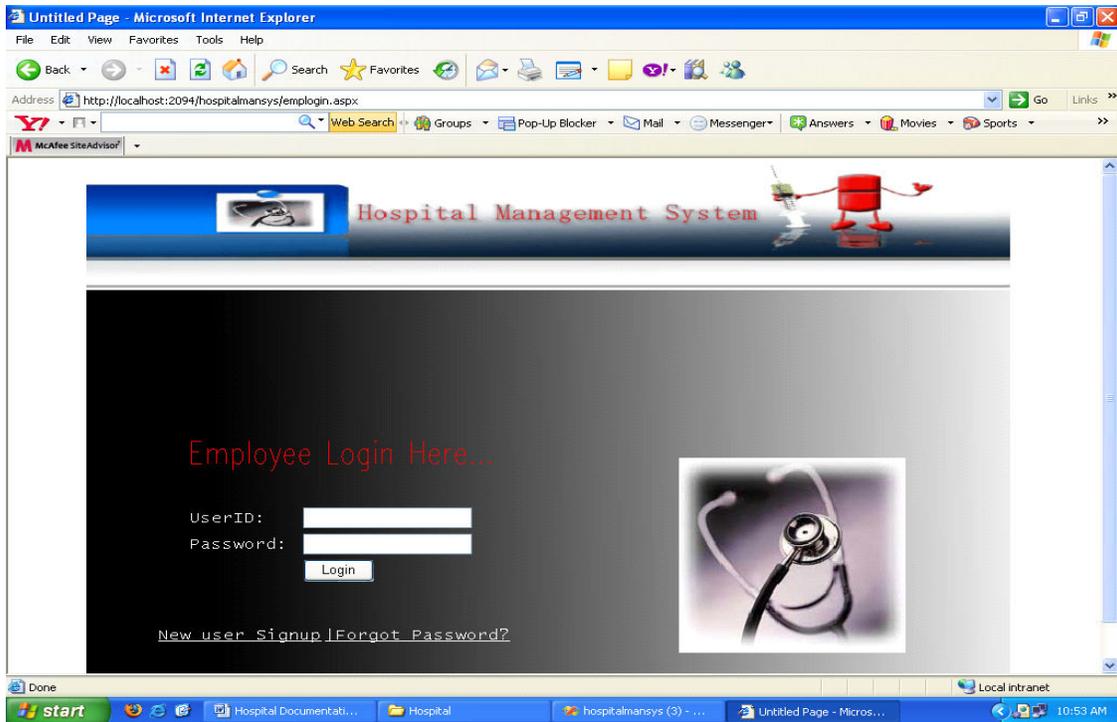
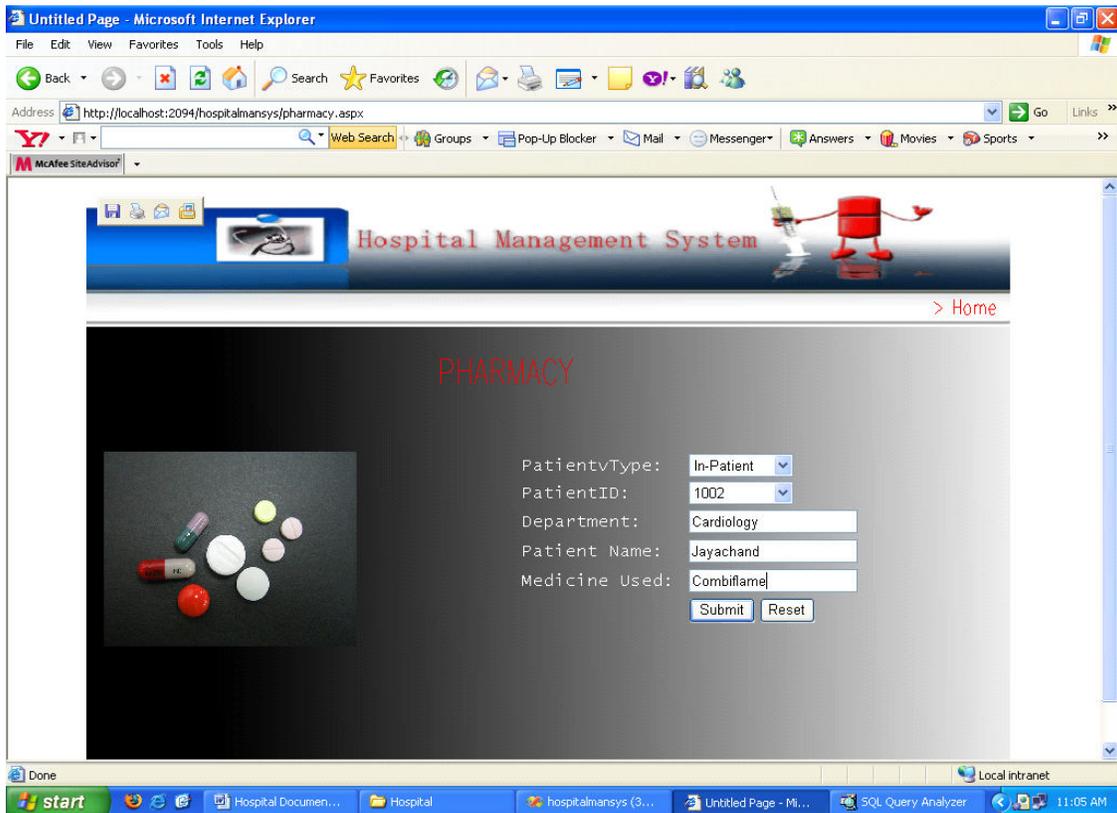**Results and Discussion**

Login Page
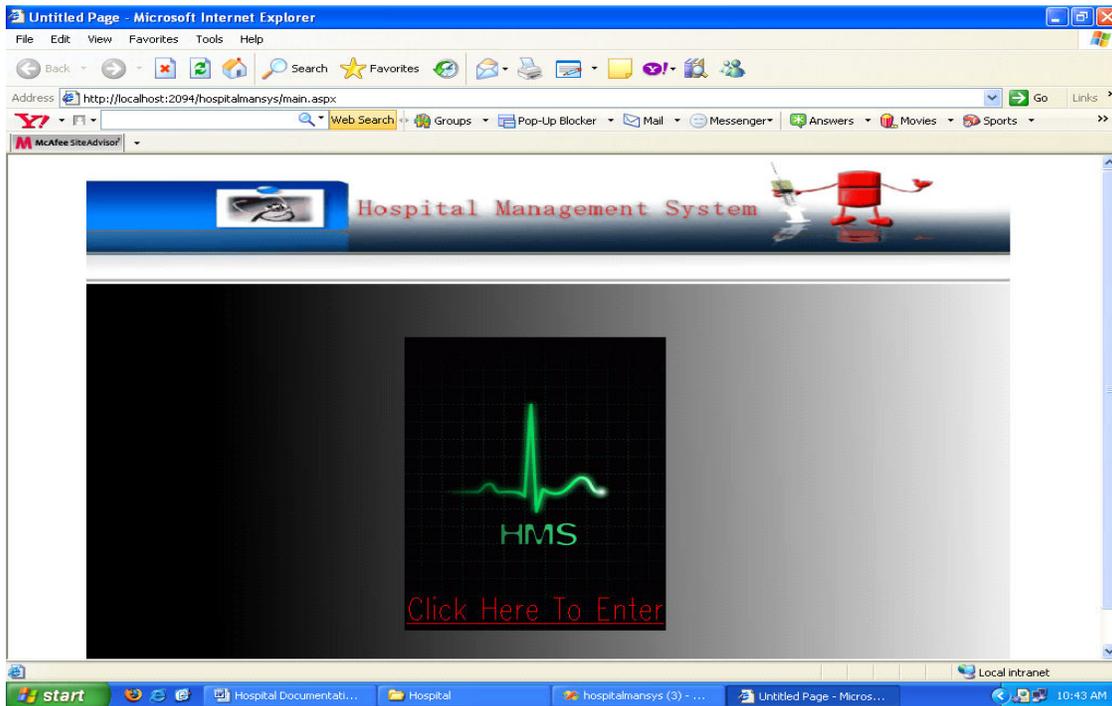
Doctors Login

Employee Login

Pharmacy

Summary and Conclusion

Hospital Information System architecture has three main levels, Central Government Level, Territory Level, and Patient Carrying Level. Generally all types of hospital information system (HIS) are supported in client-server architectures for networking and processing. Most work positions for HIS are currently resident types. Mobile computing began with wheeled PC stands. Now tablet computers and smartphone applications are used.

Enterprise HIS with Internet architectures have been successfully deployed in Public Healthcare Territories and have been widely adopted by further entities.[1] The Hospital Information System (HIS) is a province-wide initiative designed to improve access to patient information through a central electronic information system. HIS's goal is to streamline patient information flow and its accessibility for doctors and other health care providers. These changes in service will improve patient care quality and patient safety over time.

The patient carries system record patient information, patient laboratory test results, and patient's doctor information. Doctors can access easily person information, test results, and previous prescriptions. Patient schedule organization and early warning systems can provide by related systems.

A cloud computing alternative is not recommended, as data security of individual patient records services are not well accepted by the public.[2][3][4][5]

HIS can be composed of one or several software components with specialty-specific extensions, as well as of a large variety of sub-systems in medical specialties, for example Laboratory Information System (**LIS**), Policy and Procedure Management System,[6] Radiology Information System (**RIS**) or Picture archiving and communication system (**PACS**).

CISs are sometimes separated from HISs in that one focuses the flow management and clinical-state-related data and the other focuses the patient-related data with the doctor's letters and theelectronic patient record. However, the naming differences are not standardised between suppliers.

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