Sanitarium System

D. Akhila
B. Tech Scholar
Dept. of Information Technology,
Vignana Bharathi Institute of Technology, Aushapur, Hyderabad-501301.

G. Srujana
B. Tech Scholar
Dept. of Information Technology,
Vignana Bharathi Institute of Technology, Aushapur, Hyderabad-501301.

N. Sushansa
B. Tech Scholar
Dept. of Information Technology,
Vignana Bharathi Institute of Technology, Aushapur, Hyderabad-501301.

Mr. M. Venkateswara Rao
HOD
Dept. of Information Technology,
Vignana Bharathi Institute of Technology, Aushapur, Hyderabad-501301.

Abstract

The Sanitarium System can be accessed by giving a username and password. It is accessible by an administrator, receptionist, doctor and pharmaceutical store. Only they can add data into the database. The system deals with the collection of patient's information, diagnosis details, medical reports etc. The main function of the system is to register and store required patient details and doctor details and retrieve these details as and when require. The data can be retrieved easily by using sanitarium system.

Keywords- Sanitarium system, doctor, diagnosis, hospital, medicine.

INTRODUCTION

Hospitals are the major part of education for the health professionals and clinical research necessary for advancement of medicine. It is also one of the most complexes of all administrative organizations. The main purpose of the hospital is to provide adequate care and treatment to the people. Various operational works that are done in a hospital include: recording information about the Patients [9], generating bill, recording information related to diagnosis given to Patients, and medicines available to cure them etc. All these works are done in most hospitals [10] on papers. The need for proper management leads to the creation of an electronic means of keeping records [2] and prescriptionhelper. The sanitarium system comprises an enterprise oriented application for record keeping and tracking prescriptions. Sanitarium system can manage multiple users of the system and it also makes sure that all the users function with the system as per the rights assigned to them and they can get their work done in efficient manner. A good organization should allow for input and output by providing an objective for recording and storing information.

By using present advanced technology efficient record keeping cannot be overemphasized. Imagine the scenario when the manual records and manual modes of instruction get replaced with electronic systems. such replacement can be done in sanitarium system within a hospital. Developing sanitarium system would be very useful to the hospital management who can collect and edit data, and summarize the resultsmore securely. The medical record facilitates the transfer of data to other doctor involved in an ongoing treatment of patient or the transfer of patient to another doctor outside the hospital of the attending doctor. Well-kept records usually reflect the level of care given to a patient by the doctor. Therefore, medicalrecords [4][8] can be used as an evaluation tool. Every hospital record must include the following specific information. Staff detail, Patient detail, Report detail.

Before computerized Sanitarium System came into practice, it was difficult to keep proper records of patient information [6][9] and schedule of diagnosis details in the hospital. This resulted in waste of money, time and manpower. Sanitarium System is an information system designed to help manage the various aspects of a hospital which includes administrative, clinical and medical.

LITERATURE REVIEW

Considerations Regarding Hospital Information Systems

The use of computers in medicine dates to the 1950s with studies that attempted to expand the mental capacity of doctors (Stumpf and Freitas, 1997) or dealt with research on electrophysiology (Collen, 1986). With the evolution of this equipment, especially with the capacity to simultaneously execute various tasks beginning in the 1960s, computers began to be used in the processing of information in large hospitals, in both administrative and financial functions for the collection of statistics and the development of research projects (Stead, 2007; Stumpf and Freitas, 1997) [6]. The use of microcomputers, beginning in the 1970s, introduced the concept of distributed processing, increasing the number of systems in use in large hospitals.
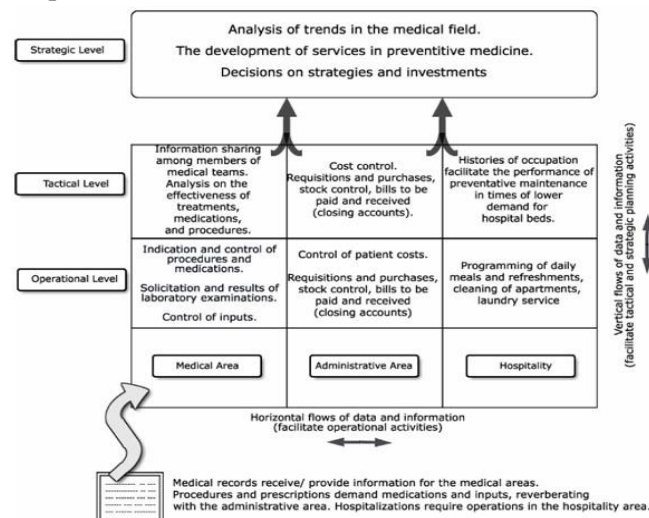

Figure 1 – Medical records as a generator of medical, administrative, and hospitality actions.
Source: based on Côrtes (2008), adapted by the authors

Because this diffusion did not always occur in an organized or homogeneous manner, the initial diffusion of computers in hospitals led to the emergence of islands of computerization, with isolated systems that lacked any form of interconnection and were developed by different teams. The redundancy and the lack of data integrity deterred health [1] professionals, who saw these systems as developed by systems professionals for systems professionals

(Stumpf and Freitas, 1997). This situation was also investigated by McDonald (1997), who analysed the lack of interconnection of the different systems used by the hospitals, laboratories, and service providers in the healthcare field [1] [7].

Collen (1986) described the development of approaches in the 1970s that sought to approximate the habitual processes of decision-making with the use of artificial intelligence in differential diagnoses. In the same decade, studies were undertaken in search of a better organization (Kaihara, 1978) [1] [7]. With the help of computer-processed simulations, the author established an ideal relationship between medical centers and population demands.

The distributed processing was expanded during the 1980s with the development and greater availability of microcomputers, and the possibility of network communication of such equipment increased in the 1990s (Stumpf and Freitas, 1997). This allowed for the emergence of hospital information systems [10] (HIS), covering medical, administrative, and hospitality areas, These three areas are interlinked by horizontal data and information flows, providing support to the developed activities. Figure 1 shows a sample record for use in the medical, administrative, and hospitality areas, generating inter-related demands and actions. In the proposed scheme, the information on the electronic records, which contain the procedures, prescriptions, laboratory examinations, professionals involved, and hospitalizations (when applicable), is fundamental for an HIS [3].

Electronic Records

A patient's medical record contains fundamental information for incorporation into a hospital information system [6], yet it is necessary to consider that not all hospitals adopt medical records, even though they may use administrative systems or even hospitality systems. While specific information is not available, professional practice shows that, in general, the administrative area benefits the most from

information systems in hospitals. This use includes inventory management systems, accounts payable and receivable, financial services, and accounting services. In these cases, the traditional record (hand-written) should have part of its information inserted into administrative systems so that hospital bills can be processed. Similarly, hospital pharmacies use [6] to control stocks of prescriptions that are recorded in the medicalrecords[4][8] of patients.

This generates excess work that, in addition to consuming time and human resources, leaves the process susceptible to errors, delays, and failures, with repercussions that include the scheduling of exams, errors in forwarding requirements, and mistakes in billing that may lead to item disallowances, billing delays, or even missing charges for procedures or exams that have been performed.

Electronic records, when duly integrated with other systems, may reduce the occurrence of these problems, while also expediting the recovery of information for use by health professionals. This information can be used in statistical surveys, help with the analysis of procedures, be applied to preventative medicine, and be utilized for the control of hospital infections.

However, greater agility in the administrative processes and hospital procedures causes controversy, as one of the problems related to the use of HIS is that todeal with medical information [4], many systems end up demanding a change in the work methods of physicians who have always recorded their observations in structured and codified ways. Although some studies have considered this standardization and structuring to be necessary for the organization of an increase in the quality of information other studies concluded that this could harm the transmission of information among medical teams, imposing restrictions on the [4] that is input into the system.

Adler-Milstein [1] stated that the potential benefits of using IT in the healthcare field, including efficiency

and quality gains, will only be possible if the hospitals and clinics promote organizational changes, including greater autonomy for the individuals in the decision-making process and an increase in training programs. This situation is like that recommended by Goldzweig (2008) [3], who concluded that the impact of the implementation of HIS depends on the context of the implementation and applications, as well as on the clinical problems and the patient population.

Another possibility presented by electronic records prescription [2]. Balfour III et al. (2009) concluded that this improves the level of care given to patients by eliminating the need to interpret handwritten prescriptions, reducing the possibility of errors regarding dosages and increasing communication speeds with hospital pharmacies. The presentation of the available drugs facilitates the indication of generic medications, potentially decreasing the costs for the patients [5], reducing the dosages prescribed when associating the support systems with clinical decisionsand permitting a more rapid renewal of prescriptions and dosage changes [5].

Despite the abovementioned benefits, some problems were identified in studies focusing on electronic prescriptions. Physicians did not always check the prescription before its transmission (Hellström et al., 2009) and did not pay attention to the warnings regarding interactions among medications because many warnings referred to drugs that were no longer used [1].

Another general benefit provided by HIS and especially by electronic records is the medical and nursing audits of the accounts presented to health insurance carriers. This analysis constitutes one of the main resources used by the carriers to better manage their costs with hospital care [5] [10]. Thus, the auditor ends up adopting a financial approach and a vision of controllership, seeking the economic viability of the business and analysing unauthorized charges for hospital costs. In this process, medical records will be

able to reduce the number of errors, as they can set rules for the performance of procedures in addition to facilitating the investigation of conduct, inputs, and medical-hospital costs for the patients (Scarparo and Ferraz, 2008) [3][4] [10].

This action ends up impacting the price charged by the health insurance carrier, which is one of the items contemplated by consumers when choosing a health [1] insurance plan. Along with medical care, structure of the operator, medical staff, communication, and convenience, price was one of the seven constructs identified in the research conducted by Milan and Trez (2005) [8] that influenced the satisfaction levels of health insurance members.

IMPLEMENTATION

The system has an admin who registers receptionist, doctor, diagnostic center and a medical store by giving a unique username and password and only by using that information they can login. Receptionist collects the details of a patient and a unique id is generated for a patient. Ones the doctor logins into the system he can give his prescription to that patient id and after entering the details by doctor it is sent to a diagnostic center or amedical store [5] as required. When the prescription is sent to diagnostic center required tests are performed and the generated report is sent back to the respective doctor, based on the report doctor's prescription is sent to the medical store.

Now the patient must give his id to medical store so that doctor's prescription is displayed. Based on the requirement i.e. if the patient must visit again his information is stored in the database else it is deleted.

The entire system is developed using sap abap we have many advantages by implementing a project in sap such as a solution on a single platform will enable easier maintenance and support, reducing costs. Having a consolidated system means fewer interfaces to support.

Customers can instantly use SAP's innovations without needing onsite IT to manage the infrastructure.

Because the innovations are integrated smoothly with the core business process of customers, customers benefit from end-to-end business process.

METHODOLOGY

SAP's R/3, introduced in 1992, is the most used ERP system in the world. The R/3 software package is designed to allow businesses to effectively and efficiently operate a variety of business processes within a single integrated information system [6][9].

The software is customizable using SAP's proprietary programming language, ABAP/4. R/3 is scalable and highly suited for many types and sizes of organizations and runs on six different platforms. The R/3 package includes several very attractive features like it has a three-tier client/server system. Providing three tiers offers scalability and easier adaptation to the specific needs of large companies and fast-growing companies.

R/3 is composed of a single, virtual file structure with no subsystems. SAP was the first to implement integrated treasury capabilities. This attractive feature allows a corporate treasury department to function as an in-house bank by automating the control of cash flow, investment trades, and portfolio management. R/3 provides check writing capability in its Accounts Receivable component which very few other programs offer.

The entire system is developed using sap abap we have many advantages by implementing a project in sap such as it allows easier global integration.It allows bridging some barriers like currency exchange rates, language, and culture automatically.It provides real time information. It reduces the possibility of redundancy errors.By using it the company or enterprise have more efficient work environment. It provides a good knowledge like an expert about building and implementation of a system.

RESULT
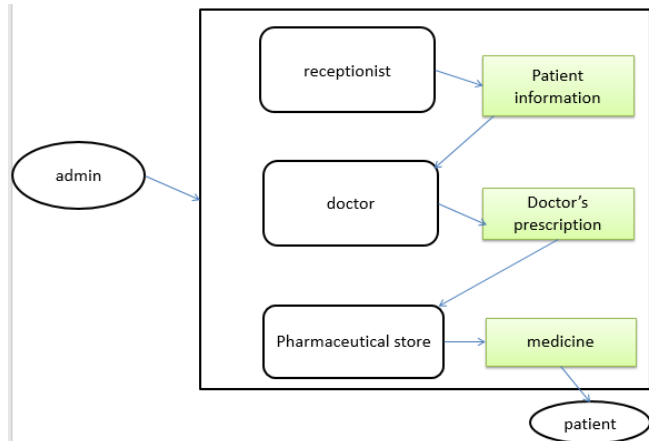
The figure shows Receptionist's module, Doctor's module and Pharmacist's module respectively. The system verifies and validate all user input. The user is notified in case of errors detected during using the system. The system captured patient's details at the receptionist which is used to create an account with the doctor and have a reference Id to use in paying bills and charges. The system generates the PatientIdentity (ID) and the Reference ID automatically and identifies inpatients and outpatients which is made possible by a checkbox. Also, it manages entering new stocks of drugs into database and how the drugs are sold which will include assigning a serial number to Reference ID given by the doctor to monitor the sales. The design also allows room for expansion.

The study indicates that maximum user's expectations were supported. The Hospital Management System software meets user requirement relating to enter patient data. It shows the number of patients registered in the hospital database. The system also could show patients past medical records [8] such as diagnosis, drug prescription and dosage. The system also gives the number of in-patients in the hospital at that time and what they are being treated for. A drug database was also established, where the pharmacy [5] can input the drug available at that time so that doctors can know which drugs are readily available to be prescribed to patients.

CONCLUSION

This study embarked on the sanitarium system which substitutes the current method of sorting, handling, searching, and keeping of hospital records. This conclude the importance and indispensable nature of the computer and its application in the hospital. The database aimed at reducing paper work in the reception area to reduce the time wasted by patients while waiting for their files to be retrieved.

This also reduced the spaced occupied by the files and provide adequate security for patient s [4]. Based on the finding of this study, the design of sanitarium system will be a solution to the problem being experienced by the current manual method of keeping patient medical records.

The study has critically identified the importance associate with using electronic [2] in keeping hospital record to eliminate missing files and enhance speedy retrieval of patient's record.

Computerized Sanitarium System has been developed to solve the problems associated with the existing manual system. Security is also enhanced since access to the system requires authentication. Sanitarium System not only provides an opportunity to the hospital to enhance their patient care, but also can increase the profitability of the organization. Hospital administrators would be able to significantly improve the operational control and thus streamline operations. This would improve the response time to the demands of patient care because it automates the process of collecting, collating and retrieving patient information.

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