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HOSPITAL MANAGEMENT SYSTEM

[1]Digvijay H. Gadhari, [2]Yadnyesh P. Kadam, [3]Prof. Parineeta Suman

[1,2,3]Department of Computer Engineering, Saraswati College of Engineering, Kharghar, Mumbai, Maharashtra, India.

[1]digvijaygadhari@gmail.com, [2]yadnyesh25@gmail.com, [3]sumanparineeta@gmail.com

Abstract — **This paper is to computerize the Front Office Management of Hospital to develop software which is user friendly simple, fast, and cost – effective. It deals with the collection of patient's information, diagnosis details, etc. Traditionally, it was done manually. The main function of the system is register and store patient details and doctor details and retrieves these details as and when required, and also to manipulate these details meaningfully. System input contains patient details, diagnosis details, while system output is to get these details on to the screen. The Hospital Management System can be entered using a username and password. It is accessible either by an administrator or receptionist. Only they can add data into the database. The data can be retrieved easily. The data are well protected for personal use and makes the data processing very fast.**

Keywords— ***hospitality, trigger, administrators, receptions.***

I. INTRODUCTION

Human Body is a very complex and sophisticated structure and comprises of millions of functions. All these complicated functions have been understood by man him, part-by-part their research and experiments. As science and technology progressed, medicine became an integral part of the research. Gradually, medical science became an entirely new branch of science. As of today, the Health Sector comprises of Medical institutions i.e. Hospitals, HOSPITALs etc. research and development institutions and medical colleges. Thus the Health sector aims at providing the best medical facilities to the common man. Still being a developing nation India has seen a tremendous growth of the Health sector in the field of research as well as in the field of development of numerous large and small scale Hospital institutions still lacking in inter-structure facilities. Government of India has still aimed at providing medical facilities by establishing hospital. The basic working of various hospitals in India is still on paper as compared to hospitals in European countries where computers have been put in to assist the hospital personals their work. The concept of automation of the administration and management of hospital is now being implemented in India also, with large hospitals like APPOLO and AIIMS in Delhi, ESCORTS in Chennai, having automated their existing system.

II. LITERATURE REVIEW

a) "A hospital resource and patient management system based on real-time data capture and intelligent decision making" Author(s): Musa, A. Lancashire Bus. Sch., Univ. of Central Lancashire, Preston, UK Yusuf, Y, Meckel.M. Systems and Informatics (ICSAI), 2012 International Conference

One of the major challenges existing hospital management systems face is around operational efficiency and wait times between different processes, departments and persons. This paper highlights such limitations of existing systems and proposes a RFID(Radio Frequency ID) and wireless sensor based , location and information management framework that facilitates real time tracking of hospital assets, personnel and patients as they move through pre-set procedures as part of daily activities of the hospitals. The

system covers the visual simulation and providing ability to analyse the ongoing operations so they can be corrected to achieve increased process efficiency and service levels.

b) **"Study on information system of health care services management in hospital" Author(s): Daiping Hu, Antai Sch. of Manage., Shanghai Jiaotong Univ., China Weiguo Xu ; Huizhang Shen ; Mengyu Li. Services Systems and Services Management, 2005. Proceedings of ICSSSM '05. 2005 International Conference**

This paper reviews the HIS (Hospital Information Systems) which are widely used in many hospitals in China mainly to provide easier and faster way for daily medical tasks /activities with a GUI And provides for overcoming some of the limitations of HIS , eg. HIS aims at improving quality of health care services but do not have way of evaluating /measuring those.

So this paper proposes HSMS (Hospital Services Management System) which aims at improving quality of services, identifying cost reduction areas , analyses and evaluate /rate heath care services .

The ability to evaluate the services facilitates hospital achieve higher Customer satisfaction scores and get a competitive edge against those hospitals which score less or use HIS and do not have ways of promoting the quality of their services.

c) **"Specification of a Reference Model for the Domain Layer of a Hospital Information System"Author(s): Gudrun Hübner-Blodera , Elske Ammenwertha , Birgit Brigl b , Alfred Winter b a Institute for Health Information Systems,UMIT – University for Health Sciences, Medical Informatics and Technology, Hall in Tyrol, Austria b Institute for Medical Informatics, Statistics and Epidemiology, University of Leipzig, Germany, ENMI, 2005.**

Many enterprise projects get scrapped due to high costs involved in initial planning requirement gathering and design phase. The costs in this phase become unmanageable due to lot of unknown factors.

Like lack of Subject area expertise, lack of knowledge on different Hospital enterprise functions 1) Patient admission 2)Patient Treatment planning 3)Order Entry 4)execution of diagnostic and treatment procedures 5)administrative documentation 6)billing 7) Clinical documentation 8) discharge and 9) referral to specialised medical institutions, lack of knowledge /experience on the entities types involved (example: patient, Clinical finding) , their roles and responsibilities and the relationships /associations between different enterprise function and /or entity types.

This paper aims at creating a reference data model that will serve as a generic starting point for any new HIS development projects so costs involved in studying and analyzing current state and coming up with gaps analysis and additional requirements can be significantly reduced.

The model is Hierarchical in nature that is it is dived into 3 levels of sub models and units so a choice for full or partial implementation can be offered based on the requirements.

d) **"Developing Effective Hospital Management Information Systems: A Technology Ecosystem Perspective". DATE OF SUBMISSION: 5 October 2014 PREPARED BY: Dr Christopher Bain MBBS, Master Info. Tech Student No: 10054499**

The author of this paper focuses more on needs of hospital manager and the ecosystem in which he/she operates. The internal and external Environment shaping factors ESFs that bear an impact or association on daily hospital activities and decision making process that the hospital manager has to go through in each situations.

Some of the challenges that this ecosystem needs to work on are high demand pressure, greater customer satisfaction level and low profit margins.

This paper more so contributes to Planning, Design and development aspects of any Hospital management system by highlighting ESFs that should be considered.

The external and internal factors the author mentions are: The public at large, Law and policy makers, Funders,

Medical suppliers the biggest of which are pharmaceutical companies, the scientific community, the software development community. Internal influencer authors can obviously also be at play in terms of what services are provided by the hospital and how they are provided. These can include: the skills and experience of staff, internal business strategies such as competition and subsidization, Soft factors such as morale and culture, Equipment availability.

III. EXISTING SYSTEM

The current manual system has a lot of paper work. To maintain the records of sale and service manually, is a Time-consuming task. With the increase in database, it will become a massive task to maintain the database. Requires large quantities of file cabinets, which are huge and require quite a bit of space in the office, which can be used for storing records of previous details. The retrieval of records of previously registered patients will be a tedious task. Lack of security for the records, anyone disarrange the records of your system. If someone want to check the details of the available doctors the previous system does not provide any necessary detail of this type.

IV. SCOPE OF THE PROJECT

This application will help user to access and view all his reports from anywhere online. An element of bias might have crept in from the side of the official interviewed. This could also have resulted in some kind of modification of the information divulged. Through an attempt was to collect information from the best possible source in the company, it was difficult to meet the top officials due to their busy schedules. Most of the analysis and interpretations, made for this report, are based on secondary data obtained. This data could have some inherent mistakes and errors. Finally, although due care has been taken those can be typing and compilation errors in the report itself.

The tasks specified were not well defined because nothing was mentioned regarding validations in the project. Though we gave maximum effort to check the software with different validation tests, a few of them might be present in this version.

- Due to limited time available survey could not be undertaken for intended 20 consumers and thus had to be limited to 10.
- Communication gaps exist between employees and management, as seniors don't share problem with subordinates resulting in violation of psychological contract.
- Poor rewarding system(slow)
- Poor working conditions

The limitations may be many and the magnitude of the influence of these limiting factors may have a bearing on the report, but it in no way alters the ultimate aim of the project and because it's highly USER FRIENDLY, it would be the choice of all kinds of personnel.
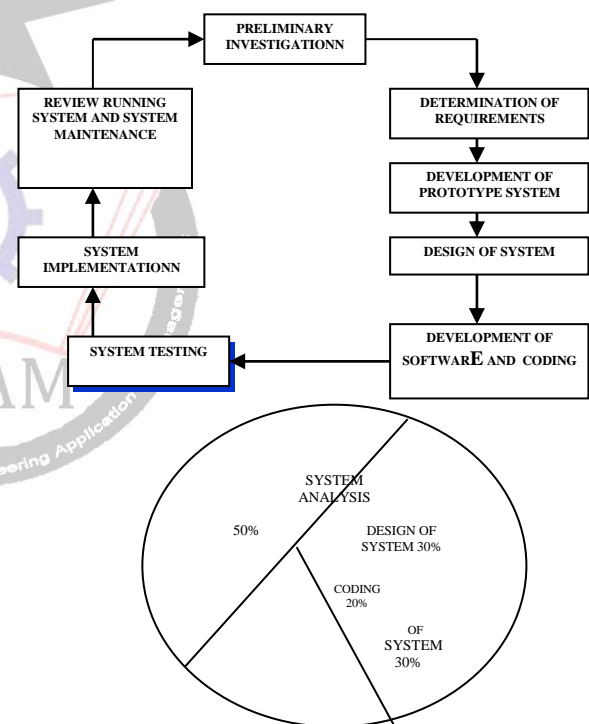

FIG 1: SHOWING GENERAL LIFE CYCLE PROCESS AND PERCENTAGE OF TIME DEVOTED

1) System Development Life Cycle:-

System life cycle is an organizational process of developing and maintaining systems. It helps in establishing a system project plan, because it gives overall

list of processes and sub-processes required for developing a system.

System development life cycle means combination of various activities. In other words we can say that various activities put together are referred as system development life cycle. In the System Analysis and Design terminology, the system development life cycle means software development life cycle.

2) NEED :-

This paper designed the given proposed system in the JSP to automate the process of day to day activities of Hospital like Room activities, Admission of New Patient, Discharge of Patient, Assign a Doctor, and finally compute the bill etc., online facilities to the multiple users etc.

a) The complete set of rules & procedures related to Hospital's day to day activities and generating report is called **"HOSPITALMANAGEMENT SYSTEM".** This project gives a brief idea regarding automated Hospital activities.

b) The following steps that give the detailed information of the need of proposed system are:

Performance: During past several decades, the hospital management system is supposed to maintain manual handling of all the hospital daily activities. The manual handling of the record is time consuming and highly prone to error. To improve the performance of the hospital management system, the computerized hospital management system is to be undertaken. The computerized hospital project is fully computerized and user friendly even that any of the hospital's members can see the patient's report and the doctor's report.

Efficiency: The basic need of the project is efficiency. The project should be efficient so that whenever a new patient is admitted, and automatically a bed is assigned and also a doctor is assigned to the patient according to the patient's disease. And if any patient is getting discharged, the bed assigned to him/her should automatically free in the computer.

Control: The complete control of the project is under the hands of authorized person who has the password to access

this project and illegal access is not supposed to deal with. All the control is under the administrator and the other members have the rights to just see the records not to change any transaction or entry.

Security: Security is the main criteria for the proposed system. Since illegal access may corrupt the database and it will affect not only the hospital but also it also affects the patient's life. So security has to be given in this project.

V. CONCLUSION

Since the Hospital Management System is essential for maintaining detail about the Doctor, Patient, Hospital staff etc. we understand that by using of Hospital Management System project the work became very easy and we save lot of time. Hospital administrators would be able to significantly improve the operational control and thus streamline operations. This would enable to improve the response time to the demands of patient care because it automates the process of collecting, collating and retrieving patient information. Accounting sometimes becomes awfully pathetic and complex. This product will eliminate any such complexity.

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