**Hospital Management System:**

**1) OBJECTIVE:**

Hospitals currently use a manual system for the management and maintenance of critical information. The current system requires numerous paper forms, with data stores spread throughout the hospital management infrastructure. Often information (on forms) is incomplete, or does not follow management standards. Forms are often lost in transit between departments requiring a comprehensive auditing process to ensure that no vital information is lost. Multiple copies of the same information exist in the hospital and may lead to inconsistencies in data in various data stores.

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 theatre scheduling and various facilities waiting lists.

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.

**2) PROJECT OVERVIEW: HOSPITAL MANAGEMENT SYSTEM PROJECT**

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 theatre scheduling and various facilities waiting lists.

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**3) SYSTEM DESIGN: HOSPITAL MANAGEMENT SYSTEM PROJECT**

               In this software we have developed some forms. The brief description about them is as follow: -

**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.

·          Doctor visit schedule

·          Doctor Appointment Scheduling

·          Enquiry of Patient

·         Find History of Patient Enquired.

**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

·         Employee Detail Recording.

·         Doctor Type.

·         Doctor Master

·         Referral Doctor

**Pharmacy:**

This module deals with all medical items. This module helps in maintaining Item Master, Receipt of Drugs/consumables, issue, handling of material return, generating retail bills, stock maintenance. It also helps in fulfilling the requirements of both IPD and OPD Pharmacy.

**Laboratory:**

This module enables the maintenance of investigation requests by the patient and generation of test results for the various available services, such as clinical pathology, X-ray and ultrasound tests. Requests can be made from various points, including wards, billing, sample collection and the laboratory receiving point. The laboratory module is integrated with the in-patient/ outpatient registration, wards and billing modules.

**Registration:**

This module helps in registering information about patients and handling both IPD and OPD patient’s query. A unique ID is generated for each patient after registration. This helps in implementing customer relationship management and also maintains medical history of the patient.

**4) SOFTWARE REQUIREMENTS: HOSPITAL MANAGEMENT SYSTEM PROJECT**

Web Technologies: JSP, Servlets, CSS, JS, jQuery, Bootstrap

Database                 : Oracle 11g Database

Operating System : WINDOWS XP

**5) FEASIBILITY STUDY: HOSPITAL MANAGEMENT SYSTEM PROJECT**

                          Feasibility study is conducted once the problem is clearly understood.  Feasibility study is a high-level capsule version of the entire system analysis and design process.  The objective is to determine quickly at a minimum expense how to solve a problem.  The purpose of feasibility is not to solve the problem but to determine if the problem is worth solving.

The system has been tested for feasibility in the following points.

               1. Technical Feasibility

               2. Economic Feasibility

               3. Operational Feasibility

**1. Technical Feasibility**

                 The project entitles "Courier Service System” is technically feasibility because of the below mentioned feature.  The project was developed in Java which Graphical User Interface.

           It provides the high level of reliability, availability and compatibility.  All these make Java an appropriate language for this project.  Thus, the existing software Java is a powerful language.

**2. Economic Feasibility**

               The computerized system will help in automate the selection leading the profits and details of the organization.  With this software, the machine and manpower utilization are expected to go up by 80-90% approximately.  The costs incurred of not creating the system are set to be great, because precious time can be wanted by manually.

**3. Operational Feasibility**

               In this project, the management will know the details of each project where he may be presented and the data will be maintained as decentralized and if any inquires for that particular contract can be known as per their requirements and necessaries.

**6) Implementation:**

       Implementation is the stage where the theoretical design is turned into a working system. The most crucial stage in achieving a new successful system and in giving confidence on the new system for the users that it will work efficiently and effectively.

      The system can be implemented only after thorough testing is done and if it is found to work according to the specification.

         It involves careful planning, investigation of the current system and its constraints on implementation, design of methods to achieve the changeover and an evaluation of change over methods a part from planning. Two major tasks of preparing the implementation are education and training of the users and testing of the system.

          The more complex the system being implemented, the more involved will be the systems analysis and design effort required just for implementation.

       The implementation phase comprises of several activities. The required hardware and software acquisition are carried out. The system may require some software to be developed. For this, programs are written and tested. The user then changes over to his new fully tested system and the old system is discontinued.

**7) Application System Development – A Life cycle Approach**

Although there are a growing number of applications (such as decision support systems) that should be developed using an experimental process strategy such as prototyping, a significant amount of new development work continues to involve major operational applications of broad scope. The system development life cycle is described in detail since it continues to be an appropriate methodology for a significant part of new development work.

         The basic idea of the system development life cycle is that there is a well-defined process by which an application is conceived and developed and implemented. The life cycle gives structure to a creative process

         The phases in the life cycle for information system development are described differently by different writers, but the differences are primarily in the amount of necessity and manner of categorization. There is a general agreement on the flow of development steps and the necessity for control procedures at each stage.

The information system development cycle for an application consists of three major stages.

1)      Definition.

2)      Development

3)      Installation and operation

The stages of the processes, which defines the information requirements for a feasible cost-effective system. The requirements are then translated into a physical system of forms, procedures, programs etc., by the system design, computer programming and procedure development. The resulting system is test and put into operation. No system is perfect so there is always a need for maintenance changes. To complete the cycle, there should be a post audit of the system to evaluate how well it performs and how well it meets the cost and performance specifications. The stages of definition, development and installation and operation can therefore be divided into smaller steps or phrases as follows.

**Definition**

* Proposed definition        : preparation of request for proposed applications.
* Feasibility assessment:  evaluation of feasibility and cost benefit of proposed system.

Information requirement analysis: determination of information needed.

**Design**

* Conceptual design           :  User-oriented design of application development.
* Physical system design:  Detailed design of flows and processes in applications processing system and preparation of program specification.

**Development**

* Program development      :  coding and testing of computer programs.
* Procedure development    : design of procedures and preparation of user instructions.

**Installation and operation**

* Conversion                            :     final system test and conversion.
* Operation and maintenance:     Month to month operation and maintenance
* Post audit                        :     Evaluation of development process, application system and results of use at the completion of the each phase, formal approval sign-off is required from the users as well as from the manager of the project development.

**8) CONCLUSION: HOSPITAL MANAGEMENT SYSTEM PROJECT**

The package was designed in such a way that future modifications can be done easily. The following conclusion can be deduced from the development of the project.

* Automation of the entire system improves the efficiency
* It provides a friendly graphical user interface which proves to be better when compared to the existing system.
* It gives appropriate access to the authorized users depending on their permissions.
* It effectively overcomes the delay in communications.
* Updating of information becomes so easier.
* System security, data security and reliability are the striking features.
* The System has adequate scope for modification in future if it is necessary.