Synopsis of Hospital Management System

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# Introduction of the Project Hospital Management System:

The "Hospital Management System" has been developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and in some cases reduce the hardships faced by this existing system. Moreover this system is designed for the particular need of the company to carry out operations in a smooth and effective manner.

The application is reduced as much as possible to avoid errors while entering the data. It also provides error message while entering invalid data. No formal knowledge is needed for the user to use this system. Thus by this all it proves it is user-friendly. Hospital Management System , as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus it will help organization in better utilization of resources.

Every organization, whether big or small, has challenges to overcome and managing the informations of Doctors, Hospital, Employee, Medicine, Test. Every Hospital Management System has different Hospital needs, therefore we design exclusive employee management systems that are adapted to your managerial requirements. This is designed to assist in strategic planning, and will help you ensure that your organization is equipped with the right level of information and details for your future goals. Also, for those busy executive who are always on the go, our systems come with remote access features, which will allow you to manage your workforce anytime, at all times. These systems will ultimately allow you to better manage resources.

# Abstract of the Project Hospital Management System:

The purpose of Hospital Management System is to automate the existing manual system by the help of computerized equipments and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. The required software and hardware are easily available and easy to work with.

Hospital Management System, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus it will help organization in better utilization of resources. The organization can maintain computerized records without redundant entries. That means that one need not be distracted by information that is not relevant, while being able to reach the information.

The aim is to automate its existing manual system by the help of computerized equipments and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. Basically the project describes how to manage for good performance and better services for the clients.

# Objective of Project on Hospital Management System:

The main objective of the Project on Hospital Management System is to manage the details of Hospital, Doctors, Patient, Employee, Test. It manages all the information about Hospital, Medicine, Test, Hospital. The project is totally built at administrative end and thus only the administrator is guaranteed the access. The purpose of the project is to build an application program to reduce the manual work for managing the Hospital, Doctors, Medicine, Patient. It tracks all the details about the Patient, Employee, Test.

## Functionalities provided by Hospital Management System are as follows:

* Provides the searching facilities based on various factors. Such as Hospital, Patient, Employee, Test
* Hospital Management System also manage the Medicine details online for Employee details, Test details, Hospital.
* It tracks all the information of Doctors, Medicine, Employee etc
* Manage the information of Doctors
* Shows the information and description of the Hospital, Patient
* To increase efficiency of managing the Hospital, Doctors
* It deals with monitoring the information and transactions of Employee.
* Manage the information of Hospital
* Editing, adding and updating of Records is improved which results in proper resource management of Hospital data.

# Scope of the project Hospital Management System

It may help collecting perfect management in details. In a very short time, the collection will be obvious, simple and sensible. It will help a person to know the management of passed year perfectly and vividly. It also helps in current all works relative to Hospital Management System. It will be also reduced the cost of collecting the management & collection procedure will go on smoothly.

Our project aims at Business process automation, i.e. we have tried to computerize various processes of Hospital Management System.

* + In computer system the person has to fill the various forms & number of copies of the forms can be easily generated at a time.
  + In computer system, it is not necessary to create the manifest but we can directly print it, which saves our time.
  + To assist the staff in capturing the effort spent on their respective working areas.
  + To utilize resources in an efficient manner by increasing their productivity through automation.
  + The system generates types of information that can be used for various purposes.
  + It satisfy the user requirement
  + Be easy to understand by the user and operator
  + Be easy to operate
  + Have a good user interface
  + Be expandable
  + Delivered on schedule within the budget.

# Reports of Hospital Management System:

* It generates the report on Hospital, Doctors, Medicine
* Provide filter reports on Patient, Employee, Test
* You can easily export PDF for the Hospital, Medicine, Employee
* Application also provides excel export for Doctors, Patient, Test
* You can also export the report into csv format for Hospital, Doctors, Test

# Modules of Hospital Management System:

* Hospital Management Module: Used for managing the Hospital details.
* Doctors Management Module: Used for managing the information and details of

the Doctors.

* Patient Module : Used for managing the Patient details
* Employee Module : Used for managing the Employee information
* Login Module: Used for managing the login details
* Users Module : Used for managing the users of the system

# Input Data and Validation of Project on Hospital Management System

* All the fields such as Hospital, Patient, Doctor are validated and does not take invalid values
* Each form for Hospital, Doctors, Medicine can not accept blank value fields
* Avoiding errors in data
* Controlling amount of input
* Integration of all the modules/forms in the system.
* Preparation of the test cases.
* Preparation of the possible test data with all the validation checks.
* Actual testing done manually.
* Recording of all the reproduced errors.
* Modifications done for the errors found during testing.
* Prepared the test result scripts after rectification of the errors.
* Functionality of the entire module/forms.
* Validations for user input.
* Checking of the Coding standards to be maintained during coding.
* Testing the module with all the possible test data.
* Testing of the functionality involving all type of calculations etc.

# Features of the project Hospital Management System:

* Product and Component based
* Creating & Changing Issues at ease
* Query Issue List to any depth
* Reporting & Charting in more comprehensive way
* User Accounts to control the access and maintain security
* Simple Status & Resolutions
* Multi-level Priorities & Severities.
* Targets & Milestones for guiding the programmers
* Attachments & Additional Comments for more information
* Robust database back-end
* Various level of reports available with a lot of filter criteria’s
* It contain better storage capacity.
* Accuracy in work.
* Easy & fast retrieval of information.
* Well designed reports.
* Decrease the load of the person involve in existing manual system.
* Access of any information individually.
* Work becomes very speedy.
* Easy to update information

# Software Requirement Specification

The Software Requirements Specification is produced at the culmination of the analysis task. The function and performance allocated to software as part of system engineering are refined by establishing a complete information description, a detailed functional and behavioral description, an indication of performance requirements and design constraints, appropriate validation criteria, and other data pertinent to requirements.

## The proposed system has the following requirements:

* System needs store information about new entry of Hospital.
* System needs to help the internal staff to keep information of Doctors and find

them as per various queries.

* System need to maintain quantity record.
* System need to keep the record of Patient.
* System need to update and delete the record.
* System also needs a search area.
* It also needs a security system to prevent data.

# Identification of need:

The old manual system was suffering from a series of drawbacks. Since whole of the system was to be maintained with hands the process of keeping, maintaining and retrieving the information was very tedious and lengthy. The records were never used to be in a systematic order. there used to be lots of difficulties in associating any particular transaction with a particular context. If any information was to be found it was required to go through the different registers, documents there would never exist anything like report generation. There would always be unnecessary consumption of time while entering records and retrieving records. One more problem was that it was very difficult to find errors while entering the records. Once the records were entered it was very difficult to update these records.

The reason behind it is that there is lot of information to be maintained and have to be kept in mind while running the business .For this reason we have provided features Present system is partially automated (computerized), actually existing system is quite laborious as one has to enter same information at three different places.

## Following points should be well considered:

* Documents and reports that must be provided by the new system: there can also be few reports, which can help management in decision-making and cost controlling, but since these reports do not get required attention, such kind of reports and information were also identified and given required attention.
* Details of the information needed for each document and report.
* The required frequency and distribution for each document.
* Probable sources of information for each document and report.
* With the implementation of computerized system, the task of keeping records in an organized manner will be solved. The greatest of all is the retrieval of

information, which will be at the click of the mouse. So the proposed system helps in saving the time in different operations and making information flow easy giving valuable reports.

# User Interface Design

User Interface Design is concerned with the dialogue between a user and the computer. It is concerned with everything from starting the system or logging into the system to the eventually presentation of desired inputs and outputs. The overall flow of screens and messages is called a dialogue.

## The following steps are various guidelines for User Interface Design:

1. The system user should always be aware of what to do next.
2. The screen should be formatted so that various types of information, instructions and messages always appear in the same general display area.
3. Message, instructions or information should be displayed long enough to allow the system user to read them.
4. Use display attributes sparingly.
5. Default values for fields and answers to be entered by the user should be specified.
6. A user should not be allowed to proceed without correcting an error.
7. The system user should never get an operating system message or fatal error.

# Project Category

Relational Database Management System (RDBMS) : This is an RDBMS based project which is currently using MySQL for all the transaction statements. MySQL is an opensource RDBMS System.

## Brief Introduction about RDBSM :

A relational database management system (RDBMS) is a database management system (DBMS) that is based on the relational model as invented by E. F. Codd, of IBM's San Jose Research Laboratory. Many popular databases currently in use are based on the relational database model.

RDBMSs have become a predominant choice for the storage of information in new databases used for financial records, manufacturing and logistical information, personnel data, and much more since the 1980s. Relational databases have often replaced legacy hierarchical databases and network databases because they are easier to understand and use. However, relational databases have been challenged by object databases, which were introduced in an attempt to address the object-relational impedance mismatch in relational database, and XML databases.

**Language** Java 2 Runtime Environment

**Database** MySQL Server

**Browser** Any of Mozilla, Opera, Chrome etc

**Web Server** Tomcat 9.0

**Software Development Kit** Java JDK 1.7 or Above

**Scripting Language Enable** JSP (Java Server Pages)

**Database JDBC Driver** MySQL Jconnector

## System Analysis:

System analysis is a process of gathering and interpreting facts, diagnosing problems and the information about the Hospital Management System to recommend improvements on the system. It is a problem solving activity that requires intensive communication between the system users and system developers. System analysis or study is an important phase of any system development process. The system is studied to the minutest detail and analyzed. The system analyst plays the role of the interrogator and dwells deep into the working of the present system. The system is viewed as a whole and the input to the system are identified. The outputs from the organizations are traced to the various processes. System analysis is concerned with becoming aware of the problem, identifying the relevant and decisional variables, analyzing and synthesizing the various factors and determining an optimal or at least a satisfactory solution or program of action. A detailed study of the process must be made by various techniques like interviews, questionnaires etc. The data collected by these sources must be scrutinized to arrive to a conclusion. The conclusion is an understanding of how the system functions. This system is called the existing system. Now the existing system is subjected to close study and problem areas are identified. The designer now functions as a problem solver and tries to sort out the difficulties that the enterprise faces. The solutions are given as proposals. The proposal is then weighed with the existing system analytically and the best one is selected. The proposal is presented to the user for an endorsement by the user. The proposal is reviewed on user request and suitable changes are made. This is loop that ends as soon as the user is satisfied with proposal. Preliminary study is the process of gathering and interpreting facts, using the information for further studies on the system. Preliminary study is problem solving activity that requires intensive communication between the system users and system developers. It does various feasibility studies. In these studies a rough figure of the system activities can be obtained, from which the decision about the strategies to be followed for effective system study and analysis can be taken.

## Conclusion of the Project Hospital Management System:

Our project is only a humble venture to satisfy the needs to manage their project work. Several user friendly coding have also adopted. This package shall prove to be a powerful package in satisfying all the requirements of the school. The objective of software planning is to provide a frame work that enables the manger to make reasonable estimates made within a limited time frame at the beginning of the software project and should be updated regularly as the project progresses.

# Future Scope of the Project:

In a nutshell, it can be summarized that the future scope of the project circles around maintaining information regarding:

* We can add printer in future.
* We can give more advance software for Hospital Management System including more facilities
* We will host the platform on online servers to make it accessible worldwide
* Integrate multiple load balancers to distribute the loads of the system
* Create the master and slave database structure to reduce the overload of the database queries
* Implement the backup mechanism for taking backup of codebase and database on regular basis on different servers

The above mentioned points are the enhancements which can be done to increase the applicability and usage of this project. Here we can maintain the records of Hospital and Doctors. Also, as it can be seen that now-a-days the players are versatile,

i.e. so there is a scope for introducing a method to maintain the Hospital Management System. Enhancements can be done to maintain all the Hospital, Doctors, Patient, Employee, Test.

We have left all the options open so that if there is any other future requirement in the system by the user for the enhancement of the system then it is possible to implement them.In the last we would like to thanks all the persons involved in the development of the system directly or indirectly. We hope that the project will serve its purpose for which it is develop there by underlining success of process.

## References and Bibliography:

* Google for problem solving
* Database Programming with JDBC
* Head First Java 2nd Edition
* <http://www.jdbc-tutorial.com/>
* https://[www.tutorialspoint.com/java/](http://www.tutorialspoint.com/java/)
* <http://www.javatpoint.com/java-tutorial>
* https://docs.oracle.com/javase/tutorial/