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**Hospital Management System**

**Documentation**

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**Project Handed To: Mr. Faisal**

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# 1 Introduction

## 1.1 Abstract:

This hospital management system is a well-organized computerized system that is developed and configured to handle day-to-day hospital operations and management. Inpatients, outpatients, records, treatments, lab results, and billings in the pharmacy and labs are all managed by the program. It also keeps track of ward identifiers, doctors in charge, and department administrators. This project aims at replacing the traditional pen-paper record management system with a more robust and efficient digital management system.

## 1.2 Introduction:

Registration of patients, saving their information in the system, and automated billing in the pharmacy and labs are all part of the project Hospital Management system. The software will assign each patient a unique identifier and automatically save the patient's and staff's information. It has a search feature that allows you to see the current condition of each patient.

A username and password are required to access the Hospital Management System. It can be accessed by a receptionist or an administrator. They are the only ones who have access to the database.Data can be easily accessed. The user interface is quite intuitive. The data is well-protected for personal use, and the processing of the data is very quick.

The Hospital Management System is intended and built to provide real-world benefits to hospitals. It is powerful, adaptable, and simple to use. The Hospital Management System is a multispecialty hospital management system that covers a wide variety of hospital administration and management processes. It is an integrated end-to-end Hospital Management System that offers important information across the hospital in a smooth flow to enable successful decision making for patient care, hospital administration, and vital financial accounting.

## 1.3 Problems

**Lack of immediate retrievals:** - It is extremely difficult to recall and locate certain information, such as- The user must search through several registers to learn about the patient's history. As a result, there is a sense of inconvenience as well as a waste of time.

**Lack of immediate information storage:** - It requires time and effort to store information created by multiple transactions in the correct location.

**Lack of timely updating:** - Due to the paper labor needed, many updates to information such as patient are difficult to make.

**Error prone manual calculation:** Manual computations are error-prone and time-consuming, which might lead to inaccurate information. Calculation of a patient's bill based on numerous treatments, for example.

**Preparation of accurate and timely reports:** - This is a challenging undertaking because information from numerous registers is difficult to obtain.

## 1.4 Modules

1. Admin Module
2. Lab Module
3. Doctor Module
4. Pharmacy Module

## 1.5 Specification Of Each Module

1. **Admin Module:**

* Register Patient
* Login in with verified credentials
* Book Appointment
* View All Transactions
* View All Appointments
* View All Users Activity
* View Doctor’s Schedule
* Accept Lab Test Payments
* Update Information of Appointments and Registered Patients

1. **Doctor Module:**

* View Pending Appointments
* Login in with verified credentials
* Update Appointment Status
* Request for Lab Tests
* Request for Medicines
* View Lab Results of each patient

1. **Lab Module**

* View Lab Requests
* Login in with verified credentials
* Update Their Status
* Update the Lab Test Result

1. **Pharmacy Module**

* Proceed with Medicine Transactions
* Login in with verified credentials
* View Medicine Requests
* Update Request status

# 2 System Design

## 2.1 Use Case Diagram :

Diagram, schematic

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This Use Case Diagram represents the flow of the project with various classes sharing different data all connecting with each other to perform assigned tasks and complete the program. It is a great way to organize and understand the flow of the system.

# 3 Analysis Of The System

## 3.1 Software Specifications:

* **JAVA**

The program’s frontend and backend is written in JAVA programming language. This has allowed for easy manipulation of the data while still managing to add good frontend features. The IDE used for this project is Apache NetBeans.

* **MySQL**

The data is stored in a database which was created by using MySQL. It allowed for good and fast data movement while still maintaining a secure network.

A few reasons for choosing MySQL were:

Leading open source RDBMS, Fast , Robust Security, Multiple OS support, Free and Supports large database– up to 50 million rows, file size limit up to 8 Million TB.

## 3.2 Connectivity:

* Clients can connect to MySQL Server using several protocols:
* Clients can connect using TCP/IP sockets on any platform.
* On Windows systems in the NT family (NT, 2000, XP, 2003, or Vista), clients can connect using named pipes if the server is started with the -- enable-named-pipe option.
* In MySQL 4.1 and higher, Windows servers also support shared-memory connections if started with the --sharedmemory option. Clients can connect through shared memory by using the -- protocol=memory option.

## 3.3 Localization

• The server can provide error messages to clients when needed.

• All data is saved in the chosen character set.

# 4 Sample Screenshots

Graphical user interface, application

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Main Interface

Graphical user interface, application

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Admin Login

Graphical user interface

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Admin Menu

Graphical user interface

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Patient Registration Form

Graphical user interface, application, table

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Appointment Booking Portal

Graphical user interface, application

Description automatically generated

View Appointments

Graphical user interface, application

Description automatically generated

View Transactions

Graphical user interface, text, application

Description automatically generated

View LAB Payment Requests

Graphical user interface, application

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View User Acitivity

Graphical user interface

Description automatically generated

Doctor Login Page

Graphical user interface, application

Description automatically generated

Doctor Menu

Graphical user interface

Description automatically generated

View And Update Appointments

Application

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Lab Test Results

Graphical user interface, application

Description automatically generated

Pharmacy Login

Graphical user interface, text, application

Description automatically generated

Pharmacy Menu

Graphical user interface, application

Description automatically generated

Pharmacy Medicine Requests

A screenshot of a computer

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Lab Login

Graphical user interface, text, application

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Lab Menu

Graphical user interface, application

Description automatically generated

Lab Requests

Graphical user interface, application

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Implementation of Logical Validations Throughout the program