

## Faculty of Computer & Information Technology

### *A Hospital Management System*

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## Abstract

Hospital Management System is an organized computerized system designed and programmed to deal with day-to-day operations and management of the hospital activities. The program can look after inpatients, outpatients, records, database treatments, status illness, billings in the pharmacy and labs. It also maintains hospital information such as ward id, doctors in charge and department administering. The major problem for the patient nowadays to get report after consultation, many hospital managing reports in their system but it's not available to the patient when he / she is outside. In this project we are going to provide the extra facility to store the report in the database and make available from anywhere in the world.

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# Chapter 1

## Introduction

## Introduction

Hospital Management system includes registration of patients, storing their details into the system, and computerized billing in the pharmacy, and labs. The software has the facility to give a unique id for every patient and stores the details of every patient and the staff automatically. It includes a search facility to know the status of each room. User can search availability of a doctor and the details of a patient using the id. 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 interface is very user-friendly. The data are well protected for personal use and makes the data processing very fast. Hospital Management System is powerful, flexible, and easy to use and is designed and developed to deliver real conceivable benefits to hospitals. Hospital Management System is designed for multispecialty hospitals, to cover a wide range of hospital administration and management processes. It is an integrated end-to-end Hospital Management System is a software product suite designed to improve the quality and management of hospital management in the areas of clinical process analysis and activity-based costing. Hospital Management System enables you to develop your organization and improve its effectiveness and quality of work.

The developments in technology and internet speed made services like Telemedicine a dream come true for today 's patient care needs. Telemedicine can be referred

to as the provision of medical services from a distance This includes diagnosis, treatment and prevention of diseases. The types of telemedicine can be categorized as real-time or pre-recorded telemedicine. Also, the growing technology and varied solutions in the hospital management domain necessitated for the development of common protocols and standards at global level. Such standards and legal requirements are discussed in further sections. According to Belgium Federal Public Service – FPS high quality of Data storage, data speed, data exchange and networking for Hospital information systems (HIS) is mandatory for efficient performance of Hospital Information Systems (HIS). Especially data storage requirements of departments like radiology are challenging.

To carve out a comprehensive E-Hospital management / Hospital information systems model, some of the various E-Hospital management system tasks are discussed and summarized in the context of the current study.

The most important tasks in hospital information systems can be summarized as follows:

**(1) Storage and monitoring of patient 's condition:**

- Accurate and electronically stored medical records of patients (e.g., drug allergies) are provided
- Visual and auditory warning systems are generated in the event of abnormal test results or other important data
- Time intervals and / or testing periods for tests on patients to be specified



- Data Processing and analysis for statistical purposes and research-oriented purposes

## **(2) Management and Data Flow:**

- Support automated patient data transfers between departments and institutions
- Enable graphic or digitized diagnostic images from the hospital database based on the integrated retrieval system
- Digital signatures, in order to create internal orders electronically
- Communication by Laboratory Information System
- Registration of human resources and their properties

## **(3) Financial Aspects:**

- Efficient administration of finances
- Use and monitoring of medicines and effectivity of the ordering process
- Expected and actual treatment costs are listed and reported
- Automated representation of the needs of the nursing staff
- Status analysis of bed occupancy and overall performance in the hospital information system.

According to the Health Evidence report of the WHO recommends that, there are in principle five different types of measurement of hospital performance, as below:

- Regulatory inspection
- Surveys of consumers 'experiences
- Third-party assessments
- Statistical indicators
- Internal assessments.

Also, based on the above case studies and various deliberations on E-Hospital Management Solutions and HIS, the various components of an E-Hospital management solutions are detailed below for easier understanding of future researchers and industry experts.

### **Basic Modules:**

1. Patient Registration and Appointment Scheduling Module - The Registration module is an integrated patient management system, which captures complete and relevant patient information. The system automates the patient administration functions to have better and efficient patient care process.
2. Outpatient Management Module - The Outpatient module serves as an entry point to schedule an appointment with the Hospital Resident Doctor or Consultant Doctor for Medical Consultations and diagnosis.

This module supports doctors to take better and timely consultation decisions by providing instant access to comprehensive patient information.

3. Patient Billing & Insurance Module - The Patient Billing module manages all types of billing for long-term care.

This module facilitates cashier and billing operations for different categories of patients Outpatient, Inpatient and Referral. It provides automatic posting of charges related to different services like bed charges, lab tests conducted, medicines issued, consultant's fee, food, beverage, and telephone charges etc. This module provides for credit partly billing and can be seamlessly integrated with the Financial Accounting Module.

4. Services Module - The service module provides for effectively managing all the services available in the hospital and the charges for each of these services are securely entered and managed.

5. User Manager Module (security workflow) - The User Manager module deals with security through controlling the access to the information available in the application. Any user associated with a user group can access only those screens for which the user group has rights.

It also deals with the System Related Activity like User Monitor, Creating User Group Master, User Master and view the User Group Lookup of employee database, Maintenance of company documents.

## Optional Modules:

### *1. Pharmacy Module - Pharmacy module*

deals with the automation of general workflow and administration management process of a pharmacy. The pharmacy module is equipped with bar coding facility, which makes the delivery of medical items to the patient more efficient.

### *2. Laboratory Information System - The Laboratory module*

automates the investigation request and the process involved in delivering the results to the concerned department/doctor of the hospital. Laboratory module starts with receiving the online request from doctors and allows laboratory personnel to generate requests.

The Laboratory module supports to perform various tests under the following disciplines:

Biochemistry, Cytology, Hematology, Microbiology, Serology, Neurology and Radiology.

### *3. Radiology Management Module - Radiology module*

caters to services such as X-ray, Scanning, Ultrasound etc.

Scheduling of Radiology resources is possible. The system stores all the result details of various tests and makes a Report based on the Test Result

#### *4. Electronic Medical Record the EMR Module*

is a fully integrated knowledge repository that caters to Medical and clinical records of patients in the hospital. The system supports medical professionals of various departments of the hospital with relevant information like medical examinations, diagnoses, treatment histories, test results and so on.

The module provides access to critical and complete patient data that leads to high quality cost effective and efficient patient care. The EMR has the following features.

#### *5. Dietary Module*

The dietary module in the hospital management system software is designed to assist the hospital kitchen in providing meals to inpatients as per the instructions of the dietician.

#### *6. House Keeping Module*

Housekeeping in any hospital is defined as the provision for a clean, comfortable, and safe environment in the hospital for patients and public.

Housekeeping in the hospital management system software involves the maintenance of beds in wards, rooms, cubicles. The various housekeeping tasks can be planned, assigned, and tracked in the module.

## Problem Statement

The current manual and fragmented processes in hospital management lead to significant inefficiencies and hinder the provision of high-quality patient care. Challenges such as unorganized communication lines, reliance on outdated technology, and paper-based record-keeping result in errors, omissions, and delays in accessing critical patient information. These issues compromise the effectiveness of healthcare delivery and can negatively impact patient outcomes. The HMS aims to resolve these problems by digitizing and automating hospital operations, ensuring seamless coordination among different departments, and providing real-time access to patient data. By doing so, the HMS seeks to enhance the overall efficiency of hospital management and improve the quality of patient care. A study showed that healthcare providers spend 35% of their time on documenting patient data. While paperwork is unavoidable in a hospital, you can automate the process and reduce the burden on the staff and doctors

## Problem solution

**Centralized Data Management:** An HMS centralizes patient data, medical records, and hospital resources, allowing for real-time access and updates. This eliminates the need for paper-based records and reduces errors and omissions.


**Streamlined Operations:** By automating administrative tasks such as scheduling, billing, and inventory management, an HMS streamlines hospital operations, making them more efficient and reducing wait times for patients.

**Improved Communication:** An HMS facilitates better communication between departments and healthcare professionals, ensuring that everyone has access to the same information and can coordinate care more effectively.

**Enhanced Patient Care:** With quick access to patient histories and treatment plans, healthcare providers can make more informed decisions, leading to improved patient outcomes.

**Compliance and Reporting:** The system ensures compliance with healthcare regulations and standards and provides comprehensive reporting tools for analysis and decision-making.

**Scalability and Integration:** A good HMS is scalable to accommodate the growing needs of the hospital and can integrate with other systems like electronic health records (EHR) and laboratory information systems (LIS).



# Chapter 2

## REQUIREMENTS AND ANALYSIS



## Software Requirements Specification

The primary goal of this system is to automate the Hospital Management System. Without the need for manual interaction, this program can aid with scheduling appointments, ordering medications, making emergency admissions, and examining discharge summaries and invoices.

A software requirements specification (SRS) is a detailed description of a software system to be developed with its functional and non-functional requirements. The SRS is developed based the agreement between customer and contractors. It may include the use cases of how user is going to interact with software system. The software requirements specification document consists of all necessary requirements required for project development. To develop the software system, we should have clear understanding of software system. To achieve this, we need to continuous communication with customer to gather all requirements.

This HMS will be automated. Patients can schedule doctor visits based on their medical symptoms, they can also place prescriptions, request an emergency admission, and view discharge summaries and bills. Doctors will have access to patient prescriptions and test results, Users can be registered, available doctors can be assigned for consultation, ICU/CCU and doctors can be assigned in case of emergency admission, and so on.

Functional requirements define the function of the device, explaining the actions taken by the HMS system clearly and quantitatively, these requirements define the capabilities of the HMS system, as well as its process or workflow, it also determines the form of input and output desired. Some of the functional requirements of the HMS system are:

#### ☐ **Registration**

The admin is the only user who can register doctors, receptions, assistants The patient can register through the registration module.

#### ☐ **Authentication**

The user (patients) should be able to create an account in the HMS system through the registration module (form). The following details should be entered in the registration module:

- o Full Name
- o E-mail
- o Gender
- o Phone Number
- o Date of Birth
- o Password
- o Confirm Password

### ☐ **Login**

The system must enable registered users including all categories of users to log in through the login module, by entering the username and password

### ☐ **Allot patients for Doctors**

The system shall view doctors' status (Schedule) to allot patients successfully for the concerned doctors in terms of their problem.

### ☐ **Appointment List**

The admin shall be able to view the full appointment list.

### ☐ **Updating Schedules**

The system shall update the schedules of users automatically whenever a new appointment is booked, or a patient is redirected.

### ☐ **Creating Prescription**

The doctor shall use the system to create/enter a prescription for the patient, On the other hand, the patient also should have access to view the prescription through his/her account.

### ☐ **View Reports by patient**

The patients shall use the system to view their test results reports as well as doctors' advice and prescription.

### ☐ **View Reports by doctor**

The system shall allow doctors to view the patients' reports and enter required advice for the patient, as well as new prescriptions if needed.

## □ Performance

*Response Time:* The system must respond within 2 seconds after verifying the details and other data of the patient. In other words, the time to load a web page over a 56Kbps modem connection should not exceed 2 seconds.

*User Interface:* User interface display shall response within 5 seconds.

*Conformity:* The system should be in accordance with Window Accessibility.

*Virus Protection:* Devices in the hospital that use the system must have firewalls enabled and an Active Anti-Virus in usage.

System requirements define the specifications required to use the system. The following are some of the System requirements that need to be considered for the HMS system:

- The system needs to run seamlessly with at least 300 MB of Internal Memory and 700MB of Random Access Memory (RAM).
- The system needs a minimum Internet speed of 500 kbps to successfully refresh and load pages/modules.
- The system (Web App) needs internet connectivity to work to access

A backup of the database should be performed every week, so that the system can be recovered in case of any database damage, which may be occurred due to a catastrophic failure, such as a disk crash.

## Requirement Validation:

Requirements validation is mainly used to ensure that the defined requirements match the desires of the users. It is involved with finding the issues or problems related to the requirements. Validation of Requirements is a very essential step as issues related to requirements may lead to extreme modification when perceived later in the development process. There are various techniques of requirements validation including test case generation, requirements Reviews, prototyping, walk-through and automated consistency analysis.

The best two techniques that may suit the HMS system are:

- *Test Case Generation*

This technique involves performing a number of test cases, in order to reveal the issues related to the requirements. If the test case is difficult or impossible to be designed, it is widely believed that the implementation of the system will be also difficult, so that the requirements must be reconsidered.

- *Requirements Reviews*

This technique involves reading and reviewing the Software Requirements Specification (SRS) document by a group of people including those who interact with the customer and system developers, in order to analyze the SRS document in detail to check inconsistency, errors and ambiguity.

However, both of the techniques work well invalidating the requirements of the HMS system, even though Requirements Reviews would be more effective for the

HMS system. Using Requirements Reviews will enable to initiate negotiations with the customer, in order to find a solution if a problem or error was found.

### **Domain requirements**

Domain requirements specify the environment where the system shall operate successfully. These requirements are essential, as they often represent the basics of the system domain. Such requirements are explicitly written for developers, so that it may contain technical terms or calculations

### **Data gathering**

is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research question, test hypotheses, and evaluate outcomes. The data collection component of research is common to all fields of study including physical and social science, humanities, business, etc. data gathering techniques used in the (Software Developed Lifecycle) SDLC.

### **Feasibility Study**

The measure of how beneficial or practical the development of information system will be to an organization. Along this topic feasibility is measured. So far taking the feasibility study and feasibility analysis during the development of the project E-commerce website we have studied on the following four major categories of feasibility study.

- *Operational feasibility*: operational feasibility is the measure of how well a proposed system solve the problems. And takes advantage of the opportunity identified during scope definition and how it satisfies the requirements identified in the requirements analysis phase of system development.
- *Technical feasibility*: A technical feasibility study assesses the details of how you intend to deliver a product or services to customer. transportation, where your business will be located and the technology that will be necessary to bring all this together.
- *Economic feasibility*: the degree to which the economic advantage of something to be made, done, or feasibility of a single-payer health system. During the development of Hospital management system website. We have tried to address all these feasibility analysis phases seriously. That is why we think, our project will succeed properly.

## Software Process Model

A waterfall under the software development life cycle (SDLC) is the methodology used to produce Ecommerce website and the customer self-system. It is used by system developers to produce or alter information systems or software. It divides the development process into several stages or process. After the completion of one stage. It will logically move to another stage. Sometimes moving back to the previous stage is necessary due to failure that occurs in current stage.

1. *Requirements Gathering and Analysis*: Identifying what the software should do.
2. *System Design*: Planning the solution for the identified requirements.
3. *Implementation (Coding)*: Writing the code for the software.
4. *Testing*: Ensuring the software works as intended.
5. *Deployment*: Releasing the software for use.
6. *Maintenance*: Updating and fixing the software as needed.

## Software Requirement

- *Operating System*: Windows 10 Pro.
- *Web Browser*: Google Chrome, Microsoft edge.
- *Xampp*.



## Justification of Selection of Technology

XAMPP: is a free and open-source cross- platform web server solution stack package developed by Apache friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. In this proposed system we are maintaining all the basic features required in this project.

### Language

- HTML: Hypertext Markup Language is the standard markup language for documents designed to be displayed in a web browser. It can be assisted technologies such as Cascading style sheets and Scripting languages such as JavaScript.
- CSS: Cascading style sheets (CSS) is style sheet language used for describing the presentation of a document written in a markup language like HTML. CSS is a cornerstone technology of the world wide web, alongside HTML and JavaScript.
- Bootstrap: Bootstrap is a free and open-source CSS framework directed at responsive, mobile- first front-end web development. It contains CSS and JavaScript based design templates for typography, forms, buttons, modals navigation, and other interface components.

- JavaScript: JavaScript is a programming language that conforms to the ECMAScript specification. JavaScript is high-level, often just- in- time compiled, and multi- paradigm. It has curly- bracket syntax, dynamic typing, prototype-based object- orientation, and first- class functions.

- PHP: is a server-side scripting language. That is used to develop static websites or dynamic websites or Web application. PHP scripts can only be interpreted on a server that has PHP installed.

## **Database – MySQL**

MySQL is an open-source relational database management system (RDBMS). Its name is a combination of "My", the name of co-founder Michael Widenius's daughter, and "SQL", the abbreviation for Structured Query Language. A relational database organizes data into one or more data tables in which data types may be related to each other; these relations help structure the data. SQL is a language programmer use to create, modify, and extract data from the relational database, as well as control user access to the database. In addition to relational databases and SQL, an RDBMS like MySQL works with an operating system to implement a relational database in a computer's storage system, manages users, allows for network access and facilitates testing database integrity and creation of backups.

## Data Flow Diagram (DFD)

*DFD*: is an important tool used by system analysis. A data flow diagram model, a system using external entities from which data flows to a process which transforms the data and create output data transforms which go to other processes or external entities such as files. The main merit of DFD is that it can provide an overview of what data a system would process.

### *0-level DFD:*

It is also known as a context diagram. It's designed to be an abstraction view, showing the system as a single process with its relationship to external entities. It represents the entire system as a single bubble with input and output data indicated by incoming/outgoing arrows.

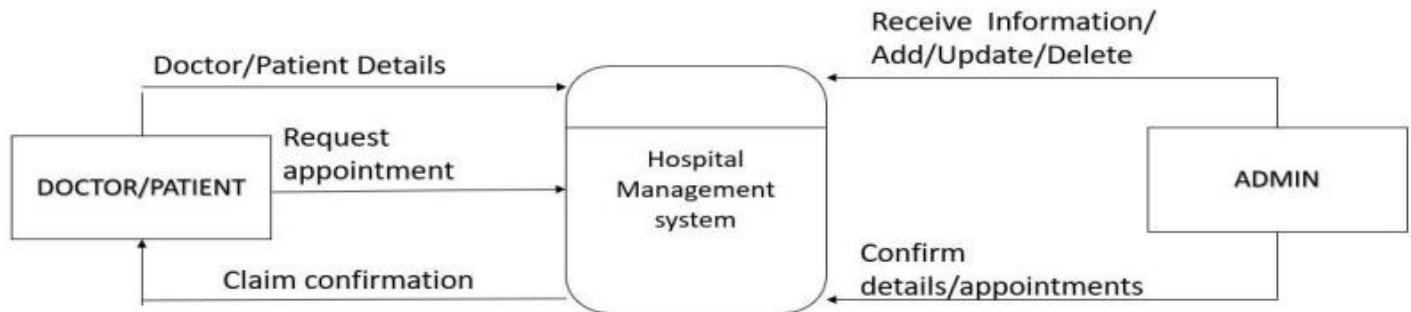
### *1-level DFD:*

In 1-level DFD, the context diagram is decomposed into multiple bubbles/processes. In this level, we highlight the main functions of the system and breakdown the high-level process of 0-level DFD into sub processes.

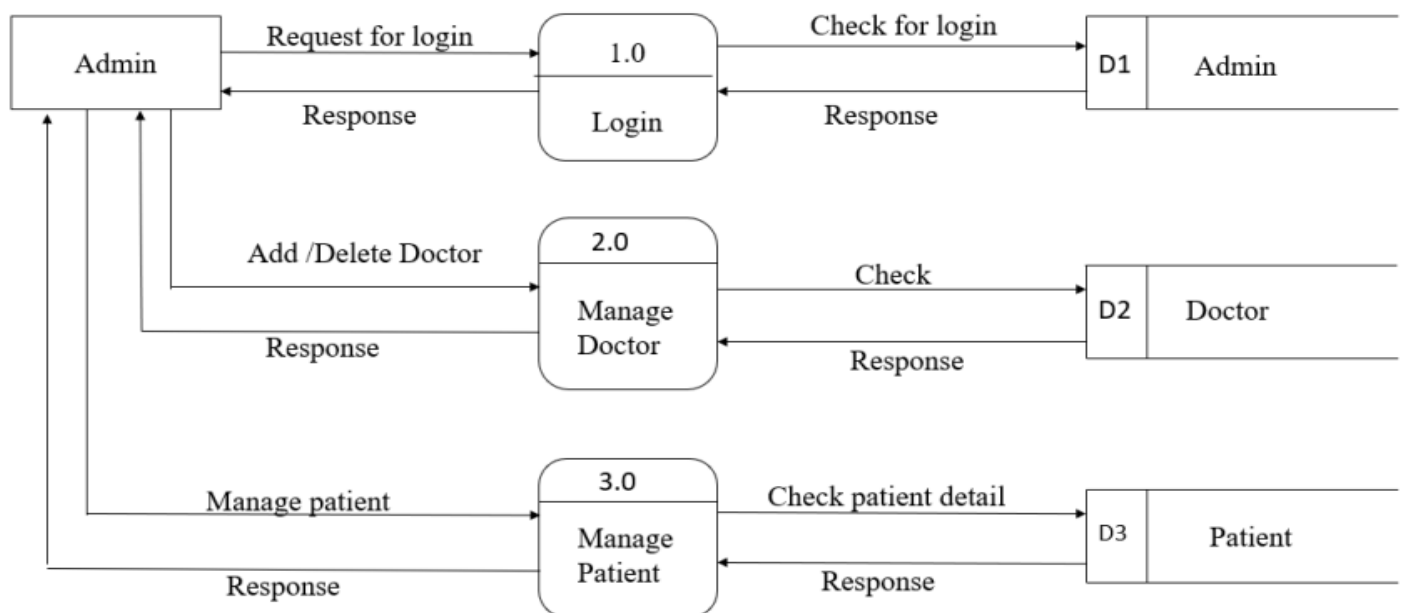
### *2-level DFD:*

goes one step deeper into parts of 1-level DFD. It can be used to plan or record the specific/necessary detail about the system's functioning.

## CONTEXT LEVEL DIAGRAM

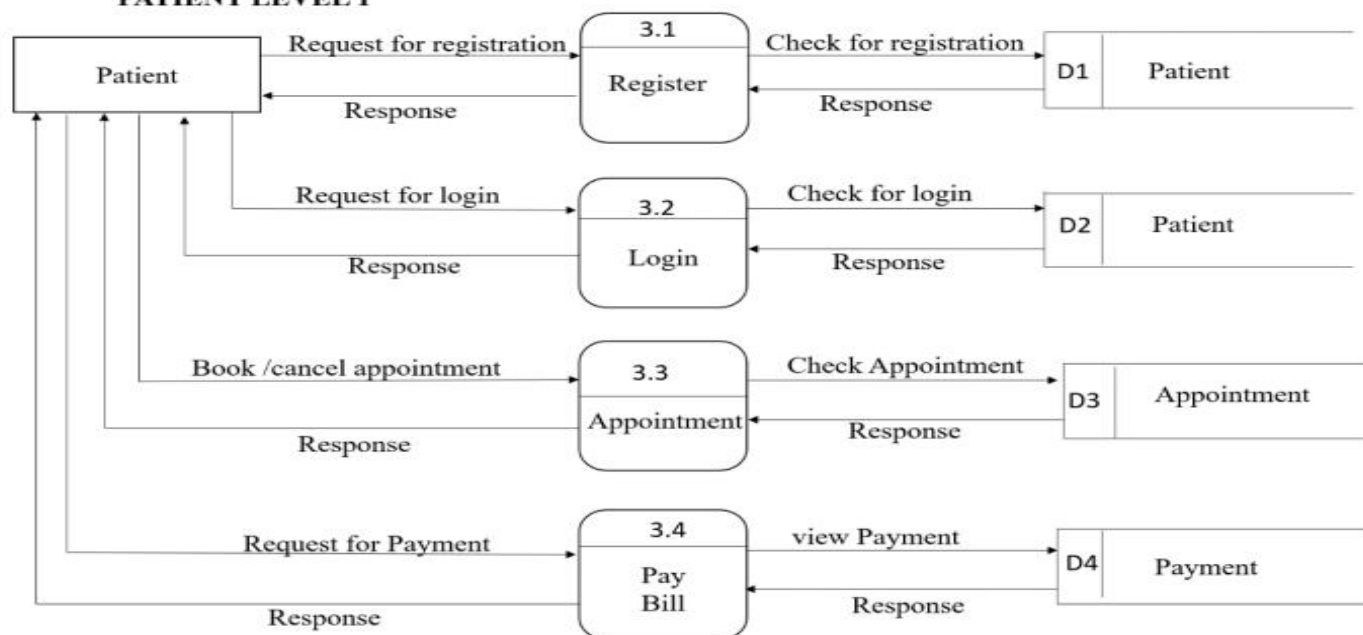


### Admin Side DFD – Level 1

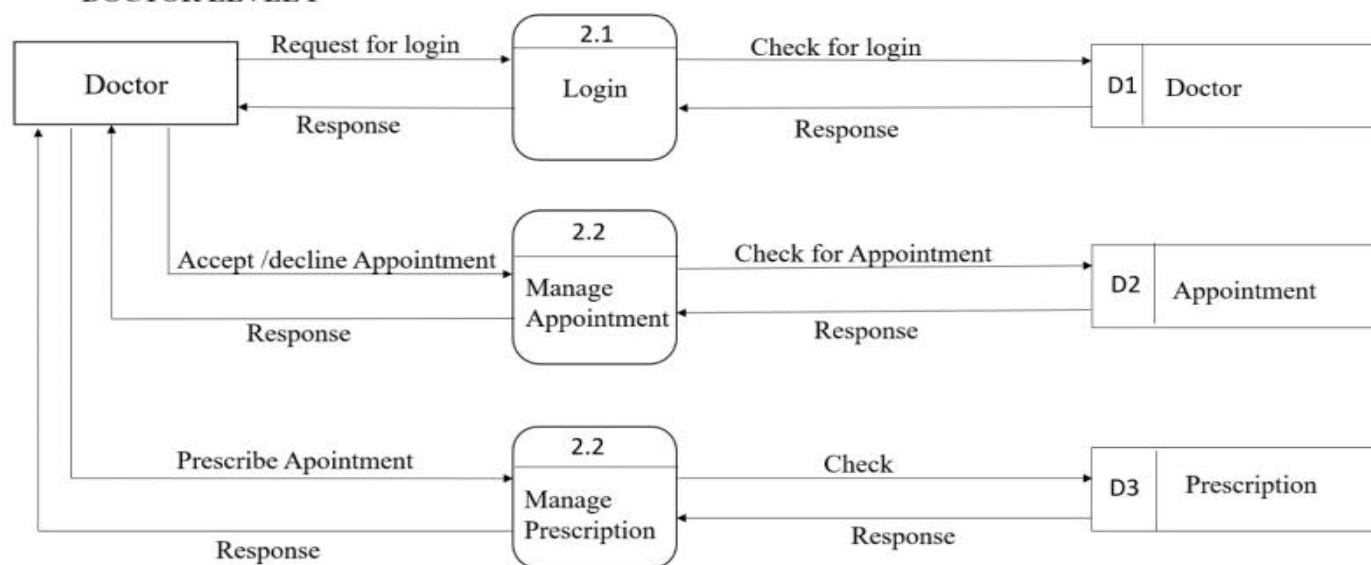


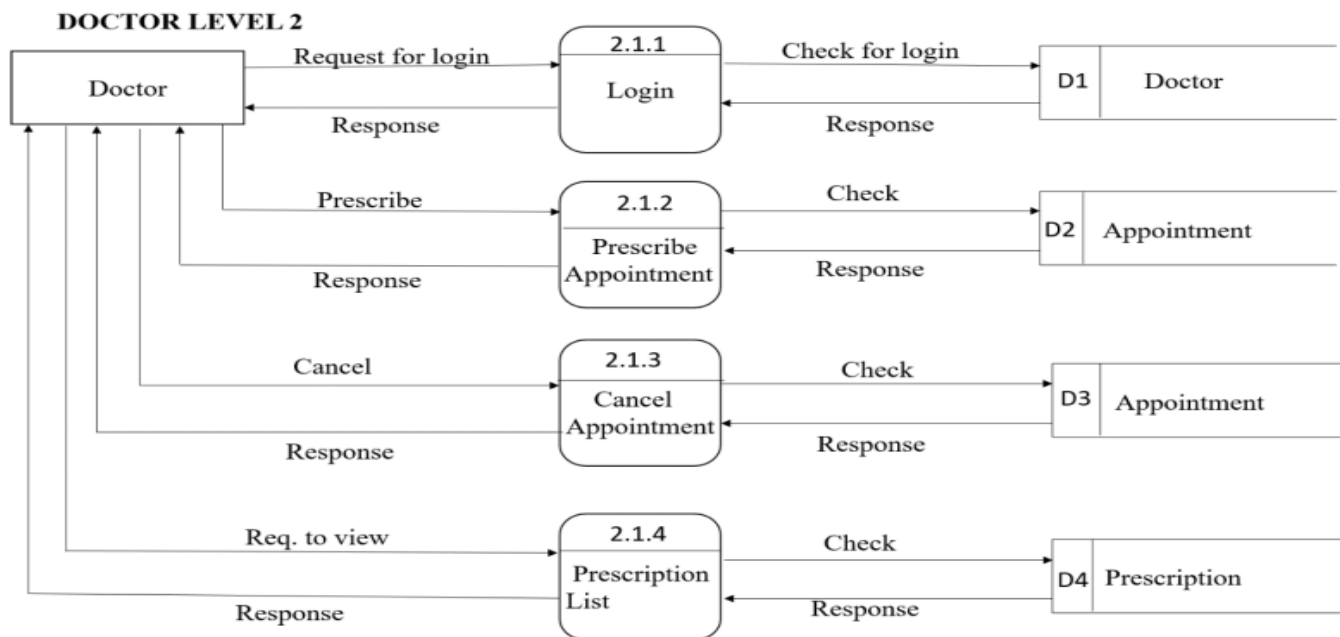
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### PATIENT LEVEL 1

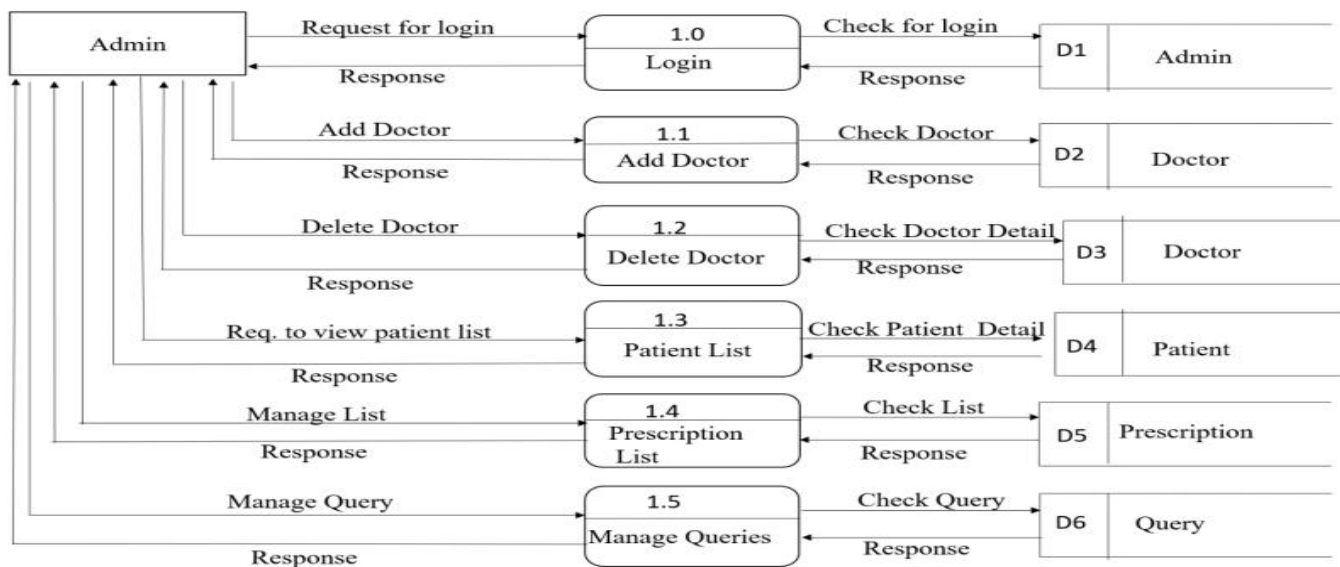


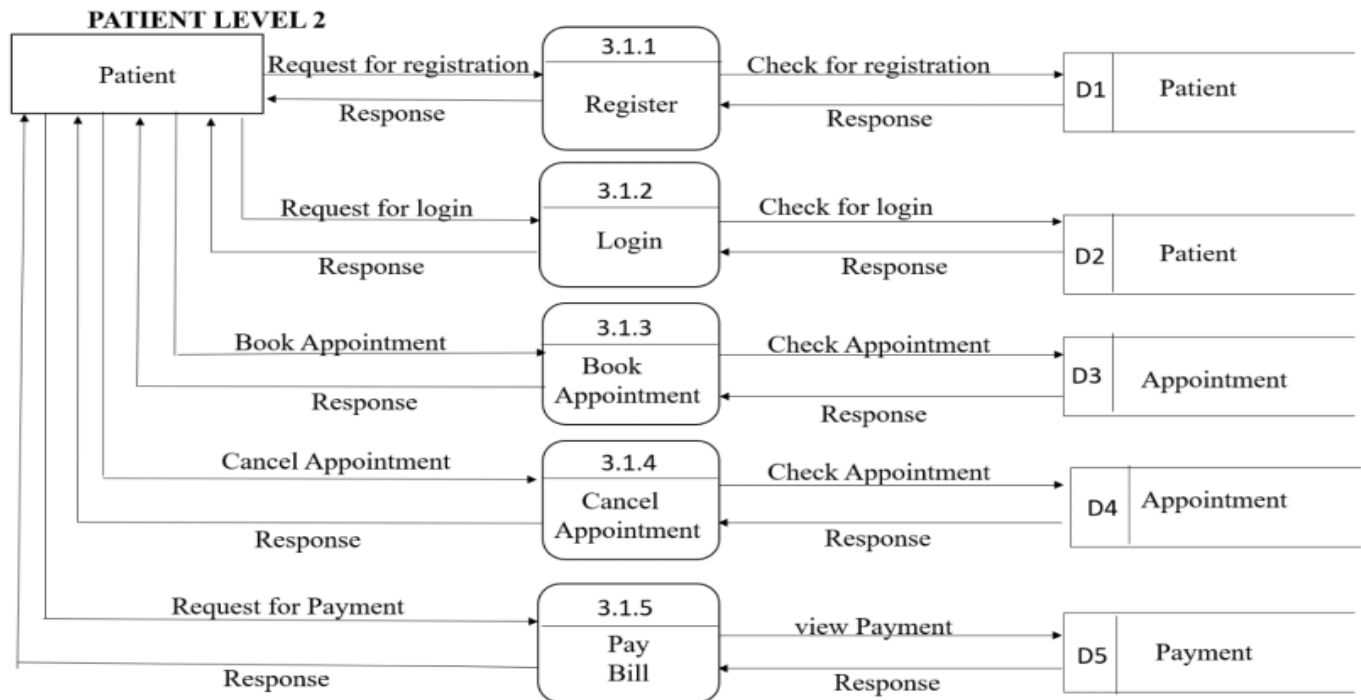
### DOCTOR LEVEL 1





## Level 2-ADMIN





## Entity Relationship Diagram

An Entity Relationship Diagram (ERD) is a type of diagram that lets you see how different entities (e.g., people, customers, or other objects) relate to each other in an application or a database. They are created when a new system is being designed so that the development team can understand how to structure the database. They can also be created on an existing system to help the team understand how the system works and to find and resolve any issues. Entity Relationship Diagrams use a specific set of symbols, such as shapes and arrows, to depict the system and database. An Entity Relationship Diagram is made up of many different components:

- Entity
- Relationship
- Attribute

**Entity:**

An entity is a thing that can have data stored about it. It can be a physical object (e.g., car, person), a concept (e.g., address) or an event (e.g. student enrolment in a course). They represent nouns. They are usually represented as rectangles on an ERD with the entity name inside the rectangle.

**Relationship:**

A relationship in an ERD defines how two entities are related to each other. They can be derived from verbs when speaking about a database or a set of entities. Relationships in ERDs are represented as lines between two entities, and often have a label on the line to further describe the relationship (such as “registers”, “completes”).

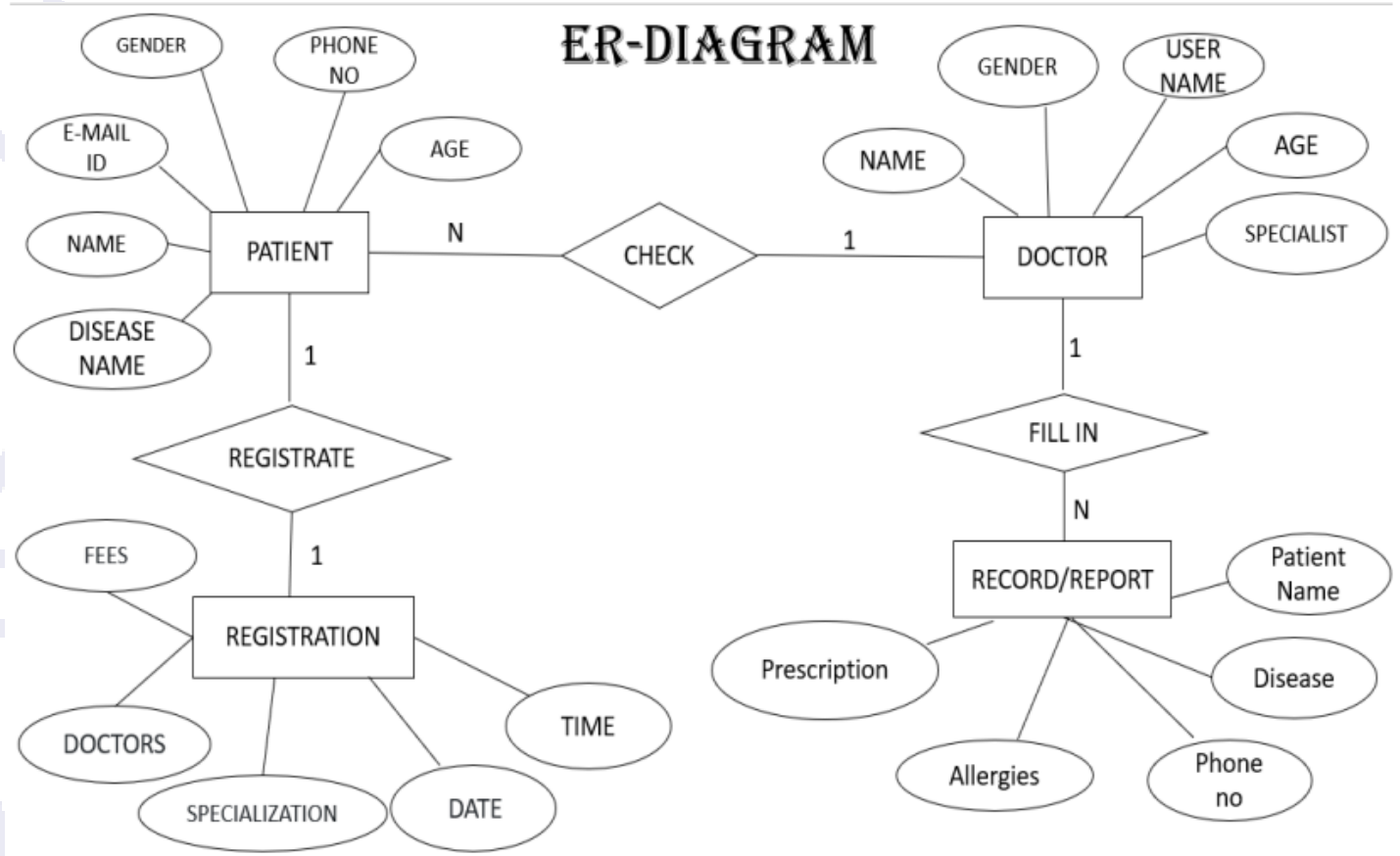
**Attribute:**

An attribute is a property of an entity or something that can be used to describe an entity. They are often represented as ovals, or as entries inside an entity. There are several different types of attributes represented on an ERD:

- *Simple*: an attribute that cannot be split into other attributes, such as a first name.
- *Composite*: an attribute that can be split into other attributes, such as name being split into first, middle, and last name.
- *Derived*: an attribute that is calculated or determined from another attribute, such as the age of record being calculated from the created date

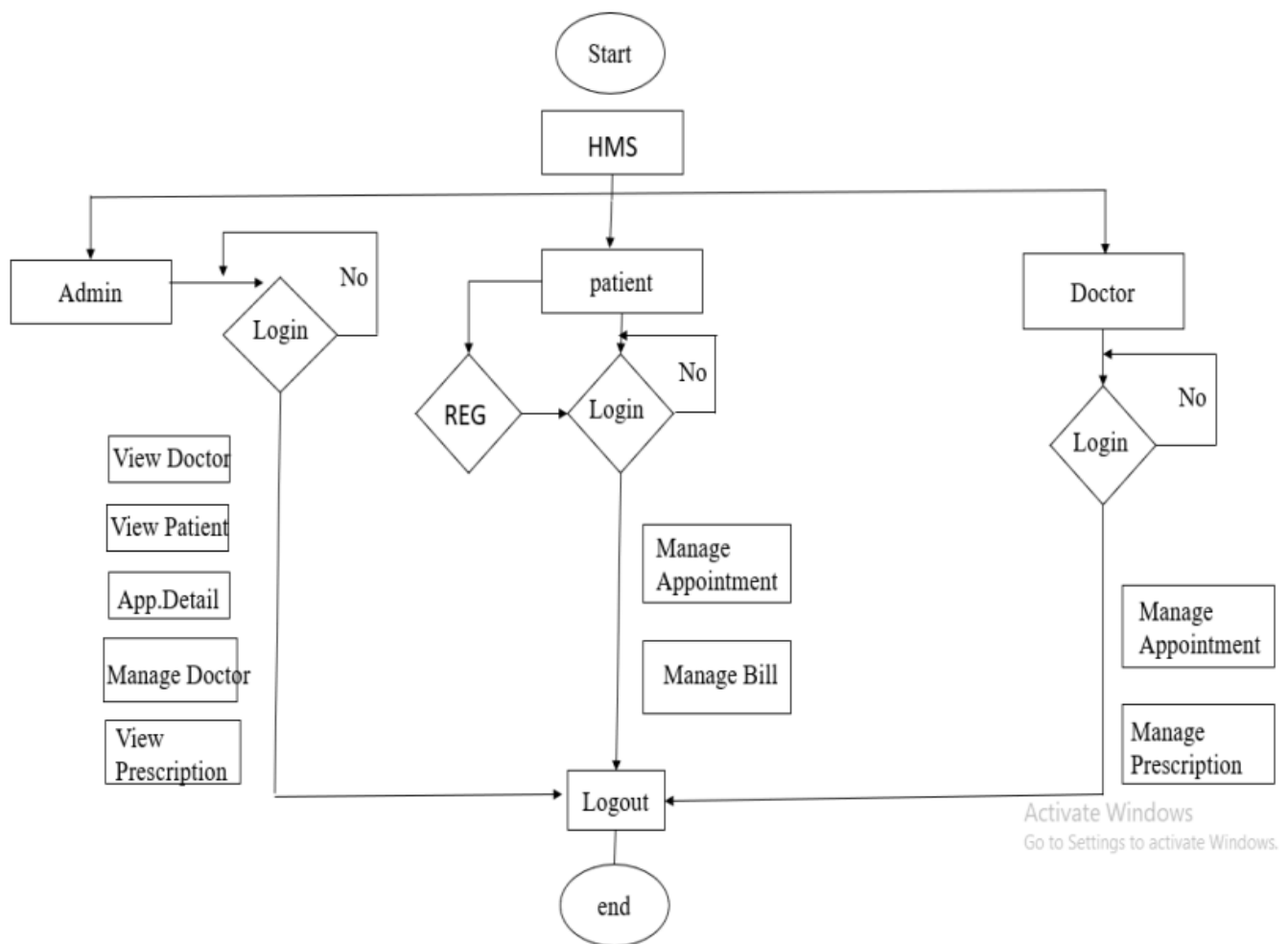







## ERD



## Flowchart:

Flowchart is a type of diagram that represents a workflow or process. A flowchart can also be defined as a diagrammatic representation of an algorithm, a step-by-step approach to solving a task. The flowchart shows the steps as boxes of various kinds, and their order by connecting the boxes with arrows.

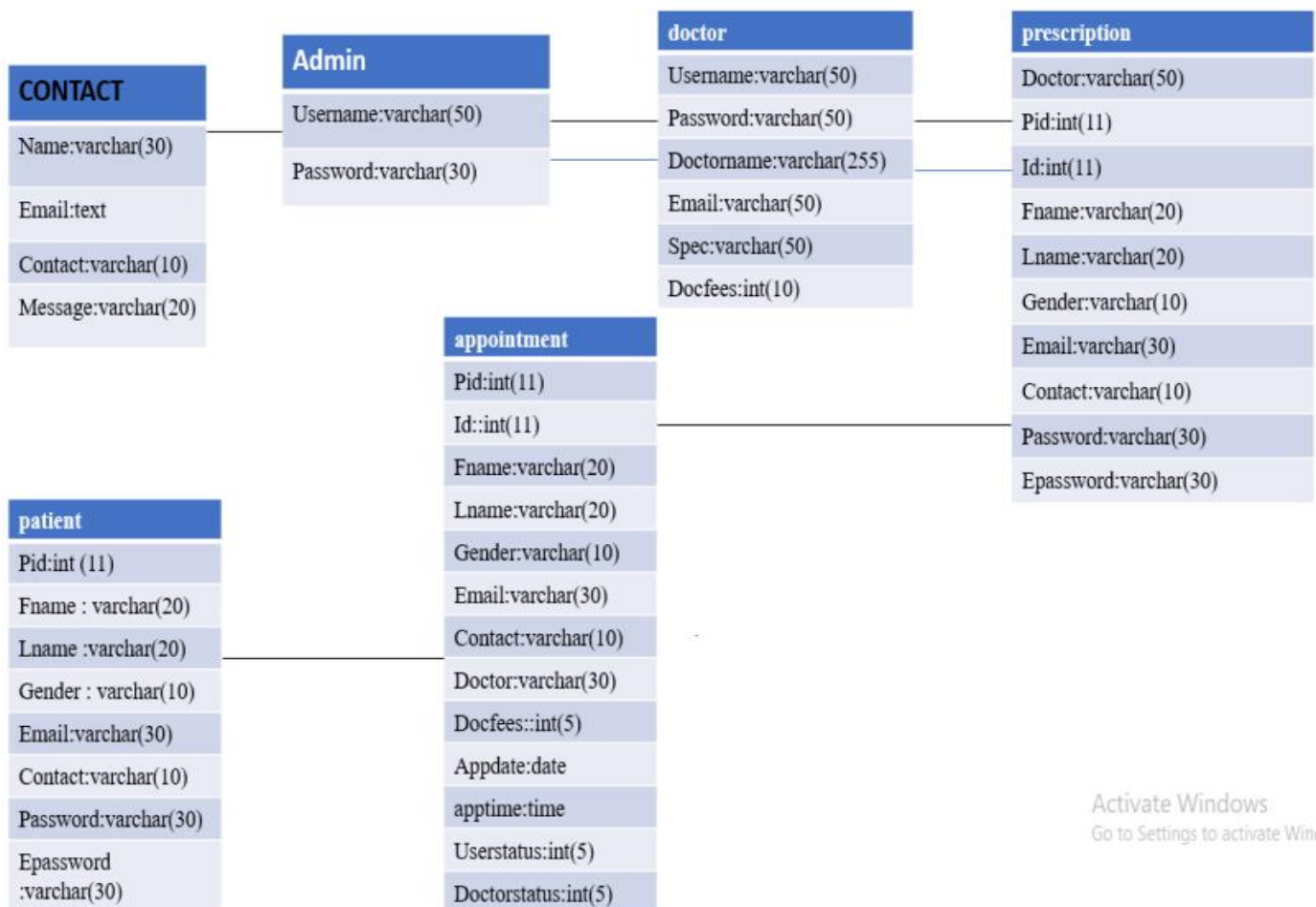


| Flow Chart Symbol   | Meaning       | Explanation   |
|---|---------------|---|
|    | Start and end | The symbol denoting the beginning and end of the flow chart.  |
|    | Step          | This symbol shows that the user performs a task.<br>(Note: In many flow charts steps and actions are interchangeable.)    |
|   | Decision      | This symbol represents a point where a decision is made.  |
|  | Action        | This symbol means that the user performs an action.<br>(Note: In many flow charts steps and actions are interchangeable.) |
|  | Flow line     | A line that connects the various symbols in an ordered way.   |

## Database Normalization

Normalization is a database design technique that reduces data redundancy and eliminates undesirable characteristics like Insertion, Update and Deletion Anomalies. Normalization rules divide larger tables into smaller tables and links them using relationships. The purpose of Normalization in SQL is to eliminate redundant (repetitive) data and ensure data is stored logically.

## Schema



Activate Windows  
Go to Settings to activate Windows



# Chapter 3

## Literature Review

In this paper, Hospital Management System was created by “MK Gourisaria” for the year 2022.

Advances in technology and development have become essential to improving health care outcomes and are the focus of doctors and researchers. With each passing day, there is a new type of chronic disease, increasing health care costs, and increasing demands and expectations from patients. Intelligent hospital management system brings revolution to patients as well as to doctors and staff. With the incorporation of various modern and effective technologies of automation systems and innovations in information technology, smart hospitals cover several aspects of the hospital which include a variety of operations, building design, patient experience.

A Framework for Implementing Lean Management in the Hospital Emergency Department to develop a Hospital Management System by “M Kabirinaeini, H Jamali, Z Elahi” in 2023 the framework developed in this study presents the lean system implementation cycle in the hospital emergency department, through which and by focusing on the enablers of the lean approach, hospital managers will be able to systematically move through a repetitive cycle to identify and eliminate their waste sources. In this direction, it is necessary to attract the participation of all nurses and doctors in the implementation of the project. In each step, the activities and techniques suggested in the model should be implemented depending on the conditions of the organization. For this purpose, it is recommended to use the services of an external consultant with

professional knowledge regarding lean management system implementation. The implementation of quality management techniques, including lean management, in a healthcare system can lead to greater satisfaction of clients, improve the performance and efficiency of employees, and reduce the waste of resources and costs. Applying the lean system in the health sector can lead to reducing costs, increasing the flexibility of centers against changes, and, continuous development through review and improvement processes, elimination of defects, correction of errors, and ceasing processes that do not create added value. This approach helps hospitals define and understand customer values and design new processes accordingly. The implementation of the lean management framework established in this study in the hospital can increase the efficiency of operations and reduce losses in various sectors, including human power, consumables, equipment, and funds. In fact, all resources should be used in the path of value production. In addition to increasing performance efficiency, the implementation of lean management will bring satisfaction to clients and employees. Designing standard procedures based on the lean approach's prescriptions for each process in the health system can reduce waiting time, implementation errors, and rework. In this article, a framework was offered for implementing the lean management system in the hospital emergency department.


AI-enabled Hospital Management Systems for Modern Healthcare: An Analysis of System Components and Interdependencies by “AS Pillai” in 2023

The integration of AI into hospital management systems holds significant promise for enhancing healthcare delivery and patient outcomes. Healthcare providers can better implement and use AI technologies by understanding the structure and interdependencies of system components.

Knowledge Management Orientation: an innovative perspective to Hospital Management by “M Ghasemi, MG Nejad, K Bagzibagli” in 2017 the developed items seem to have a potential to help hospital managers and subsequently delivering new products/services successfully based on the standard procedures in their organization. In all innovation processes, the knowledge management areas and their standard steps help hospital managers by a new tool as questionnaire format.

Acceptance model of a hospital information system by “PW Handayani, AN Hidayanto, AA Pinem” in 2017 hospital management and IT developers should have more understanding on the non-technological factors to better plan for HIS implementation. Support from management is critical to the sustainability of HIS implementation to ensure HIS is easy to use and provides benefits to the users as well as hospitals. Finally, this study could assist hospital management and IT developers, as well as researchers, to understand the obstacles faced by hospitals in implementing HIS.





# Chapter 4

## SYSTEM DESIGN

A data dictionary, or metadata repository, as defined in the IBM Dictionary of computing, is a “centralized repository of information about data such as meaning relationship to other data, origin, usage, and format “. Oracle defines it as a collection of tables with me.

القوائم

أحداث

روتينات

الإمميزات

عمليات

استيراد

تصدير

استعلام بواسطة مثال

إبحث

SQL

بناء

Filters

:Containing the word

| الحمل الزائد | الحجم         | التجميع           | النوع  | صفوف | العملية                             | الجدول          |
|--------------|---------------|-------------------|--------|------|-------------------------------------|-----------------|
| -            | 16.0 كيلوبايت | latin1_swedish_ci | InnoDB | 2    | إسقاط إفراغ إدخال إبحث بناء استعراض | admintb         |
| -            | 16.0 كيلوبايت | latin1_swedish_ci | InnoDB | 3    | إسقاط إفراغ إدخال إبحث بناء استعراض | appointmenttb   |
| -            | 16.0 كيلوبايت | latin1_swedish_ci | InnoDB | 9    | إسقاط إفراغ إدخال إبحث بناء استعراض | contact         |
| -            | 16.0 كيلوبايت | latin1_swedish_ci | InnoDB | 8    | إسقاط إفراغ إدخال إبحث بناء استعراض | doctb           |
| -            | 16.0 كيلوبايت | latin1_swedish_ci | InnoDB | 12   | إسقاط إفراغ إدخال إبحث بناء استعراض | patreg          |
| -            | 16.0 كيلوبايت | latin1_swedish_ci | InnoDB | 5    | إسقاط إفراغ إدخال إبحث بناء استعراض | prestb          |
| -            | 16.0 كيلوبايت | utf8_bin          | InnoDB | 1    | إسقاط إفراغ إدخال إبحث بناء استعراض | questionanswers |

Extra options

| feedback    | adminStatus | doctorStatus | userStatus | apptime  | appdate    | docFees | doctor | contact    | email                  | gender | lname  | fname   | ID | pid |
|-------------|-------------|--------------|------------|----------|------------|---------|--------|------------|------------------------|--------|--------|---------|----|-----|
| NULL        | 1           | 1            | 1          | 08:00:00 | 2024-05-25 | 700     | Dinesh | 8976897689 | alia@gmail.com         | Female | Bhatt  | Alia    | 16 | 2   |
| NULL        | 1           | 1            | 1          | 08:00:00 | 2024-05-26 | 700     | Dinesh | 8838489464 | kishansmart0@gmail.com | Male   | Lal    | Kishan  | 17 | 4   |
| good doctor | 1           | 1            | 1          | 08:00:00 | 2024-06-01 | 1500    | Abbis  | 0231232183 | Mohamed@gmail.com      | Male   | Yasser | Mohamed | 18 | 13  |

تصدير

حذف

نسخ

تعديل

مع المحدد:

تحقق من الكل

| prescription                                 | allergy      | disease      | apptime  | appdate    | lname  | fname   | ID | pid | doctor |
|--|--------------|--------------|----------|------------|--------|---------|----|-----|--------|
| Just take a teaspoon of Benadryl every night | Nothing      | Cough        | 15:00:00 | 2020-03-27 | Lal    | Kishan  | 11 | 4   | Dinesh |
| Take bed rest                                | Nothing      | Severe Fever | 10:00:00 | 2020-03-21 | Bhatt  | Alia    | 8  | 2   | Ganesh |
| Paracetamol -> 1 every morning and night     | nothing      | Sever fever  | 12:00:00 | 2020-03-26 | Blake  | William | 12 | 9   | Kumar  |
| Intake fruits with more water content        | Skin dryness | Cough        | 14:00:00 | 2020-03-26 | Blake  | William | 13 | 9   | Tiwary |
| fwefewfwer                                   | qwewqwewq    | jkdfgd       | 08:00:00 | 2024-06-01 | Yasser | Mohamed | 18 | 13  | Abbis  |

| message                       | contact    | email            | name     |
|-------------------------------|------------|------------------|----------|
| Hey Admin                     | 7896677554 | anu@gmail.com    | Anu      |
| Good Job, Pal                 | 9899778865 | viki@gmail.com   | Viki     |
| ?How can I reach you          | 9997888879 | ananya@gmail.com | Ananya   |
| Love your site                | 8788979967 | aakash@gmail.com | Aakash   |
| ?Want some coffee             | 8977768978 | mani@gmail.com   | Mani     |
| Good service                  | 9898989898 | karthi@gmail.com | Karthick |
| Love your service             | 8979776868 | abbis@gmail.com  | Abbis    |
| !Love your service. Thank you | 9087897564 | asiq@gmail.com   | Asiq     |
| !! love your service          | 7869869757 | jane@gmail.com   | Jane     |

| cpassword   | password    | contact    | email             | gender | lname          | fname   | pid |               |
|-------------|-------------|------------|-------------------|--------|----------------|---------|-----|---------------|
| ram123      | ram123      | 9876543210 | hassan@gmail.com  | Male   | mahmoud        | hassan  | 1   | حذف نسخ تعديل |
| alia123     | alia123     | 8976897689 | meena@gmail.com   | Female | osman          | meena   | 2   | حذف نسخ تعديل |
| shahrukh123 | shahrukh123 | 8976898463 | ali@gmail.com     | Male   | Mostafa        | Ali     | 3   | حذف نسخ تعديل |
| kishan123   | kishan123   | 8838489464 | alwwan@gmail.com  | Male   | saad           | alwwan  | 4   | حذف نسخ تعديل |
| gautam123   | gautam123   | 9070897653 | amr@gmail.com     | Male   | ashraf         | amr     | 5   | حذف نسخ تعديل |
| sushant123  | sushant123  | 9059986865 | Gamal@gmail.com   | Male   | mohamed        | Gamal   | 6   | حذف نسخ تعديل |
| nancy123    | nancy123    | 9128972454 | nancy@gmail.com   | Female | saad           | Nancy   | 7   | حذف نسخ تعديل |
| kenny123    | kenny123    | 9809879868 | kirulos@gmail.com | Male   | Mansi          | kirulos | 8   | حذف نسخ تعديل |
| william123  | william123  | 8683619153 | Ali1@gmail.com    | Male   | Raafat         | Ali     | 9   | حذف نسخ تعديل |
| peter123    | peter123    | 9609362815 | Amr@gmail.com     | Male   | Gamal          | Amr     | 10  | حذف نسخ تعديل |
| shraddha123 | shraddha123 | 9768946252 | aya@gmail.com     | Female | mostafa        | aya     | 11  | حذف نسخ تعديل |
| mohamed123  | mohamed123  | 0231232183 | Mohamed@gmail.com | Male   | Yasser Mohamed |         | 13  | حذف نسخ تعديل |

| answer | question | d_username | username   | p_id | id |               |
|--------|----------|------------|------------|------|----|---------------|
| ewrwer | hheelo   | Dinesh     | Kishan Lal | 4    | 1  | حذف نسخ تعديل |

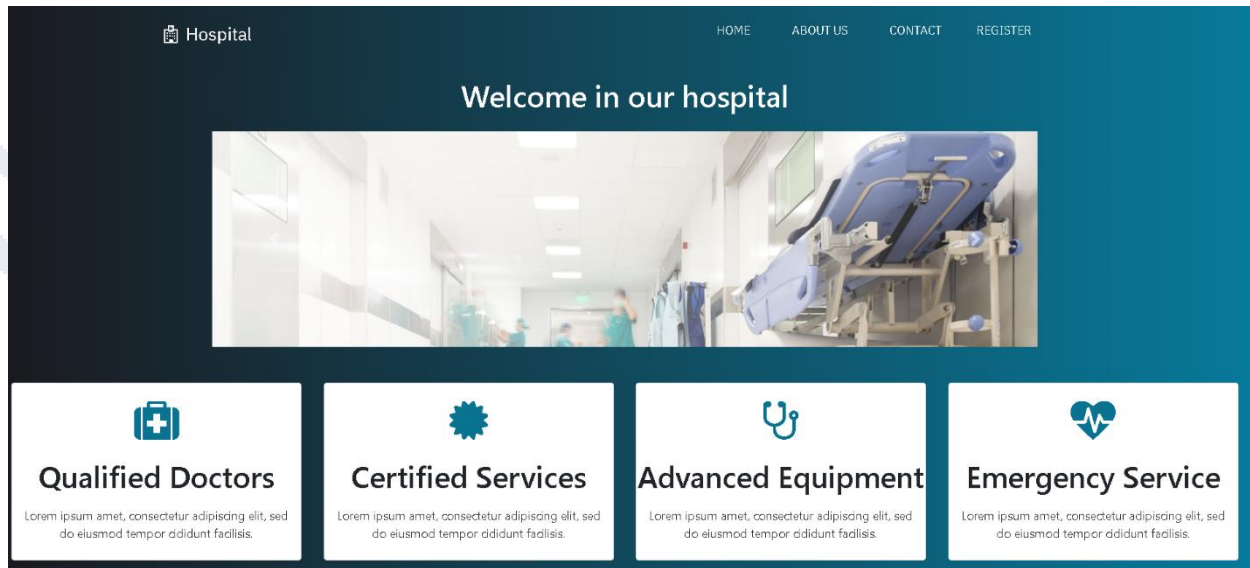
تصدير 
 حذف 
 نسخ 
 تعديل 
 مع المحدد: 
 تحقق من الكل 



# Chapter 5

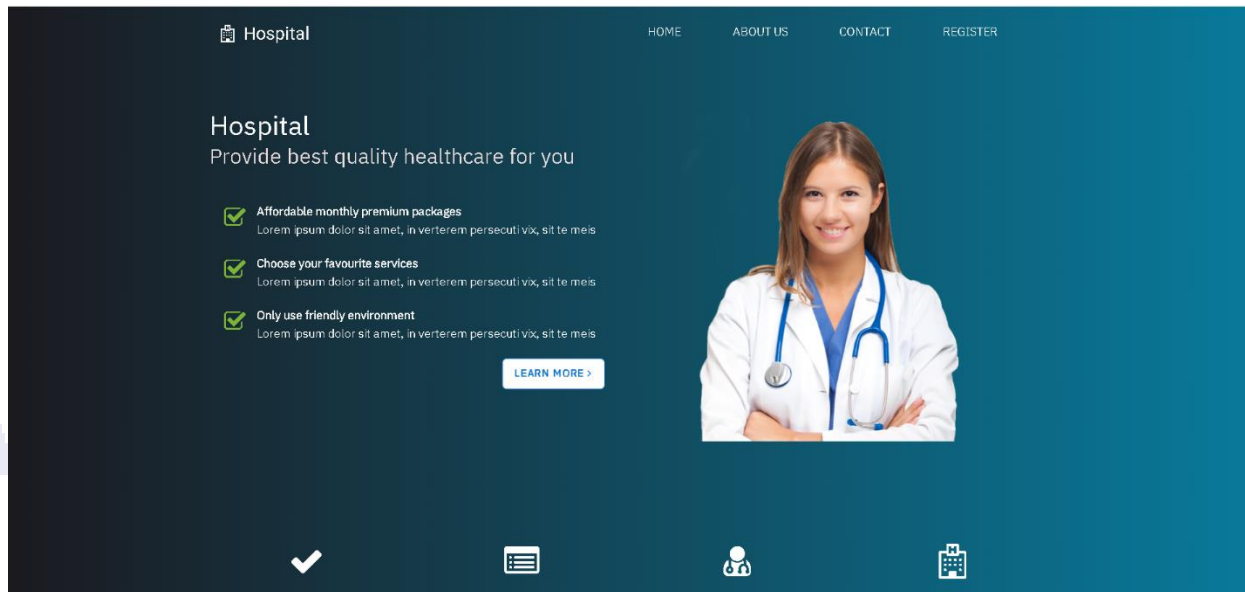
## Web Site UI

## Home



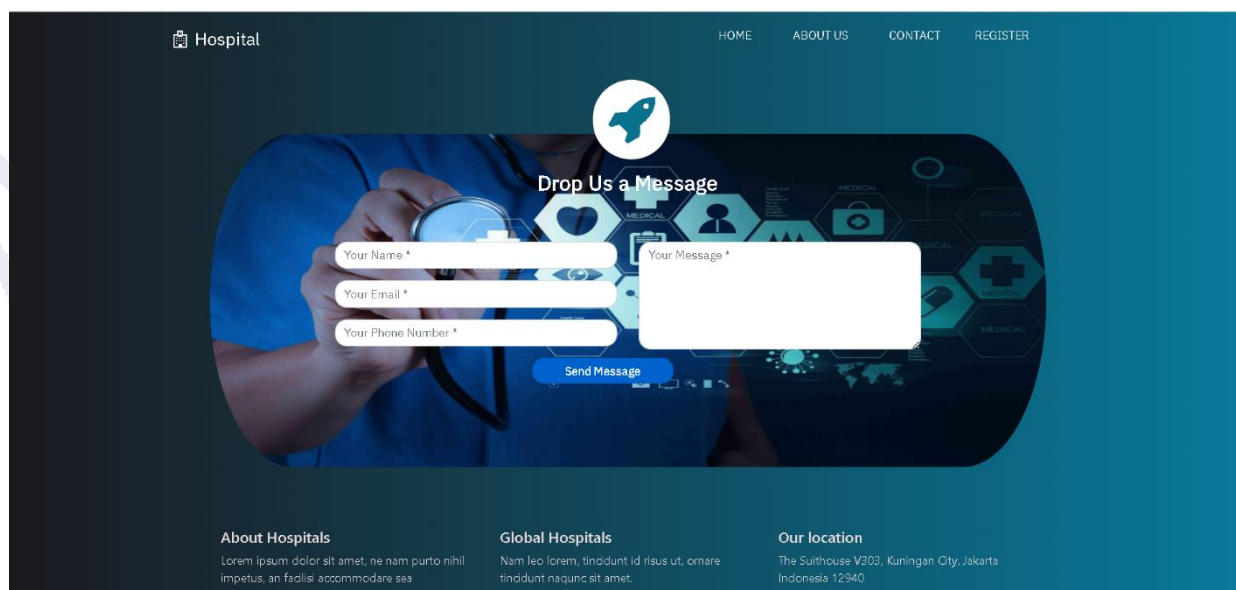
To display features and some information about the hospital.

## About us



A page to display hospital information, numbers, and emails.

## Contact



**Hospital**    HOME    ABOUT US    CONTACT    REGISTER

**Drop Us a Message**

Your Name \*

Your Email \*

Your Phone Number \*

Your Message \*

**Send Message**

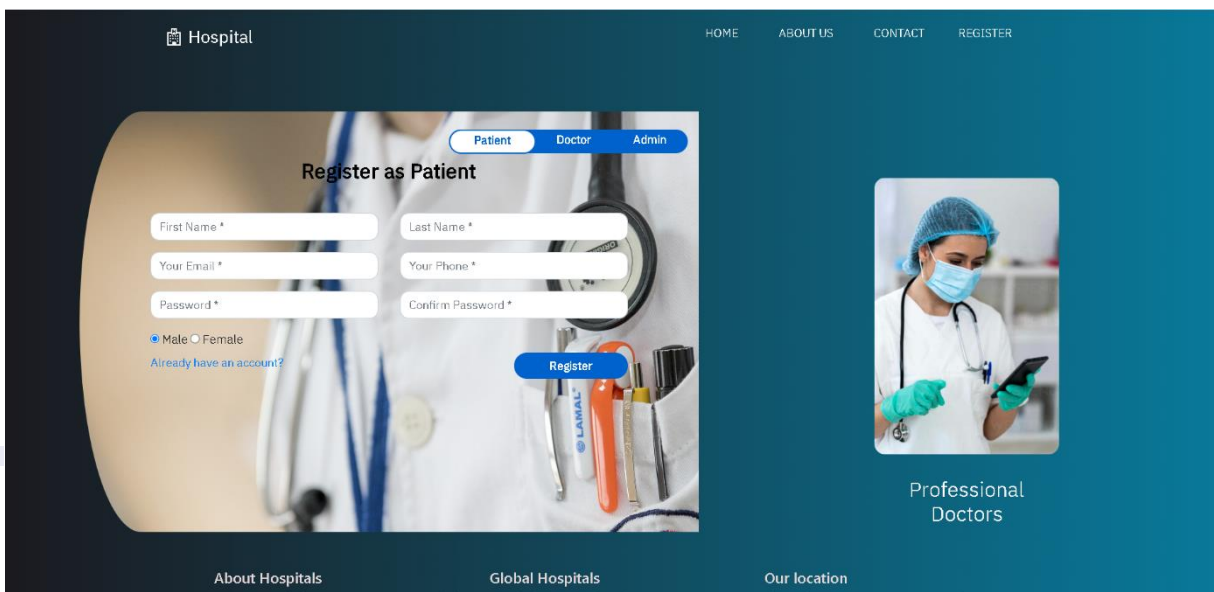
**About Hospitals**  
Lorem ipsum dolor sit amet, ne nam purto nihil impetus, an facilisi accommodare sea

**Global Hospitals**  
Nam leo lorem, tindidunt id risus ut, ornare tindidunt naseque sit amet.

**Our location**  
The Sulthouse V203, Kuningan City, Jakarta Indonesia 12940

To send a message to the admin for inquiries.

## Patient Registration



**Hospital**    HOME    ABOUT US    CONTACT    REGISTER

**Register as Patient**

**Patient    Doctor    Admin**

First Name \*

Last Name \*

Your Email \*

Your Phone \*

Password \*

Confirm Password \*

☒ Male ☐ Female

[Already have an account?](#)

**Register**


**Professional Doctors**

**About Hospitals**  
Lorem ipsum dolor sit amet, ne nam purto nihil impetus, an facilisi accommodare sea


**Global Hospitals**  
Nam leo lorem, tindidunt id risus ut, ornare tindidunt naseque sit amet.

**Our location**  
The Sulthouse V203, Kuningan City, Jakarta Indonesia 12940


## Patient Login

 Hospital

HOMEABOUT USCONTACTREGISTER



We are here for you!




Patient Login

Email-ID:

Password:

Login

## Patient-Dashboard

 Hospital [Logout](#)

Welcome Mohamed Yasser


Dashboard

Book Appointment

Appointment History


Prescriptions

My Questions




Book My Appointment

[Book Appointment](#)



My Appointments

[View Appointment History](#)



Prescriptions

[View Prescription List](#)

## Patient Appointment

[Hospital](#) [Logout](#)

Welcome Mohamed Yasser

[Dashboard](#)  
[Book Appointment](#)  
[Appointment History](#)  
[Prescriptions](#)  
[My Questions](#)

### Create an appointment

Specialization:

Doctors:

Consultancy Fees:

Appointment Date:

Appointment Time:

[Create new entry](#)

Send a notification to the admin to book appointments.

## Appointment History

[Hospital](#) [Logout](#)

Welcome Mohamed Yasser



[Dashboard](#)  
[Book Appointment](#)  
[Appointment History](#)  
[Prescriptions](#)  
[My Questions](#)

| Doctor Name | Consultancy Fees | Appointment Date | Appointment Time | Action                            |
|-------------|------------------|------------------|------------------|-----------------------------------|
| Abbis       | 1500             | 2024-06-01       | 08:00:00         | <a href="#">Accepted by Admin</a> |

View appointments and see which appointments have been approved.



## Patient Prescription

 Hospital  Logout

Welcome Mohamed Yasser

Dashboard

Book Appointment

Appointment History



Prescriptions

My Questions

| Doctor Name | Appointment ID | Appointment Date | Appointment Time | Diseases | Allergies | Prescriptions | Bill Payment        | Ask Question            | Send Feedback            |
|-------------|----------------|------------------|------------------|----------|-----------|---------------|---------------------|-------------------------|--------------------------|
| Abbis       | 18             | 2024-06-01       | 08:00:00         | jkdfgd   | qweqwewq  | fwefewfwer    | <div>Pay Bill</div> | <div>Ask Question</div> | <div>Send Feedback</div> |

View all patient prescriptions.

## Patient Messages

 Hospital  Logout

Welcome Mohamed Yasser

Dashboard

Book Appointment

Appointment History

Prescriptions

My Questions

| My questions | Answers |
|--------------|---------|
| hello doctor | hi dude |

Sending messages to the patient's doctor for inquiries.

## Doctor Login

Hospital
HOME
ABOUT US
CONTACT
REGISTER

Patient
Doctor
Admin

Login as Doctor

User Name \*
Password \*

Login

Professional Doctors

About Hospitals
Global Hospitals
Our location

## Doctor-Dashboard

Hospital
Logout
Enter contact number
Search

Welcome Abbis

Dashboard
Appointments
Prescription List
Questions
Feedback

View Appointments
Appointment List

Prescriptions
Prescription List

## Doctor Appointment

Hospital Logout

Enter contact number

Search

Welcome Abbis

Dashboard

Appointments

Prescription List

Questions

Feedback

| Patient ID | Appointment ID | First Name | Last Name | Gender | Email             | Contact    | Appointment Date | Appointment Time | Current Status    | Prescribe |
|------------|----------------|------------|-----------|--------|-------------------|------------|------------------|------------------|-------------------|-----------|
| 13         | 18             | Mohamed    | Yasser    | Male   | Mohamed@gmail.com | 0231232183 | 2024-06-01       | 08:00:00         | Accepted by Admin | Prescribe |

View all doctor's appointments and register the patient's prescription.

## Doctor-Prescription

Hospital Logout

Enter contact number

Search

Welcome Abbis

Dashboard

Appointments

Prescription List




Questions

Feedback

| Patient ID | First Name | Last Name | Appointment ID | Appointment Date | Appointment Time | Disease | Allergy   | Prescribe  |
|------------|------------|-----------|----------------|------------------|------------------|---------|-----------|------------|
| 13         | Mohamed    | Yasser    | 18             | 2024-06-01       | 08:00:00         | jkdfgd  | qwewqewwq | fwefewfwer |

View all prescriptions written by doctor.

## Prescribing Process

 Hospital  Logout  Back

Welcome Abbis

Disease:



Allergies:


Prescription:

Prescribe

Register the prescription details.

## Doctor Messages

 Hospital  Logout 

Enter contact number 

Welcome Abbis

Dashboard

Appointments

Prescription List

**Questions**

Feedback

| Patient Name   | Question     | My Answer | Action            |
|----------------|--------------|-----------|-------------------|
| Mohamed Yasser | hello doctor | hi dude   | <div>Answer</div> |

Responding to patients' messages.

## Feedback

Hospital
Logout
Enter contact number
Search

Welcome Abbis

Dashboard
Appointments
Prescription List
Questions
Feedback

| Patient Name | Feedback    |
|--------------|-------------|
| Mohamed      | good doctor |

view patient's feedback.

## Admin-Login


Hospital
HOME
ABOUT US
CONTACT
REGISTER

Patient
Doctor
Admin

Login as Admin

User Name \*
Password \*

Login


Professional Doctors


About Hospitals
Global Hospitals
Our location


## Admin-Dashboard


Hospital
Logout


WELCOME RECEPTIONIST


Dashboard
Doctor List
Patient List
Appointment Details
Prescription List
Add Doctor
Delete Doctor
Queries


**Doctor List**  
[View Doctors](#)


**Patient List**  
[View Patients](#)


**Appointment Details**  
[View Appointments](#)


**Prescription List**  
[View Prescriptions](#)


**Manage Doctors**  
[Add Doctors](#) | [Delete Doctors](#)

## View Doctor List

Hospital
Logout

WELCOME RECEPTIONIST

Dashboard
**Doctor List**
Patient List
Appointment Details
Prescription List
Add Doctor
Delete Doctor
Queries

| Doctor Name | Specialization | Email            | Password  | Fees |
|-------------|----------------|------------------|-----------|------|
| ashok       | General        | ashok@gmail.com  | ashok123  | 500  |
| arun        | Cardiologist   | arun@gmail.com   | arun123   | 600  |
| Dinesh      | General        | dinesh@gmail.com | dinesh123 | 700  |
| Ganesh      | Pediatrician   | ganesh@gmail.com | ganesh123 | 550  |
| Kumar       | Pediatrician   | kumar@gmail.com  | kumar123  | 800  |
| Amit        | Cardiologist   | amit@gmail.com   | amit123   | 1000 |
| Abbis       | Neurologist    | abbis@gmail.com  | abbis123  | 1500 |
| Twary       | Pediatrician   | twary@gmail.com  | twary123  | 450  |
| Ali Mostafa | General        | Ali@gmail.com    | Ali123    | 1500 |

## View Patient List

Hospital
Logout

WELCOME RECEPTIONIST

Dashboard
Doctor List
**Patient List**
Appointment Details
Prescription List
Add Doctor
Delete Doctor
Queries

| Patient ID | First Name | Last Name | Gender | Email             | Contact    | Password   |
|------------|------------|-----------|--------|-------------------|------------|------------|
| 1          | hassan     | mahmoud   | Male   | hassan@gmail.com  | 9876543210 | ram123     |
| 2          | meena      | osman     | Female | meena@gmail.com   | 8976897689 | alia123    |
| 3          | Ali        | Mostafa   | Male   | ali@gmail.com     | 8976898463 | shahrkh123 |
| 4          | alwwan     | saad      | Male   | alwwan@gmail.com  | 8838489464 | kishan123  |
| 5          | amr        | ashraf    | Male   | amr@gmail.com     | 9070897653 | goutam123  |
| 6          | Gamal      | mohamed   | Male   | Gamal@gmail.com   | 9059986865 | sushant123 |
| 7          | Nancy      | saad      | Female | nancy@gmail.com   | 9128972454 | nancy123   |
| 8          | kirulos    | Mansi     | Male   | kirulos@gmail.com | 9809879868 | kenny123   |
| 9          | Ali        | Raafat    | Male   | Ali1@gmail.com    | 8683619153 | william123 |
| 10         | Amr        | Gamal     | Male   | Amr@gmail.com     | 9609362815 | peter123   |

## Prescription List

Hospital
Logout

WELCOME RECEPTIONIST

Dashboard
Doctor List
Patient List
Appointment Details
**Prescription List**
Add Doctor
Delete Doctor
Queries

| Doctor | Patient ID | Appointment ID | First Name | Last Name | Appointment Date | Appointment Time | Disease      | Allergy      | Prescription                                 |
|--------|------------|----------------|------------|-----------|------------------|------------------|--------------|--------------|--|
| Dinesh | 4          | 11             | Kishan     | Lal       | 2020-03-27       | 15:00:00         | Cough        | Nothing      | Just take a teaspoon of Benadryl every night |
| Ganesh | 2          | 8              | Alia       | Bhatt     | 2020-03-21       | 10:00:00         | Severe Fever | Nothing      | Take bed rest                                |
| Kumar  | 9          | 12             | William    | Blake     | 2020-03-26       | 12:00:00         | Sever fever  | nothing      | Paracetamol -> 1 every morning and night     |
| Twary  | 9          | 13             | William    | Blake     | 2020-03-26       | 14:00:00         | Cough        | Skin dryness | Intake fruits with more water content        |
| Abbis  | 13         | 18             | Mohamed    | Yasser    | 2024-06-01       | 08:00:00         | jkdfgd       | qweqwewq     | fwefewfwer                                   |

## Appointment Details

Hospital

Logout

WELCOME RECEPTIONIST

Dashboard

Doctor List

Patient List

Appointment Details

Prescription List

Add Doctor

Delete Doctor

Queries

Enter Contact

Search

| Appointment ID | Patient ID | First Name | Last Name | Gender | Email                  | Contact    | Doctor Name | Consultancy Fees | Appointment Date | Appointment Time | Appointment Status |
|----------------|------------|------------|-----------|--------|------------------------|------------|-------------|------------------|------------------|------------------|--------------------|
| 16             | 2          | Alia       | Bhatt     | Female | alia@gmail.com         | 8976897689 | Dinesh      | 700              | 2024-05-25       | 08:00:00         | Accepted by admin  |
| 17             | 4          | Kishan     | Lal       | Male   | kishansmart0@gmail.com | 8838489464 | Dinesh      | 700              | 2024-05-26       | 08:00:00         | Accepted by admin  |
| 18             | 13         | Mohamed    | Yasser    | Male   | Mohamed@gmail.com      | 0231232183 | Abbis       | 1500             | 2024-06-01       | 08:00:00         | Accepted by admin  |

View appointment details and approve or reject appointments.

## Add Doctor

Hospital

Logout

WELCOME RECEPTIONIST

Dashboard

Doctor List

Patient List

Appointment Details

Prescription List

Add Doctor

Delete Doctor

Queries

Doctor Name:

Specialization:

Email ID:

Password:

Confirm Password:

Consultancy Fees:

Add Doctor

Select Spedalization



## Delete Doctor

Hospital Logout

WELCOME RECEPTIONIST

Dashboard

Doctor List

Patient List

Appointment Details

Prescription List

Add Doctor

Delete Doctor

Queries

Email ID:

Delete Doctor

## Admin-View Queries

Hospital Logout

WELCOME RECEPTIONIST

Dashboard

Doctor List

Patient List

Appointment Details

Prescription List

Add Doctor

Delete Doctor

Queries

Enter Contact

Search

| User Name | Email            | Contact    | Message                       |
|-----------|------------------|------------|-------------------------------|
| Anu       | anu@gmail.com    | 7896677554 | Hey Admin                     |
| Viki      | viki@gmail.com   | 9899778865 | Good Job, Pal                 |
| Ananya    | ananya@gmail.com | 9997888879 | How can I reach you?          |
| Aakash    | aakash@gmail.com | 8788979967 | Love your site                |
| Mani      | mani@gmail.com   | 8977768978 | Want some coffee?             |
| Karthick  | karthi@gmail.com | 9898989898 | Good service                  |
| Abbis     | abbis@gmail.com  | 8979776868 | Love your service             |
| Asiq      | asiq@gmail.com   | 9087897564 | Love your service. Thank you! |
| Jane      | jane@gmail.com   | 7869869757 | I love your service!          |
| asd       | asd@gmail.com    | 0123654789 | asd                           |



## Chapter 6

# Implementation and coding

## Function 1: Patient Login, Appointment Status Update (Admin), Doctor Registration (Admin)

```
<?php
session_start();
$con=mysqli_connect("localhost","root","","myhmsdb");
if(isset($_POST['patsub'])){
    $email=$_POST['email'];
    $password=$_POST['password2'];
    $query="select * from patreg where email='$email' and password='$password'";
    $result=mysqli_query($con,$query);
    if(mysqli_num_rows($result)==1)
    {
        while($row=mysqli_fetch_array($result,MYSQLI_ASSOC)){
            $_SESSION['pid'] = $row['pid'];
            $_SESSION['username'] = $row['fname']." ".$row['lname'];
            $_SESSION['fname'] = $row['fname'];
            $_SESSION['lname'] = $row['lname'];
            $_SESSION['gender'] = $row['gender'];
            $_SESSION['contact'] = $row['contact'];
            $_SESSION['email'] = $row['email'];
        }
        header("Location:admin-panel.php");
    }
    else {
        echo("<script>alert('Invalid Username or Password. Try Again!');
            window.location.href = 'index1.php';</script>");
        // header("Location:error.php");
    }
}
if(isset($_POST['update_data'])){
    $contact=$_POST['contact'];
    $status=$_POST['status'];
    $query="update appointmenttb set payment='$status' where contact='$contact'";
    $result=mysqli_query($con,$query);
    if($result)
        header("Location:updated.php");
}
if(isset($_POST['doc_sub'])){

```

```
$doctor=$_POST['doctor'];
$password=$_POST['password'];
$email=$_POST['email'];
$docFees=$_POST['docFees'];
$query="insert into
doctb(username,password,email,docFees)values('$doctor','$password','$email','$docFees')";
$result=mysqli_query($con,$query);
if($result)
    header("Location:adddoc.php");
}
```

## Function2: Doctor Login and Doctor Listing

```
<?php
session_start();
$con=mysqli_connect("localhost","root","","myhmsdb");
if(isset($_POST['docsub1'])){
    $dname=$_POST['username3'];
    $dpass=$_POST['password3'];
    $query="select * from doctb where username='$dname' and password='$dpass'";
    $result=mysqli_query($con,$query);
    if(mysqli_num_rows($result)==1)
    {
        while($row=mysqli_fetch_array($result,MYSQLI_ASSOC)){
            $_SESSION['dname']=$row['username'];
        }
        header("Location:doctor-panel.php");
    }
    else{
        // header("Location:error2.php");
        echo("<script>
            alert('Invalid Username or Password. Try Again!');
            window.location.href = 'index1.php';
            localStorage.setItem('showError2', 'Invalid Username or Password. Try Again!');
        </script>");
    }
}

function display_docs()
{
    global $con;
    $query="select * from doctb";
    $result=mysqli_query($con,$query);
    while($row=mysqli_fetch_array($result))
    {
        $name=$row['name'];
        echo '<option value="'. $name. '">'. $name. '</option>';
    }
}
```

## Function3: Patient Registration (Admin), Appointment Status Update (Admin), Doctor Registration (Basic)

```
<?php
session_start();
$con=mysqli_connect("localhost","root","","myhmsdb");
if(isset($_POST['patsub1'])) {
    $fname=$_POST['fname'];
    $lname=$_POST['lname'];
    $gender=$_POST['gender'];
    $email=$_POST['email'];
    $contact=$_POST['contact'];
    $password=$_POST['password'];
    $cpassword=$_POST['cpassword'];
    if($password==$cpassword){
        $query="insert into
patreg(fname,lname,gender,email,contact,password,cpassword) values
('$fname','$lname','$gender','$email','$contact','$password','$cpassword');"
        $result=mysqli_query($con,$query);
        if($result){
            $_SESSION['username'] = $_POST['fname']." ".$_POST['lname'];
            $_SESSION['fname'] = $_POST['fname'];
            $_SESSION['lname'] = $_POST['lname'];
            $_SESSION['gender'] = $_POST['gender'];
            $_SESSION['contact'] = $_POST['contact'];
            $_SESSION['email'] = $_POST['email'];
            header("Location:admin-panel.php");
        }
        $query1 = "select * from patreg;";
        $result1 = mysqli_query($con,$query1);
        if($result1){
            $_SESSION['pid'] = $row['pid'];
        }
    }
    else{
        header("Location:error1.php");
    }
}
```

```
if(isset($_POST['update_data']))
{
    $contact=$_POST['contact'];
    $status=$_POST['status'];
    $query="update appointmenttb set payment='$status' where
contact='$contact'";
    $result=mysqli_query($con,$query);
    if($result)
        header("Location:updated.php");
}
if(isset($_POST['doc_sub']))
{
    $name=$_POST['name'];
    $query="insert into doctb(name)values('$name')";
    $result=mysqli_query($con,$query);
    if($result)
        header("Location:adddoc.php");
}
```

## Function4: Admin Login, Appointment Status Update (Admin), Doctor Registration (Basic)

```
<?php
session_start();
$con=mysqli_connect("localhost","root","","myhmsdb");
if(isset($_POST['adsub'])){
    $username=$_POST['username1'];
    $password=$_POST['password2'];
    $query="select * from admin tb where username='$username' and
password='$password'";
    $result=mysqli_query($con,$query);
    if(mysqli_num_rows($result)==1)
    {
        $_SESSION['username']=$username;
        header("Location:admin-panel1.php");
    }
    else
        echo("<script>
            alert('Invalid Username or Password. Try Again!');
            window.location.href = 'index1.php';
            localStorage.setItem('showError', 'Invalid Username or Password. Try
Again!');
            </script>");
}
if(isset($_POST['update_data']))
{
    $contact=$_POST['contact'];
    $status=$_POST['status'];
    $query="update appointment tb set payment='$status' where
contact='$contact'";
    $result=mysqli_query($con,$query);
    if($result)
        header("Location:updated.php");
}
function display_docs()
{
```



```
global $con;
$query="select * from doctb";
$result=mysqli_query($con,$query);
while($row=mysqli_fetch_array($result))
{
    $name=$row['name'];
    echo '<option value="'. $name. '">'. $name. '</option>';
}
}
if(isset($_POST['doc_sub']))
{
    $name=$_POST['name'];
    $query="insert into doctb(name)values('$name')";
    $result=mysqli_query($con,$query);
    if($result)
        header("Location:adddoc.php");
}
```

## ADMIN PANEL: Patient Appointment Management and Bill Generation

```
<?php
include('func.php');
include('newfunc.php');
$con=mysqli_connect("localhost","root","","myhmsdb");
    $pid = $_SESSION['pid'];
    $username = $_SESSION['username'];
    $email = $_SESSION['email'];
    $fname = $_SESSION['fname'];
    $gender = $_SESSION['gender'];
    $lname = $_SESSION['lname'];
    $contact = $_SESSION['contact'];
if(isset($_POST['app-submit']))
{
    $pid = $_SESSION['pid'];
    $username = $_SESSION['username'];
    $email = $_SESSION['email'];
    $fname = $_SESSION['fname'];
    $lname = $_SESSION['lname'];
    $gender = $_SESSION['gender'];
    $contact = $_SESSION['contact'];
    $doctor=$_POST['doctor'];
    $email=$_SESSION['email'];
    # $fees=$_POST['fees'];
    $docFees=$_POST['docFees'];
    $appdate=$_POST['appdate'];
    $apptime=$_POST['apptime'];
    $cur_date = date("Y-m-d");
    date_default_timezone_set('Asia/Kolkata');
    $cur_time = date("H:i:s");
    $apptime1 = strtotime($apptime);
    $appdate1 = strtotime($appdate);
    if(date("Y-m-d",$appdate1)>=$cur_date){
        if((date("Y-m-d",$appdate1)==$cur_date and
date("H:i:s",$apptime1)>$cur_time) or date("Y-m-d",$appdate1)>$cur_date) {
            $check_query = mysqli_query($con,"select apptime from appointmenttb where
doctor='$doctor' and appdate='$appdate' and apptime='$apptime'");
```

```
if(mysqli_num_rows($check_query)==0){
    $query=mysqli_query($con,"insert into
appointmenttb(pid,fname,lname,gender,email,contact,doctor,docFees,apptime,appti
me,userStatus,doctorStatus,adminStatus)
values($pid,'$fname','$lname','$gender','$email','$contact','$doctor','$docFees
','$apptime','$apptime','1','1','0')");
    if($query)
    {
        echo "<script>alert('Your appointment successfully
booked');</script>";
    }
    else{
        echo "<script>alert('Unable to process your request. Please try
again!');</script>";
    }
}
else{
    echo "<script>alert('We are sorry to inform that the doctor is not
available in this time or date. Please choose different time or
date!');</script>";
}
}
else{
    echo "<script>alert('Select a time or date in the future!');</script>";
}
}
else{
    echo "<script>alert('Select a time or date in the future!');</script>";
}
}
if(isset($_GET['cancel']))
{
    $query=mysqli_query($con,"update appointmenttb set userStatus='0' where ID
= '$_GET[ID]'");
    if($query)
    {
        echo "<script>alert('Your appointment successfully
cancelled');</script>";
    }
}
```

```
}
}
function generate_bill(){
    $con=mysqli_connect("localhost","root","","myhmsdb");
    $pid = $_SESSION['pid'];
    $output='';
    $query=mysqli_query($con,"select
p.pid,p.ID,p.fname,p.lname,p.doctor,p.apptdate,p.apptime,p.disease,p.allergy,p.p
rescription,a.docFees from prestb p inner join appointmenttb a on p.ID=a.ID and
p.pid = '$pid' and p.ID = '". $_GET['ID']."'");
    while($row = mysqli_fetch_array($query)){
        $output .= '
        <label> Patient ID : </label>'.$row["pid"].'<br/><br/>
        <label> Appointment ID : </label>'.$row["ID"].'<br/><br/>
        <label> Patient Name : </label>'.$row["fname"].'
        '.$row["lname"].'<br/><br/>
        <label> Doctor Name : </label>'.$row["doctor"].'<br/><br/>
        <label> Appointment Date : </label>'.$row["apptdate"].'<br/><br/>
        <label> Appointment Time : </label>'.$row["apptime"].'<br/><br/>
        <label> Disease : </label>'.$row["disease"].'<br/><br/>
        <label> Allergies : </label>'.$row["allergy"].'<br/><br/>
        <label> Prescription : </label>'.$row["prescription"].'<br/><br/>
        <label> Fees Paid : </label>'.$row["docFees"].'<br/>
        ';
    }
    return $output;
}
if(isset($_GET["generate_bill"])){
    require_once("TCPDF/tcpdf.php");
    $obj_pdf = new TCPDF('P',PDF_UNIT,PDF_PAGE_FORMAT,true,'UTF-8',false);
    $obj_pdf -> SetCreator(PDF_CREATOR);
    $obj_pdf -> SetTitle("Generate Bill");
    $obj_pdf -> SetHeaderData('',',',PDF_HEADER_TITLE,PDF_HEADER_STRING);
    $obj_pdf -> SetHeaderFont(Array(PDF_FONT_NAME_MAIN,',',PDF_FONT_SIZE_MAIN));
    $obj_pdf -> SetFooterFont(Array(PDF_FONT_NAME_MAIN,',',PDF_FONT_SIZE_MAIN));
    $obj_pdf -> SetDefaultMonospacedFont('helvetica');
    $obj_pdf -> SetFooterMargin(PDF_MARGIN_FOOTER);
    $obj_pdf -> SetMargins(PDF_MARGIN_LEFT,'5',PDF_MARGIN_RIGHT);
```

```
$obj_pdf -> SetPrintHeader(false);
$obj_pdf -> SetPrintFooter(false);
$obj_pdf -> SetAutoPageBreak(TRUE, 10);
$obj_pdf -> SetFont('helvetica', '', 12);
$obj_pdf -> AddPage();
$content = '';
$content .= '
    <br/>
    <h2 align = "center"> Global Hospitals</h2></br>
    <h3 align = "center"> Bill</h3>
';
$content .= generate_bill();
$obj_pdf -> writeHTML($content);
ob_end_clean();
$obj_pdf -> Output("bill.pdf", 'I');
}
function get_specs(){
    $con=mysqli_connect("localhost","root","","myhmsdb");
    $query=mysqli_query($con,"select username,spec from doctb");
    $docarray = array();
    while($row =mysqli_fetch_assoc($query))
    {
        $docarray[] = $row;
    }
    return json_encode($docarray);
}
?>
```

## Patient Appointment Status Display

```

<?php
    $con=mysqli_connect("localhost","root","","myhmsdb");
    global $con;
    $query = "select
ID,adminStatus,doctor,docFees,apppdate,apptime,userStatus,doctorStatus from
appointmenttb where fname ='$fname' and lname='$lname'";
    $result = mysqli_query($con,$query);
    while ($row = mysqli_fetch_array($result)){
        #$fname = $row['fname'];
        #$lname = $row['lname'];
        #$email = $row['email'];
        #$contact = $row['contact'];
    ?>
        <tr>
            <td><?php echo $row['doctor'];?></td>
            <td><?php echo $row['docFees'];?></td>
            <td><?php echo $row['apppdate'];?></td>
            <td><?php echo $row['apptime'];?></td>
            <!-- <td> -->
        <?php
        ?>
        <!-- </td> -->
        <td>
            <?php
            $state="pendding";
            if(($row['adminStatus']==0))
            {
                echo "<span class='badge badge-secondary'>Waiting for
admin to accept</span>";
            }else if(($row['adminStatus']==1))
            {
                echo "<span class='badge badge-primary'>Accepted by
Admin</span>";
            }else if(($row['adminStatus']==2))
            {
                echo "<span class='badge badge-danger'>Rejected by
Admin</span>";}
            ?>
        </td>
    </tr>
<?php } ?>
    
```

## Patient Appointment Details and Actions

```

<?php
$con=mysqli_connect("localhost","root","","myhmsdb");
global $con;
$query = "select
doctor,ID,apptdate,apptime,disease,allergy,prescription from prestb where
pid='$pid'";

$result = mysqli_query($con,$query);
if(!$result){
    echo mysqli_error($con);
}
while ($row = mysqli_fetch_array($result)){
?>
    <tr>
        <td><?php echo $row['doctor'];?></td>
        <td><?php echo $row['ID'];?></td>
        <td><?php echo $row['apptdate'];?></td>
        <td><?php echo $row['apptime'];?></td>
        <td><?php echo $row['disease'];?></td>
        <td><?php echo $row['allergy'];?></td>
        <td><?php echo $row['prescription'];?></td>
        <td>
            <form method="get">
                <a href="admin-panel.php?ID=<?php echo
$row['ID'];?>">
                    <input type="hidden" name="ID" value="<?php echo
$row['ID'];?>"/>
                    <input type="submit" onclick="alert('Bill Paid
Successfully');" name="generate_bill" class="btn btn-success" value="Pay
Bill"/></a>
                </td>
            </form>
        <td>
            <a class="btn btn-success" href="ask-
question.php?id=<?php echo $row['doctor'];?>">Ask Question</a>
        </td>
        <td>
            <a class="btn btn-success" href="send-
feedback.php?id=<?php echo $row['ID'];?>">Send Feedback</a>
        </td>
    </tr>
<?php }
    
```

## Patient Question and Answer Display

```
<?php
$con=mysqli_connect("localhost","root","","myhmsdb");
global $con;
$query = "select question,answer from questionanswers where
p_id='$pid'";
$result = mysqli_query($con,$query);
if(!$result){
    echo mysqli_error($con);
}
while ($row = mysqli_fetch_array($result)){
    ?>
    <tr>
        <td><?php echo $row['question']; ?></td>
        <td><?php echo $row['answer']; ?></td>
    </tr>
    <?php }?>
```



## Doctor Management System - Add/Remove Doctors

```
<?php
$con=mysqli_connect("localhost","root","","myhmsdb");
include('newfunc.php');
if(isset($_POST['docsub']))
{
    $doctor=$_POST['doctor'];
    $dpassword=$_POST['dpassword'];
    $demail=$_POST['demail'];
    $spec=$_POST['special'];
    $docFees=$_POST['docFees'];
    $query="insert into
doctb(username,password,email,spec,docFees)values('$doctor','$dpassword','$dema
il','$spec','$docFees)";
    $result=mysqli_query($con,$query);
    if($result)
    {
        echo "<script>alert('Doctor added successfully!');</script>";
    }
}
if(isset($_POST['docsub1']))
{
    $demail=$_POST['demail'];
    $query="delete from doctb where email='$demail'";
    $result=mysqli_query($con,$query);
    if($result)
    {
        echo "<script>alert('Doctor removed successfully!');</script>";
    }
    else{
        echo "<script>alert('Unable to delete!');</script>";
    }
}
?>
```

## Display All Doctors

```
<?php
```

```
$con=mysqli_connect("localhost","root","","myhmsdb");  
global $con;  
$query = "select * from doctb";  
$result = mysqli_query($con,$query);  
while ($row = mysqli_fetch_array($result)){  
    $username = $row['username'];  
    $spec = $row['spec'];  
    $email = $row['email'];  
    $password = $row['password'];  
    $docFees = $row['docFees'];  
    echo "<tr>  
        <td>$username</td>  
        <td>$spec</td>  
        <td>$email</td>  
        <td>$password</td>  
        <td>$docFees</td>  
    </tr>";  
}  
?>
```

## Display All Patients

```
<?php
$con=mysqli_connect("localhost","root","","myhmsdb");
global $con;
$query = "select * from patreg";
$result = mysqli_query($con,$query);
while ($row = mysqli_fetch_array($result)){
    $pid = $row['pid'];
    $fname = $row['fname'];
    $lname = $row['lname'];
    $gender = $row['gender'];
    $email = $row['email'];
    $contact = $row['contact'];
    $password = $row['password'];
    echo "<tr>
        <td>$pid</td>
        <td>$fname</td>
        <td>$lname</td>
        <td>$gender</td>
        <td>$email</td>
        <td>$contact</td>
        <td>$password</td>
    </tr>";
}
?>
```

## Display All Patient Appointments

```
<?php
```

```
$con=mysqli_connect("localhost","root","","myhmsdb");
global $con;
$query = "select * from prestb";
$result = mysqli_query($con,$query);
while ($row = mysqli_fetch_array($result)){
    $doctor = $row['doctor'];
    $pid = $row['pid'];
    $ID = $row['ID'];
    $fname = $row['fname'];
    $lname = $row['lname'];
    $appdate = $row['appdate'];
    $apptime = $row['apptime'];
    $disease = $row['disease'];
    $allergy = $row['allergy'];
    $pres = $row['prescription'];
    echo "<tr>
        <td>$doctor</td>
        <td>$pid</td>
        <td>$ID</td>
        <td>$fname</td>
        <td>$lname</td>
        <td>$appdate</td>
        <td>$apptime</td>
        <td>$disease</td>
        <td>$allergy</td>
        <td>$pres</td>
    </tr>";
}
?>
```

## Patient Appointment Display and Admin Actions

```
<?php
$con=mysqli_connect("localhost","root","","myhmsdb");
global $con;
$query = "select * from appointmenttb";
$result = mysqli_query($con,$query);
while ($row = mysqli_fetch_array($result)){
?>
    <tr>
        <td><?php echo $row['ID'];?></td>
        <td><?php echo $row['pid'];?></td>
        <td><?php echo $row['fname'];?></td>
        <td><?php echo $row['lname'];?></td>
        <td><?php echo $row['gender'];?></td>
        <td><?php echo $row['email'];?></td>
        <td><?php echo $row['contact'];?></td>
        <td><?php echo $row['doctor'];?></td>
        <td><?php echo $row['docFees'];?></td>
        <td><?php echo $row['appdate'];?></td>
        <td><?php echo $row['apptime'];?></td>
        <td>
            <?php
            if(($row['adminStatus']==0))
            {
                echo "Pending";
            }else if(($row['adminStatus']==1))
            {
                echo "Accepted by admin";
            }else if(($row['adminStatus']==2))
            {
                echo "Rejected by admin";
            }
            ?>
        </td>
        <td style="display: flex;">
            <?php if(($row['adminStatus']==0)){
            ?>
```

```
        <button class="btn btn-success"
onclick="reservation(1,<?php echo $row['ID']; ?>)">Accept</button>
        <button class="btn btn-danger ml-2"
onclick="reservation(0,<?php echo $row['ID']; ?>)">Reject</button>
        <?php ?>
    </td>
</tr>
<?php } ?>
```

## Display All Contact Messages

```
<?php
$con=mysqli_connect("localhost","root","","myhmsdb");
global $con;
$query = "select * from contact;";
$result = mysqli_query($con,$query);
while ($row = mysqli_fetch_array($result)){
?>
    <tr>
        <td><?php echo $row['name'];?></td>
        <td><?php echo $row['email'];?></td>
        <td><?php echo $row['contact'];?></td>
        <td><?php echo $row['message'];?></td>
    </tr>
<?php } ?>
```

## Doctor Panel: Doctor Appointment

```
<?php
include('func1.php');
$con=mysqli_connect("localhost","root","","myhmsdb");
$doctor = $_SESSION['dname'];
if(isset($_GET['cancel']))
{
    $query=mysqli_query($con,"update appointmenttb set doctorStatus='0' where
ID = '".$_GET['ID']."'");
    if($query)
    {
        echo "<script>alert('Your appointment successfully
cancelled');</script>";
    }
}
?>
```

## Doctor Appointment List for Accepted Appointments

```
<?php
$con=mysqli_connect("localhost","root","","myhmsdb");
global $con;
$dname = $_SESSION['dname'];
//get all data when admin accepte
$query = "select
pid,ID,adminStatus,fname,lname,gender,email,contact,apdate,apptime,userStatus,
doctorStatus from appointmenttb where adminStatus=1 and doctor='$dname'";
$result = mysqli_query($con,$query);
while ($row = mysqli_fetch_array($result)){
    ?>
    <tr>
    <td><?php echo $row['pid'];?></td>
    <td><?php echo $row['ID'];?></td>
    <td><?php echo $row['fname'];?></td>
    <td><?php echo $row['lname'];?></td>
    <td><?php echo $row['gender'];?></td>
    <td><?php echo $row['email'];?></td>
```

```

        <td><?php echo $row['contact'];?></td>
        <td><?php echo $row['appdate'];?></td>
        <td><?php echo $row['apptime'];?></td>
        <td>
        <?php
        ?>
        <span class='badge badge-primary'>Accepted by
Admin</span></td>
        <!-- <td> -->
        <?php if(($row['userStatus']==1) &&
($row['doctorStatus']==1))
        { ?>
        <!-- <a href="doctor-panel.php?ID=<?php echo
$row['ID']?>&cancel=update"
        <?php } else {
        // echo "Cancelled";
        } ?>
        <!-- </td> -->
        <td>
        <?php
        // if(($row['userStatus']==1) &&
($row['doctorStatus']==1))
        // { ?>
        <a href="prescribe.php?pid=<?php echo
$row['pid']?>&ID=<?php echo $row['ID']?>&fname=<?php echo
$row['fname']?>&lname=<?php echo $row['lname']?>&appdate=<?php echo
$row['appdate']?>&apptime=<?php echo $row['apptime']?>"
        tooltip-placement="top" tooltip="Remove"
title="prescribe">
        <button class="btn btn-success">Prescribe</button></a>
        <?php
        // } else {
        // echo "-";
        // }
        ?>
        <!-- </td> -->
    </tr></a>
<?php } ?>
    
```



## Doctor's Past Prescriptions

```
<?php
    $con=mysqli_connect("localhost","root","", "myhmsdb");
    global $con;
    $query = "select
pid,fname,lname,ID,apdate,apptime,disease,allergy,prescription from prestb
where doctor='$doctor'";
    $result = mysqli_query($con,$query);
    if(!$result){
        echo mysqli_error($con);
    }
    while ($row = mysqli_fetch_array($result)){
?>
        <tr>
            <td><?php echo $row['pid'];?></td>
            <td><?php echo $row['fname'];?></td>
            <td><?php echo $row['lname'];?></td>
            <td><?php echo $row['ID'];?></td>
            <td><?php echo $row['apdate'];?></td>
            <td><?php echo $row['apptime'];?></td>
            <td><?php echo $row['disease'];?></td>
            <td><?php echo $row['allergy'];?></td>
            <td><?php echo $row['prescription'];?></td>
        </tr>
    <?php }
?>
```

## Display All Appointments

```
<?php
$con=mysqli_connect("localhost","root","","myhmsdb");
global $con;
$query = "select * from appointmenttb;";
$result = mysqli_query($con,$query);
while ($row = mysqli_fetch_array($result)){
?>
    <tr>
        <td><?php echo $row['fname'];?></td>
        <td><?php echo $row['lname'];?></td>
        <td><?php echo $row['email'];?></td>
        <td><?php echo $row['contact'];?></td>
        <td><?php echo $row['doctor'];?></td>
        <td><?php echo $row['docFees'];?></td>
        <td><?php echo $row['appdate'];?></td>
        <td><?php echo $row['apptime'];?></td>
    </tr>
<?php } ?>
```

## Doctor's Unanswered Patient Questions

```
<?php
$con=mysqli_connect("localhost","root","","myhmsdb");
global $con;
$query = "select id,question,answer,username from questionanswers where
d_username='$dname';";
$result = mysqli_query($con,$query);
if(!$result){
    echo mysqli_error($con);
}
while ($row = mysqli_fetch_array($result)){
?>
    <tr>
        <td><?php echo $row['username']; ?></td>
```

```
<td><?php echo $row['question']; ?></td>
<td><?php echo $row['answer']; ?></td>
<td>
    <a class="btn btn-success" href="answer-
question.php?id=<?php echo $row['id']; ?>">Answer</a>
</td>
</tr>
<?php }?>
```

## Doctor's Patient Feedback

```
<?php
$con=mysqli_connect("localhost","root","","myhmsdb");
global $con;
$query = "select fname,feedback from appointmenttb where doctor='$dname' and
feedback is not null;";
$result = mysqli_query($con,$query);
if(!$result){
    echo mysqli_error($con);
}
while ($row = mysqli_fetch_array($result)){
?>

<tr>
    <td><?php echo $row['fname']; ?></td>
    <td><?php echo $row['feedback']; ?></td>
</tr>
<?php }?>
```

## Testing Approach

To build up our project we use software testing process for executing a program with the intent of finding errors that is uncovering errors in a program makes it a feasible task and trying to find the error in a program as it is destructive process.

### **Type of Testing:**

Type of testing we use in our project here we just mentioned what how the testing is related to this software and in which way we have test the software? In our project we used four types of testing these are listed below.

- *Unit testing*: unit testing where individual program unit or object classes are tested here by using this testing, we have focused on testing the functionality of methods.
- *Module testing*: where this is the combination of unit is called module. Here we tested the unit program is where the module program has dependency.
- *Sub- system testing*: we combined some module for the preliminary system testing in our project.
- *System testing*: where it is the combination of two or more sub- system and then it is tested. Here we tested and entire system as per the requirements.

### **Use Case:**

A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. The use case is made up of a set sequence of interactions between systems and users in a particular environment and related to a particular goal. Benefits of use case an individual use case can benefit development by rivaling how a system should behave while also helping identify any errors that could arise in the process.

### **Test Case:**

A test case is a set of conditions or variable under which a tester will determine whether a system under test satisfies requirements or works correctly. The process of developing test case can also help find problem in the requirements or design of an application.



## Chapter 7

# Conclusion and Future work

## Conclusion:

Hospital Management System website system has been computed successfully and was also tested successfully by taking “Test Cases “. It is user friendly, and has required options, which can be utilized by the user to perform the desired operations. Hospital website system is developed using HTML, CSS, JS as front end and PHP, MYSQL as back end on windows environment. The goals that are achieved by the software are: -

- User friendly
- Simplification of the operations
- Portable and flexible for further enhancement.
- Less processing time and getting required information.

**Future work:**

Hospitals and healthcare centers have undergone a change for its betterment. The administrations of healthcare sector are opting IT solutions for the better management and patient care in their hospital campus. Have a look at some salient features of hospital management software. Daily functions like patient registration, monitoring blood bank, managing admission and overall management of various departments can be easily performed with higher accuracy after the installation of hospital software. The modules of hospital management software are user-friendly and easy to access. It has a common user-friendly interface having several modules. The officials can utilize these modules in their processes without any hassle and make the best possible use of hospital management system. Since, every hospital has some or the other points of worth those vary in comparison with to its competitors. Hence, most of the IT companies give on-demand solutions or feature of customization. It further implicates that hospital information management software can be customized by specifying personal requirements of the campus. We can also add Chatbot to help users.



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