DAYANANDA SAGAR UNIVERSITY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

SCHOOL OF ENGINEERING

KUDLU GATE

BANGALORE - 560068

MINI PROJECT REPORT

ON

"HOSPITAL MANAGEMENT SYSTEM"

SUBMITTED TO THE 6th SEMESTER

SOFTWARE ENGINEERING & PROJECT MANAGEMENT (19CS3603)

BACHELOR OF TECHNOLOGY

IN

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Submitted by

ABHAY RAJ-(ENG19CS0005)

ABHI RAJ-(ENG19CS0007)

AKSHAT MISHRA-(ENG19CS0021)

ARNAV GUPTA-(ENG19CS0041)

Under the supervision of

PROF. ROSHNI M BALAKRISHNAN

CERTIFICATE

This is to certify that Mr ABHAY RAJ, ABHI RAJ, AKSHAT MISHRA, ARNAV GUPTA Bearing USN ENG19CS0005, ENG19CS0007,ENG19CS0021,ENG19CS0041 respectively has satisfactorily completed his/her Mini Project as prescribed by the University for the 6 semester B.Tech programme in Computer Science & Engineering during the year 2021-2022 at the School of Engineering, Dayananda Sagar University, Bangalore.

Date:_____

Signature of the faculty in-charge

_____

DECLARATION

We hereby declare that the work presented in this mini project entitled -“ HOSPITAL MANAGEMENT SYSTEM“, has been carried out by us and it has not been submitted for the award of any degree, diploma or the mini project of any other college or university.

ABHAY RAJ (ENG19CS0005)

ABHI RAJ (ENG19CS0007)

AKSHAT MISHRA (ENG19CS0021)

ARNAV GUPTA (ENG19CS0041)

ACKNOWLEDGMENT

The satisfaction that accompanies the successful completion of task would be incomplete without the mention of the people who made it possible and whose constant guidance and encouragement crown all the efforts with success. We are especially thankful to our Chairman, Dr. Girisha G S, for providing necessary departmental facilities, moral support and encouragement. We are very much thankful to , for providing help and suggestions in completion of this mini project successfully. We have received a great deal of guidance and co-operation from our friends and we wish to thank all that have directly or indirectly helped us in the successful completion of this project work.

ABHAY RAJ (ENG19CS0005)

ABHI RAJ (ENG19CS0007)

AKSHAT MISHRA (ENG19CS0021)

ARNAV GUPTA (ENG19CS0041)

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ABSTRACT-

Our project Hospital Management system includes registration of patients, storing their details into the system, and also booking their appointments with doctors. Our software has the facility to give a unique id for every patient and stores the details of every patient and the staff automatically. 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. It is having mainly two modules. One is at Administration Level and other one is of user I.e. of patients and doctors. The Application maintains authentication in order to access the application. Administrator task includes managing doctors information, patient's information. To achieve this aim a database was designed one for the patient and other for the doctors which the admin can access. The complaints which are given by user will be referred by authorities. The Patient modules include checking appointments, prescription. User can also pay doctor's Fee online.

CHAPTER 1 INTRODUCTION

1.1 ABOUT THE PROJECT-

This software will help the company to be more efficient in registration of their patients and manage appointments, records of patients. It enables doctors and admin to view and modify appointments schedules if required. The purpose of this project is to computerize all details regarding patient details and hospital details.

1.2 SCOPE-

The system will be used as the application that serves hospitals, clinic, dispensaries or other health institutions. The intention of the system is to increase the number of patients that can be treated and managed properly. If the hospital management system is file based, management of the hospital has to put much effort on securing the files. They can be easily damaged by fire, insects and natural disasters. Also could be misplaced by losing data and information.

CHAPTER 2 PROBLEM STATEMENT-

In this busy world we don't have the time to wait in infamously long hospital queues. The problem is, queuing at hospital is often managed manually by administrative staff, then take a token there and then wait for our turn then ask for the doctor and the most frustrating thing - we went there by traveling a long distance and then we come to know the doctor is on leave or the doctor can't take appointments.

HMS will help us overcome all these problems because now patients can book their appointments at home, they can check whether the doctor they want to meet is available or not. Doctors can also confirm or decline appointments, this help both patient and the doctor because if the doctor declines' appointment then patient will know this in advance and patient will visit hospital only when the doctor confirms' the appointment this will save time and money of the patient. Patients can also pay the doctor's consultant fee online to save their time.

HMS is essential for all healthcare establishments, be it hospitals, nursing homes, health clinics, rehabilitation centers, dispensaries, or clinics. The main goal is to computerize all the details regarding the patient and the hospital. The installation of this healthcare software results in improvement in administrative functions and hence better patient care, which is the prime focus of any healthcare unit.

Benefits of implementing a hospital management system-

- **Appointment booking**:

-Helps patients cut the long queue and saves their time

-Is equipped with features like automated email and text message reminders

- **Role-Based Access Control**:

- Allows employees to access only the necessary information to effectively perform their job duties

-Increases data security and integrity

• **Overall cost reduction**

- Cuts down paper costs as all the data are computerized

-No separate costs for setting up physical servers

• **Data accuracy**:

- Removes human errors o Alerts when there's a shortage of stock

• **Data security**:

-Helps to keep patients records private

- Restricts access through role-based access control

• **Revenue management:**

-Makes daily auditing simple

- Helps with statistics and other financial aspects

PROCESS MODEL-

Hospital Management System follows INCREMENTAL MODEL because initially software requirements are reasonably well defined but the overall scope of development effort is a purely linear process. There may be other requirements of the user which will be known later. So, those requirements can the implemented and delivered in the following next increments. Our project is a short term project of 3 months and 3 weeks only and staffing available is also low (3 persons).

CHAPTER 3 REQUIREMENTS

3.1 Product Perspective-

This Hospital Patient Info Management System is a self-contained system that manages activities of the hospital. Due to improperly managed details medical center faces quite a lot of difficulties in accessing past data as well as managing present data. The fully functional automated hospital management system which will be developed through this project will eliminate the disadvantages caused by the manual system by improving the reliability, efficiency and performance. The usage of a database to store patient, employee, stock details etc. will accommodate easy access, retrieval, and search and manipulation of data. The access limitations provided through access privilege levels will enhance the security of the system. The system will facilitate concurrent access and convenient management of activities of the medical center.

3.1.1 System Interfaces-

❖ **User Interfaces ▪**

This section provides a detailed description of all inputs into and outputs from the system. It also gives a description of the hardware, software and communication interfaces and provides basic prototypes of the user interface.

▪ The protocol used shall be HTTP. ▪ The Port number used will be 80. ▪ There shall be logical address of the system in IPv4 format.

❖ **Hardware Interfaces ▪**

Laptop/Desktop PC-Purpose of this is to give information when Patients ask information about doctors, medicine available lab tests etc. To perform such Action it need very efficient computer otherwise due to that reason patients have to wait for a long time to get what they ask for.

▪ Laser Printer (B/W) - This device is for printing patients' info etc.

▪ Wi-Fi router - Wi-Fi router is used to for internetwork operations inside of a hospital and simply data transmission from pc's to sever.

❖ **Software Interfaces ▪**

JDK 1.8 - Java is fast, secure, and reliable. From laptops to data centers, game consoles to scientific supercomputers, cell phones to the Internet

▪ Mysql server - Database connectivity and management

▪ OS Windows 7/8/8.1- Very user friendly and common OS

▪ JRE 1.8 - JAVA Runtime Environment for run Java Application and System

3.1.2 System Specifications-

3.1.2.1 H/W Requirement

-Core i5 processor

-2GB Ram.

- 20GB of hard disk space in terminal machines

- 1TB hard disk space in Server Machine

3.1.2.2 S/W Requirement

- Windows 7 or above operating system

- JRE 1.8

- Mysql server

3.2 Product functions-

o Provide access to registered users only.

o Registration of new patients.

o Enable patient to view their record.

o Enable patient to update their record.

o Generate appointment date and timing.

o Confirmation by doctor.

o Patients can do Payment.

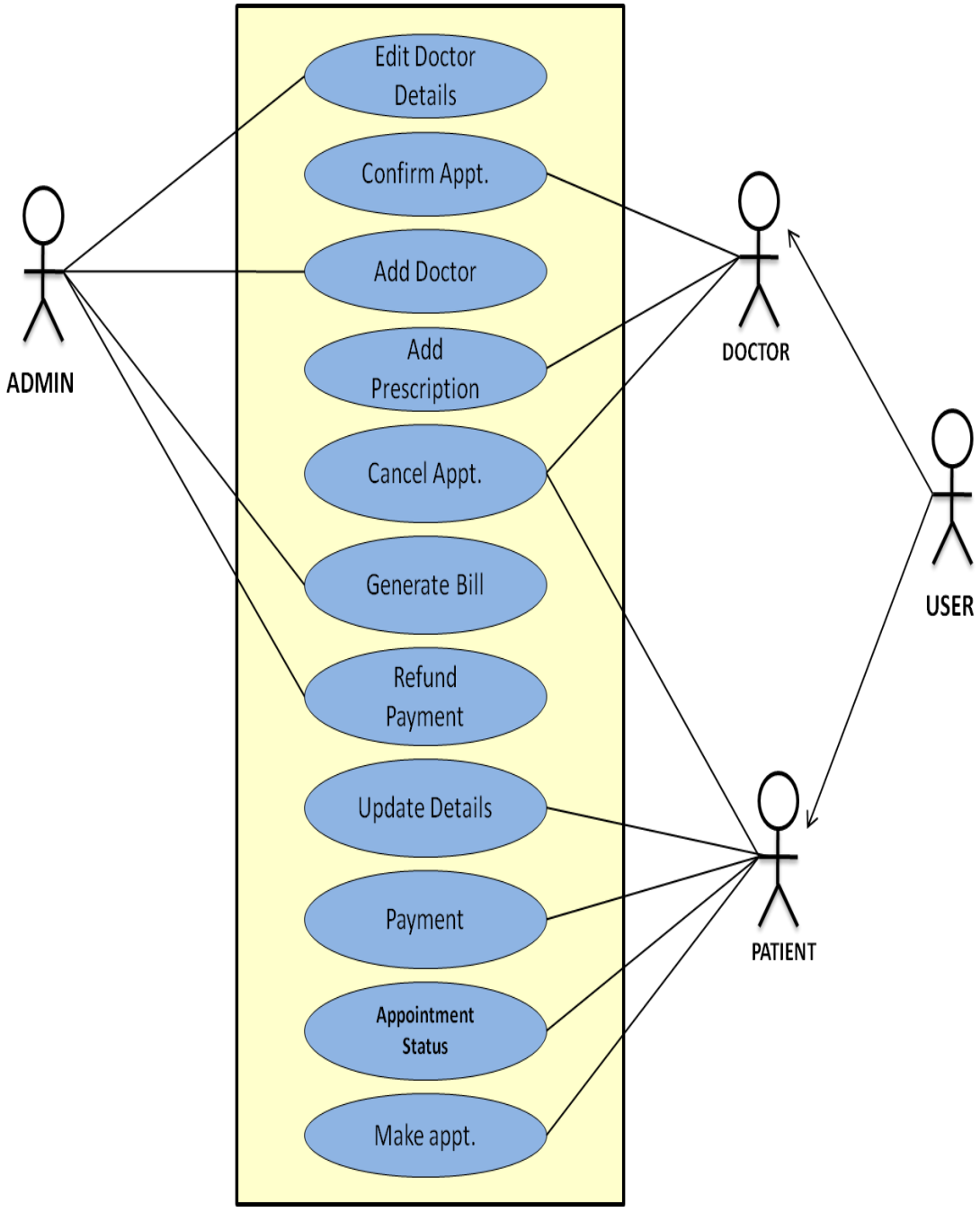
o Modification in schedule by patient.

o Admin access to patient's record.

- Admin Verify Payment and Generate Bill/Receipt.
- Admin can view monthly/yearly records

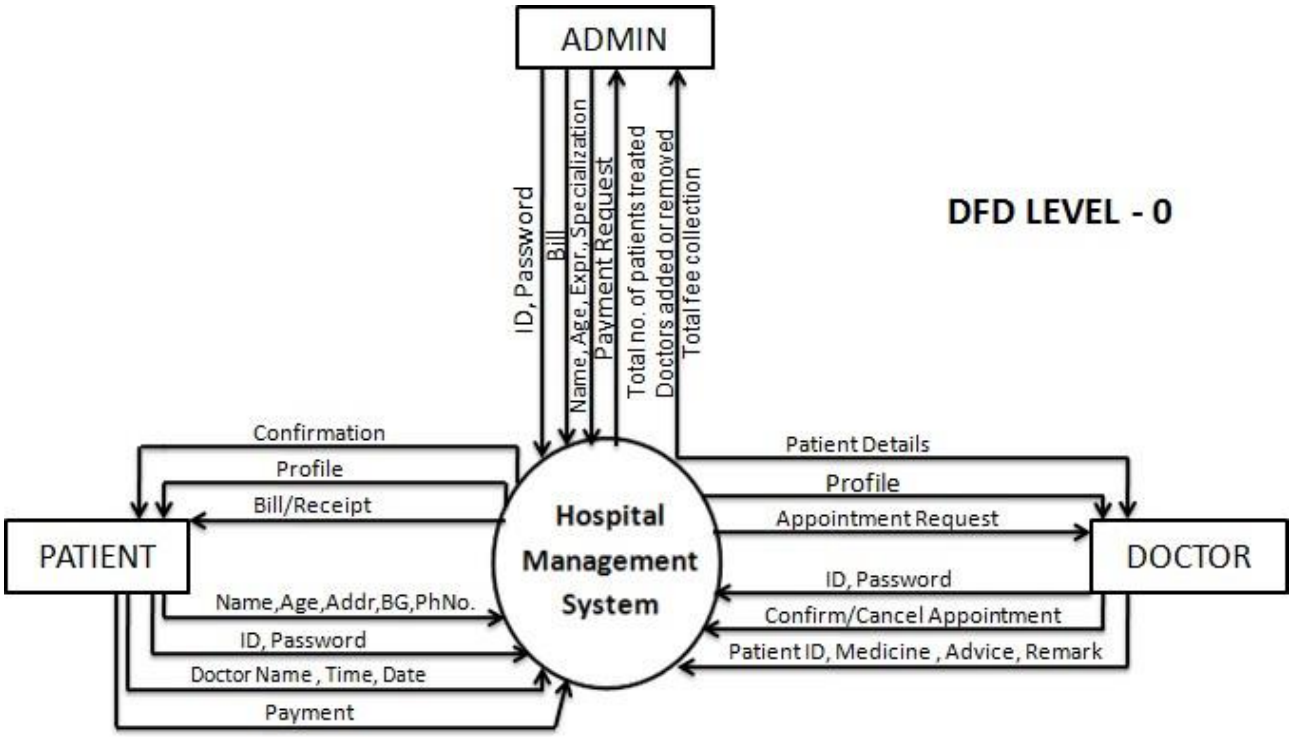
CHAPTER 4 PROJECT DESIGN

4.1 USE CASE DIAGRAM-

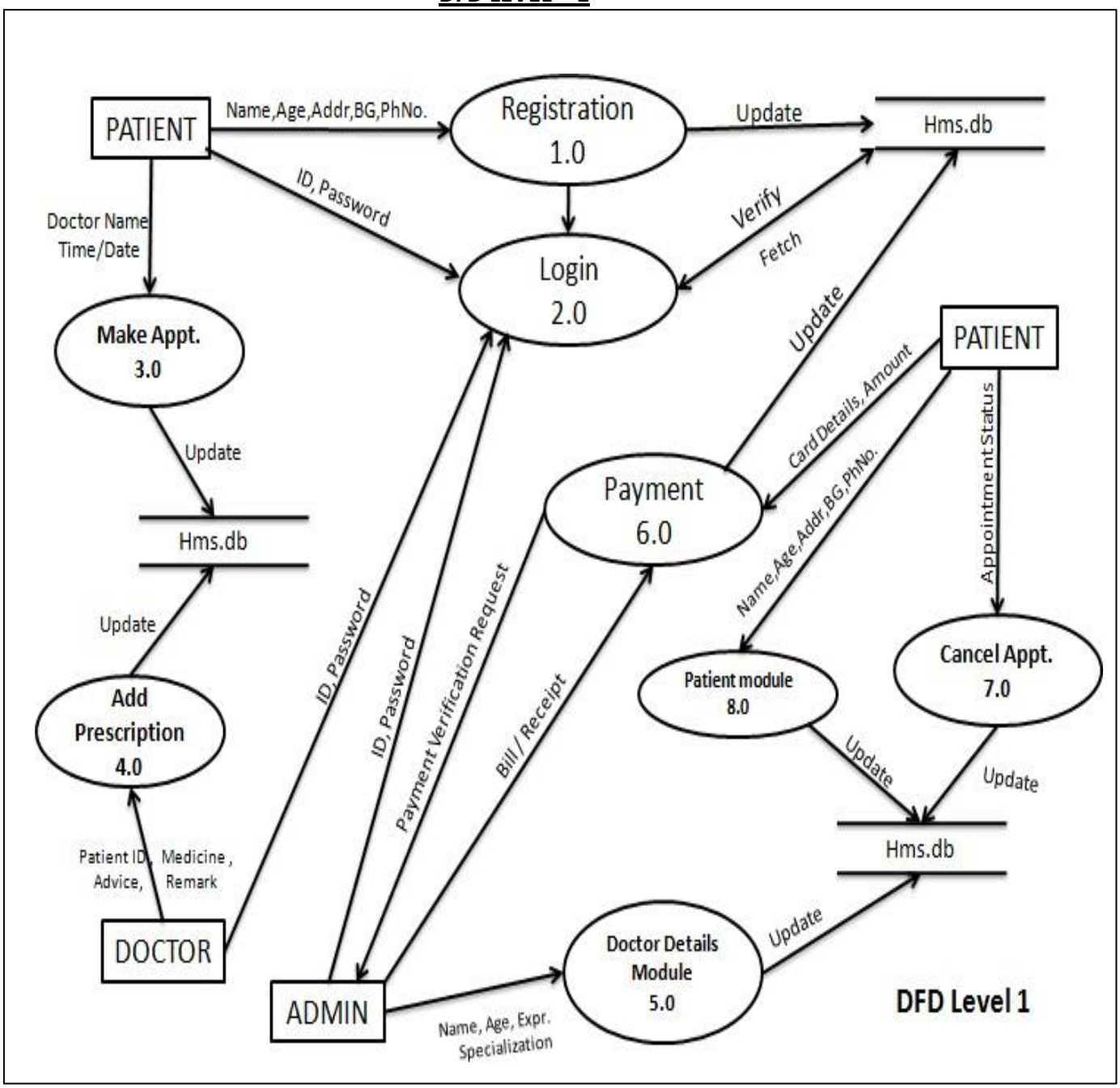


4.2 DATA FLOW DIAGRAM (DFD)-

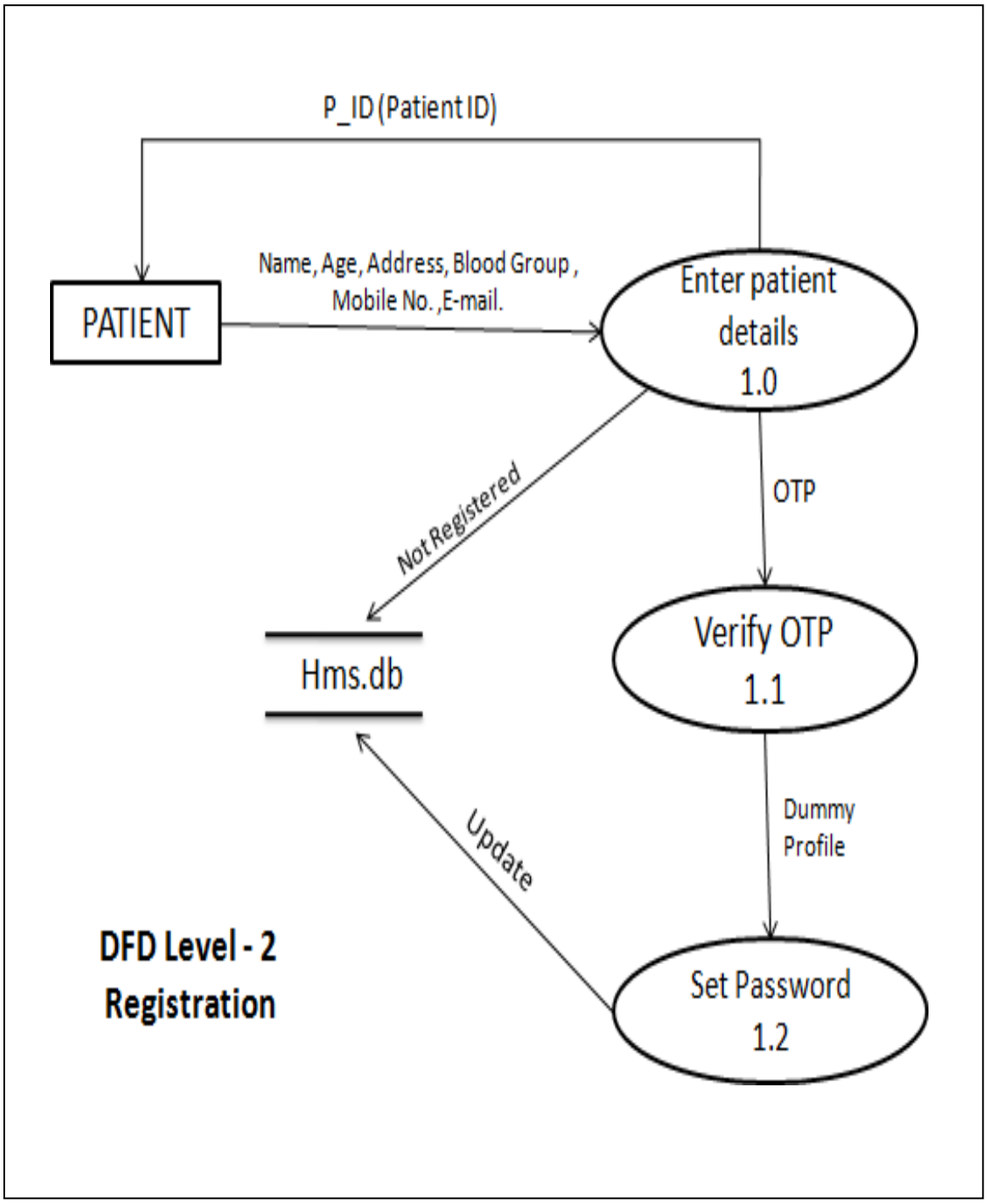
CONTEXT LEVEL DIAGRAM



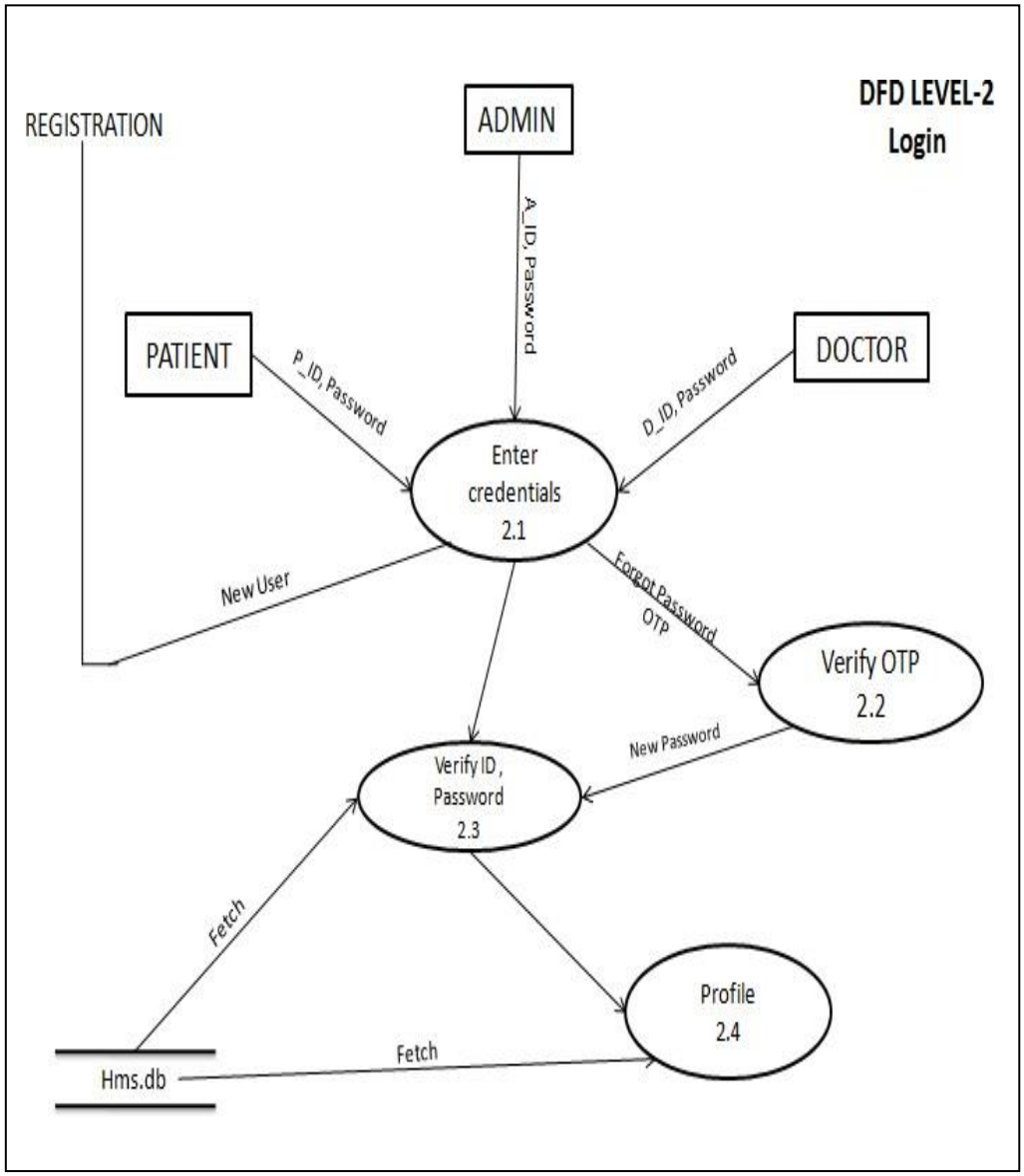
DFD LEVEL – 1


PATIENT
Name,Age,Addr,BG,PhNo.
Registration
1.0
Update
Hms.db
ID, Password
Doctor Name
Time/Date
Verify
Fetch
Login
2.0
Make Appt.
3.0
Update
Update
PATIENT
Card Details, Amount
Name,Age,Addr,BG,PhNo.
Appointment Status
Hms.db
Payment
6.0
Update
Add
Prescription
4.0
ID, Password
ID, Password
Payment Verification Request
Bill / Receipt
Patient module
8.0
Cancel Appt.
7.0
Update
Update
Hms.db
Patient ID, Medicine ,
Advice, Remark
DOCTOR
ADMIN
Name, Age, Expr.
Specialization
Doctor Details
Module
5.0
Update
DFD Level 1

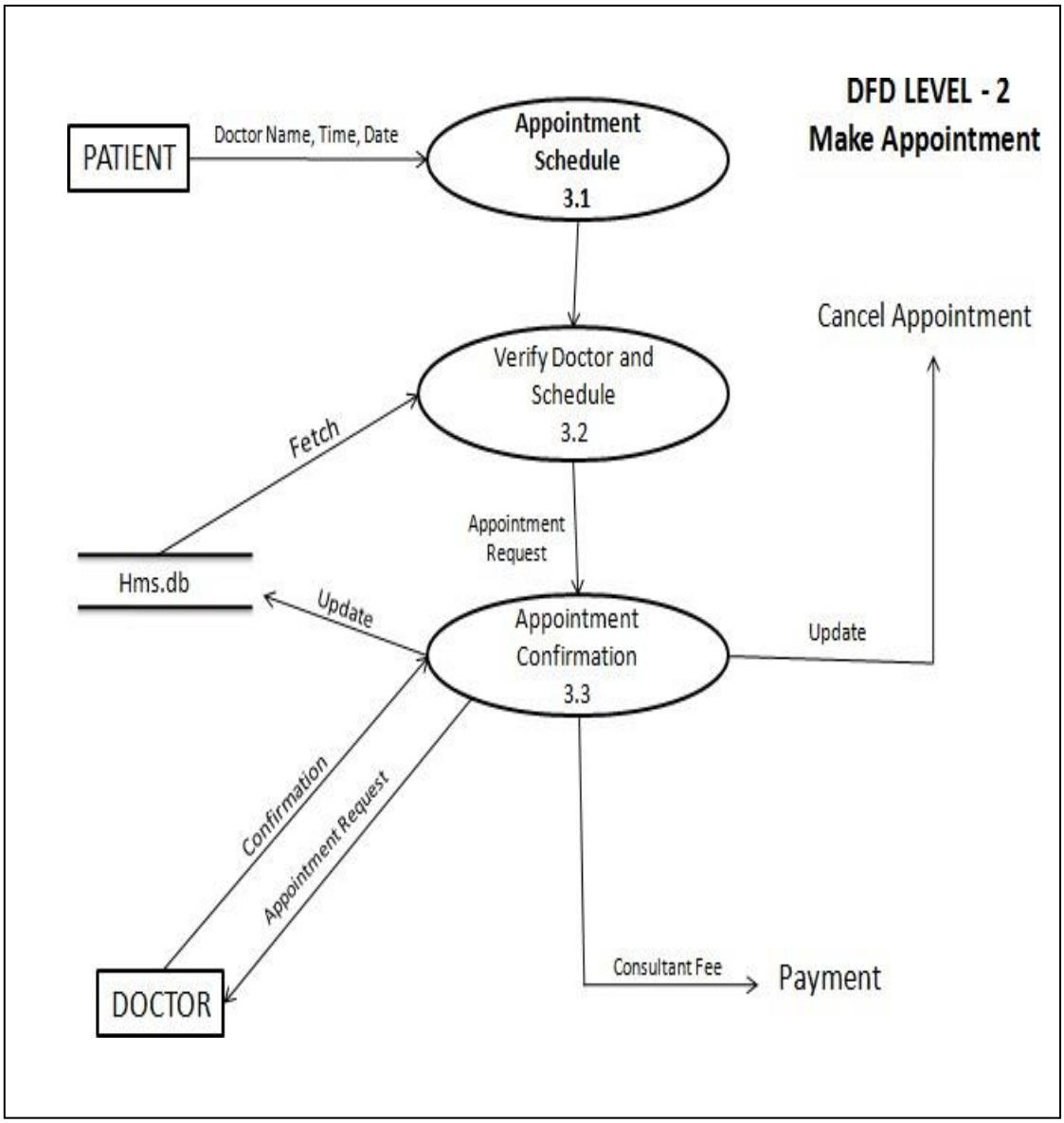
LEVEL-2 REGISTRATION



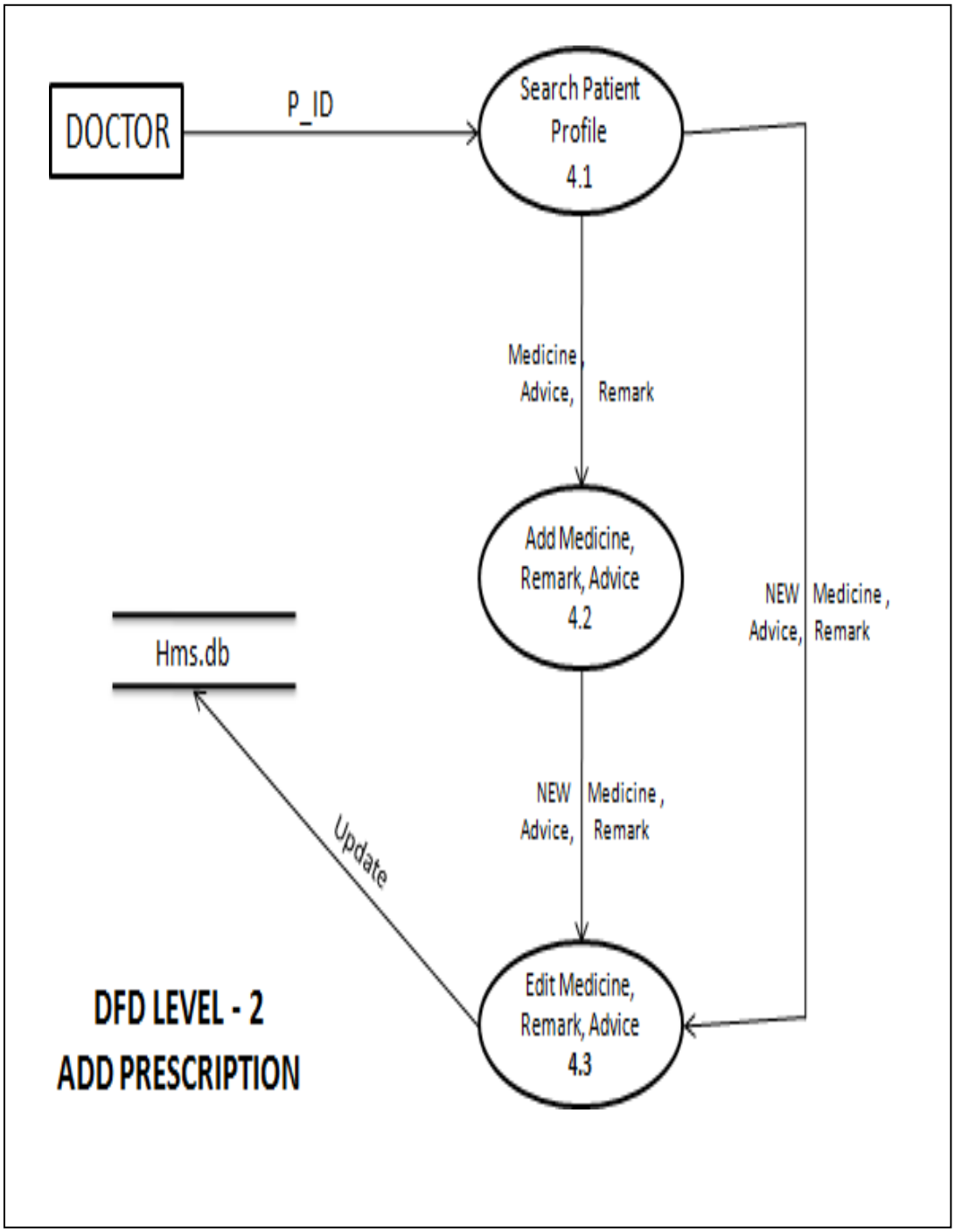
LEVEL-2 LOGIN



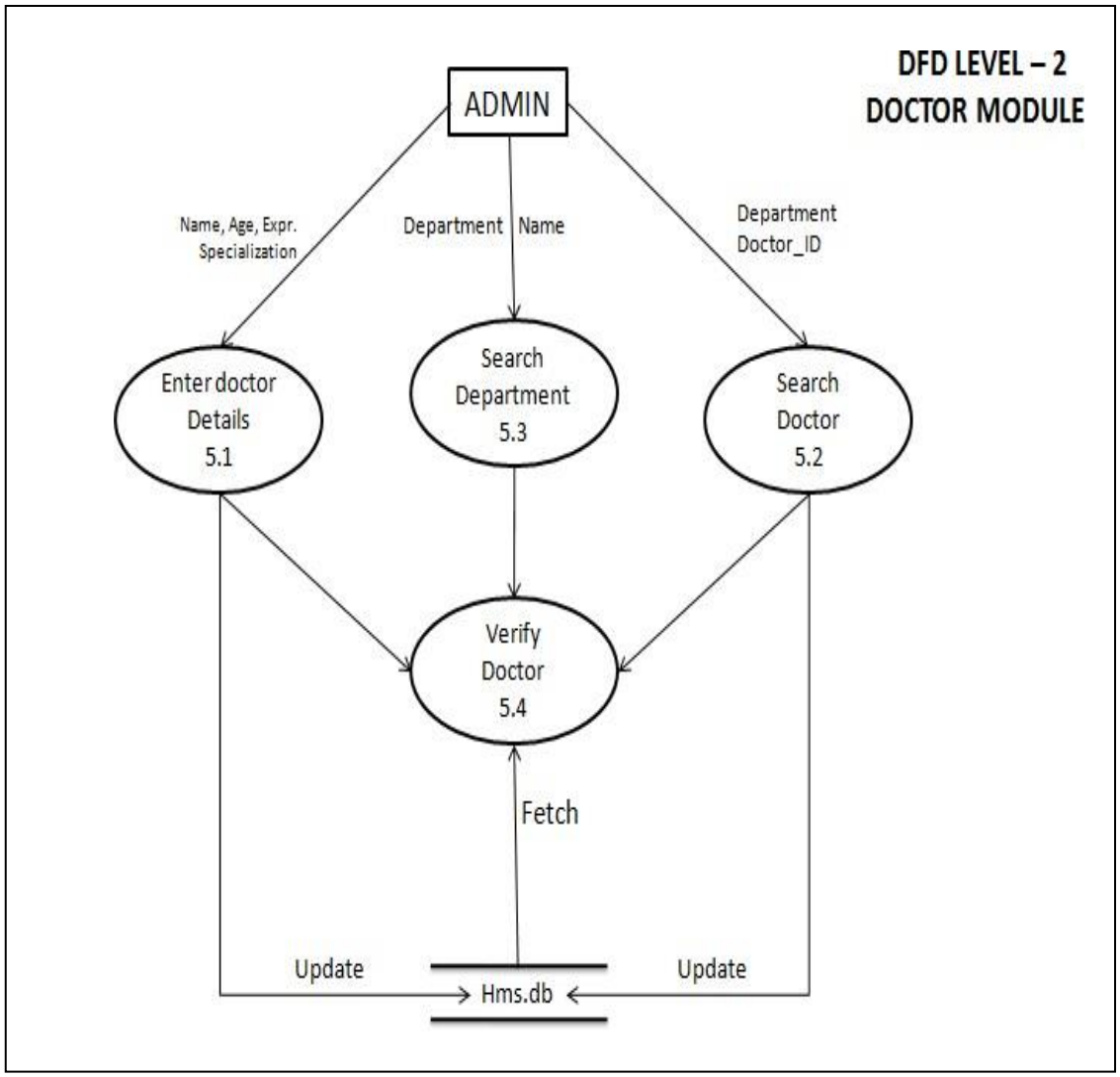
LEVEL-2 MAKE APPOINTMENT



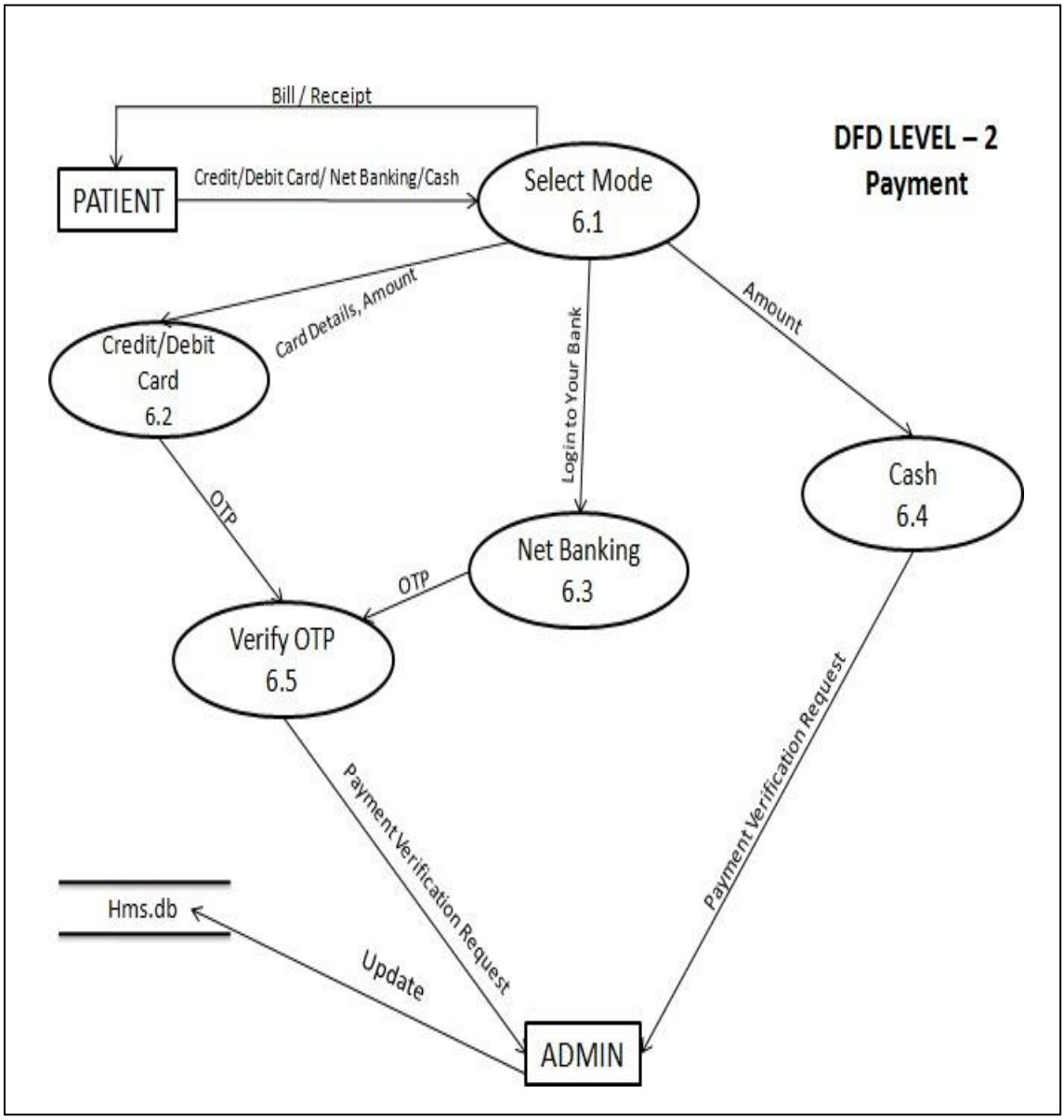
LEVEL-2 ADD DESCRIPTION



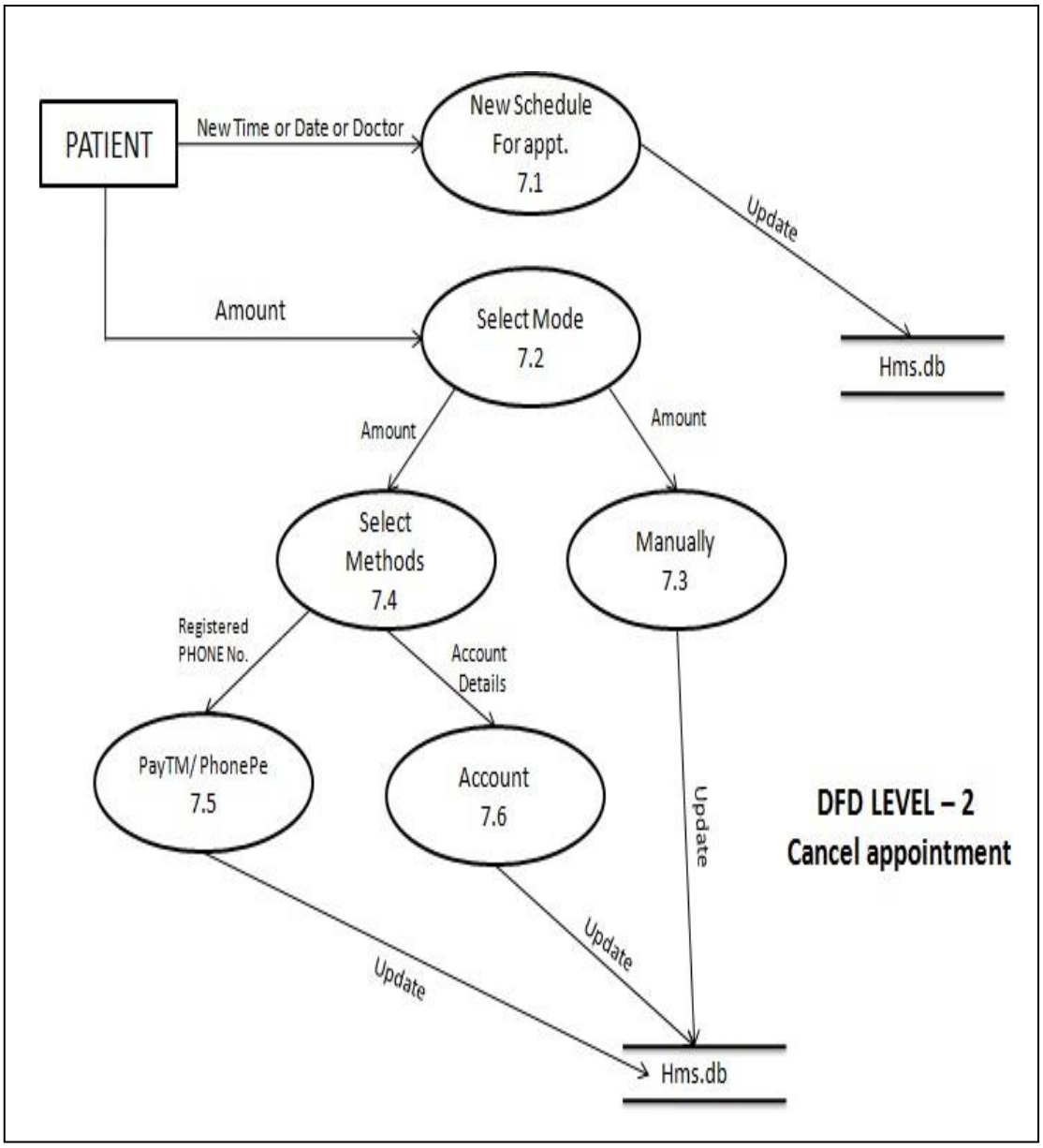
LEVEL-2 DOCTOR MODULE



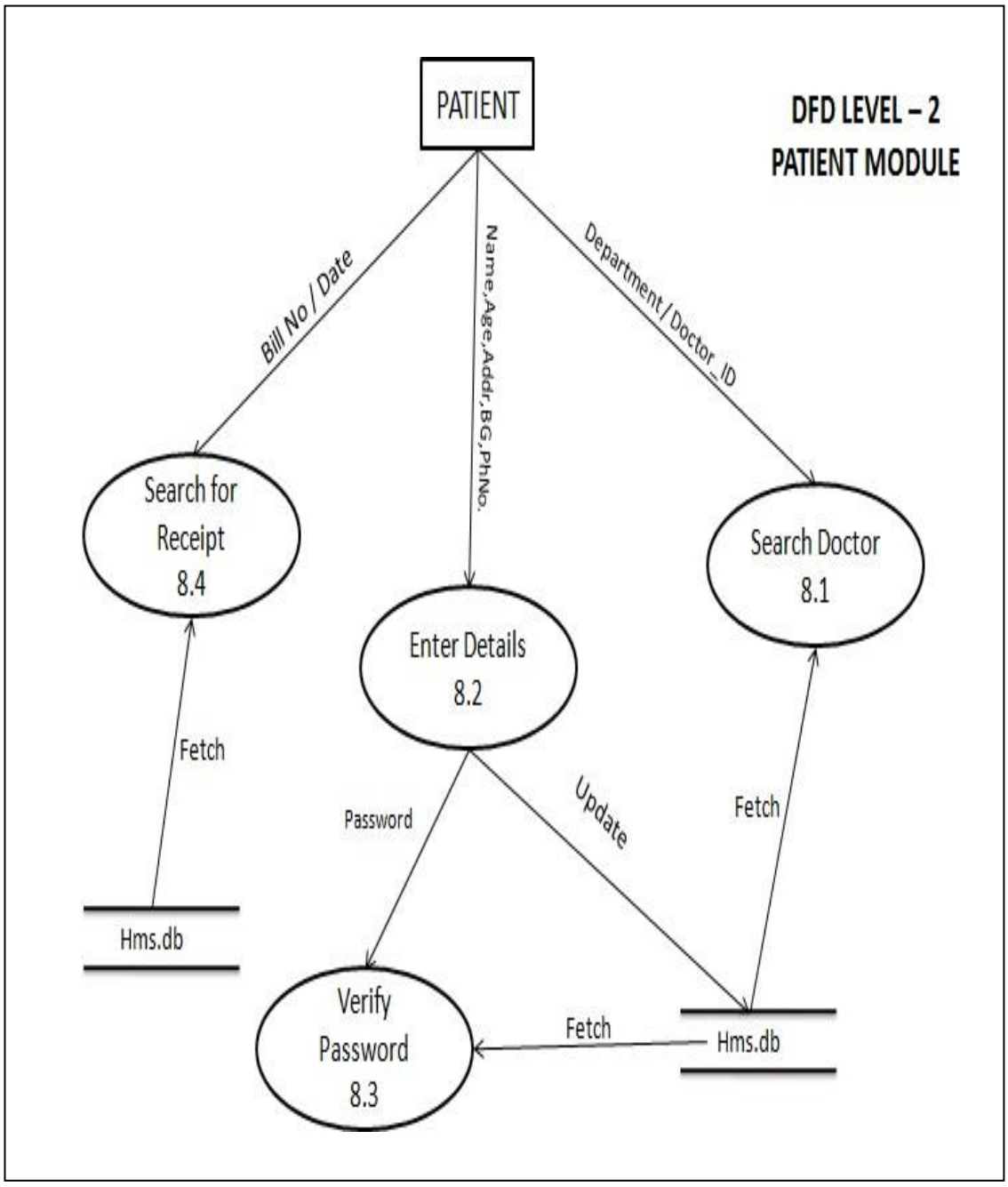
LEVEL-2 PAYMENT



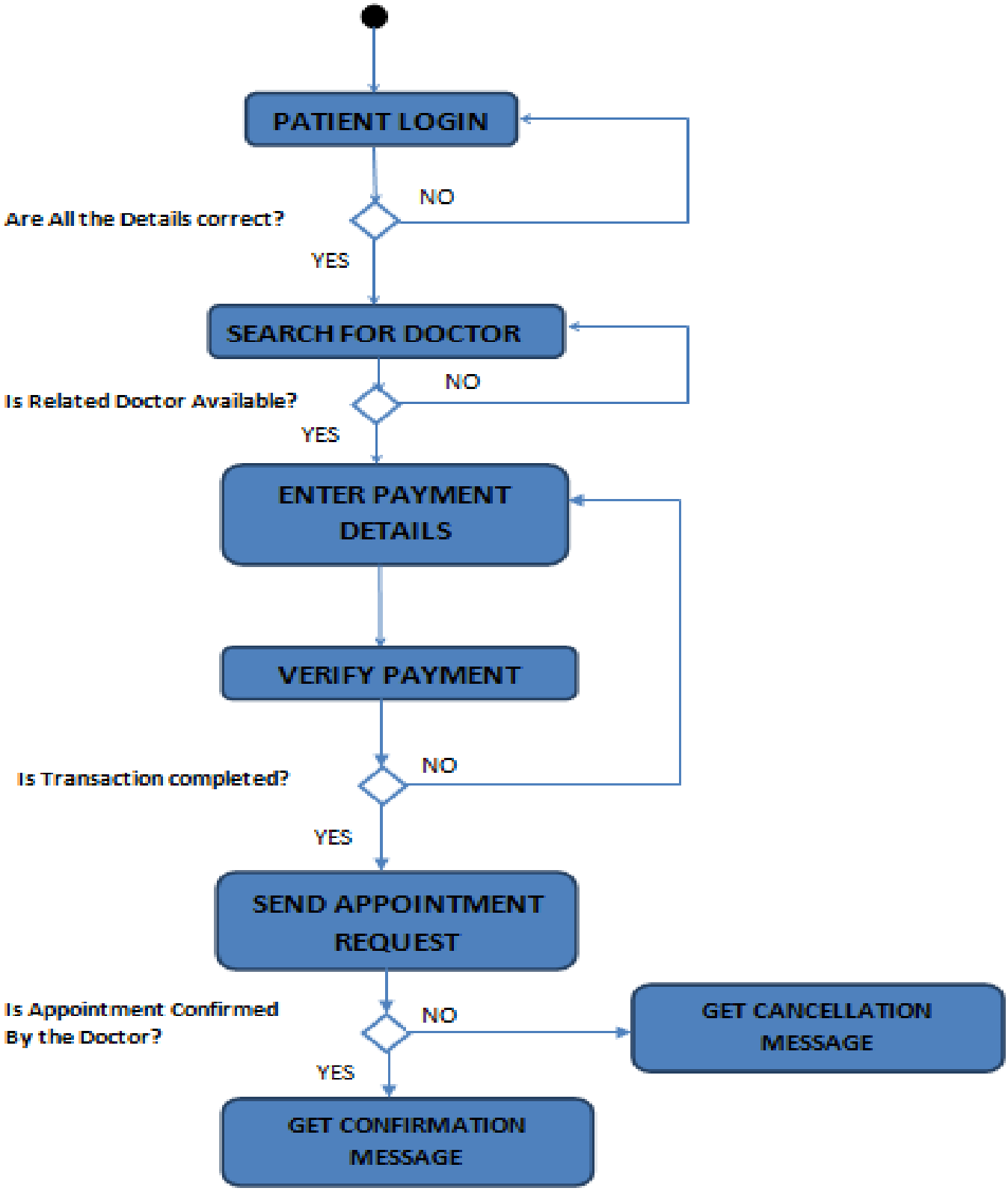
LEVEL-2 CANCEL APPOINTMENT



LEVEL-2 PATIENT MODULE



4.3 SEQUENCE DIAGRAM



CHAPTER 5
CONCLUSION

This project helped us to understand the importance of planning, designing and implementation so far we have learnt in our theory books.

This project focused that scheduling a project and adhering to that schedule creates a hard sense of time- management.

The entire project has been developed and deployed as per the requirements stated bythe user.

There are also few features which can be integrated with this system to make it more flexible. Below list shows the future points to be consider :

- Getting the current status of patient.
- Including a different module for pharmacy, LAB, Bed Allotment and many more.
- Including a Frequently Asked Questions Section.

Finally, we like to conclude that we put all our efforts throughout the development ofour project and tried to fulfill most of the requirements of the user