

A Mini Project Report
on
“Hospital Management System”
Group Id : 01

Submitted by

33219 Puneet Dhanuka

33220 Rushikesh Dhole

33222 Shivam Garje

33223 Gaurav Ghati



Department Of Information Technology
Pune Institute of Computer Technology College of Engineering
Sr. No 27, Pune-Satara Road, Dhankawadi, Pune - 411 043.

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Abstract

The purpose of the project entitled as “HOSPITAL MANAGEMENT SYSTEM” is to computerize the Front Office Management of Hospital to develop software which is user friendly, simple, fast, and cost-effective. It deals with the collection of patient's information, diagnosis details, etc. Traditionally, it was done manually. The main function of the system is to register and store patient details and doctor details and retrieve these details as and when required, and also to manipulate these details meaningfully. System input contains patient details, diagnosis details, while system output is to get these details on to the screen. The Hospital Management System can be entered using a username and password. It is accessible either by administrator or doctor. Only they can add data into the database. The data can be retrieved easily. The data are well protected for personal use and makes the data processing very fast.

Acknowledgement

We have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organizations. I would like to extend my sincere thanks to all of them.

I am highly indebted to Dr. Emmanuel for their guidance and constant supervision as well as for providing necessary information regarding the project & also for their support in completing the project.

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CHAPTER 1

INTRODUCTION

The project is about a Hospital Management System, in which we created a proper software which will keep records for all Doctors, patients and various other employees in the Hospital, the Software can also be used by the Admin of the hospital to create appointments between Doctors working in hospital and Patients.

The Software will also store the covid vaccination status of patients and shows patients who are not vaccinated.

1.1 Purpose

We are in the middle of a pandemic, the volume of patients visiting hospitals are increasing day by day. Few major hospitals can manage their work properly, but the majority of them still don't have proper working software to handle the hospital's requirements. We feel responsible towards the situation, as citizens we must do something from our side. Also going paperless is a need of today's world which will protect our environment and reduce cutting of trees.

So, we decided to go for this project and create a proper Hospital management system, which will solve all this problem.

1.2 Scope

All this work is done manually by the receptionist and other operational staff and a lot of papers are needed to be handled and taken care of. Doctors have to remember various medicines available for diagnosis and sometimes miss better alternatives as they can't remember them at that time. The limited time and resources have restricted us to incorporate, in this project, only main activities that are performed in a Hospital Management System, but utmost care has been taken to make the system efficient and user friendly. Also some features like digital case papers which reduces human contact and keeping record of people who are given covid vaccine and those who not has maintained in hospital management system.

1.3 Definition, Acronym and Abbreviations

Implement a desktop app based on relational DBMS for hospital management system using

Java swing as front end, JDBC as back end and MYSQL as Database.

DBMS :Database Management System

JDBC :Java Database Connectivity

SQL :Structured Query Language

1.4 References

- <https://mocdoc.in/blog/a-detailed-view-of-hospital-management-system-hms>
- <https://www.docengage.in/hospital-management-system>
- <https://www.leadssquared.com/what-is-hospital-management-system/>

1.5 Developer's Responsibilities

Develop database of hospital management system project in MySQL

Design front end for the project

Develop backend for project in JDBC

Connect front end with database using JDBC

Perform form validations to maintain consistency in database

CHAPTER 2

General Description

2.1 Product Function Perspective

We have created a desktop app for hospital management system. This app will provide hospital admin and doctor with various functions.

2.2 User Characteristics

The Whole Software have these functionalities:

- 1)Admin can add doctors ,Staff and patients
- 2)Admin can add appointments
- 3)Admin can view patient details
- 4)Admin can change vaccination status once patient is vaccinated
- 5)Admin can pass report to doctor
- 6)Doctor can view ,edit and delete appointments

7) Doctor can see patient details

8) Doctor can see patient report sent by admin

2.3 General Constraints

If we see performance constraints ,as we are using Java swing, JDBC and MYSQL its performance will be good .Java swing is very lightweight and have good performance.Also JDBC is trusted back end framework from long time.

2.4 Assumptions and Dependencies

We can install this website on any windows PC and it will be a desktop app on that PC.Both doctor and admin will have a common database and they can use their features.

CHAPTER 3

Specific Requirements

3.1 Inputs and Outputs

Our hospital management system will have a simple UI. Admin can add doctor,patient,staff.Admin can also book appointments. Admin can see patient details and also can pass report to doctor. Admin can also see patients who are not vaccinated.Doctor can see patient details and also appointments.Doctor can also edit appointments and delete them.

3.2 Functional Requirements

In our hospital management system functional requirements are admin and doctor two different windows where admin will add all patients,doctors and staff and doctor can see appointments, reports sent by admin.

3.3 Functional Interface Requirements

Our hospital management system is very user friendly.It consists of two parts one is admin screen and other is doctor screen. User can enter into respective screen from login window.All the buttons which invoke different frames are given on left of screen and frames open on middle part of screen and do not overlap with buttons.

3.4 Performance Constraints

Our desktop app is very lightweight due to use of java swing for UI. We used JDBC for connection which is trusted connectivity medium in Java.Also our desktop app is not connected to internet so it is more secure .

3.5 Design Constraints

We have used uniform colour in our hospital management system and also kept buttons on one side so that they do not get overlapped with forms which open.

3.6 Acceptance Criteria

All data entered by user should be valid such as name,email id,phone no, height,weight then only data is accepted otherwise it is rejected and proper error is shown in dialog box.

CHAPTER 4

System Design

4.1 ER Model

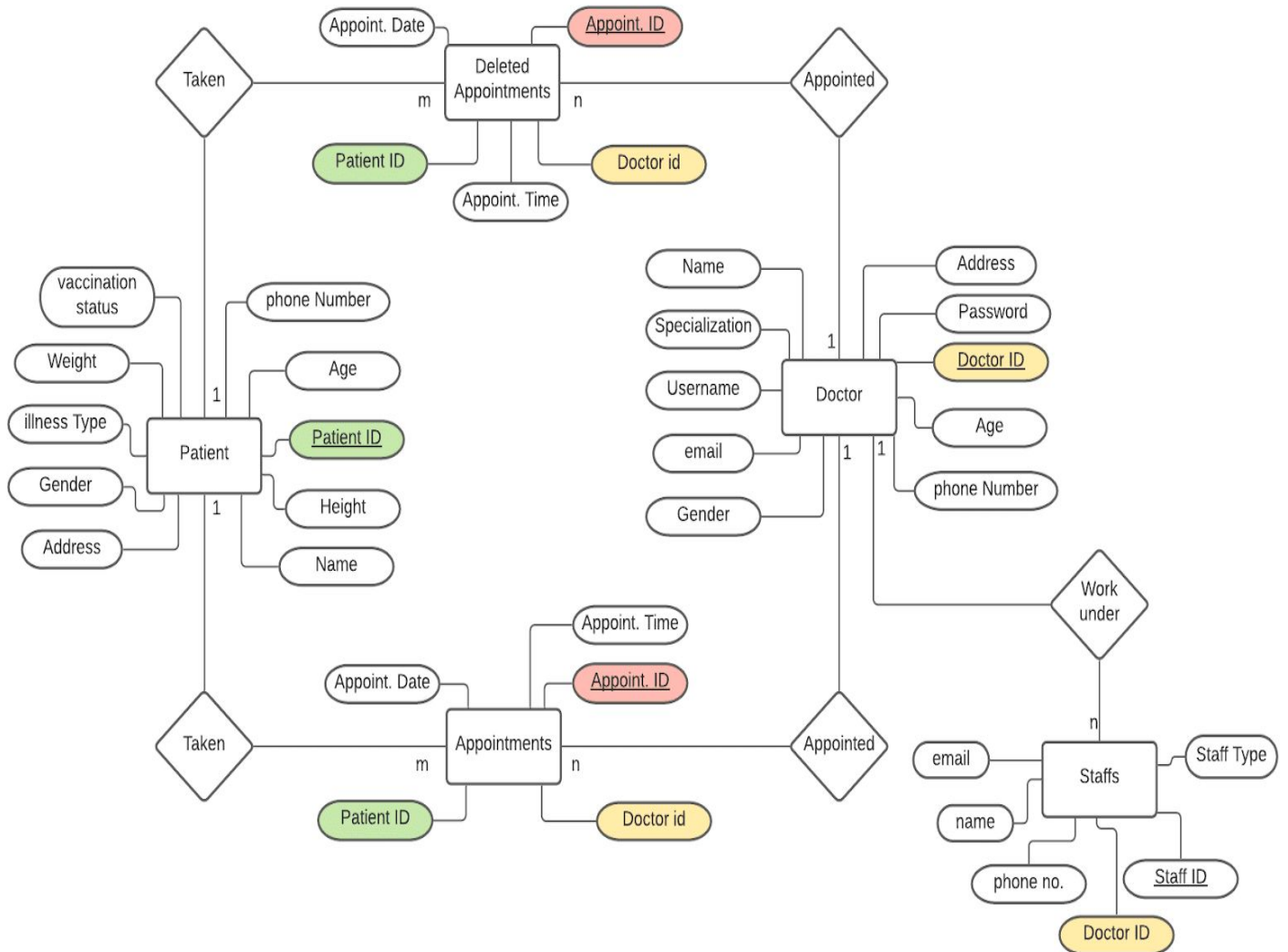


Fig 1

4.2 Schema Description

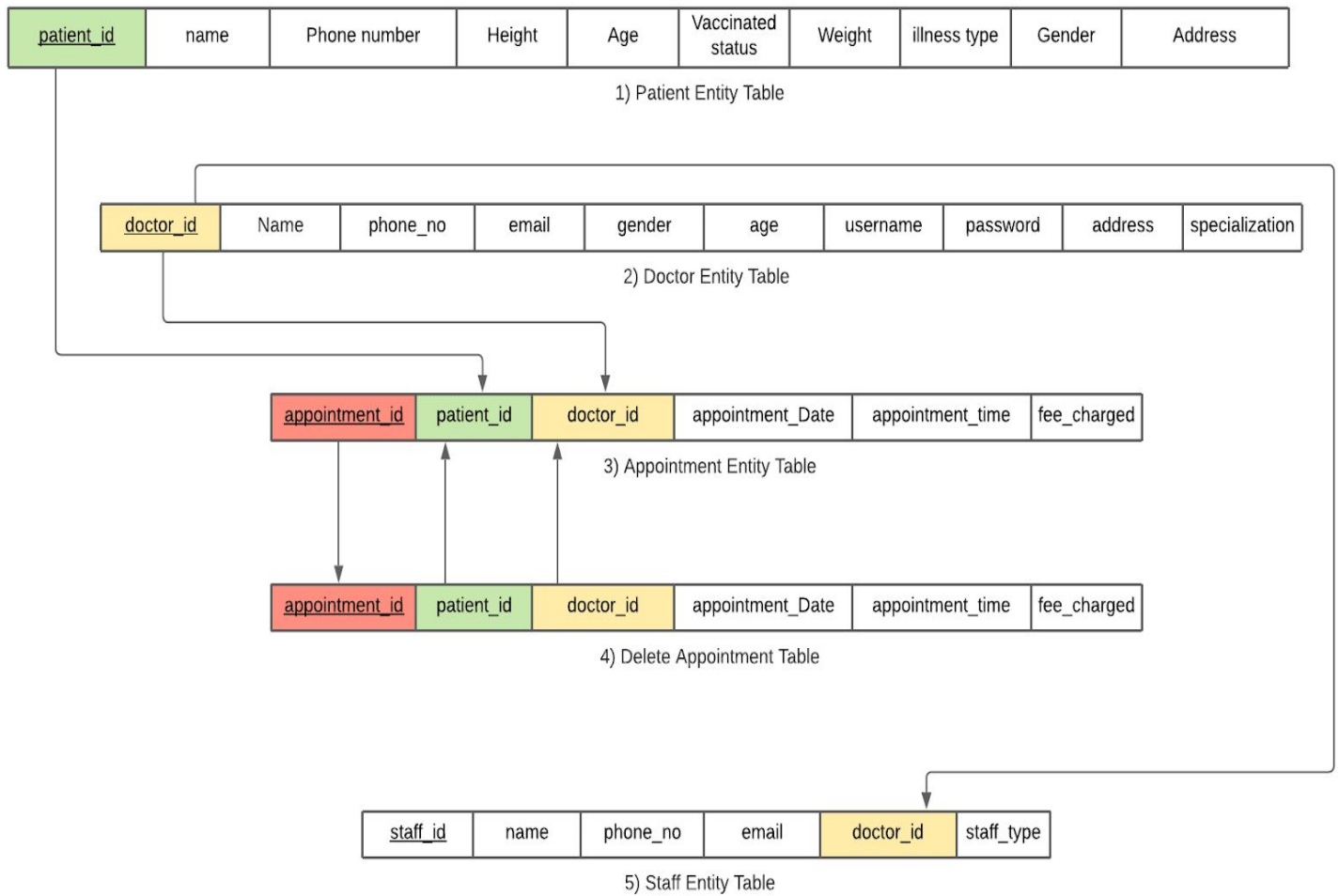


Fig 2

4.3 Tables Description

Appointments :

Table Name: Database: Comment:

Columns and Indices Table Options Advanced Options

Column Name	Datatype	NOT NULL	AUTO INC	Flags	Default Value	Comment
APPOINTMEN...	INTEGER	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL	<input type="text" value="NULL"/>	
DATE	DATE	<input checked="" type="checkbox"/>			<input type="text" value="NULL"/>	
PATIENTID	INTEGER	<input checked="" type="checkbox"/>		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL	<input type="text" value="NULL"/>	
DOCTORID	INTEGER	<input checked="" type="checkbox"/>		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL	<input type="text" value="NULL"/>	
TIME_SLOT	VARCHAR(45)	<input checked="" type="checkbox"/>		<input type="checkbox"/> BINARY	<input type="text" value="NULL"/>	

Doctor :

Table Name: Database: Comment:

Columns and Indices Table Options Advanced Options

Column Name	Datatype	NOT NULL	AUTO INC	Flags	Default Value	Comment
DOCTORID	INTEGER	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL	<input type="text" value="NULL"/>	
USERNAME	VARCHAR(30)	<input checked="" type="checkbox"/>		<input type="checkbox"/> BINARY	<input type="text" value="NULL"/>	
NAME	VARCHAR(50)			<input type="checkbox"/> BINARY	<input type="text" value="NULL"/>	
EMAIL	VARCHAR(50)	<input checked="" type="checkbox"/>		<input type="checkbox"/> BINARY	<input type="text" value="NULL"/>	
AGE	INTEGER			<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL	<input type="text" value="NULL"/>	
SPECIALIZATI...	VARCHAR(100)			<input type="checkbox"/> BINARY	<input type="text" value="NULL"/>	
PHONENO	VARCHAR(10)			<input type="checkbox"/> BINARY	<input type="text" value="NULL"/>	
GENDER	VARCHAR(1)			<input type="checkbox"/> BINARY	<input type="text" value="NULL"/>	
ADDRESS	VARCHAR(100)			<input type="checkbox"/> BINARY	<input type="text" value="NULL"/>	
PASSWORD	VARCHAR(100)			<input type="checkbox"/> BINARY	<input type="text" value="NULL"/>	

Deleted Appointments :

Table Name: Database: Comment:

Columns and Indices Table Options Advanced Options

Column Name	Datatype	NOT NULL	AUTO INC	Flags	Default Value	Comment
APPOINTMEN...	INTEGER	<input checked="" type="checkbox"/>		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL	<input type="text" value="NULL"/>	
DATE	DATE	<input checked="" type="checkbox"/>			<input type="text" value="NULL"/>	
PATIENTID	INTEGER	<input checked="" type="checkbox"/>		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL	<input type="text" value="NULL"/>	
DOCTORID	INTEGER	<input checked="" type="checkbox"/>		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL	<input type="text" value="NULL"/>	
TIMESLOT	VARCHAR(45)	<input checked="" type="checkbox"/>		<input type="checkbox"/> BINARY	<input type="text" value="NULL"/>	

Patient :

Table Name: Database: Comment:

Columns and Indices Table Options Advanced Options

Column Name	Datatype	NOT NULL	AUTO INC	Flags	Default Value	Comment
PATIENTID	INTEGER	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL	<input type="text" value="NULL"/>	
NAME	VARCHAR(50)			<input type="checkbox"/> BINARY	<input type="text" value="NULL"/>	
AGE	INTEGER			<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL	<input type="text" value="NULL"/>	
PHONENO	VARCHAR(10)			<input type="checkbox"/> BINARY	<input type="text" value="NULL"/>	
GENDER	VARCHAR(1)			<input type="checkbox"/> BINARY	<input type="text" value="NULL"/>	
ADDRESS	VARCHAR(100)			<input type="checkbox"/> BINARY	<input type="text" value="NULL"/>	
WEIGHT	FLOAT			<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL	<input type="text" value="NULL"/>	
HEIGHT	FLOAT			<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL	<input type="text" value="NULL"/>	
ILLNESSTYPE	VARCHAR(100)			<input type="checkbox"/> BINARY	<input type="text" value="NULL"/>	
VACCINEATIO...	INTEGER	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL	<input type="text" value="0"/>	

Staff :

Table Name: Database: Comment:

Columns and Indices Table Options Advanced Options

Column Name	Datatype	NOT NULL	AUTO INC	Flags	Default Value	Comment
STAFFID	INTEGER	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL	<input type="text" value="NULL"/>	
NAME	VARCHAR(30)	<input checked="" type="checkbox"/>		<input type="checkbox"/> BINARY	<input type="text" value="NULL"/>	
PHONENO	VARCHAR(10)	<input checked="" type="checkbox"/>		<input type="checkbox"/> BINARY	<input type="text" value="0"/>	
EMAIL	VARCHAR(30)			<input type="checkbox"/> BINARY	<input type="text" value="NULL"/>	
DOCTORID	INTEGER			<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL	<input type="text" value="NULL"/>	
WORKTYPE	VARCHAR(40)			<input type="checkbox"/> BINARY	<input type="text" value="NULL"/>	

4.4 System Flow Chart / Activity Diagram

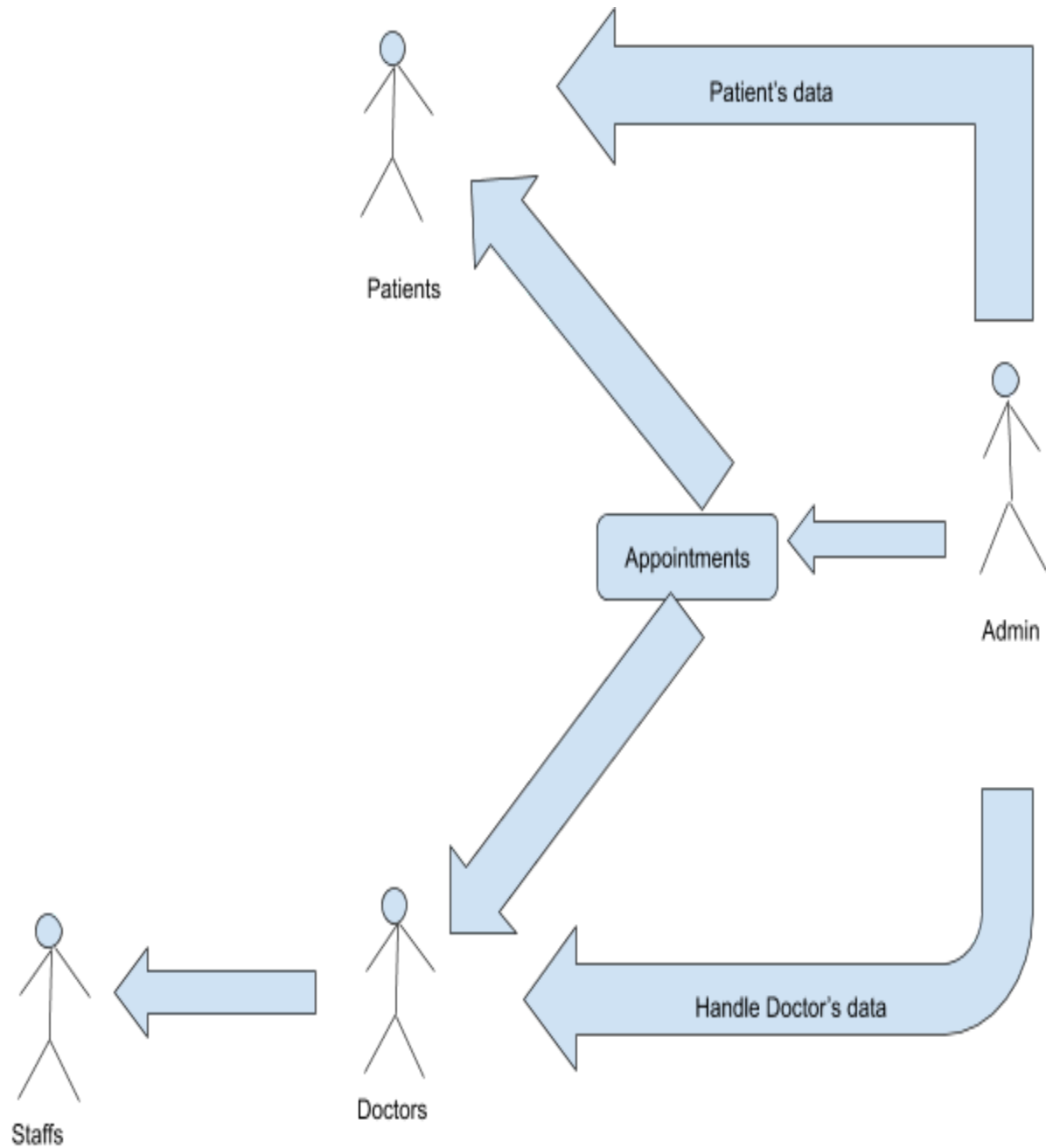
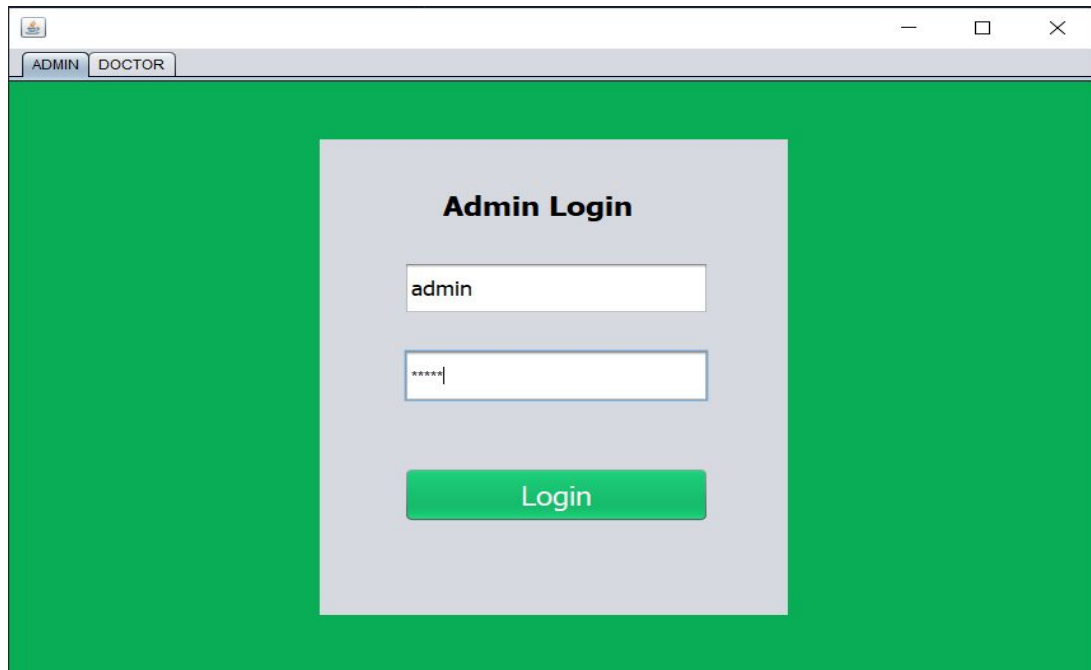


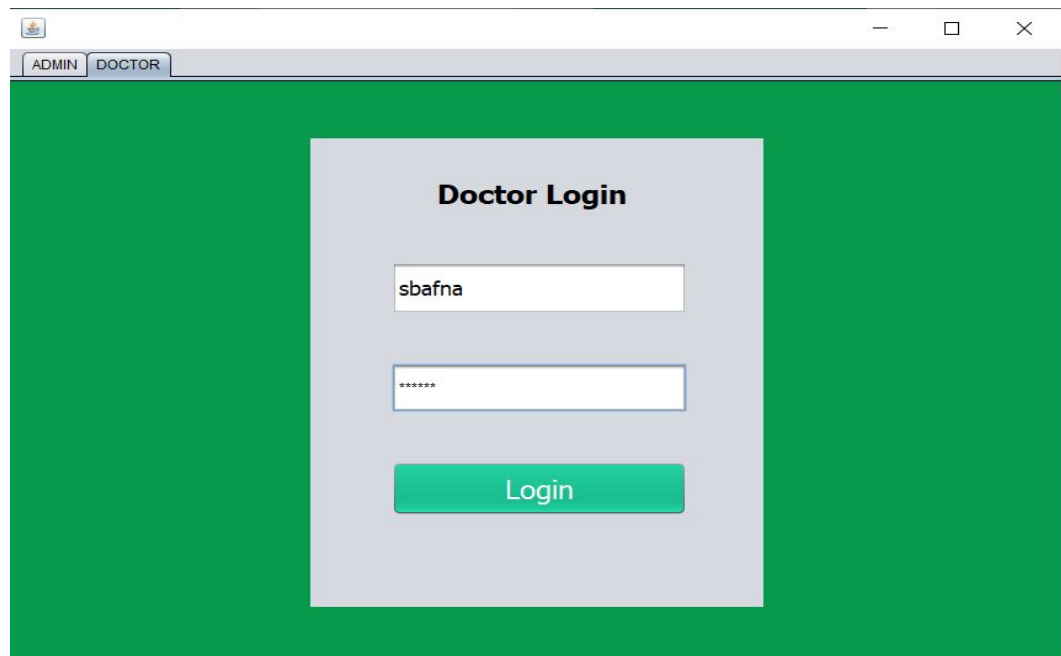
Fig 3

4.5 User Interface Design

1) Admin and Doctor login



A screenshot of a web browser window showing the 'Admin Login' form. The browser's address bar contains 'ADMIN' and 'DOCTOR' tabs. The form is centered on a green background and consists of a light gray box. Inside the box, the title 'Admin Login' is at the top. Below it are two input fields: the first contains the text 'admin', and the second contains five asterisks '*****'. At the bottom of the box is a green button labeled 'Login'.



A screenshot of a web browser window showing the 'Doctor Login' form. The browser's address bar contains 'ADMIN' and 'DOCTOR' tabs. The form is centered on a green background and consists of a light gray box. Inside the box, the title 'Doctor Login' is at the top. Below it are two input fields: the first contains the text 'sbafna', and the second contains six asterisks '*****'. At the bottom of the box is a green button labeled 'Login'.

2) Admin Dashboard



3) Admin add-patient forms

Enter Patient Details

First Name

Last Name

Phone No

Blood Group

Gender

☐ Male ☐ Female

Age

Height

Weight

Illness Type


Vaccinated

☐ Yes ☐ No

Address

ADD

4) Admin -Show Vaccinated patients report



Id	Name	Phone No	Address
15	RUSHIKESH DHOLE	9370505504	xyz,Pune
16	CHIRAG VOHRA	8787745454	lmn,Pune
17	RAM KADAM	7777777777	qwe,Pune
18	PUNEET DHANUKA	9898886484	rty,Pune
19	GAURAV GHATI	9878646545	dfa,Pune
20	SHIVAM GARJE	8976786754	zxc,Pune
21	ROHIT RANBHARE	9684455498	irdv,Pune
22	VISHWA KULKARNI	8968644542	tyu,Pune

Get Data

5) Admin add-Doctor forms

×

Enter Doctor's Details

First Name	<input type="text"/>	Last Name	<input type="text"/>
Username	<input type="text"/>	Password	<input type="text"/>
Phone No	<input type="text"/>	Email	<input type="text"/>
Specialization	<input type="text"/>		
Gender	<input type="radio"/> Male <input type="radio"/> Female	Age	<input type="text"/>
Address	<input type="text"/>		

ADD

6) Admin Book Appointment forms

Book Appointment

Choose Doctor

Rushikesh Dhole

Enter Patient ID

Choose Date

Choose Time Slot

10 AM to 2PM

BOOK

8)Admin-Pass report to doctor

Pass Report To Doctor

Choose Doctor

SUYASH BAFNA

Send

Take

Retake

9) Doctor Dashboard

SUYASH BAFNA

Hospital Managment System

View Patient Details

View Appointments

Edit Appointments

See Report

10)Doctor-View Appointments


Choose Date :

2020-12-04

AppointmentId	Patient's Name	Patients's Mobilen	Illness	Time slot
22	RAM KADAM	7777777777	HEART	10 AM to 2PM
23	ROHIT RANBHARE	9684455498	HEART	10 AM to 2PM

View Appointments


11) Doctor - Get Patient Details



Enter Patient's mobile no :

Id:	-----	Height :	-----
Name :	-----	Weight :	-----
Age :	-----	Illness Type:	-----
Gender :	-----	Vaccinated :	-----
Address :	-----		


12) Doctor - edit appointment



Edit Appointment

Appointment ID

New Date



Edit

Delete Appointment

Appointment ID

Delete

4.6 Error Messages / Alerts Design

When the Doctor / Patient enters his data to book an appointment the fields are validated to prevent incorrect data from being stored in the Database.

CHAPTER 5

System Implementation

5.1 Hardware and Software Platform description

- Hardware : PC, Web camera
- Software : JDBC, Java swing and MYSQL

5.2 Tools Used

- Netbeans
- MySql query browser
- MySql client

5.3 Future Work / Extension

Scope of this project is only limited to one hospital's admins and Doctors only. There is no login for staff to manage their data and also no login for patients to see the report result. We can make it more usable by including login for patients and staff also. This way all will be able to handle their details properly. Also we can add notification feature when doctor receives report from admin which is currently not present.

5.4 CONCLUSION

In our project Hospital Management system we have stored all the information about the Doctors, Patients which visit the hospital for treatment, their appointments and staff which works there. The database is helpful for hospitals to manage, create, add and retrieve data of patients.

Few Points of our application:

- It is easy to use desktop software, which doctors, admins and patients can use.
- We have successfully implemented MySQL along with Java swing, and connectivity by JDBC.
- Scope of this project is only limited to one hospital's admins. We will try to make it more usable by including login for patients and staff also.
- Project UI is user friendly and proper information is displayed on the interface and is fetched from mysql database.

This Application will definitely help hospitals to manage their work and can help in pandemic situations like COVID to deal with high volume of patients.

CHAPTER 6

References

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- <https://www.w3schools.com/sql/>
- <https://www.javatpoint.com/socket-programming>