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**Java Project**

**Theory Digital Assignment**

**Faculty: Anitha A**

**Course: Java Programming**

**Title: Hospital Management System**

**Aim**

The aim of this project is to make a small application for receptionist at a clinic to make appointments of patients with doctors at a particular date.

**Introduction**

A Hospital Management System (HMS) is a system that allows hospitals to manage information and data related to all aspects of healthcare – processes, providers, patients, and more – ensuring that processes are completed quickly and effectively. When one considers the various aspects and departments of a hospital, it is clear that an HMS is essential. The hospital management system was introduced in 1960 and has evolved significantly since then, with the ability to integrate with a hospital's existing facilities, technologies, software, and systems. Patients can now begin the healthcare process in the palm of their hand, thanks to mobile devices and apps. This procedure is then carried out by healthcare providers and hospitals.

**Hardware Specifications –**

• HP (Intel i5, 8 GB ram, 128 GB SSD Storage)

**Software Specifications –**

Operating System – Windows 10 Compiler – IntelliJ Ultimate

Database – MySQL with Wampp

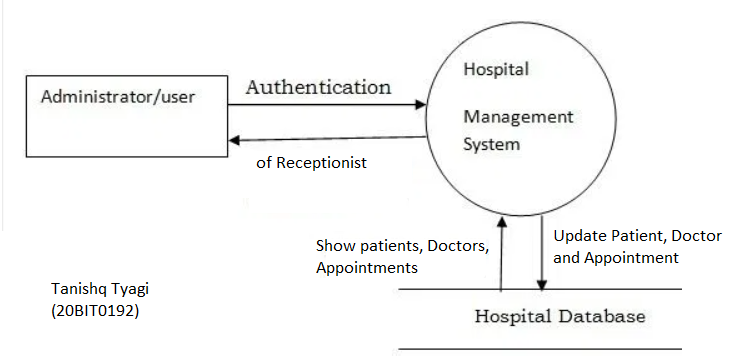
**Modules –**

1. Receptionist/Staff login: These are the one who administers the system by adding or removing the patients or doctors and make appointment in the system.

2. Add and Update User: The Receptionist/Staff can add users to the system by entering the details of the Patient and Doctor even update the Appointment

3. Delete : They will be able to delete the patients, doctors or appointments as well.

**DFD:**



**HelloApplication.java ->**

package com.example.hospitalmanagementsystem;  
  
import javafx.application.Application;  
import javafx.fxml.FXMLLoader;  
import javafx.scene.Scene;  
import javafx.scene.image.Image;  
import javafx.stage.Stage;  
  
import java.io.IOException;  
  
public class HelloApplication extends Application {  
 @Override  
 public void start(Stage stage) throws IOException {  
 FXMLLoader fxmlLoader = new FXMLLoader(HelloApplication.class.getResource("hello-view.fxml"));  
 Scene scene = new Scene(fxmlLoader.load(), 600, 400);  
 stage.setTitle("Hospital Management System");  
 stage.setScene(scene);  
 stage.show();  
 }  
  
 public static void main(String[] args) {  
 launch();  
 }  
}

**DB.java ->**

package com.example.hospitalmanagementsystem.database;  
  
import com.example.hospitalmanagementsystem.model.Appointment;  
import com.example.hospitalmanagementsystem.model.Doctor;  
import com.example.hospitalmanagementsystem.model.Patient;  
import javafx.collections.FXCollections;  
import javafx.collections.ObservableList;  
import javafx.scene.control.Alert;  
import javafx.scene.control.ButtonType;  
import javafx.scene.layout.Region;  
  
import java.sql.\*;  
  
public class DB {  
  
 public static void showMessage(String content, Alert.AlertType type) {  
 Alert alert = new Alert(type, content, ButtonType.*OK*);  
 alert.getDialogPane().setMinHeight(Region.*USE\_PREF\_SIZE*);  
 alert.show();  
 }  
  
 public static void register(String user, String pwd){  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 Statement statement = con.createStatement();  
 String insertS = "insert into user(username, password) values ('"+user+"','"+ pwd +"')";  
 *showMessage*("Inserted Successfully", Alert.AlertType.*NONE*);  
 statement.execute(insertS);  
 } catch (Exception e) {  
 System.*out*.println(e);  
 }  
 }  
  
 public static boolean isUser(String user, String pwd) {  
 boolean userFound = false;  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 PreparedStatement statement = con.prepareStatement("select \* from user where username=('"+user+"') and password='"+pwd+"'");  
 ResultSet rs = statement.executeQuery();  
 while(rs.next()) {  
 userFound = true;  
 }  
 con.close();  
 } catch (Exception e) {  
 System.*out*.println(e);  
 }  
  
 return userFound;  
 }  
  
 public static void logOut(){  
 }  
  
 public static void insertPatient(int id, String firstName, String lastName, String gen, String ph\_no, String add) {  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 Statement statement = con.createStatement();  
 String insertS = "insert into patient(pat\_id, pat\_first\_name, pat\_last\_name, pat\_gen, pat\_ph\_no, pat\_address) values ('"+id+"','"+ firstName +"','"+lastName+"','"+gen+"','"+ph\_no+"', '"+add+"')";  
 *showMessage*("Inserted Successfully", Alert.AlertType.*NONE*);  
 statement.execute(insertS);  
 } catch (Exception e) {  
 System.*out*.println(e);  
 }  
 }  
  
 public static void insertDoctor(int id, String firstName, String lastName, String gen, String ph\_no, String add) {  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 Statement statement = con.createStatement();  
 String insertS = "insert into doctor(doc\_id, doc\_first\_name, doc\_last\_name, doc\_gen, doc\_ph\_no, doc\_address) values ('"+id+"','"+ firstName +"','"+lastName+"','"+gen+"','"+ph\_no+"', '"+add+"')";  
 *showMessage*("Inserted Successfully", Alert.AlertType.*NONE*);  
 statement.execute(insertS);  
 } catch (Exception e) {  
 System.*out*.println(e);  
 }  
 }  
  
 public static ObservableList<Patient> getPatients(){  
 ObservableList<Patient> list = FXCollections.*observableArrayList*();  
  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 PreparedStatement statement = con.prepareStatement("select \* from patient");  
 ResultSet rs = statement.executeQuery();  
  
 while(rs.next()) {  
 int s1 = Integer.*parseInt*(rs.getString(1));  
 String s2 = rs.getString(2);  
 String s3 = rs.getString(3);  
 String s4 = rs.getString(4);  
 String s5 = rs.getString(5);  
 String s6 = rs.getString(6);  
 list.add(new Patient(s1, s2, s3, s4, s5, s6));  
 System.*out*.println(s1 + " " + s2 + " " + s3 + " " + s4);  
 }  
 con.close();  
 }catch (Exception e) {  
 e.printStackTrace();  
 }  
 return list;  
 }  
  
 public static ObservableList<Doctor> getDoctors(){  
 ObservableList<Doctor> list = FXCollections.*observableArrayList*();  
  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 PreparedStatement statement = con.prepareStatement("select \* from doctor");  
 ResultSet rs = statement.executeQuery();  
  
 while(rs.next()) {  
 int s1 = Integer.*parseInt*(rs.getString(1));  
 String s2 = rs.getString(2);  
 String s3 = rs.getString(3);  
 String s4 = rs.getString(4);  
 String s5 = rs.getString(5);  
 String s6 = rs.getString(6);  
 list.add(new Doctor(s1, s2, s3, s4, s5, s6));  
 System.*out*.println(s1 + " " + s2 + " " + s3 + " " + s4);  
 }  
 con.close();  
 }catch (Exception e) {  
 e.printStackTrace();  
 }  
 return list;  
 }  
  
 public static Patient getPatient(int id) {  
 Patient patient = new Patient();  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 PreparedStatement statement = con.prepareStatement("select \* from patient where pat\_id =('"+id+"');");  
 ResultSet rs = statement.executeQuery();  
  
 while(rs.next()) {  
 int s1 = Integer.*parseInt*(rs.getString(1));  
 String s2 = rs.getString(2);  
 String s3 = rs.getString(3);  
 String s4 = rs.getString(4);  
 String s5 = rs.getString(5);  
 String s6 = rs.getString(6);  
 patient.setId(s1);  
 patient.setFirstName(s2);  
 patient.setLastName(s3);  
 patient.setGender(s4);  
 patient.setPhone\_no(s5);  
 patient.setAddress(s6);  
 System.*out*.println(s1 + " " + s2 + " " + s3 + " " + s4);  
 }  
 con.close();  
 }catch (Exception e) {  
 e.printStackTrace();  
 }  
 return patient;  
 }  
  
 public static void deletePatient(int id) {  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 Statement statement = con.createStatement();  
 String insertS = "delete from patient where pat\_id=('"+id+"')";  
 *showMessage*("Deleted Successfully", Alert.AlertType.*NONE*);  
 statement.execute(insertS);  
 } catch (Exception e) {  
 System.*out*.println(e);  
 }  
 }  
  
 public static void updatePatient(Patient patient) {  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 Statement statement = con.createStatement();  
 String insertS = "update patient set pat\_first\_name=('"+patient.getFirstName()+"') , " +  
 "pat\_last\_name=('"+patient.getLastName()+"'), " +  
 "pat\_ph\_no=('"+patient.getPhone\_no()+"')," +  
 "pat\_gen=('"+patient.getGender()+"')," +  
 "pat\_address=('"+patient.getAddress()+"')" +  
 "where pat\_id=('"+patient.getId()+"')";  
 System.*out*.println(patient.getGender());  
 *showMessage*("Updated Successfully", Alert.AlertType.*NONE*);  
 statement.execute(insertS);  
 } catch (Exception e) {  
 System.*out*.println(e);  
 }  
 }  
  
 public static Doctor getDoctor(int id) {  
 Doctor doctor = new Doctor();  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 PreparedStatement statement = con.prepareStatement("select \* from doctor where doc\_id =('"+id+"');");  
 ResultSet rs = statement.executeQuery();  
  
 while(rs.next()) {  
 int s1 = Integer.*parseInt*(rs.getString(1));  
 String s2 = rs.getString(2);  
 String s3 = rs.getString(3);  
 String s4 = rs.getString(4);  
 String s5 = rs.getString(5);  
 String s6 = rs.getString(6);  
 doctor.setId(s1);  
 doctor.setFirstName(s2);  
 doctor.setLastName(s3);  
 doctor.setGender(s4);  
 doctor.setPhone\_no(s5);  
 doctor.setAddress(s6);  
 System.*out*.println(s1 + " " + s2 + " " + s3 + " " + s4);  
 }  
 con.close();  
 }catch (Exception e) {  
 e.printStackTrace();  
 }  
 return doctor;  
 }  
  
 public static void deleteDoctor(int id) {  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 Statement statement = con.createStatement();  
 String insertS = "delete from doctor where doc\_id=('"+id+"')";  
 *showMessage*("Deleted Successfully", Alert.AlertType.*NONE*);  
 statement.execute(insertS);  
 } catch (Exception e) {  
 System.*out*.println(e);  
 }  
 }  
  
 public static void updateDoctor(Doctor doctor) {  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 Statement statement = con.createStatement();  
 String insertS = "update doctor set doc\_first\_name=('"+doctor.getFirstName()+"') , " +  
 "doc\_last\_name=('"+doctor.getLastName()+"'), " +  
 "doc\_ph\_no=('"+doctor.getPhone\_no()+"')," +  
 "doc\_gen=('"+doctor.getGender()+"')," +  
 "doc\_address=('"+doctor.getAddress()+"')" +  
 "where doc\_id=('"+doctor.getId()+"')";  
 System.*out*.println(doctor.getGender());  
 *showMessage*("Updated Successfully", Alert.AlertType.*NONE*);  
 statement.execute(insertS);  
 } catch (Exception e) {  
 System.*out*.println(e);  
 }  
 }  
  
 public static ObservableList<Patient> searchInPatient(String name) {  
 ObservableList<Patient> list = FXCollections.*observableArrayList*();  
  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 PreparedStatement statement = con.prepareStatement("select \* from patient where pat\_first\_name=('"+name+"')");  
 ResultSet rs = statement.executeQuery();  
  
 while(rs.next()) {  
 int s1 = Integer.*parseInt*(rs.getString(1));  
 String s2 = rs.getString(2);  
 String s3 = rs.getString(3);  
 String s4 = rs.getString(4);  
 String s5 = rs.getString(5);  
 String s6 = rs.getString(6);  
 list.add(new Patient(s1, s2, s3, s4, s5, s6));  
 System.*out*.println(s1 + " " + s2 + " " + s3 + " " + s4);  
 }  
 con.close();  
 }catch (Exception e) {  
 e.printStackTrace();  
 }  
 return list;  
 }  
  
 public static ObservableList<Doctor> searchInDoctor(String name) {  
 ObservableList<Doctor> list = FXCollections.*observableArrayList*();  
  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 PreparedStatement statement = con.prepareStatement("select \* from doctor where doc\_first\_name=('"+name+"')");  
 ResultSet rs = statement.executeQuery();  
  
 while(rs.next()) {  
 int s1 = Integer.*parseInt*(rs.getString(1));  
 String s2 = rs.getString(2);  
 String s3 = rs.getString(3);  
 String s4 = rs.getString(4);  
 String s5 = rs.getString(5);  
 String s6 = rs.getString(6);  
 list.add(new Doctor(s1, s2, s3, s4, s5, s6));  
 System.*out*.println(s1 + " " + s2 + " " + s3 + " " + s4);  
 }  
 con.close();  
 }catch (Exception e) {  
 e.printStackTrace();  
 }  
 return list;  
 }  
  
 public static int getCountPatient() {  
 int count = 0;  
  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 Statement s = con.createStatement();  
 ResultSet r = s.executeQuery("SELECT COUNT(\*) AS recordCount FROM patient");  
 r.next();  
 count = r.getInt("recordCount");  
 r.close();  
 con.close();  
 }catch (Exception e) {  
 e.printStackTrace();  
 }  
 return count;  
 }  
  
 public static int getCountDoctor() {  
 int count = 0;  
  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 Statement s = con.createStatement();  
 ResultSet r = s.executeQuery("SELECT COUNT(\*) AS recordCount FROM doctor");  
 r.next();  
 count = r.getInt("recordCount");  
 r.close();  
 con.close();  
 }catch (Exception e) {  
 e.printStackTrace();  
 }  
 return count;  
 }  
  
 public static int getCountAppointment() {  
 int count = 0;  
  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 Statement s = con.createStatement();  
 ResultSet r = s.executeQuery("SELECT COUNT(\*) AS recordCount FROM appointment");  
 r.next();  
 count = r.getInt("recordCount");  
 r.close();  
 con.close();  
 }catch (Exception e) {  
 e.printStackTrace();  
 }  
 return count;  
 }  
  
 public static void bookAppointment(int pat\_id, int doc\_id, Date date) {  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 Statement statement = con.createStatement();  
 String insertS = "insert into appointment(pat\_id, doc\_id, app\_date) values ('"+pat\_id+"','"+doc\_id+"', '"+date+"')";  
 *showMessage*("Appointment Booked", Alert.AlertType.*NONE*);  
 statement.execute(insertS);  
 } catch (Exception e) {  
 e.printStackTrace();  
 }  
 }  
  
 public static ObservableList<Appointment> getAppointments() {  
 ObservableList<Appointment> list = FXCollections.*observableArrayList*();  
  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 PreparedStatement statement = con.prepareStatement("select pat\_id, pat\_first\_name, doc\_id, doc\_first\_name, app\_date from patient natural join (appointment natural join doctor)");  
 ResultSet rs = statement.executeQuery();  
  
 while(rs.next()) {  
 int s1 = rs.getInt(1);  
 String s2 = rs.getString(2);  
 int s3 = rs.getInt(3);  
 String s4 = rs.getString(4);  
 Date s5 = rs.getDate(5);  
 list.add(new Appointment(s1, s2, s3, s4, s5));  
 System.*out*.println(s1 + " " + s2 + " " + s3 + " " + s4);  
 }  
 con.close();  
 }catch (Exception e) {  
 e.printStackTrace();  
 }  
 return list;  
 }  
  
 public static ObservableList<Appointment> searchInAppointment(String name) {  
 ObservableList<Appointment> list = FXCollections.*observableArrayList*();  
  
 try {  
 Connection con = DriverManager.*getConnection*("jdbc:mysql://localhost:3306/hospital", "root", "");  
 PreparedStatement statement = con.prepareStatement("select pat\_id, pat\_first\_name, doc\_id, doc\_first\_name, app\_date from patient natural join (doctor natural join appointment)where pat\_first\_name=('"+name+"')");  
 ResultSet rs = statement.executeQuery();  
  
 while(rs.next()) {  
 int s1 = rs.getInt(1);  
 String s2 = rs.getString(2);  
 int s3 = rs.getInt(3);  
 String s4 = rs.getString(4);  
 Date s5 = rs.getDate(5);  
 list.add(new Appointment(s1, s2, s3, s4, s5));  
 System.*out*.println(s1 + " " + s2 + " " + s3 + " " + s4);  
 }  
 con.close();  
 }catch (Exception e) {  
 e.printStackTrace();  
 }  
 return list;  
 }  
}

hello-view.fxml ->

<?xml version="1.0" encoding="UTF-8"?>  
  
<?import javafx.scene.control.Button?>  
<?import javafx.scene.control.Label?>  
<?import javafx.scene.control.PasswordField?>  
<?import javafx.scene.control.TextField?>  
<?import javafx.scene.effect.ColorAdjust?>  
<?import javafx.scene.layout.AnchorPane?>  
<?import javafx.scene.text.Font?>  
  
<?import java.net.URL?>  
<AnchorPane styleClass="mainFxmlClass" maxHeight="-Infinity" maxWidth="-Infinity" minHeight="-Infinity" minWidth="-Infinity" prefHeight="400.0" prefWidth="600.0" xmlns="http://javafx.com/javafx/17" xmlns:fx="http://javafx.com/fxml/1" fx:controller="com.example.hospitalmanagementsystem.HelloController">  
 <stylesheets>  
 <URL value="@style.css" />  
 </stylesheets>  
 <children>  
 <Label alignment="CENTER" layoutX="-1.0" prefHeight="78.0" prefWidth="600.0" style="-fx-background-color: #00bfff;" text="HOSPITAL MANAGEMENT SYSTEM" textAlignment="CENTER" textFill="#fffefe">  
 <font>  
 <Font name="Bookman Old Style Bold" size="30.0" />  
 </font>  
 <effect>  
 <ColorAdjust />  
 </effect>  
 </Label>  
 <Label layoutX="26.0" layoutY="131.0" text="Username : ">  
 <font>  
 <Font name="Bell MT Bold" size="30.0" />  
 </font>  
 </Label>  
 <Label layoutX="26.0" layoutY="213.0" text="Password :">  
 <font>  
 <Font name="Bell MT Bold" size="30.0" />  
 </font>  
 </Label>  
 <TextField fx:id="tf\_username" layoutX="205.0" layoutY="136.0" promptText="Tanishq\_6210">  
 <font>  
 <Font name="Bookman Old Style" size="15.0" />  
 </font></TextField>  
 <Button fx:id="btn\_register" layoutX="432.0" layoutY="133.0" mnemonicParsing="false" onAction="#onRegister" prefHeight="30.0" prefWidth="118.0" text="REGISTER" />  
 <Button fx:id="btn\_login" layoutX="432.0" layoutY="216.0" mnemonicParsing="false" onAction="#onLogin" prefHeight="30.0" prefWidth="118.0" text="LOGIN" />  
 <Button fx:id="btn\_exit" layoutX="239.0" layoutY="326.0" mnemonicParsing="false" onAction="#onExit" prefHeight="46.0" prefWidth="118.0" text="EXIT" />  
 <PasswordField fx:id="tf\_pwd" layoutX="205.0" layoutY="218.0" promptText="1234">  
 <font>  
 <Font size="15.0" />  
 </font>  
 </PasswordField>  
 </children>  
</AnchorPane>

**HelloController.java ->**

package com.example.hospitalmanagementsystem;  
  
import com.example.hospitalmanagementsystem.database.DB;  
import javafx.event.ActionEvent;  
import javafx.fxml.FXML;  
import javafx.fxml.FXMLLoader;  
import javafx.scene.Scene;  
import javafx.scene.control.Alert;  
import javafx.scene.control.Button;  
import javafx.scene.control.ButtonType;  
import javafx.scene.control.TextField;  
import javafx.scene.layout.Region;  
import javafx.stage.Stage;  
import java.io.IOException;  
//import java.swing.\*;  
//import java.awt.\*;  
  
public class HelloController {  
 @FXML  
 private Button btn\_login;  
  
 @FXML  
 private Button btn\_register;  
  
 @FXML  
 private TextField tf\_pwd;  
  
 @FXML  
 private TextField tf\_username;  
  
 private FXMLLoader root;  
  
 private Stage stage;  
  
 private Scene scene;  
  
 @FXML  
 void onLogin(ActionEvent event) {  
 String user = tf\_username.getText();  
 String pwd = tf\_pwd.getText();  
  
 if(user.isEmpty() || pwd.isEmpty()) {  
 showMessage("Required Fields are empty", Alert.AlertType.ERROR);  
 } else {  
 if(DB.isUser(user, pwd)) {  
 showMessage("User Logged in", Alert.AlertType.NONE);  
 root = new FXMLLoader(getClass().getResource("home.fxml"));  
 stage = (Stage) (btn\_login.getScene().getWindow());  
 try {  
 stage.setScene(new Scene(root.load()));  
 } catch (IOException e) {  
 System.*out*.println(e);  
 }  
 } else {  
 showMessage("Invalid Credentials", Alert.AlertType.*NONE*);  
 }  
 }  
 }  
  
 @FXML  
 void onRegister(ActionEvent event) {  
 if(tf\_pwd.getText().length() < 6) {  
 showMessage("Password should be of more than 6 characters!", Alert.AlertType.*ERROR*);  
 } else {  
 DB.*register*(tf\_username.getText(), tf\_pwd.getText());  
 root = new FXMLLoader(getClass().getResource("home.fxml"));  
 stage = (Stage) (btn\_login.getScene().getWindow());  
 try {  
 stage.setScene(new Scene(root.load()));  
 } catch (IOException e) {  
 System.out.println(e);  
 }  
 }  
 }  
  
 @FXML  
 void onExit(ActionEvent event) {  
 System.exit(0);  
 }  
  
 private void showMessage(String content, Alert.AlertType type) {  
 Alert alert = new Alert(type, content, ButtonType.OK);  
 alert.getDialogPane().setMinHeight(Region.USE\_PREF\_SIZE);  
 alert.show();  
 }  
}

**home.fxml ->**

<?xml version="1.0" encoding="UTF-8"?>  
  
<?import java.net.URL?>  
<?import javafx.scene.control.Button?>  
<?import javafx.scene.control.Label?>  
<?import javafx.scene.layout.AnchorPane?>  
<?import javafx.scene.text.Font?>  
  
<AnchorPane prefHeight="400.0" prefWidth="600.0" styleClass="mainFxmlClass" xmlns="http://javafx.com/javafx/17" xmlns:fx="http://javafx.com/fxml/1" fx:controller="com.example.hospitalmanagementsystem.Home">  
 <stylesheets>  
 <URL value="@style.css" />  
 </stylesheets>  
 <children>  
 <Label layoutX="237.0" layoutY="68.0" text="Home" textFill="#1721ae">  
 <font>  
 <Font name="Bookman Old Style Bold" size="36.0" />  
 </font>  
 </Label>  
 <Label alignment="CENTER" layoutY="-1.0" prefHeight="58.0" prefWidth="600.0" style="-fx-background-color: #00bfff;" text="Welcome to Hospital" textFill="WHITE">  
 <font>  
 <Font name="Bookman Old Style Bold" size="36.0" />  
 </font>  
 </Label>  
 <Button fx:id="btn\_patients" alignment="CENTER" layoutX="10.0" layoutY="139.0" mnemonicParsing="false" onAction="#displayPatients" prefHeight="30.0" prefWidth="98.0" text="Patients" />  
 <Button fx:id="btn\_doctors" alignment="CENTER" layoutX="10.0" layoutY="199.0" mnemonicParsing="false" onAction="#displayDoctors" prefHeight="30.0" prefWidth="98.0" text="Doctors" />  
 <Button fx:id="btn\_appoint" alignment="CENTER" layoutX="11.0" layoutY="261.0" mnemonicParsing="false" onAction="#displayAppointments" prefHeight="37.0" prefWidth="98.0" text="Appointments" />  
 <Button fx:id="btn\_logout" layoutX="242.0" layoutY="333.0" mnemonicParsing="false" onAction="#onLogout" prefHeight="30.0" prefWidth="98.0" text="Log Out" />  
 <Label layoutX="139.0" layoutY="140.0" text="Current no. of Patients :" textFill="#454dc4">  
 <font>  
 <Font name="Bookman Old Style Bold" size="24.0" />  
 </font>  
 </Label>  
 <Label layoutX="136.0" layoutY="262.0" text="Current no. of Appointments :" textFill="#454dc4">  
 <font>  
 <Font name="Bookman Old Style Bold" size="24.0" />  
 </font>  
 </Label>  
 <Label layoutX="136.0" layoutY="199.0" text="Current no. of Doctors :" textFill="#454dc4">  
 <font>  
 <Font name="Bookman Old Style Bold" size="24.0" />  
 </font>  
 </Label>  
 <Label fx:id="label\_count\_patient" layoutX="540.0" layoutY="140.0" text="3" textFill="#454dc4">  
 <font>  
 <Font name="Bookman Old Style Bold" size="24.0" />  
 </font>  
 </Label>  
 <Label fx:id="label\_count\_doctor" layoutX="540.0" layoutY="199.0" text="3" textFill="#454dc4">  
 <font>  
 <Font name="Bookman Old Style Bold" size="24.0" />  
 </font>  
 </Label>  
 <Label fx:id="label\_count\_apt" layoutX="540.0" layoutY="262.0" text="3" textFill="#454dc4">  
 <font>  
 <Font name="Bookman Old Style Bold" size="24.0" />  
 </font>  
 </Label>  
  
 </children>  
</AnchorPane>

**Home.java ->**

package com.example.hospitalmanagementsystem;  
  
import com.example.hospitalmanagementsystem.database.DB;  
import javafx.event.ActionEvent;  
import javafx.fxml.FXML;  
import javafx.fxml.FXMLLoader;  
import javafx.fxml.Initializable;  
import javafx.scene.Scene;  
import javafx.scene.control.Button;  
import javafx.scene.control.Label;  
import javafx.stage.Stage;  
  
import java.io.IOException;  
import java.net.URL;  
import java.util.ResourceBundle;  
  
public class Home implements Initializable {  
 @FXML  
 private Button btn\_appoint;  
  
 @FXML  
 private Button btn\_doctors;  
  
 @FXML  
 private Button btn\_patients;  
  
 @FXML  
 private Button btn\_logout;  
  
 private FXMLLoader root;  
  
 private Stage stage;  
  
 @FXML  
 private Label label\_count\_apt;  
  
 @FXML  
 private Label label\_count\_doctor;  
  
 @FXML  
 private Label label\_count\_patient;  
  
 @FXML  
 void displayAppointments(ActionEvent event) {  
 root = new FXMLLoader(getClass().getResource("appointments.fxml"));  
 stage = (Stage) (btn\_patients.getScene().getWindow());  
 try {  
 stage.setScene(new Scene(root.load()));  
 } catch (IOException e) {  
 System.*out*.println(e);  
 }  
 }  
  
 @FXML  
 void displayDoctors(ActionEvent event) {  
 root = new FXMLLoader(getClass().getResource("doctors.fxml"));  
 stage = (Stage) (btn\_logout.getScene().getWindow());  
 try {  
 stage.setScene(new Scene(root.load()));  
 } catch (IOException e) {  
 System.*out*.println(e);  
 }  
 }  
  
 @FXML  
 void displayPatients(ActionEvent event) {  
 root = new FXMLLoader(getClass().getResource("patients.fxml"));  
 stage = (Stage) (btn\_logout.getScene().getWindow());  
 try {  
 stage.setScene(new Scene(root.load()));  
 } catch (IOException e) {  
 System.*out*.println(e);  
 }  
 }  
  
 @FXML  
 void onLogout(ActionEvent event) {  
 root = new FXMLLoader(getClass().getResource("hello-view.fxml"));  
 stage = (Stage) (btn\_logout.getScene().getWindow());  
 try {  
 stage.setScene(new Scene(root.load()));  
 } catch (IOException e) {  
 System.*out*.println(e);  
 }  
 }  
  
 @Override  
 public void initialize(URL location, ResourceBundle resources) {  
 label\_count\_patient.setText(String.*valueOf*(DB.*getCountPatient*()));  
 label\_count\_doctor.setText(String.*valueOf*(DB.*getCountDoctor*()));  
 label\_count\_apt.setText(String.*valueOf*(DB.*getCountAppointment*()));  
 }  
}

**patients.fxml ->**

<?xml version="1.0" encoding="UTF-8"?>  
  
<?import java.net.URL?>  
<?import javafx.scene.control.Button?>  
<?import javafx.scene.control.Label?>  
<?import javafx.scene.control.TableColumn?>  
<?import javafx.scene.control.TableView?>  
<?import javafx.scene.control.TextField?>  
<?import javafx.scene.layout.AnchorPane?>  
<?import javafx.scene.text.Font?>  
  
<AnchorPane prefHeight="400.0" prefWidth="600.0" styleClass="mainFxmlClass" xmlns="http://javafx.com/javafx/17" xmlns:fx="http://javafx.com/fxml/1" fx:controller="com.example.hospitalmanagementsystem.Patients">  
 <stylesheets>  
 <URL value="@style\_home.css" />  
 </stylesheets>  
 <children>  
 <Label alignment="CENTER" layoutX="-1.0" layoutY="-1.0" prefHeight="45.0" prefWidth="600.0" style="-fx-background-color: #00bfff;" text="Patients" textFill="WHITE">  
 <font>  
 <Font name="Bookman Old Style Bold" size="24.0" />  
 </font>  
 </Label>  
 <Button fx:id="btn\_back" layoutX="521.0" layoutY="348.0" mnemonicParsing="false" onAction="#onBack" text="Back" />  
 <TableView fx:id="table\_patient" layoutX="9.0" layoutY="100.0" prefHeight="200.0" prefWidth="582.0">  
 <columns>  
 <TableColumn fx:id="col\_id" prefWidth="64.0" text="ID" />  
 <TableColumn fx:id="col\_first\_name" prefWidth="88.800048828125" text="First Name" />  
 <TableColumn fx:id="col\_last\_name" prefWidth="82.39996337890625" text="Last Name" />  
 <TableColumn fx:id="col\_gender" prefWidth="84.79998779296875" text="Gender" />  
 <TableColumn fx:id="col\_phone" prefWidth="88.00006103515625" text="Phone no." />  
 <TableColumn fx:id="col\_add" prefWidth="175.99993896484375" text="Address" />  
 </columns>  
 </TableView>  
 <TextField fx:id="tf\_search" layoutX="195.0" layoutY="62.0" onKeyTyped="#searchedText" prefHeight="26.0" prefWidth="186.0" promptText="Enter name to be searched..." />  
 <Button fx:id="btn\_update" layoutX="164.0" layoutY="344.0" mnemonicParsing="false" onAction="#onUpdate" text="Update Patient" />  
 <Button fx:id="btn\_add" layoutX="50.0" layoutY="344.0" mnemonicParsing="false" onAction="#addPatient" text="Add Patient" />  
 </children>  
</AnchorPane>

**Patients.java ->**

package com.example.hospitalmanagementsystem;  
  
import com.example.hospitalmanagementsystem.database.DB;  
import com.example.hospitalmanagementsystem.model.Patient;  
import javafx.collections.ObservableList;  
import javafx.event.ActionEvent;  
import javafx.fxml.FXML;  
import javafx.fxml.FXMLLoader;  
import javafx.fxml.Initializable;  
import javafx.scene.Scene;  
import javafx.scene.control.Button;  
import javafx.scene.control.TableColumn;  
import javafx.scene.control.TableView;  
import javafx.scene.control.TextField;  
import javafx.scene.control.cell.PropertyValueFactory;  
import javafx.scene.input.InputMethodEvent;  
import javafx.scene.input.KeyEvent;  
import javafx.stage.Stage;  
  
import java.io.IOException;  
import java.net.URL;  
import java.util.ResourceBundle;  
  
public class Patients implements Initializable {  
 private FXMLLoader root;  
  
 private Stage stage;  
  
 @FXML  
 private TextField tf\_search;  
  
 @FXML  
 private TableColumn<Patient, String> col\_add;  
  
 @FXML  
 private TableColumn<Patient, String> col\_first\_name;  
  
 @FXML  
 private TableColumn<Patient, String> col\_gender;  
  
 @FXML  
 private TableColumn<Patient, Integer> col\_id;  
  
 @FXML  
 private TableColumn<Patient, String> col\_last\_name;  
  
 @FXML  
 private TableColumn<Patient, String> col\_phone;  
 @FXML  
 private Button btn\_back;  
  
 @FXML  
 private TableView<Patient> table\_patient;  
  
 @FXML  
 void addPatient(ActionEvent event) {  
 root = new FXMLLoader(getClass().getResource("add\_patient.fxml"));  
 stage = (Stage) (btn\_back.getScene().getWindow());  
 try {  
 stage.setScene(new Scene(root.load()));  
 } catch (IOException e) {  
 System.*out*.println(e);  
 }  
 }  
  
 @FXML  
 void onUpdate(ActionEvent event) {  
 root = new FXMLLoader(getClass().getResource("delete\_patient.fxml"));  
 stage = (Stage) (btn\_back.getScene().getWindow());  
 try {  
 stage.setScene(new Scene(root.load()));  
 } catch (IOException e) {  
 System.*out*.println(e);  
 }  
 }  
  
 @FXML  
 void onBack(ActionEvent event) {  
 root = new FXMLLoader(getClass().getResource("home.fxml"));  
 stage = (Stage) (btn\_back.getScene().getWindow());  
 try {  
 stage.setScene(new Scene(root.load()));  
 } catch (IOException e) {  
 System.*out*.println(e);  
 }  
 }  
  
 @Override  
 public void initialize(URL location, ResourceBundle resources) {  
 col\_first\_name.setCellValueFactory(new PropertyValueFactory<>("firstName"));  
 col\_last\_name.setCellValueFactory(new PropertyValueFactory<>("lastName"));  
 col\_gender.setCellValueFactory(new PropertyValueFactory<>("gender"));  
 col\_id.setCellValueFactory(new PropertyValueFactory<>("id"));  
 col\_phone.setCellValueFactory(new PropertyValueFactory<>("phone\_no"));  
 col\_add.setCellValueFactory(new PropertyValueFactory<>("address"));  
  
 ObservableList items = DB.*getPatients*();  
 table\_patient.setItems(items);  
 }  
  
 public void searchedText(KeyEvent keyEvent) {  
 System.*out*.println(tf\_search.getText());  
 table\_patient.getItems().clear();  
  
 if(tf\_search.getText().equals("")) {  
 ObservableList items = DB.*getPatients*();  
 table\_patient.setItems(items);  
 } else {  
 ObservableList items = DB.*searchInPatient*(tf\_search.getText());  
 table\_patient.setItems(items);  
 }  
  
 }  
}

**doctors.fxml ->**

<?xml version="1.0" encoding="UTF-8"?>  
  
<?import javafx.scene.control.Button?>  
<?import javafx.scene.control.Label?>  
<?import javafx.scene.control.TableColumn?>  
<?import javafx.scene.control.TableView?>  
<?import javafx.scene.control.TextField?>  
<?import javafx.scene.layout.AnchorPane?>  
<?import javafx.scene.text.Font?>  
  
<?import java.net.URL?>  
<AnchorPane styleClass="mainFxmlClass" prefHeight="400.0" prefWidth="600.0" xmlns="http://javafx.com/javafx/17" xmlns:fx="http://javafx.com/fxml/1" fx:controller="com.example.hospitalmanagementsystem.Doctors">  
 <stylesheets>  
 <URL value="@style\_home.css" />  
 </stylesheets>  
 <children>  
 <Label alignment="CENTER" layoutY="-2.0" prefHeight="47.0" prefWidth="600.0" style="-fx-background-color: #00bfff;" text="Doctors" textFill="WHITE">  
 <font>  
 <Font name="Bookman Old Style Bold" size="24.0" />  
 </font>  
 </Label>  
 <Button fx:id="btn\_back" layoutX="521.0" layoutY="348.0" mnemonicParsing="false" onAction="#onBack" text="Back" />  
 <TableView fx:id="table\_doctor" layoutX="9.0" layoutY="100.0" prefHeight="200.0" prefWidth="582.0">  
 <columns>  
 <TableColumn fx:id="col\_id" prefWidth="64.0" text="ID" />  
 <TableColumn fx:id="col\_first\_name" prefWidth="88.800048828125" text="First Name" />  
 <TableColumn fx:id="col\_last\_name" prefWidth="82.39996337890625" text="Last Name" />  
 <TableColumn fx:id="col\_gender" prefWidth="84.79998779296875" text="Gender" />  
 <TableColumn fx:id="col\_phone" prefWidth="88.00006103515625" text="Phone no." />  
 <TableColumn fx:id="col\_add" prefWidth="175.99993896484375" text="Address" />  
 </columns>  
 </TableView>  
 <TextField fx:id="tf\_search" layoutX="225.0" layoutY="52.0" onKeyTyped="#onSearchedText" prefHeight="26.0" prefWidth="172.0" promptText="Enter name to be searched..." />  
 <Button fx:id="btn\_update" layoutX="164.0" layoutY="344.0" mnemonicParsing="false" onAction="#updateDoctor" text="Update Doctor" />  
 <Button fx:id="btn\_add" layoutX="50.0" layoutY="344.0" mnemonicParsing="false" onAction="#addDoctor" text="Add Doctor" />  
 </children>  
</AnchorPane>

**Doctors.java ->**

package com.example.hospitalmanagementsystem;  
  
import com.example.hospitalmanagementsystem.database.DB;  
import com.example.hospitalmanagementsystem.model.Doctor;  
import javafx.collections.ObservableList;  
import javafx.event.ActionEvent;  
import javafx.fxml.FXML;  
import javafx.fxml.FXMLLoader;  
import javafx.fxml.Initializable;  
import javafx.scene.Scene;  
import javafx.scene.control.Button;  
import javafx.scene.control.TableColumn;  
import javafx.scene.control.TableView;  
import javafx.scene.control.TextField;  
import javafx.scene.control.cell.PropertyValueFactory;  
import javafx.scene.input.KeyEvent;  
import javafx.stage.Stage;  
  
import java.io.IOException;  
import java.net.URL;  
import java.util.ResourceBundle;  
  
public class Doctors implements Initializable {  
 private FXMLLoader root;  
  
 private Stage stage;  
  
 @FXML  
 private TableColumn<Doctor, String> col\_add;  
  
 @FXML  
 private TableColumn<Doctor, String> col\_first\_name;  
  
 @FXML  
 private TableColumn<Doctor, String> col\_gender;  
  
 @FXML  
 private TableColumn<Doctor, Integer> col\_id;  
  
 @FXML  
 private TableColumn<Doctor, String> col\_last\_name;  
  
 @FXML  
 private TableColumn<Doctor, String> col\_phone;  
  
 @FXML  
 private Button btn\_add;  
  
 @FXML  
 private Button btn\_back;  
  
 @FXML  
 private Button btn\_update;  
  
 @FXML  
 private TableView<Doctor> table\_doctor;  
  
 @FXML  
 private TextField tf\_search;  
  
 @FXML  
 void addDoctor(ActionEvent event) {  
 root = new FXMLLoader(getClass().getResource("add\_doctor.fxml"));  
 stage = (Stage) (btn\_back.getScene().getWindow());  
 try {  
 stage.setScene(new Scene(root.load()));  
 } catch (IOException e) {  
 System.*out*.println(e);  
 }  
 }  
  
 @FXML  
 void updateDoctor(ActionEvent event) {  
 root = new FXMLLoader(getClass().getResource("delete\_doctor.fxml"));  
 stage = (Stage) (btn\_back.getScene().getWindow());  
 try {  
 stage.setScene(new Scene(root.load()));  
 } catch (IOException e) {  
 System.*out*.println(e);  
 }  
 }  
 @FXML  
 void onBack(ActionEvent event) {  
 root = new FXMLLoader(getClass().getResource("home.fxml"));  
 stage = (Stage) (btn\_back.getScene().getWindow());  
 try {  
 stage.setScene(new Scene(root.load()));  
 } catch (IOException e) {  
 System.*out*.println(e);  
 }  
 }  
  
 @Override  
 public void initialize(URL location, ResourceBundle resources) {  
 col\_first\_name.setCellValueFactory(new PropertyValueFactory<>("firstName"));  
 col\_last\_name.setCellValueFactory(new PropertyValueFactory<>("lastName"));  
 col\_gender.setCellValueFactory(new PropertyValueFactory<>("gender"));  
 col\_id.setCellValueFactory(new PropertyValueFactory<>("id"));  
 col\_phone.setCellValueFactory(new PropertyValueFactory<>("phone\_no"));  
 col\_add.setCellValueFactory(new PropertyValueFactory<>("address"));  
  
 ObservableList items = DB.*getDoctors*();  
 table\_doctor.setItems(items);  
 }  
  
 public void onSearchedText(KeyEvent keyEvent) {  
 System.*out*.println(tf\_search.getText());  
 table\_doctor.getItems().clear();  
  
 if(tf\_search.getText().equals("")) {  
 ObservableList items = DB.*getDoctors*();  
 table\_doctor.setItems(items);  
 } else {  
 ObservableList items = DB.*searchInDoctor*(tf\_search.getText());  
 table\_doctor.setItems(items);  
 }  
  
 }  
}

**appointments.fxml ->**

<?xml version="1.0" encoding="UTF-8"?>  
  
<?import javafx.scene.control.Button?>  
<?import javafx.scene.control.Label?>  
<?import javafx.scene.control.TableColumn?>  
<?import javafx.scene.control.TableView?>  
<?import javafx.scene.control.TextField?>  
<?import javafx.scene.layout.AnchorPane?>  
<?import javafx.scene.text.Font?>  
  
<?import java.net.URL?>  
<AnchorPane styleClass="mainFxmlClass" prefHeight="400.0" prefWidth="600.0" xmlns="http://javafx.com/javafx/17" xmlns:fx="http://javafx.com/fxml/1" fx:controller="com.example.hospitalmanagementsystem.Appointments">  
 <stylesheets>  
 <URL value="@style\_home.css" />  
 </stylesheets>  
 <children>  
 <Label alignment="CENTER" layoutY="-1.0" prefHeight="46.0" prefWidth="600.0" style="-fx-background-color: #00bfff;" text="Appointments" textFill="WHITE">  
 <font>  
 <Font name="Bookman Old Style Bold" size="24.0" />  
 </font>  
 </Label>  
 <Button fx:id="btn\_back" layoutX="465.0" layoutY="354.0" mnemonicParsing="false" onAction="#onBack" prefHeight="26.0" prefWidth="110.0" text="BACK" />  
 <TableView fx:id="table\_appointment" layoutX="20.0" layoutY="86.0" prefHeight="246.0" prefWidth="560.0">  
 <columns>  
 <TableColumn fx:id="col\_pat\_id" prefWidth="72.0" text="Patient ID" />  
 <TableColumn fx:id="col\_pat\_name" prefWidth="111.20001220703125" text="Patient Name" />  
 <TableColumn fx:id="col\_doc\_id" minWidth="0.0" prefWidth="89.5999755859375" text="Doctor ID" />  
 <TableColumn fx:id="col\_doc\_name" prefWidth="172.7999267578125" text="Doctor Name" />  
 <TableColumn fx:id="col\_date" prefWidth="113.60009765625" text="Date" />  
 </columns>  
 </TableView>  
 <Button layoutX="20.0" layoutY="353.0" mnemonicParsing="false" onAction="#bookAppointment" prefHeight="26.0" prefWidth="162.0" text="BOOK APPOINTMENT" />  
 <TextField fx:id="tf\_search\_text" layoutX="179.0" layoutY="51.0" onKeyTyped="#searchAppointment" prefHeight="26.0" prefWidth="219.0" promptText="Enter patient name to be searched ...." />  
 </children>  
</AnchorPane>

**Appointments.java ->**

package com.example.hospitalmanagementsystem;  
  
import com.example.hospitalmanagementsystem.database.DB;  
import com.example.hospitalmanagementsystem.model.Appointment;  
import javafx.collections.ObservableList;  
import javafx.event.ActionEvent;  
import javafx.fxml.FXML;  
import javafx.fxml.FXMLLoader;  
import javafx.fxml.Initializable;  
import javafx.scene.Scene;  
import javafx.scene.control.\*;  
import javafx.scene.control.cell.PropertyValueFactory;  
import javafx.scene.input.KeyEvent;  
import javafx.stage.Stage;  
  
import java.io.IOException;  
import java.net.URL;  
import java.sql.Date;  
import java.util.ResourceBundle;  
  
public class Appointments implements Initializable {  
 private FXMLLoader root;  
  
 private Stage stage;  
  
 private Scene scene;  
  
 @FXML  
 private Button btn\_back;  
  
 @FXML  
 private TableView<Appointment> table\_appointment;  
  
 @FXML  
 private TableColumn<Appointment, Date> col\_date;  
  
 @FXML  
 private TableColumn<Appointment, Integer> col\_doc\_id;  
  
 @FXML  
 private TableColumn<Appointment, String> col\_doc\_name;  
  
 @FXML  
 private TableColumn<Appointment, Integer> col\_pat\_id;  
  
 @FXML  
 private TableColumn<Appointment, String> col\_pat\_name;  
  
 @FXML  
 private TextField tf\_search\_text;  
  
 @FXML  
 void bookAppointment(ActionEvent event) {  
 root = new FXMLLoader(getClass().getResource("add\_appointment.fxml"));  
 stage = (Stage) (btn\_back.getScene().getWindow());  
 try {  
 stage.setScene(new Scene(root.load()));  
 } catch (IOException e) {  
 System.out.println(e);  
 }  
 }  
  
 @FXML  
 void onBack(ActionEvent event) {  
 root = new FXMLLoader(getClass().getResource("home.fxml"));  
 stage = (Stage) (btn\_back.getScene().getWindow());  
 try {  
 stage.setScene(new Scene(root.load()));  
 } catch (IOException e) {  
 System.out.println(e);  
 }  
 }  
  
 @Override  
 public void initialize(URL location, ResourceBundle resources) {  
 col\_pat\_id.setCellValueFactory(new PropertyValueFactory<>("pat\_id"));  
 col\_pat\_name.setCellValueFactory(new PropertyValueFactory<>("pat\_name"));  
 col\_doc\_id.setCellValueFactory(new PropertyValueFactory<>("doc\_id"));  
 col\_doc\_name.setCellValueFactory(new PropertyValueFactory<>("doc\_name"));  
 col\_date.setCellValueFactory(new PropertyValueFactory<>("date"));  
  
 ObservableList items = DB.getAppointments();  
 table\_appointment.setItems(items);  
 }  
  
 public void searchAppointment(KeyEvent keyEvent) {  
 table\_appointment.getItems().clear();  
 if(tf\_search\_text.getText().isBlank()) {  
 ObservableList items = DB.getAppointments();  
 table\_appointment.setItems(items);  
 } else {  
 ObservableList<Appointment> items = DB.searchInAppointment(tf\_search\_text.getText());  
 table\_appointment.setItems(items);  
 }  
 }  
}

**add\_patient.fxml ->**

<?xml version="1.0" encoding="UTF-8"?>  
  
<?import javafx.scene.control.Button?>  
<?import javafx.scene.control.Label?>  
<?import javafx.scene.control.RadioButton?>  
<?import javafx.scene.control.TextField?>  
<?import javafx.scene.control.ToggleGroup?>  
<?import javafx.scene.image.Image?>  
<?import javafx.scene.image.ImageView?>  
<?import javafx.scene.layout.AnchorPane?>  
<?import javafx.scene.text.Font?>  
  
<AnchorPane prefHeight="400.0" prefWidth="600.0" style="-fx-background-color: #fff;" xmlns="http://javafx.com/javafx/17" xmlns:fx="http://javafx.com/fxml/1" fx:controller="com.example.hospitalmanagementsystem.AddPatient">  
 <children>  
 <Label alignment="CENTER" layoutX="1.0" layoutY="-2.0" prefHeight="48.0" prefWidth="600.0" style="-fx-background-color: #00bfff;" text="PATIENT DETAILS" textFill="WHITE">  
 <font>  
 <Font name="Bookman Old Style Bold" size="24.0" />  
 </font>  
 </Label>  
 <Label layoutX="48.0" layoutY="86.0" text="First Name: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <Label layoutX="50.0" layoutY="136.0" text="Last Name: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <Label layoutX="48.0" layoutY="189.0" text="Gender: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <RadioButton fx:id="rb\_male" layoutX="189.0" layoutY="188.0" mnemonicParsing="false" text="Male">  
 <font>  
 <Font name="Bookman Old Style Bold" size="14.0" />  
 </font>  
 <toggleGroup>  
 <ToggleGroup fx:id="gender" />  
 </toggleGroup>  
 </RadioButton>  
 <RadioButton fx:id="rb\_female" layoutX="260.0" layoutY="188.0" mnemonicParsing="false" text="Female" toggleGroup="$gender">  
 <font>  
 <Font name="Bookman Old Style Bold" size="14.0" />  
 </font>  
 </RadioButton>  
 <Label layoutX="44.0" layoutY="290.0" text="Address: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <Label layoutX="48.0" layoutY="238.0" text="Phone no: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <TextField fx:id="tf\_firstname" layoutX="188.0" layoutY="84.0" />  
 <TextField fx:id="tf\_lastname" layoutX="189.0" layoutY="134.0" />  
 <TextField fx:id="tf\_phone" layoutX="188.0" layoutY="236.0" />  
 <TextField fx:id="tf\_address" layoutX="189.0" layoutY="288.0" />  
 <Button fx:id="btn\_add" layoutX="447.0" layoutY="65.0" mnemonicParsing="false" onAction="#addPatient" text="ADD PATIENT" />  
 <Button fx:id="btn\_back" layoutX="446.0" layoutY="123.0" mnemonicParsing="false" onAction="#onBack" prefHeight="26.0" prefWidth="90.0" text="BACK" />  
 <Label layoutX="48.0" layoutY="54.0" text="ID:">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <TextField fx:id="tf\_id" layoutX="189.0" layoutY="52.0" />  
 <ImageView fitHeight="179.0" fitWidth="239.0" layoutX="348.0" layoutY="199.0" pickOnBounds="true" preserveRatio="true">  
 <image>  
 <Image url="@patient.png" />  
 </image>  
 </ImageView>  
 </children>  
</AnchorPane>

**AddPatient.java ->**

package com.example.hospitalmanagementsystem;  
  
import com.example.hospitalmanagementsystem.database.DB;  
import javafx.event.ActionEvent;  
import javafx.fxml.FXML;  
import javafx.fxml.FXMLLoader;  
import javafx.scene.Scene;  
import javafx.scene.control.\*;  
import javafx.stage.Stage;  
  
import java.io.IOException;  
  
public class AddPatient {  
 private FXMLLoader root;  
  
 private Stage stage;  
  
 @FXML  
 private Button btn\_add;  
  
 @FXML  
 private Button btn\_back;  
  
 @FXML  
 private Button btn\_delete;  
  
 @FXML  
 private Button btn\_update;  
  
 @FXML  
 private ToggleGroup gender;  
  
 @FXML  
 private RadioButton rb\_female;  
  
 @FXML  
 private RadioButton rb\_male;  
  
 @FXML  
 private TextField tf\_address;  
  
 @FXML  
 private TextField tf\_firstname;  
  
 @FXML  
 private TextField tf\_lastname;  
  
 @FXML  
 private TextField tf\_phone;  
  
 @FXML  
 private TextField tf\_id;  
  
 @FXML  
 void addPatient(ActionEvent event) {  
 int id = Integer.*parseInt*(tf\_id.getText());  
 String fname = tf\_firstname.getText();  
 String lname = tf\_lastname.getText();  
 String phone = tf\_phone.getText();  
 String add = tf\_address.getText();  
 String gender;  
 if(rb\_female.isSelected()) gender = "FEMALE";  
 else gender = "MALE";  
  
 if(fname.isEmpty() || lname.isEmpty() || phone.isEmpty() || add.isEmpty()) {  
 DB.*showMessage*("ALl fields are required!", Alert.AlertType.*ERROR*);  
 } else if(tf\_phone.getText().length() == 10) {  
 DB.*insertPatient*(id, fname, lname, gender, phone, add);  
 tf\_id.setText("");  
 tf\_firstname.setText("");  
 tf\_lastname.setText("");  
 tf\_phone.setText("");  
 tf\_address.setText("");  
 rb\_male.setSelected(false);  
 rb\_female.setSelected(false);  
 } else {  
 DB.*showMessage*("Phone number should be of length 10", Alert.AlertType.*ERROR*);  
 }  
 }  
  
 @FXML  
 void onBack(ActionEvent event) {  
 root = new FXMLLoader(getClass().getResource("patients.fxml"));  
 stage = (Stage) (btn\_back.getScene().getWindow());  
 try {  
 stage.setScene(new Scene(root.load()));  
 } catch (IOException e) {  
 System.*out*.println(e);  
 }  
 }  
  
 @FXML  
 void updatePatient(ActionEvent event) {  
  
 }  
}

**add\_doctor.fxml ->**

<?xml version="1.0" encoding="UTF-8"?>  
  
<?import javafx.scene.control.Button?>  
<?import javafx.scene.control.Label?>  
<?import javafx.scene.control.RadioButton?>  
<?import javafx.scene.control.TextField?>  
<?import javafx.scene.control.ToggleGroup?>  
<?import javafx.scene.image.Image?>  
<?import javafx.scene.image.ImageView?>  
<?import javafx.scene.layout.AnchorPane?>  
<?import javafx.scene.text.Font?>  
  
<AnchorPane prefHeight="400.0" prefWidth="600.0" xmlns="http://javafx.com/javafx/17" xmlns:fx="http://javafx.com/fxml/1" fx:controller="com.example.hospitalmanagementsystem.AddDoctor">  
 <children>  
 <Label alignment="CENTER" layoutY="-1.0" prefHeight="45.0" prefWidth="600.0" style="-fx-background-color: #00bfff;" text="DOCTOR DETAILS" textFill="WHITE">  
 <font>  
 <Font name="Bookman Old Style Bold" size="24.0" />  
 </font>  
 </Label>  
 <Label layoutX="47.0" layoutY="99.0" text="First Name: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <Label layoutX="50.0" layoutY="136.0" text="Last Name: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <Label layoutX="48.0" layoutY="189.0" text="Gender: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <RadioButton fx:id="rb\_male" layoutX="189.0" layoutY="188.0" mnemonicParsing="false" text="Male">  
 <font>  
 <Font name="Bookman Old Style Bold" size="14.0" />  
 </font>  
 <toggleGroup>  
 <ToggleGroup fx:id="gender" />  
 </toggleGroup>  
 </RadioButton>  
 <RadioButton fx:id="rb\_female" layoutX="260.0" layoutY="188.0" mnemonicParsing="false" text="Female" toggleGroup="$gender">  
 <font>  
 <Font name="Bookman Old Style Bold" size="14.0" />  
 </font>  
 </RadioButton>  
 <Label layoutX="44.0" layoutY="290.0" text="Address: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <Label layoutX="48.0" layoutY="238.0" text="Phone no: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <TextField fx:id="tf\_firstname" layoutX="189.0" layoutY="97.0" />  
 <TextField fx:id="tf\_lastname" layoutX="189.0" layoutY="134.0" />  
 <TextField fx:id="tf\_phone" layoutX="188.0" layoutY="236.0" />  
 <TextField fx:id="tf\_address" layoutX="189.0" layoutY="288.0" />  
 <Button fx:id="btn\_add" layoutX="427.0" layoutY="84.0" mnemonicParsing="false" onAction="#addDoctor" text="ADD DOCTOR" />  
 <Button fx:id="btn\_back" layoutX="427.0" layoutY="134.0" mnemonicParsing="false" onAction="#onBack" prefHeight="26.0" prefWidth="92.0" text="BACK" />  
 <Label layoutX="47.0" layoutY="62.0" text="ID:">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <TextField fx:id="tf\_id" layoutX="189.0" layoutY="60.0" />  
 <ImageView fitHeight="202.0" fitWidth="234.0" layoutX="352.0" layoutY="183.0" pickOnBounds="true" preserveRatio="true">  
 <image>  
 <Image url="@doctor.png" />  
 </image>  
 </ImageView>  
 </children>  
</AnchorPane>

**AddDoctor.java ->**

package com.example.hospitalmanagementsystem;  
  
import com.example.hospitalmanagementsystem.database.DB;  
import javafx.event.ActionEvent;  
import javafx.fxml.FXML;  
import javafx.fxml.FXMLLoader;  
import javafx.scene.Scene;  
import javafx.scene.control.\*;  
import javafx.scene.layout.Region;  
import javafx.stage.Stage;  
  
import java.io.IOException;  
  
public class AddDoctor {  
 private FXMLLoader root;  
  
 private Stage stage;  
  
 @FXML  
 private Button btn\_add;  
  
 @FXML  
 private Button btn\_back;  
  
 @FXML  
 private ToggleGroup gender;  
  
 @FXML  
 private RadioButton rb\_female;  
  
 @FXML  
 private RadioButton rb\_male;  
  
 @FXML  
 private TextField tf\_address;  
  
 @FXML  
 private TextField tf\_firstname;  
  
 @FXML  
 private TextField tf\_lastname;  
  
 @FXML  
 private TextField tf\_phone;  
  
 @FXML  
 private TextField tf\_id;  
  
 @FXML  
 void addDoctor(ActionEvent event) {  
 int id = Integer.*parseInt*(tf\_id.getText());  
 String fname = tf\_firstname.getText();  
 String lname = tf\_lastname.getText();  
 String phone = tf\_phone.getText();  
 String add = tf\_address.getText();  
 String gender;  
 if(rb\_female.isSelected()) gender = "FEMALE";  
 else gender = "MALE";  
  
 if(fname.isEmpty() || lname.isEmpty() || phone.isEmpty() || add.isEmpty()) {  
 DB.*showMessage*("ALl fields are required!", Alert.AlertType.*ERROR*);  
 } else if(tf\_phone.getText().length() == 10) {  
 DB.*insertDoctor*(id, fname, lname, gender, phone, add);  
 tf\_id.setText("");  
 tf\_firstname.setText("");  
 tf\_lastname.setText("");  
 tf\_phone.setText("");  
 tf\_address.setText("");  
 rb\_male.setSelected(false);  
 rb\_female.setSelected(false);  
 } else {  
 DB.*showMessage*("Phone number should be of length 10", Alert.AlertType.*ERROR*);  
 }  
 }  
  
 @FXML  
 void onBack(ActionEvent event) {  
 root = new FXMLLoader(getClass().getResource("doctors.fxml"));  
 stage = (Stage) (btn\_back.getScene().getWindow());  
 try {  
 stage.setScene(new Scene(root.load()));  
 } catch (IOException e) {  
 System.*out*.println(e);  
 }  
 }  
}

**add\_apppointment.fxml ->**

<?xml version="1.0" encoding="UTF-8"?>  
  
<?import javafx.scene.control.Button?>  
<?import javafx.scene.control.ComboBox?>  
<?import javafx.scene.control.DatePicker?>  
<?import javafx.scene.control.Label?>  
<?import javafx.scene.image.Image?>  
<?import javafx.scene.image.ImageView?>  
<?import javafx.scene.layout.AnchorPane?>  
<?import javafx.scene.text.Font?>  
  
<AnchorPane prefHeight="400.0" prefWidth="600.0" style="-fx-background-color: #fff;" xmlns="http://javafx.com/javafx/17" xmlns:fx="http://javafx.com/fxml/1" fx:controller="com.example.hospitalmanagementsystem.AddAppointment">  
 <children>  
 <Label alignment="CENTER" layoutX="-1.0" layoutY="-2.0" prefHeight="60.0" prefWidth="600.0" style="-fx-background-color: #00bfff;" text="MAKE APPOINTMENT" textFill="WHITE">  
 <font>  
 <Font name="Bookman Old Style Bold" size="24.0" />  
 </font>  
 </Label>  
 <Label layoutX="21.0" layoutY="70.0" text="Patient: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <Label layoutX="21.0" layoutY="120.0" text="Doctor:">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <ComboBox fx:id="cb\_patient" layoutX="116.0" layoutY="68.0" prefWidth="150.0" />  
 <ComboBox fx:id="cb\_doctor" layoutX="116.0" layoutY="118.0" prefWidth="150.0" />  
 <DatePicker fx:id="dp\_date" layoutX="385.0" layoutY="68.0" />  
 <Label layoutX="290.0" layoutY="70.0" text="Date: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <Button fx:id="btn\_back" layoutX="295.0" layoutY="118.0" mnemonicParsing="false" onAction="#onBack" text="BACK" />  
 <Button layoutX="385.0" layoutY="118.0" mnemonicParsing="false" onAction="#onBookAppointment" prefHeight="26.0" prefWidth="175.0" text="BOOK APPOINTMENT" />  
 <ImageView fitHeight="248.0" fitWidth="477.0" layoutX="69.0" layoutY="152.0" pickOnBounds="true" preserveRatio="true">  
 <image>  
 <Image url="@appointment.jpg" />  
 </image>  
 </ImageView>  
 </children>  
</AnchorPane>

**AddAppointment.java ->**

package com.example.hospitalmanagementsystem;  
  
import com.example.hospitalmanagementsystem.database.DB;  
import com.example.hospitalmanagementsystem.model.Doctor;  
import com.example.hospitalmanagementsystem.model.Patient;  
import javafx.collections.FXCollections;  
import javafx.collections.ObservableList;  
import javafx.event.ActionEvent;  
import javafx.fxml.FXML;  
import javafx.fxml.FXMLLoader;  
import javafx.fxml.Initializable;  
import javafx.scene.Scene;  
import javafx.scene.control.Button;  
import javafx.scene.control.ComboBox;  
import javafx.scene.control.DatePicker;  
import javafx.scene.control.TableView;  
import javafx.stage.Stage;  
  
import java.io.IOException;  
import java.net.URL;  
import java.sql.Date;  
import java.util.ArrayList;  
import java.util.ResourceBundle;  
  
public class AddAppointment implements Initializable {  
 private FXMLLoader root;  
  
 private Stage stage;  
  
 @FXML  
 private Button btn\_back;  
  
 @FXML  
 private ComboBox<Integer> cb\_doctor;  
  
 @FXML  
 private ComboBox<Integer> cb\_patient;  
  
 @FXML  
 private DatePicker dp\_date;  
  
 ObservableList<Integer> plist = FXCollections.*observableArrayList*();  
 ObservableList<Integer> dlist = FXCollections.*observableArrayList*();  
  
 @FXML  
 void onBack(ActionEvent event) {  
 root = new FXMLLoader(getClass().getResource("appointments.fxml"));  
 stage = (Stage) (btn\_back.getScene().getWindow());  
 try {  
 stage.setScene(new Scene(root.load()));  
 } catch (IOException e) {  
 System.*out*.println(e);  
 }  
 }  
  
 @FXML  
 void onBookAppointment(ActionEvent event) {  
  
 int pat\_id = cb\_patient.getValue();  
 int doc\_id = cb\_doctor.getValue();  
 Date date = Date.*valueOf*(dp\_date.getValue());  
 DB.*bookAppointment*(pat\_id, doc\_id, date);  
 }  
  
 @Override  
 public void initialize(URL location, ResourceBundle resources) {  
 int n = DB.*getCountPatient*();  
 ObservableList patients = DB.*getPatients*();  
 for(int i=0; i<n; i++) {  
 Patient p = (Patient)patients.get(i);  
 plist.add(p.getId());  
 }  
  
 cb\_patient.setItems(plist);  
  
 n = DB.*getCountDoctor*();  
  
 ObservableList doctors = DB.*getDoctors*();  
 for(int i=0; i<n; i++) {  
 Doctor d = (Doctor) doctors.get(i);  
 dlist.add(d.getId());  
 }  
  
 cb\_doctor.setItems(dlist);  
 }  
}

**delete\_patient.fxml ->**

<?xml version="1.0" encoding="UTF-8"?>  
  
<?import java.net.URL?>  
<?import javafx.scene.control.Button?>  
<?import javafx.scene.control.ComboBox?>  
<?import javafx.scene.control.Label?>  
<?import javafx.scene.control.RadioButton?>  
<?import javafx.scene.control.TextField?>  
<?import javafx.scene.control.ToggleGroup?>  
<?import javafx.scene.layout.AnchorPane?>  
<?import javafx.scene.text.Font?>  
  
<AnchorPane prefHeight="400.0" prefWidth="600.0" styleClass="mainFxmlClass" xmlns="http://javafx.com/javafx/17" xmlns:fx="http://javafx.com/fxml/1" fx:controller="com.example.hospitalmanagementsystem.DeletePatient">  
 <stylesheets>  
 <URL value="@style\_home.css" />  
 </stylesheets>  
 <children>  
 <Label alignment="CENTER" layoutY="-1.0" prefHeight="50.0" prefWidth="600.0" style="-fx-background-color: #00bfff;" text="Update Patient" textFill="WHITE">  
 <font>  
 <Font name="Bookman Old Style Bold" size="24.0" />  
 </font>  
 </Label>  
 <Label layoutX="47.0" layoutY="136.0" text="First Name: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <Label layoutX="50.0" layoutY="189.0" text="Last Name: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <Label layoutX="47.0" layoutY="232.0" text="Gender: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <RadioButton fx:id="rb\_male" layoutX="208.0" layoutY="233.0" mnemonicParsing="false" text="Male">  
 <font>  
 <Font name="Bookman Old Style Bold" size="14.0" />  
 </font>  
 <toggleGroup>  
 <ToggleGroup fx:id="gender" />  
 </toggleGroup>  
 </RadioButton>  
 <RadioButton fx:id="rb\_female" layoutX="283.0" layoutY="233.0" mnemonicParsing="false" text="Female" toggleGroup="$gender">  
 <font>  
 <Font name="Bookman Old Style Bold" size="14.0" />  
 </font>  
 </RadioButton>  
 <Label layoutX="44.0" layoutY="332.0" text="Address: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <Label layoutX="48.0" layoutY="282.0" text="Phone no: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <TextField fx:id="tf\_firstname" layoutX="208.0" layoutY="134.0" />  
 <TextField fx:id="tf\_lastname" layoutX="208.0" layoutY="187.0" />  
 <TextField fx:id="tf\_phone" layoutX="208.0" layoutY="280.0" />  
 <TextField fx:id="tf\_address" layoutX="208.0" layoutY="330.0" />  
 <Button fx:id="btn\_delete" layoutX="425.0" layoutY="134.0" mnemonicParsing="false" onAction="#deletePatient" text="DELETE PATIENT" />  
 <Button fx:id="btn\_update" layoutX="424.0" layoutY="186.0" mnemonicParsing="false" onAction="#updatePatient" prefHeight="26.0" prefWidth="103.0" text="UPDATE" />  
 <Button fx:id="btn\_back" layoutX="424.0" layoutY="239.0" mnemonicParsing="false" onAction="#onBack" prefHeight="26.0" prefWidth="103.0" text="BACK" />  
 <Label layoutX="47.0" layoutY="86.0" text="Enter Patient ID">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <Button fx:id="btn\_get\_patient" layoutX="428.0" layoutY="84.0" mnemonicParsing="false" onAction="#getPatient" prefHeight="26.0" prefWidth="103.0" text="GET PATIENT" />  
 <ComboBox fx:id="cb\_patients" layoutX="208.0" layoutY="84.0" prefWidth="150.0" />  
 </children>  
</AnchorPane>

**DeletePatient.java ->**

package com.example.hospitalmanagementsystem;  
  
import com.example.hospitalmanagementsystem.database.DB;  
import com.example.hospitalmanagementsystem.model.Patient;  
import javafx.collections.FXCollections;  
import javafx.collections.ObservableList;  
import javafx.event.ActionEvent;  
import javafx.fxml.FXML;  
import javafx.fxml.FXMLLoader;  
import javafx.fxml.Initializable;  
import javafx.scene.Scene;  
import javafx.scene.control.\*;  
import javafx.stage.Stage;  
  
import java.io.IOException;  
import java.net.URL;  
import java.util.ResourceBundle;  
  
public class DeletePatient implements Initializable {  
 private FXMLLoader root;  
  
 private Stage stage;  
  
 @FXML  
 private Button btn\_back;  
  
 @FXML  
 private Button btn\_delete;  
  
 @FXML  
 private Button btn\_update;  
  
 @FXML  
 private ToggleGroup gender;  
  
 @FXML  
 private RadioButton rb\_female;  
  
 @FXML  
 private RadioButton rb\_male;  
  
 @FXML  
 private TextField tf\_address;  
  
 @FXML  
 private TextField tf\_firstname;  
  
 @FXML  
 private TextField tf\_lastname;  
  
 @FXML  
 private TextField tf\_phone;  
  
 @FXML  
 private ComboBox<Integer> cb\_patients;  
  
 ObservableList<Integer> plist = FXCollections.*observableArrayList*();  
  
 @FXML  
 void getPatient(ActionEvent event) {  
 int id = cb\_patients.getValue();  
 Patient patient = DB.*getPatient*(id);  
 tf\_firstname.setText(patient.getFirstName());  
 tf\_lastname.setText(patient.getLastName());  
 tf\_address.setText(patient.getAddress());  
 tf\_phone.setText(patient.getPhone\_no());  
  
 if(patient.getGender().equals("MALE")) rb\_male.setSelected(true);  
 else rb\_female.setSelected(true);  
 }  
  
 @FXML  
 void deletePatient(ActionEvent event) {  
 int id = cb\_patients.getValue();  
 DB.*deletePatient*(id);  
 }  
  
 @FXML  
 void onBack(ActionEvent event) {  
 root = new FXMLLoader(getClass().getResource("patients.fxml"));  
 stage = (Stage) (btn\_back.getScene().getWindow());  
 try {  
 stage.setScene(new Scene(root.load()));  
 } catch (IOException e) {  
 System.*out*.println(e);  
 }  
 }  
  
 @FXML  
 void updatePatient(ActionEvent event) {  
 int id = cb\_patients.getValue();  
 String fname = tf\_firstname.getText();  
 String lname = tf\_lastname.getText();  
 String phone = tf\_phone.getText();  
 String add = tf\_address.getText();  
 String gender;  
 if(rb\_female.isSelected()) gender = "FEMALE";  
 else gender = "MALE";  
 Patient patient = new Patient(id, fname, lname, gender, phone, add);  
 DB.*updatePatient*(patient);  
 cb\_patients.getSelectionModel().select(0);  
 tf\_firstname.setText("");  
 tf\_lastname.setText("");  
 tf\_phone.setText("");  
 tf\_address.setText("");  
 rb\_male.setSelected(false);  
 rb\_female.setSelected(false);  
 }  
  
 @Override  
 public void initialize(URL location, ResourceBundle resources) {  
 int n = DB.*getCountPatient*();  
  
  
 ObservableList patients = DB.*getPatients*();  
 for(int i=0; i<n; i++) {  
 Patient p = (Patient)patients.get(i);  
 plist.add(p.getId());  
 }  
  
 cb\_patients.setItems(plist);  
 }  
}

**delete\_doctor.fxml ->**

<?xml version="1.0" encoding="UTF-8"?>  
  
<?import java.net.URL?>  
<?import javafx.scene.control.Button?>  
<?import javafx.scene.control.ComboBox?>  
<?import javafx.scene.control.Label?>  
<?import javafx.scene.control.RadioButton?>  
<?import javafx.scene.control.TextField?>  
<?import javafx.scene.control.ToggleGroup?>  
<?import javafx.scene.layout.AnchorPane?>  
<?import javafx.scene.text.Font?>  
  
<AnchorPane prefHeight="400.0" prefWidth="600.0" styleClass="mainFxmlClass" xmlns="http://javafx.com/javafx/17" xmlns:fx="http://javafx.com/fxml/1" fx:controller="com.example.hospitalmanagementsystem.DeleteDoctor">  
 <stylesheets>  
 <URL value="@style\_home.css" />  
 </stylesheets>  
 <children>  
 <Label alignment="CENTER" layoutX="1.0" layoutY="1.0" prefHeight="59.0" prefWidth="600.0" style="-fx-background-color: #00bfff;" text="Update Doctor" textFill="WHITE">  
 <font>  
 <Font name="Bookman Old Style Bold" size="24.0" />  
 </font>  
 </Label>  
 <Label layoutX="47.0" layoutY="136.0" text="Fitst Name: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <Label layoutX="50.0" layoutY="189.0" text="Last Name: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <Label layoutX="47.0" layoutY="232.0" text="Gender: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <RadioButton fx:id="rb\_male" layoutX="208.0" layoutY="233.0" mnemonicParsing="false" text="Male">  
 <font>  
 <Font name="Bookman Old Style Bold" size="14.0" />  
 </font>  
 <toggleGroup>  
 <ToggleGroup fx:id="gender" />  
 </toggleGroup>  
 </RadioButton>  
 <RadioButton fx:id="rb\_female" layoutX="283.0" layoutY="233.0" mnemonicParsing="false" text="Female" toggleGroup="$gender">  
 <font>  
 <Font name="Bookman Old Style Bold" size="14.0" />  
 </font>  
 </RadioButton>  
 <Label layoutX="44.0" layoutY="332.0" text="Address: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <Label layoutX="48.0" layoutY="282.0" text="Phone no: ">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <TextField fx:id="tf\_firstname" layoutX="208.0" layoutY="134.0" />  
 <TextField fx:id="tf\_lastname" layoutX="208.0" layoutY="187.0" />  
 <TextField fx:id="tf\_phone" layoutX="208.0" layoutY="280.0" />  
 <TextField fx:id="tf\_address" layoutX="208.0" layoutY="330.0" />  
 <Button fx:id="btn\_delete" layoutX="424.0" layoutY="134.0" mnemonicParsing="false" onAction="#deleteDoctor" text="DELETE DOCTOR" />  
 <Button fx:id="btn\_update" layoutX="422.0" layoutY="187.0" mnemonicParsing="false" onAction="#updateDoctor" text="UPDATE DOCTOR" />  
 <Button fx:id="btn\_back" layoutX="424.0" layoutY="241.0" mnemonicParsing="false" onAction="#onBack" prefHeight="26.0" prefWidth="106.0" text="BACK" />  
 <Label layoutX="47.0" layoutY="86.0" text="Enter Doctor ID">  
 <font>  
 <Font name="Bookman Old Style Bold" size="18.0" />  
 </font>  
 </Label>  
 <Button fx:id="btn\_get\_doctor" layoutX="422.0" layoutY="74.0" mnemonicParsing="false" onAction="#onGetDoctor" prefHeight="26.0" prefWidth="106.0" text="GET DOCTOR" />  
 <ComboBox fx:id="cb\_doctors" layoutX="208.0" layoutY="84.0" prefWidth="150.0" />  
 </children>  
</AnchorPane>

**DeleteDoctor.java ->**

package com.example.hospitalmanagementsystem;  
  
import com.example.hospitalmanagementsystem.database.DB;  
import com.example.hospitalmanagementsystem.model.Doctor;  
import com.example.hospitalmanagementsystem.model.Patient;  
import javafx.collections.FXCollections;  
import javafx.collections.ObservableList;  
import javafx.event.ActionEvent;  
import javafx.fxml.FXML;  
import javafx.fxml.FXMLLoader;  
import javafx.fxml.Initializable;  
import javafx.scene.Scene;  
import javafx.scene.control.\*;  
import javafx.stage.Stage;  
  
import java.io.IOException;  
import java.net.URL;  
import java.util.ResourceBundle;  
  
public class DeleteDoctor implements Initializable {  
  
 private FXMLLoader root;  
  
 private Stage stage;  
  
 @FXML  
 private Button btn\_back;  
  
 @FXML  
 private Button btn\_delete;  
  
 @FXML  
 private Button btn\_get\_doctor;  
  
 @FXML  
 private Button btn\_update;  
  
 @FXML  
 private ToggleGroup gender;  
  
 @FXML  
 private RadioButton rb\_female;  
  
 @FXML  
 private RadioButton rb\_male;  
  
 @FXML  
 private TextField tf\_address;  
  
 @FXML  
 private TextField tf\_firstname;  
  
 @FXML  
 private TextField tf\_lastname;  
  
 @FXML  
 private TextField tf\_phone;  
  
 @FXML  
 private ComboBox<Integer> cb\_doctors;  
  
 ObservableList<Integer> dlist = FXCollections.*observableArrayList*();  
  
 @FXML  
 void onBack(ActionEvent event) {  
 root = new FXMLLoader(getClass().getResource("doctors.fxml"));  
 stage = (Stage) (btn\_back.getScene().getWindow());  
 try {  
 stage.setScene(new Scene(root.load()));  
 } catch (IOException e) {  
 System.*out*.println(e);  
 }  
 }  
  
 @FXML  
 void onGetDoctor(ActionEvent event) {  
 int id = cb\_doctors.getValue();  
 Doctor doctor = DB.*getDoctor*(id);  
 tf\_firstname.setText(doctor.getFirstName());  
 tf\_lastname.setText(doctor.getLastName());  
 tf\_address.setText(doctor.getAddress());  
 tf\_phone.setText(doctor.getPhone\_no());  
  
 if(doctor.getGender().equals("MALE")) rb\_male.setSelected(true);  
 else rb\_female.setSelected(true);  
 }  
   
  
 public void deleteDoctor(ActionEvent actionEvent) {  
 int id = cb\_doctors.getValue();  
 DB.*deleteDoctor*(id);  
 }  
  
 public void updateDoctor(ActionEvent actionEvent) {  
 int id = cb\_doctors.getValue();  
 String fname = tf\_firstname.getText();  
 String lname = tf\_lastname.getText();  
 String phone = tf\_phone.getText();  
 String add = tf\_address.getText();  
 String gender;  
 if(rb\_female.isSelected()) gender = "FEMALE";  
 else gender = "MALE";  
 Doctor doctor = new Doctor(id, fname, lname, gender, phone, add);  
 DB.*updateDoctor*(doctor);  
 cb\_doctors.getSelectionModel().select(0);  
 tf\_firstname.setText("");  
 tf\_lastname.setText("");  
 tf\_phone.setText("");  
 tf\_address.setText("");  
 rb\_male.setSelected(false);  
 rb\_female.setSelected(false);  
 }  
  
 @Override  
 public void initialize(URL location, ResourceBundle resources) {  
 int n = DB.*getCountDoctor*();  
  
 ObservableList doctors = DB.*getDoctors*();  
 for(int i=0; i<n; i++) {  
 Doctor d = (Doctor) doctors.get(i);  
 dlist.add(d.getId());  
 }  
  
 cb\_doctors.setItems(dlist);  
 }  
}

**login.css ->**

.anchor {  
 background-image: url('F:\Github\HospitalManagementSystem\src\main\resources\com\example\hospitalmanagementsystem\login.jpg');  
}

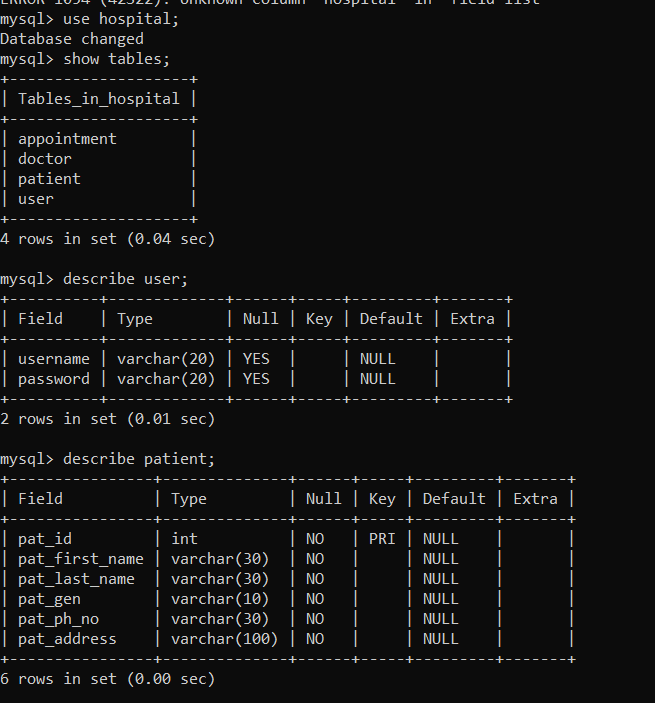
**Style.css ->**

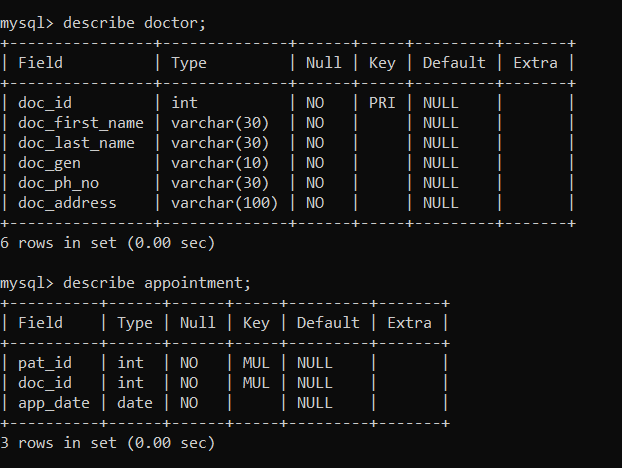
.mainFxmlClass {  
 -fx-background-image: url('login.jpg');  
 -fx-background-size: cover;  
}

**Style\_home.css ->**

.mainFxmlClass {  
 -fx-background-image: url('homepage.jpg');  
 -fx-background-size: cover;  
}

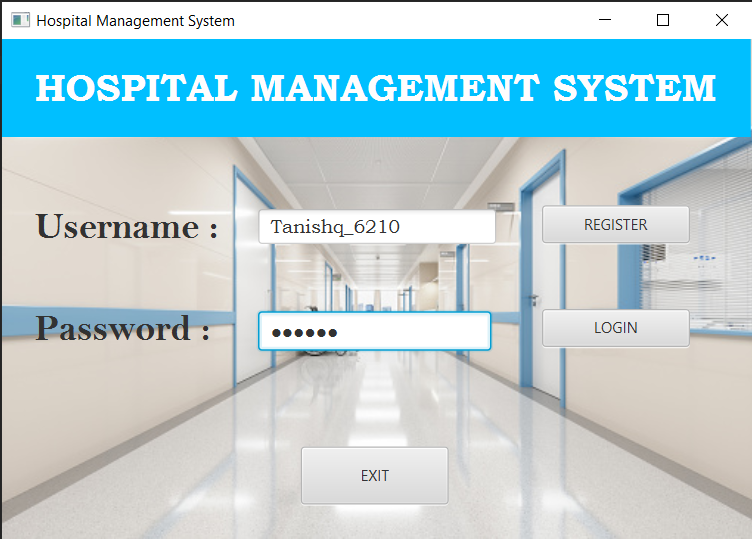
**Database ->**

****

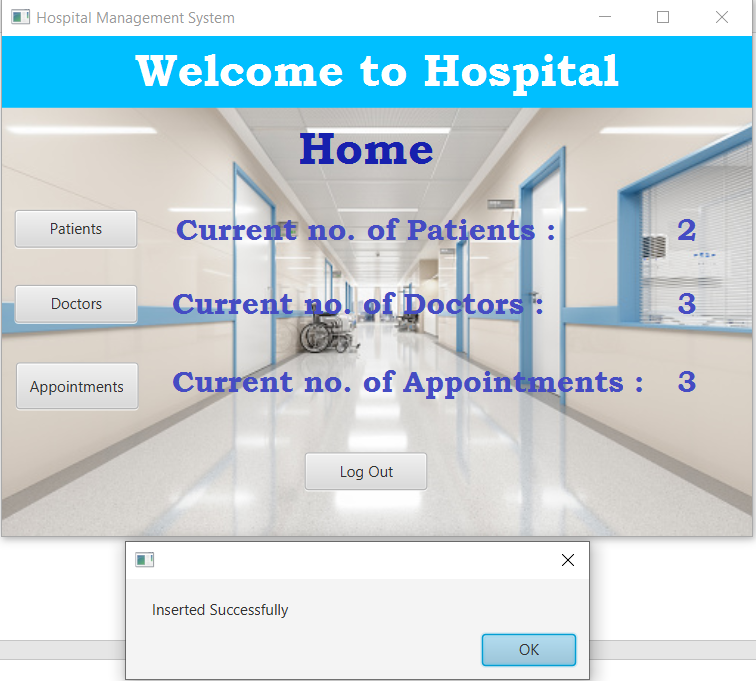
****

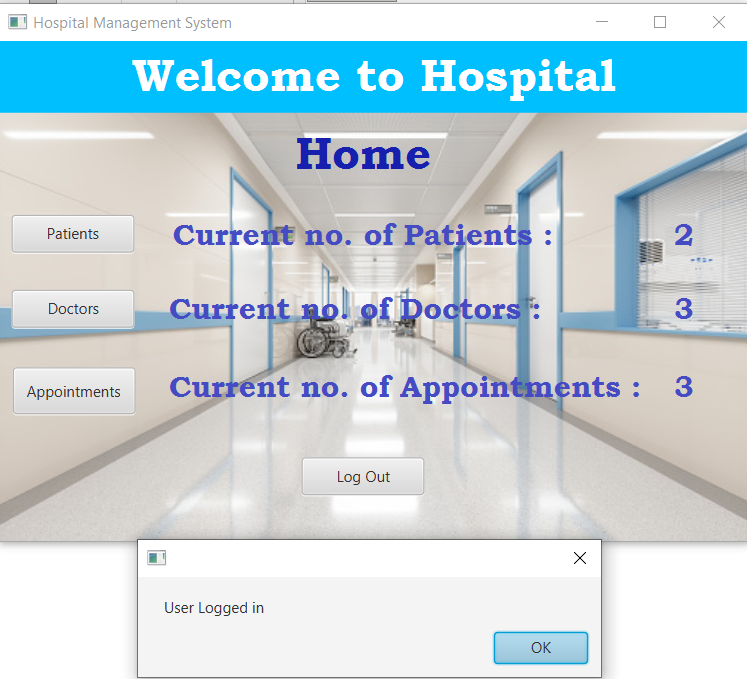
**Project Output Screenshots :**

**Home-view.fxml :**

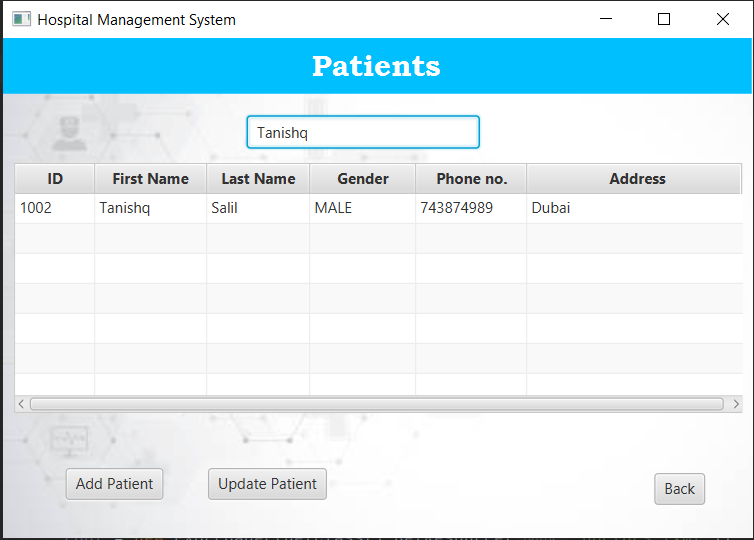
****

**Home.fxml**

****

****

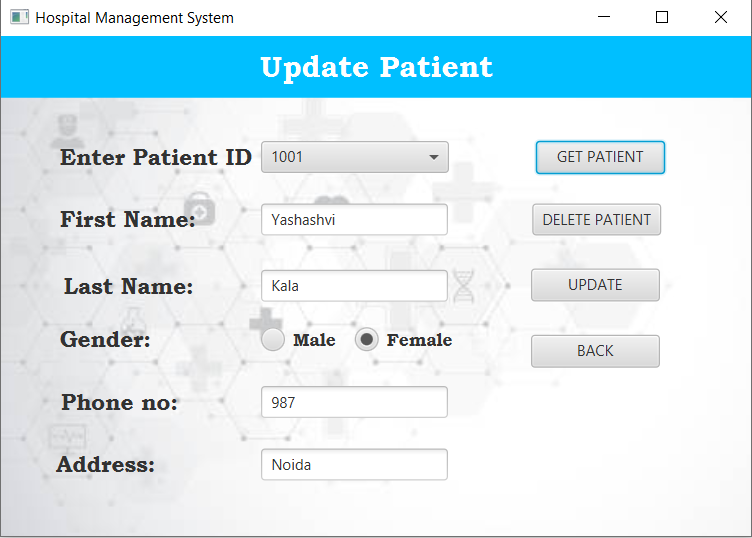
**Patient page:**

****

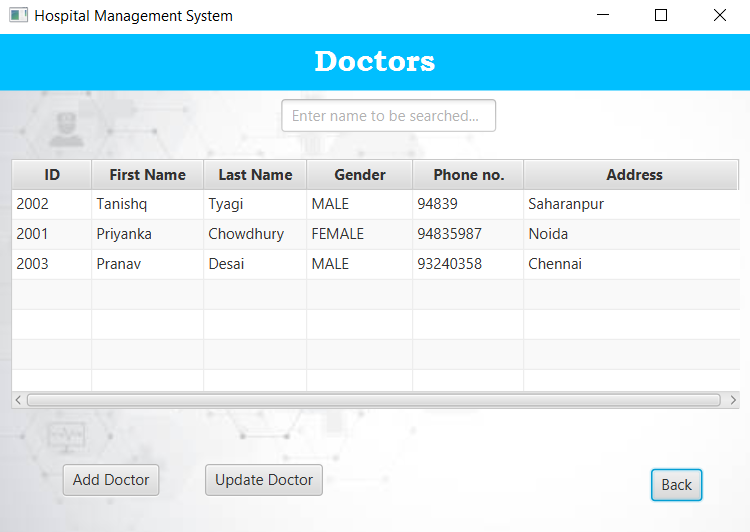
**Add Patient Page:**

****

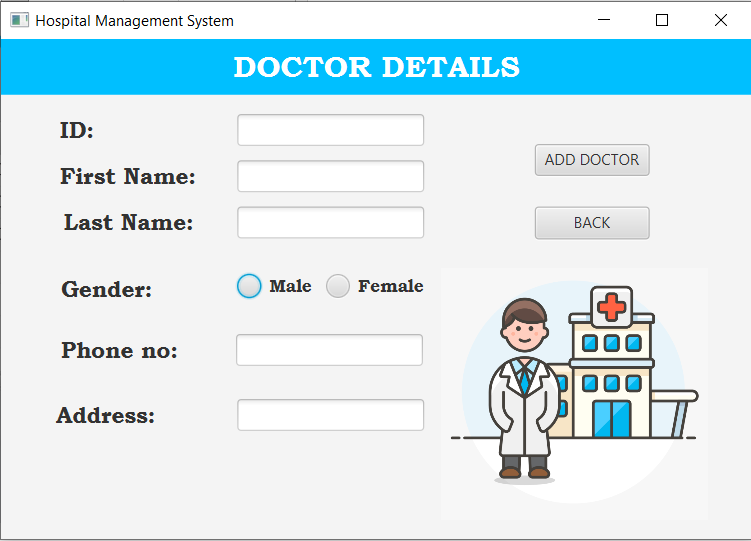
**Delete/Update Patient Page:**

****

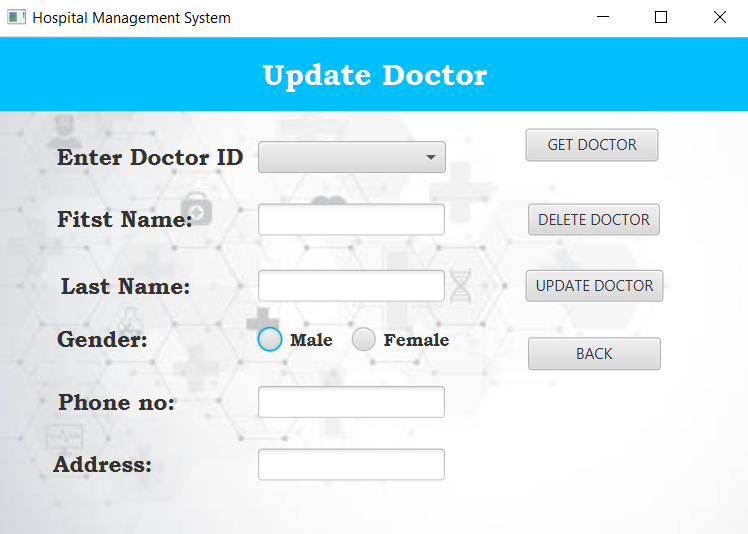
**Doctors Page:**

****

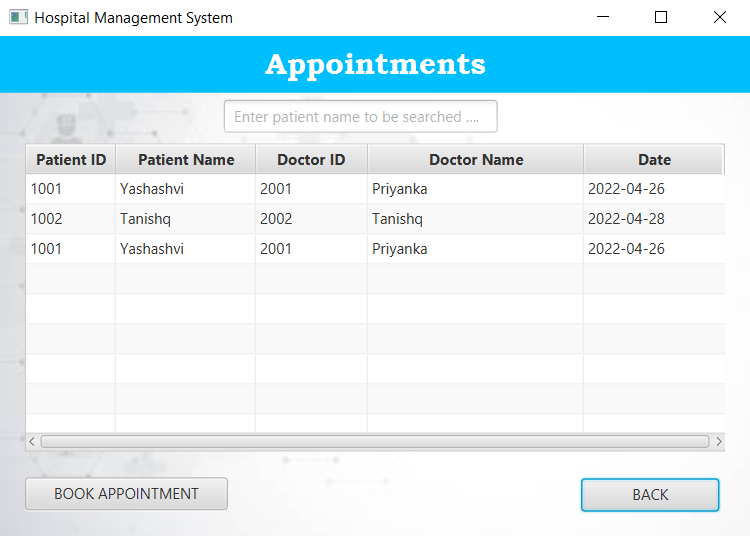
**Add Doctor Page:**

****

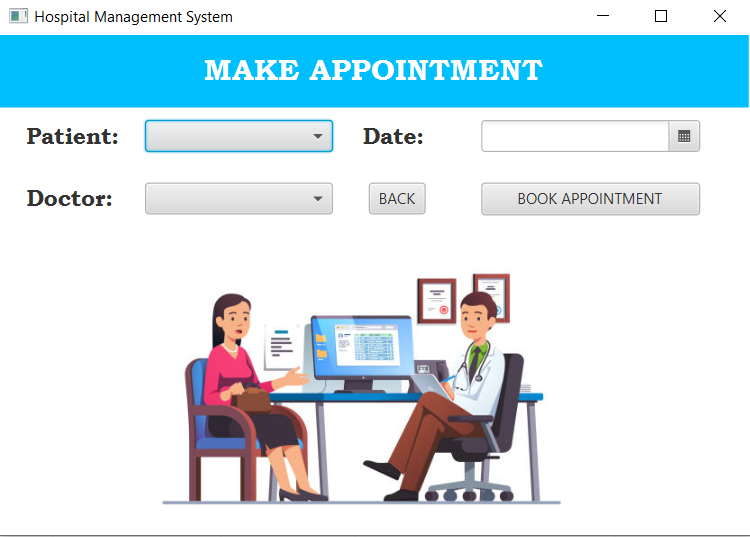
**Delete/Update Doctor Page:**

****

**Appointments:**

****

**Book Appointment Page:**

****

**Result and Discussion –** We made an Hospital Management system for small hospitals which will provide them a simple UI platform to book appointments with doctors.

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**Conclusion –** This Application will lead the Hospital to maintain

the Data of patients and doctors in a very effective manner having every option to manage the Hospital.