

MINI PROJECT ON JAVA

PROJECT : E-Healthcare Management System

Project Overview:

The E-Healthcare Management System aims to digitize and streamline various processes involved in healthcare facilities such as hospitals or clinics. It allows patients to book appointments, view their medical records, and interact with healthcare providers online.

Features:

1. ***User Authentication:*** Patients, doctors, and administrative staff should be able to log in securely to access their respective functionalities.
2. ***Appointment Booking:*** Patients can view available time slots for appointments with doctors and book appointments based on their preferences.
3. ***Medical Records:*** Patients can view their medical history, including past diagnoses, medications, lab results, etc.
4. ***Doctor Dashboard:*** Doctors can view their appointments, access patient medical records, update diagnoses, prescribe medications, etc.
5. ***Admin Dashboard:*** Administrative staff can manage user accounts, add/edit/delete doctors and patients, view appointment schedules, generate reports, etc.

CODE:

```
import java.util.*;
```

```
class User {  
    private String username;  
    private String password;  
  
    public User(String username, String password) {  
        this.username = username;  
        this.password = password;  
    }  
}
```

```

    public String getUsername() {
        return username;
    }

    public String getPassword() {
        return password;
    }
}

class Patient extends User {
    private List<Appointment> appointments;
    private List<String> medicalRecords;

    public Patient(String username, String password) {
        super(username, password);
        appointments = new ArrayList<>();
        medicalRecords = new ArrayList<>();
    }

    public List<Appointment> getAppointments() {
        return appointments;
    }

    public List<String> getMedicalRecords() {
        return medicalRecords;
    }
}

class Doctor extends User {
    private List<Appointment> appointments;

    public Doctor(String username, String password) {
        super(username, password);
        appointments = new ArrayList<>();
    }

    public List<Appointment> getAppointments() {
        return appointments;
    }
}

class Appointment {
    private Doctor doctor;

```

```

private Patient patient;
private Date date;

public Appointment(Doctor doctor, Patient patient, Date date) {
    this.doctor = doctor;
    this.patient = patient;
    this.date = date;
}

public Doctor getDoctor() {
    return doctor;
}

public Patient getPatient() {
    return patient;
}

public Date getDate() {
    return date;
}
}

public class EHealthcareSystem {
    private List<Patient> patients;
    private List<Doctor> doctors;
    private List<Appointment> appointments;

    public EHealthcareSystem() {
        patients = new ArrayList<>();
        doctors = new ArrayList<>();
        appointments = new ArrayList<>();
    }

    public void registerPatient(String username, String password) {
        patients.add(new Patient(username, password));
    }

    public void registerDoctor(String username, String password) {
        doctors.add(new Doctor(username, password));
    }

    public void bookAppointment(Doctor doctor, Patient patient, Date date) {
        Appointment appointment = new Appointment(doctor, patient, date);
        appointments.add(appointment);
    }
}

```

```

        doctor.getAppointments().add(appointment);
        patient.getAppointments().add(appointment);
        System.out.println("Appointment booked successfully!");
    }

    public void viewAppointments(Patient patient) {
        List<Appointment> patientAppointments = patient.getAppointments();
        if (patientAppointments.isEmpty()) {
            System.out.println("No appointments found.");
        } else {
            System.out.println("Your Appointments:");
            for (Appointment appointment : patientAppointments) {
                System.out.println(appointment.getDoctor().getUsername() + " - " +
appointment.getDate());
            }
        }
    }

    public static void main(String[] args) {
        EHealthcareSystem system = new EHealthcareSystem();

        // Register patients and doctors
        system.registerPatient("patient1", "password1");
        system.registerPatient("patient2", "password2");
        system.registerDoctor("doctor1", "password1");
        system.registerDoctor("doctor2", "password2");

        // Sample appointment booking
        Doctor doctor1 = system.doctors.get(0);
        Patient patient1 = system.patients.get(0);
        Calendar calendar = Calendar.getInstance();
        calendar.set(2024, Calendar.MAY, 3, 10, 0);
        Date appointmentDate = calendar.getTime();
        system.bookAppointment(doctor1, patient1, appointmentDate);

        // Sample appointment view for a patient
        system.viewAppointments(patient1);
    }
}

```

OUTPUT :

```
java -cp /tmp/2NfkvF3Ded/EHealthcareSystem  
Appointment booked successfully!  
Your Appointments:  
doctor1 - Fri May 03 10:00:15 GMT 2024  
  
=== Code Execution Successful ===
```