

Database Management System

CS30202

Assignment 4

Web Application for a Hospital Management System

Design Report

Submitted by group name: disks_overloaded

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Frontend Language: HTML, CSS, JavaScript

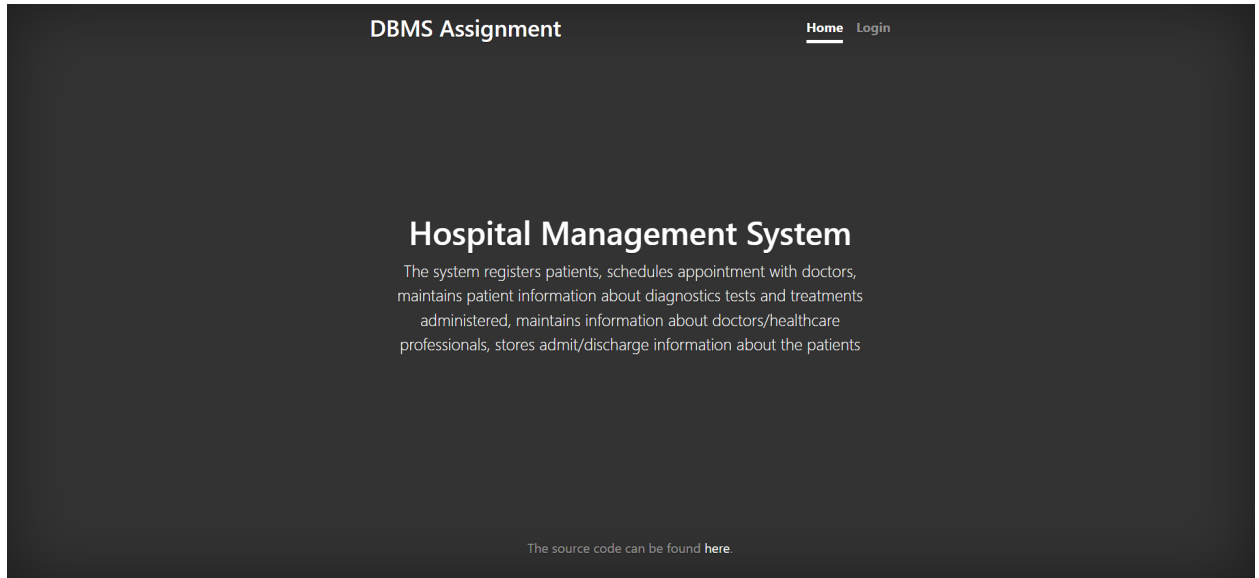
Backend Language: Python

Database server: Postgresql

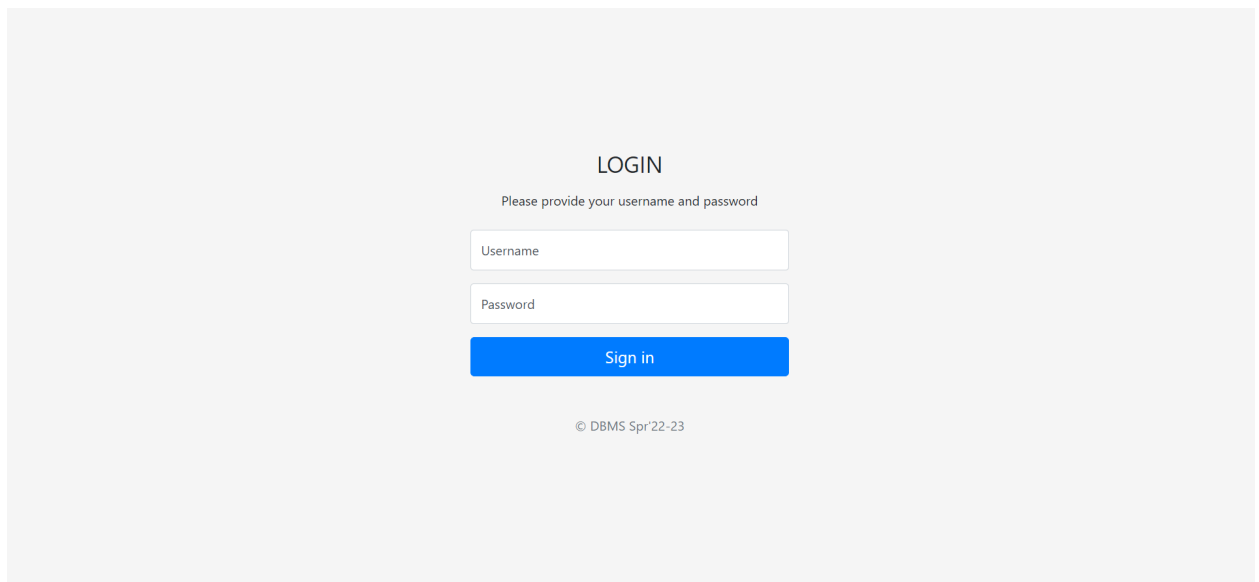
Interface and Workflow:

For all users

- **Home:** A home page for any user



- **Login:** All users have to log in with username (employeeID) and password. A new user (new users are created by administrators) has a password same as the username.

The screenshot shows the login page of the system. It has a light gray background. In the center, the word "LOGIN" is written in a bold, black, sans-serif font. Below it, a smaller line of text says "Please provide your username and password". There are two white input fields with thin gray borders. The first field is labeled "Username" and the second is labeled "Password". Below these fields is a blue button with the text "Sign in" in white. At the very bottom of the page, there is a small copyright notice: "© DBMS Spr'22-23".

- **Change Password:** All users can change their password after logging in.

Change Password

Password details

Old Password

New Password

Confirm Password

Confirm Password

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- **Profile:** All users can view their details in their profile

Admin	Sign out
<div><div>Dashboard</div><div>Profile</div><div>Change Password</div><div>Create User</div><div>Delete User</div></div>	<div><div>Profile</div><div>User details</div><div><div>Name: Pradosh Mitter</div><div>EmployeeID: ADM1</div><div>SSN: 800000001</div><div>Email: def@gmail.com</div><div>Current Address: ABC Street, WB, India, 722102</div></div></div>

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- **Dashboard:** A dashboard that shows data relevant to each user.

Admin		Sign out	
Dashboard			
Profile			
Change Password			
Create User			
Delete User			

Dashboard

All Users

Employee ID	Name	User Type	SSN
DOC1	Alan Donald	doctor	111111111
DOC2	Bruce Reid	doctor	222222222
DOC3	Courtney Walsh	doctor	333333333
DOC4	Malcom Marshall	doctor	444444444
DOC5	Dennis Lillee	doctor	555555555
DOC6	Jeff Thomson	doctor	666666666
DOC7	Richard Hadlee	doctor	777777777
DOC8	Kapil Dev	doctor	888888888
DOC9	Ishant Sharma	doctor	999999999
ADM1	Pradosh Mitter	admin	800000001
ADM2	Sherlock Holmes	admin	800000002
DE01	Alan Donald	data entry operator	500000001
DE02	Alan Donald	data entry operator	500000002
FDO1	Alan Donald	front desk operator	600000001
FDO2	Alan Donald	front desk operator	600000002

For administrators

- **Create user:** Administrators can create new users by filling up necessary details of a user.

Admin		Sign out	
Dashboard			
Profile			
Change Password			
Create User			
Delete User			

Create User

User details

Name

EmployeeID

SSN

Social Security Number

☒ Administrator

☐ Front Desk Operator

☐ Data Entry Operator

☐ Doctor

Email (Optional)

you@example.com

Current Address

1234 Main St

Country

State

Pin

Choose...

Choose...

- **Delete user:** Administrators can delete any existing user.

The screenshot shows the 'Delete User' interface for an Admin user. The top navigation bar is dark grey with 'Admin' on the left and 'Sign out' on the right. A sidebar on the left contains links: Dashboard, Profile, Change Password, Create User, and Delete User (highlighted in blue). The main content area is titled 'Delete User' and features a 'Choose...' dropdown menu. Below the dropdown is a large blue button labeled 'Delete User'. At the bottom right, there is a copyright notice: '© DBMS Spr'22-23'.

For data entry operators

- **Enter details:** Data entry operators can enter medication and test details of a patient and can schedule appointments with doctors.

The screenshot shows the 'Medical Records' interface for a Data Entry Operator. The top navigation bar is dark grey with 'Data Entry Operator' on the left and 'Sign out' on the right. A sidebar on the left contains links: Dashboard, Profile, Change Password, and Enter details (highlighted in blue). The main content area is titled 'Medical Records' and features a 'Treatment details' section. This section includes a 'Patient List' dropdown menu. Below the dropdown is a calendar widget for 'March, 2023' with a grid of dates. The date '12' is highlighted. Below the calendar is a date input field with the placeholder 'dd-mm-yyyy'. Below the date input field is an 'Upload Report' section with a 'Choose File' button and the text 'No file chosen'. At the bottom, there is a radio button labeled 'Appointment'.

For front desk operators

- **Register:** Front desk operators can register patients by filling up necessary details of a patient.

The screenshot shows the 'Patient Registration' form within the 'Front Desk Operator' interface. The left sidebar contains navigation links: Dashboard, Profile, Change Password, Register (highlighted), Admit, and Discharge. The top right corner has a 'Sign out' link. The main content area is titled 'Patient Registration' and contains a section 'Enter Patient Details' with the following fields:

- Name: Text input field
- SSN: Text input field with label 'Social Security Number'
- InsuranceID (Optional): Text input field
- Phone Number: Text input field
- Primary Care Physician: Dropdown menu with 'Choose...' and a downward arrow
- Current Address: Text input field with '1234 Main St'
- Country: Dropdown menu with 'Choose...' and a downward arrow
- State: Dropdown menu with 'Choose...' and a downward arrow
- Pin: Text input field

- **Admit:** They can admit patients and allot them a room.

The screenshot shows the 'Admit Patients' form within the 'Front Desk Operator' interface. The left sidebar contains navigation links: Dashboard, Profile, Change Password, Register, Admit (highlighted), and Discharge. The top right corner has a 'Sign out' link. The main content area is titled 'Admit Patients' and contains a section 'Select Patient details' with the following fields:

- Room Number: Dropdown menu with 'Choose...' and a downward arrow
- Patient List: Dropdown menu with 'Choose...' and a downward arrow

Below these fields is a large blue button labeled 'Admit Patient'.

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- **Discharge:** They can also discharge any admitted patient.

Front Desk Operator

Sign out

Dashboard
Profile
Change Password
Register
Admit
Discharge

Discharge Patients

Select Patient Details

Patient List

Choose...

Discharge Patient

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For doctors

- **View Patient:** Doctors can see all the medications and treatments a patient has undergone.

Doctor

Sign out

Dashboard
Profile
Change Password
View Patients
Enter Patient details

All Patients

Treatment details

Patient List

Choose...

Submit

Patient Name

Dilip Vengsarkar

Medications

ID	Medication	Dose	Date
MED1	Paracetamol	5	2018-04-24 10:47:00
MED4	Paxlovid	5	2018-04-24 10:47:00

Test/Treatments

ID	Procedure	Date
PRO6	Tonsillectomy	2018-05-02
PRO2	Angioplasty	2018-05-03
PRO7	Cataract Surgery	2018-05-10

- **Enter Patient Details:** Doctors can enter details about their prescription or a treatment.

The screenshot shows a web application interface for a doctor. On the left is a sidebar with a dark header labeled 'Doctor' and a 'Sign out' link. The sidebar menu includes: Dashboard, Profile, Change Password, View Patients, and Enter Patient details (highlighted in blue). The main content area is titled 'Medical Records' and contains a 'Treatment details' section. This section has two radio buttons: 'Medication' (selected) and 'Test/Treatment'. Under 'Medication', there are three input fields: 'Patient List' (a dropdown menu showing 'Choose...'), 'Medication' (a dropdown menu showing 'Choose...'), and 'AppointmentID (Optional)' (a text input field). Below these is a 'Dose' text input field. At the bottom of the form is a large blue 'Submit' button.

Internal features:

- For data security, passwords have been hashed using the ‘bcrypt’ library.
- Data entry operators and doctors can upload a test report of a patient.
- The PCP of a patient gets an email with a report attached, as soon as any report is uploaded.

Schema of the database:

