
Blood Bank Management System

Final Project Report

CS5600 ADVANCED DATABASE SYSTEM

CRN 12837

F 8:30 TO 11:10PM (B202)

(Group Project1)

Deep Patel (700734445)

Vamsidhar Reddy Ramireddy (700734280)

Surya Teja Gurki (700733587)

Dheeksha Panjam (700732354)

Project Description

In hospitals, many patients require blood transfusions. There would be bad consequences for many patients if there was a blood shortage. Blood is the most important fluid that may be donated to others.

A blood donation is a voluntary process in which a person's blood is extracted to be used for future transfusions at hospitals for treatment procedures that need them. Donation of whole blood (blood obtained directly from the body) or particular blood components such as red blood cells, white blood cells, plasma, and platelets is possible. Blood banks are frequently involved in the process of collecting blood as well as other functions such as stock management, authorizing blood requests, and updating donation information.

This project was inspired by the need to enhance blood banks by developing a blood bank management system that focuses on creating an online system that is available to both donors and administrators. Donors may simply arrange their next contributions by receiving information about their prior blood donations, including blood results and donation history. They may also use the system to update their personal information without having to contact the blood bank registration. In this project doctor can also request the blood with that id and hospital name.

Database Description:

Online Blood Bank management system is to provide services for the people who are in need of blood by getting help from the donors who are interested in donating blood for the people. There are seven main modules in this system. Doctor, Doctor request, Blood bank, Stock, Campaign, Schedule, and Donor are the seven collections we have. Several charities and hospitals host blood donation campaigns to encourage people to donate blood. This gathered blood will be useful to those in need.

These blood donations will be made to the nearest blood banks, which will be collecting various blood types. This blood bank management system database project will be crucial in keeping track of the details of the individuals who donated blood. Collected no of units collected, available stock of a particular blood group and to whom it was useful. The information should be kept up to date so that anyone who needs blood immediately can get in touch with the donor.

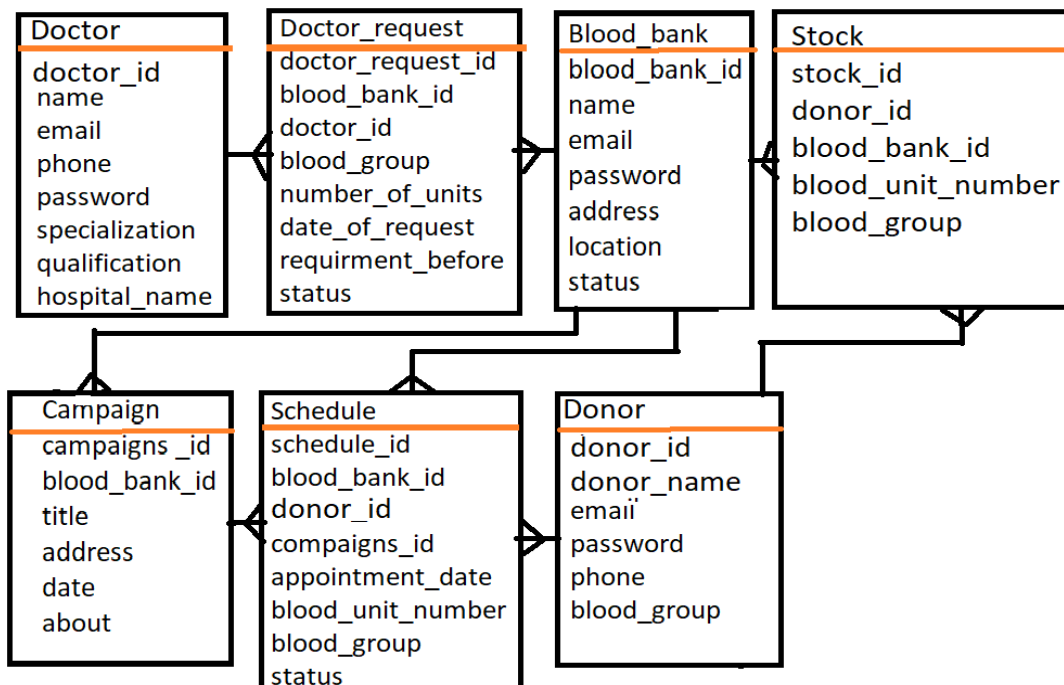
There will be two sources of receiving blood by Blood bank, one is through Campaign and other is directly from donor. We can clearly see the depiction of database design below which represents our model. This system will record the donor data, including the donor's name, address, medical history, and contact information. The patient's information, including one's identity, the donor from whom they received blood, the ailment they have, and their medical history, can be stored. Information about the blood bank, including its address, phone number, and the many blood types it offers, can be stored. It is possible that the blood bank won't have any on hand, in an emergency. If the donor's phone number is known in that circumstance, it will be simple for people to get in touch with them and request their assistance in donating blood, provided they are accessible. Therefore, this project will aid in the storage of various data that is required for the storage of information about blood donation.

Database Diagram

The ER Diagram is referred to as the **blood bank management system's database design**. Both ER diagram and database design illustrate the relationships between all the system's entities. Its major components are **Entities, Attributes**, and **Relationships**.

We have 7 modules,


- 1) Doctor
- 2) Doctor_request
- 3) Blood_bank
- 4) Stock
- 5) campaign
- 6) Schedule
- 7) Donor



Data Dictionary

These tables below provide the complete details such as **Field Name, Descriptions, data types**, and **character lengths**. Each of these tables represents the characteristics and the attributes of data storage.

Mongo dB data collections:

Blood_bank  <p>Storage size: 20.48 kB Documents: 1 Avg. document size: 164.00 B Indexes: 1 Total index size: 20.48 kB</p>	Campaigns <p>Storage size: 20.48 kB Documents: 1 Avg. document size: 140.00 B Indexes: 1 Total index size: 20.48 kB</p>	Doctor <p>Storage size: 20.48 kB Documents: 1 Avg. document size: 184.00 B Indexes: 1 Total index size: 20.48 kB</p>	Doctor_request <p>Storage size: 20.48 kB Documents: 1 Avg. document size: 198.00 B Indexes: 1 Total index size: 20.48 kB</p>	Donor <p>Storage size: 4.10 kB Documents: 1 Avg. document size: 132.00 B Indexes: 1 Total index size: 4.10 kB</p>
Schedule <p>Storage size: 20.48 kB Documents: 1 Avg. document size: 197.00 B Indexes: 1 Total index size: 20.48 kB</p>	Stock <p>Storage size: 4.10 kB Documents: 1 Avg. document size: 99.00 B Indexes: 1 Total index size: 4.10 kB</p>			

Sample data:

1) Doctor:

```
_id: ObjectId('634faa8db531caeee36d1702')
name: "vamsi"
email: "vamsi@gmail.com"
phone: "1478963648451"
password: "1234"
specialization: "dentist"
qualification: "MBBS"
hospital_name: "kims"
```

2) Doctor_request:

```
_id: ObjectId('634fabbbab531caeee36d1705')
doctor_id: ObjectId('634faa8db531caeee36d1702')
blood_bank_id: ObjectId('632a9b718e88ca0e4ee16b98')
blood_group: "O+"
date_of_request: "2022-10-19"
number_of_units: "4"
requirement_before: "fever"
status: "requested"
```

3) Blood_bank:

```
_id: ObjectId('632a9b718e88ca0e4ee16b98')
name: "American Blood centers"
email: "blood@gmail.com"
password: "1234"
address: "usa"
location: "us street"
status: "isverified"
```

4) Campaigns:

```
_id: ObjectId('632a9ea28e88ca0e4ee16bac')
blood_bank_id: ObjectId('632a9b718e88ca0e4ee16b98')
title: "blood_bank_comp"
address: "us"
date: "2022-09-20"
about: "comp for doners"
```

Sample data:

5) Schedule:

```
_id: ObjectId('634fad4cb531caeee36d1712')
blood_bank_id: ObjectId('632a9b718e88ca0e4ee16b98')
campaigns_id: ObjectId('632a9ea28e88ca0e4ee16bac')
appointment_date: "2022-10-19"
blood_group: "o+"
blood_unit_number: "2"
status: "requested"
donor_id: ObjectId('632a9d3c8e88ca0e4ee16b9e')
```

6) Stock:

```
_id: ObjectId('6353c4240deae8f5ab3e0b52')
blood_bank_id: ObjectId('632a9b718e88ca0e4ee16b98')
donor_id: ObjectId('6353c1270deae8f5ab3e0b4d')
blood_unit_number: "5"
blood_group: "b+"
```

7) Donor:

```
_id: ObjectId('6353c1270deae8f5ab3e0b4d')
donor_name: "vamsi"
email: "vamsi@gmail.com"
password: "1234"
blood_group: "b+"
phone: "1235478995"
```

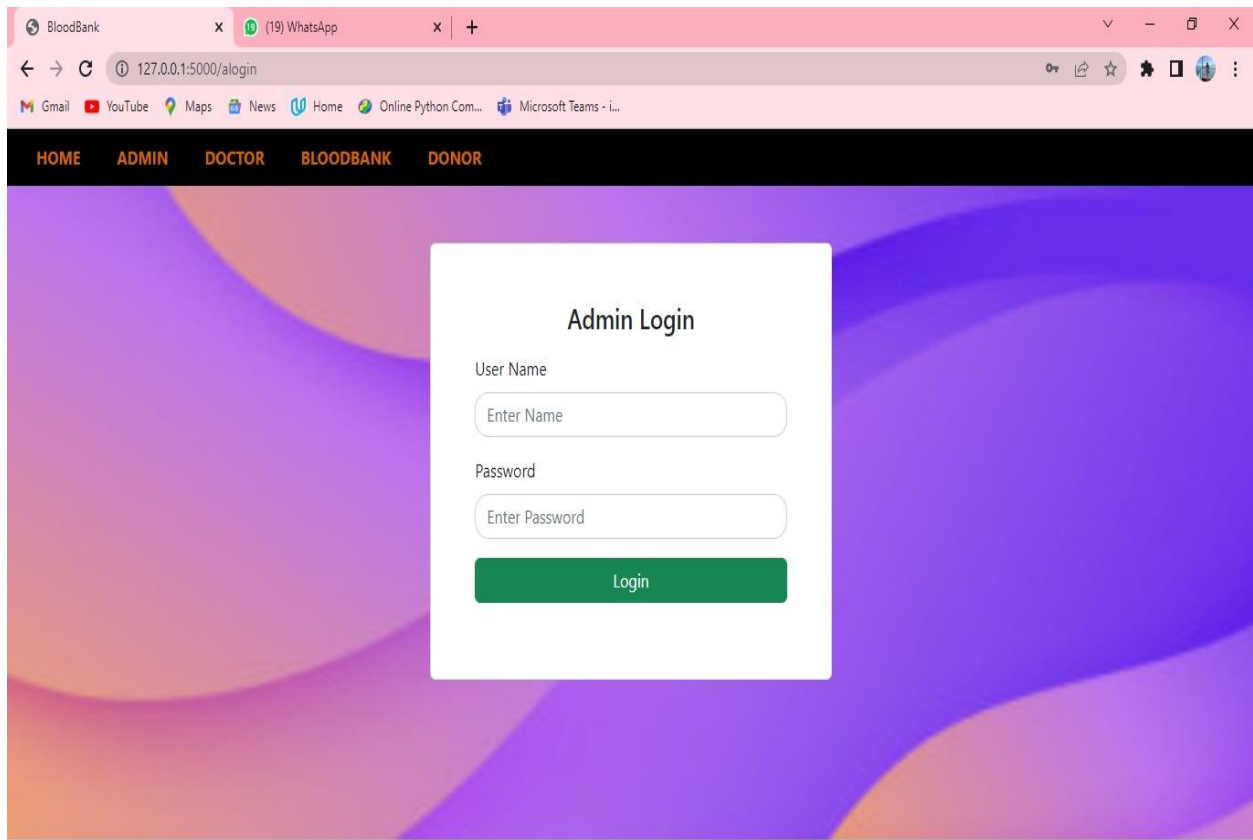
User Interfaces and forms

Welcome page:



User Interfaces and forms

Admin Login:

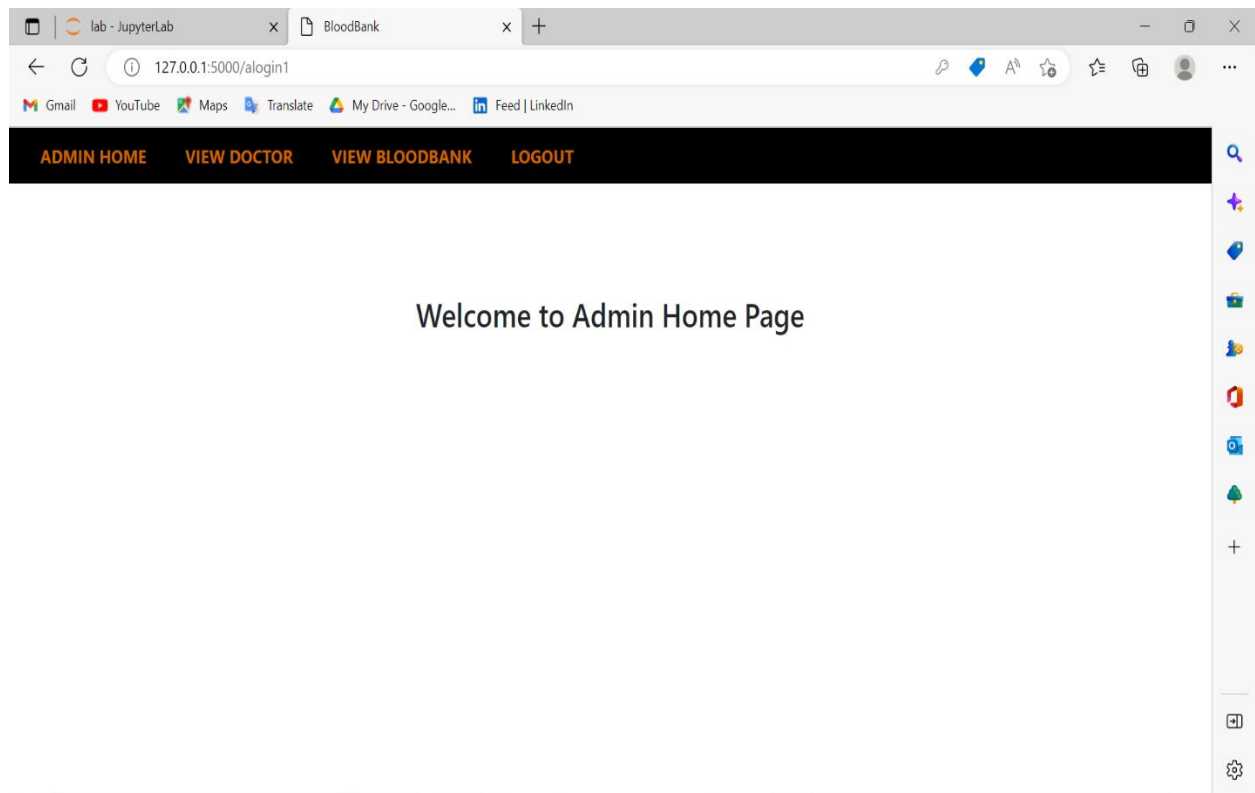


The screenshot shows a web browser window with the following elements:

- Browser Tabs:** "BloodBank" and "(19) WhatsApp".
- Address Bar:** "127.0.0.1:5000/admin".
- Navigation Bar:** A black bar with orange text links: "HOME", "ADMIN", "DOCTOR", "BLOODBANK", and "DONOR".
- Admin Login Form:** A white modal box centered on the page with a purple and orange wavy background.
 - Title:** "Admin Login"
 - User Name:** A label above a text input field with the placeholder "Enter Name".
 - Password:** A label above a text input field with the placeholder "Enter Password".
 - Login Button:** A green button with the text "Login".

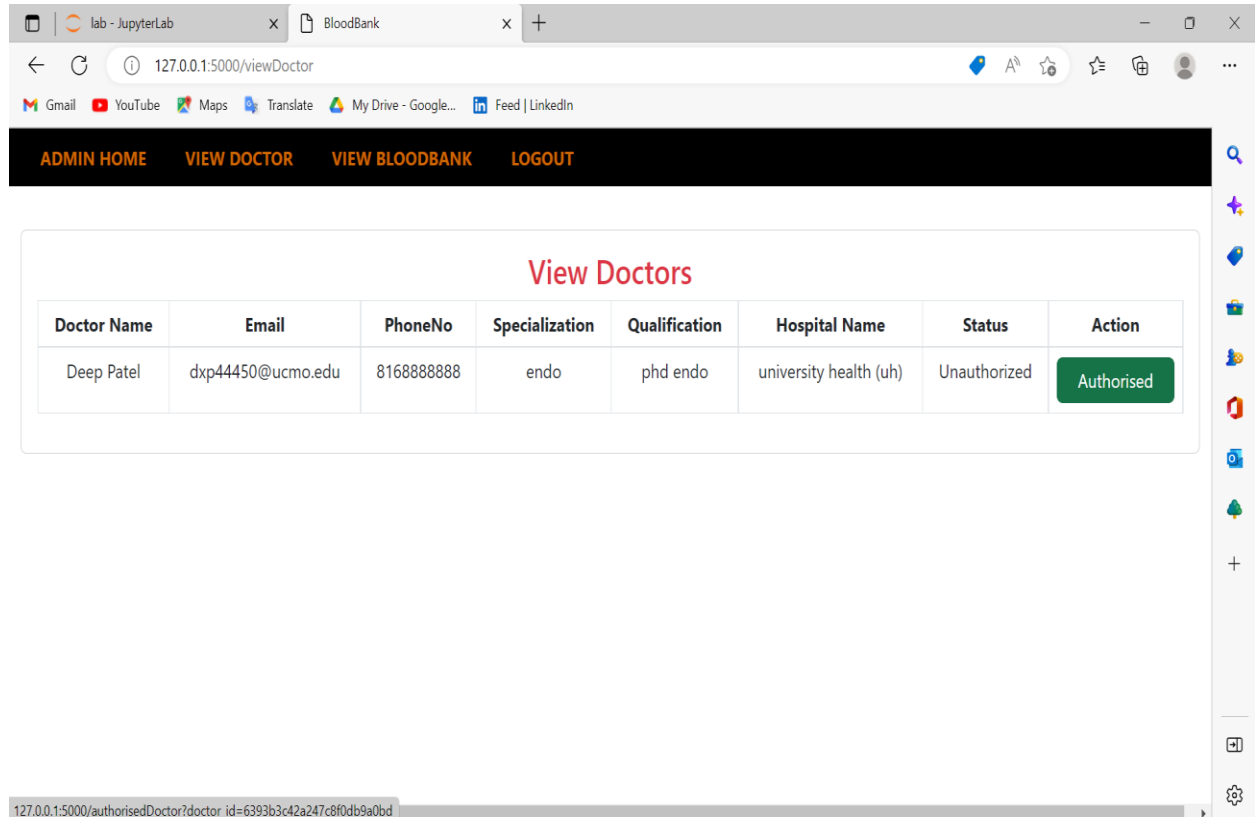
User Interfaces and forms

Admin HOME page:



User Interfaces and forms

Admin view Doctors:



The screenshot shows a web browser window with the following elements:

- Browser Tabs:** lab - JupyterLab, BloodBank
- Address Bar:** 127.0.0.1:5000/viewDoctor
- Navigation Bar:** ADMIN HOME, VIEW DOCTOR, VIEW BLOODBANK, LOGOUT
- Main Content:**
 - View Doctors** (Section Header)
 - | Doctor Name | Email | PhoneNo | Specialization | Qualification | Hospital Name | Status | Action |
|-------------|-------------------|------------|----------------|---------------|------------------------|--------------|-----------------------------|
| Deep Patel | dxp44450@ucmo.edu | 8168888888 | endo | phd endo | university health (uh) | Unauthorized | <button>Authorised</button> |

The status bar at the bottom shows the URL: 127.0.0.1:5000/authorisedDoctor?doctor_id=6393b3c42a247c8f0db9a0bd

User Interfaces and forms

Admin view Blood Banks:

The screenshot shows a web browser window with the URL `127.0.0.1:5000/ViewBloodBank`. The browser tabs include 'lab - JupyterLab' and 'BloodBank'. The page features a dark navigation bar with the following links: **DOCTOR HOME**, **VIEW BLOOD BANKS**, **VIEW BLOOD REQUEST**, **BLOOD REQUESTS**, and **LOGOUT**. The main heading is 'View Blood Banks'. Below this, there is a form with the following fields:

- BloodBank Name: **deep**
- Email: **patel.dip2709@gmail.com**
- Phone Number: **8111111111**
- Location: **kansas city**
- Address: **troost , kc**

A green button labeled 'Send Request' is positioned at the bottom of the form.

User Interfaces and forms

Admin View Blood Bank:

lab - JupyterLab x BloodBank x +

127.0.0.1:5000/viewBloodBank

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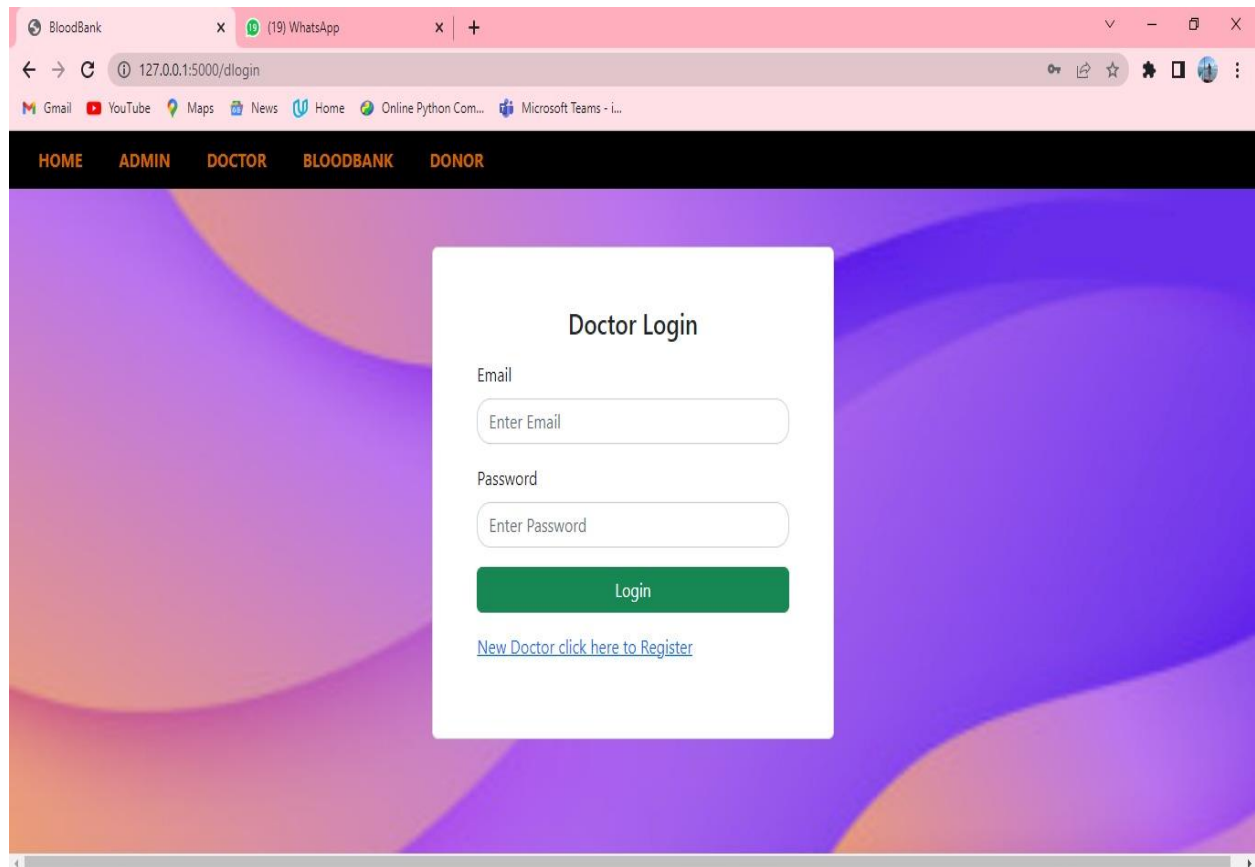
ADMIN HOME VIEW DOCTOR VIEW BLOODBANK LOGOUT

View Blood Bank

Blood Bank Name	Email	PhoneNo	Location	Address	Status	Action
deep	patel.dip2709@gmail.com	8111111111	kansas city	troost, kc	Authorised	
university health	1234@gmail.com	8162222222	downtown	children mercy hospital, near crown center	Unauthorised	Authorised

User Interfaces and forms

Doctor Login:



The screenshot shows a web browser window with the following elements:

- Browser Tabs:** BloodBank, (19) WhatsApp.
- Address Bar:** 127.0.0.1:5000/dlogin
- Navigation Bar:** HOME, ADMIN, DOCTOR, BLOODBANK, DONOR
- Form Title:** Doctor Login
- Form Fields:**
 - Email: Enter Email
 - Password: Enter Password
- Login Button:** Login
- Registration Link:** [New Doctor click here to Register](#)

User Interfaces and forms

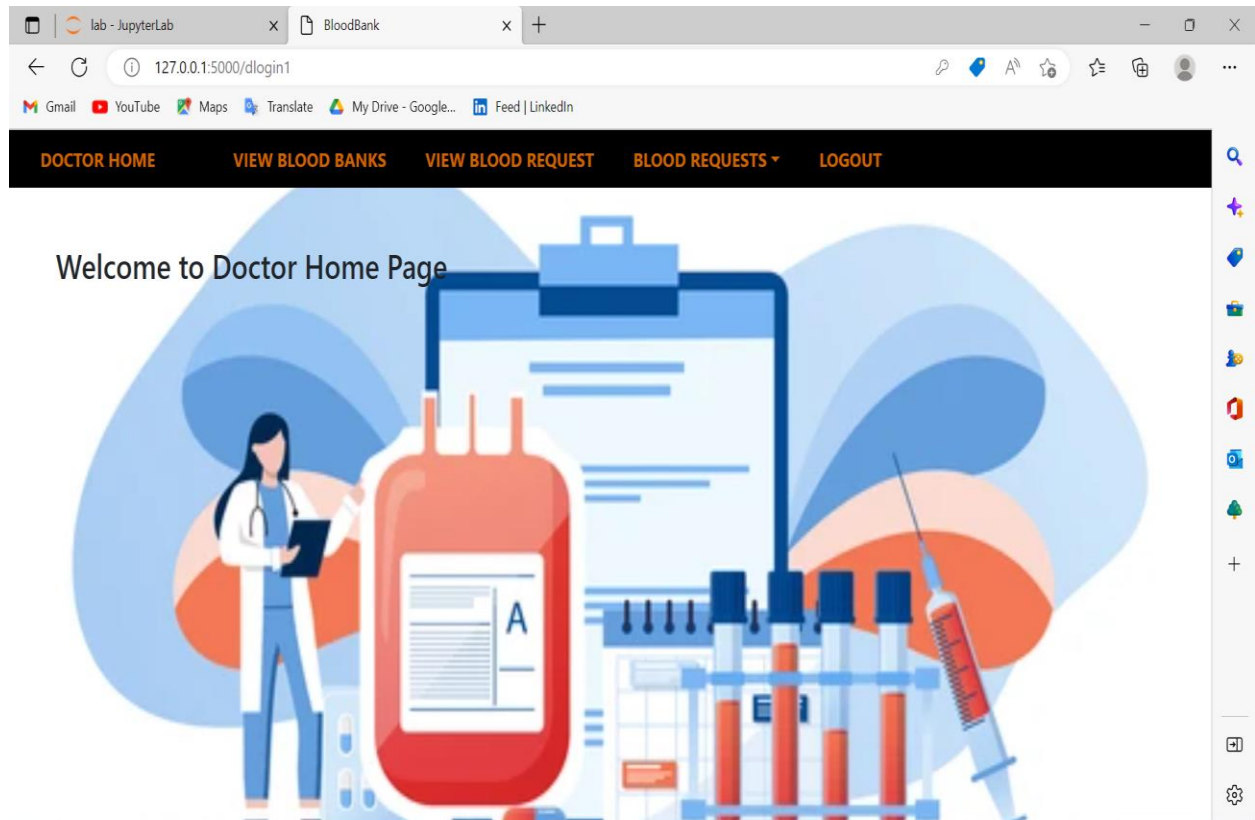
Doctor Register:

The screenshot displays a web application interface for doctor registration. The browser window shows two tabs: 'lab - JupyterLab' and 'BloodBank'. The address bar indicates the URL '127.0.0.1:5000/docRegister?'. The page features a dark navigation bar with links to 'HOME', 'ADMIN', 'DOCTOR', 'BLOODBANK', and 'DONOR'. The main content area is titled 'Doctor Register' and contains several input fields for user information. The fields are arranged in two columns: 'Doctor Name' (Deep Patel), 'Specialization' (endo), 'Phone Number' (8168888888), 'Qualification' (phd endo), 'Email' (dxp44450@ucmo.edu), 'Hospital Name' (university health (uh)), and 'Password' (Enter Password). A prominent green 'Register' button is located at the bottom right of the form.

Field	Value
Doctor Name	Deep Patel
Specialization	endo
Phone Number	8168888888
Qualification	phd endo
Email	dxp44450@ucmo.edu
Hospital Name	university health (uh)
Password	Enter Password

User Interfaces and forms

Doctor Home page:



User Interfaces and forms

Doctor Request:

lab - JupyterLab x BloodBank x +

127.0.0.1:5000/doctorRequest?bloodbank_id=638f98825dbda06d983b4b75

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DOCTOR HOME VIEW BLOOD BANKS VIEW BLOOD REQUEST BLOOD REQUESTS ▾ LOGOUT

Doctor Request

Blood Group

Blood Group

Number_of_Units

Enter Unit Number

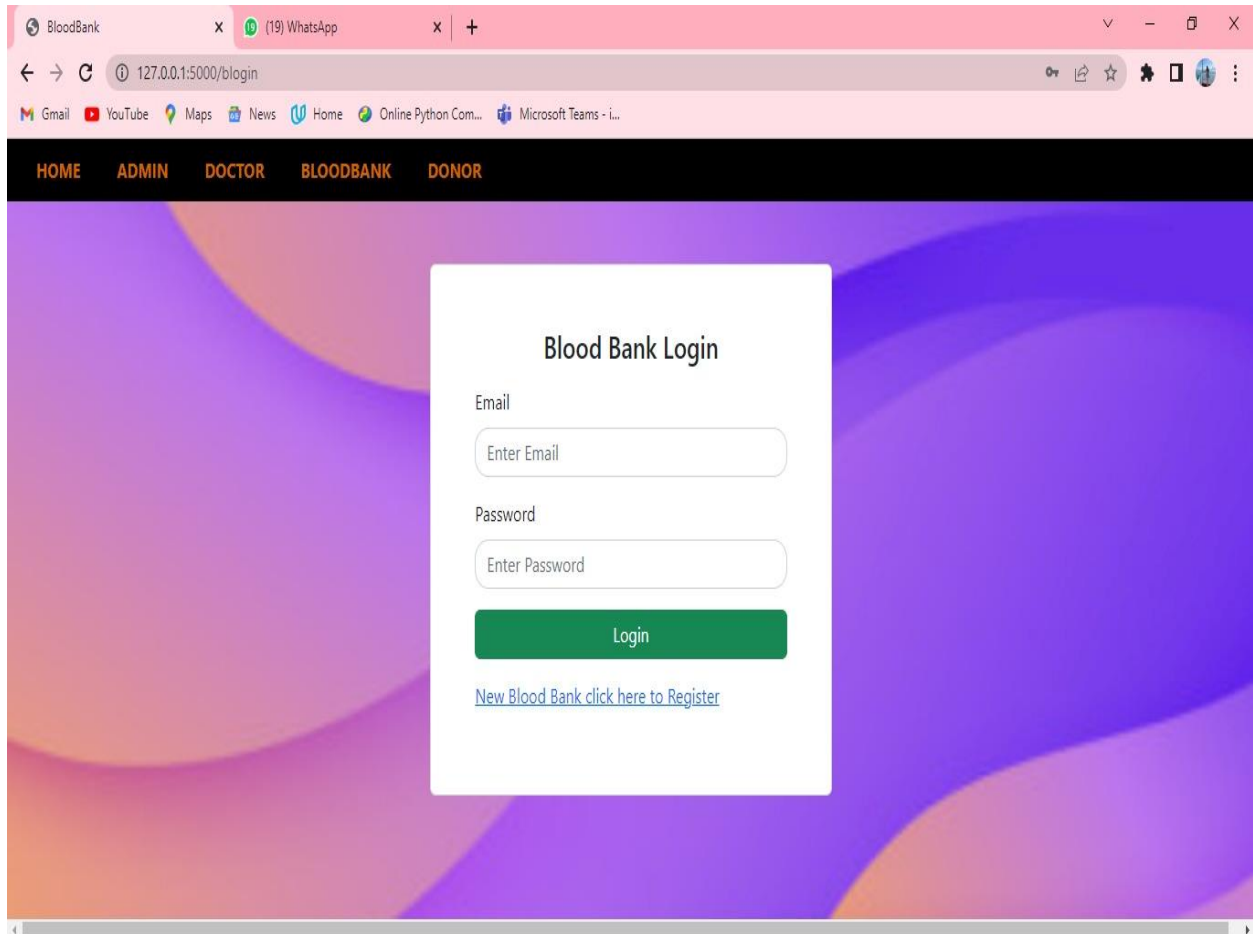
Requirement_before

mm/dd/yyyy --:-- --

Send

User Interfaces and forms

Blood Bank Login:



The screenshot shows a web browser window with the address bar displaying "127.0.0.1:5000/login". The browser has two tabs: "BloodBank" and "(19) WhatsApp". The page features a navigation bar with links: HOME, ADMIN, DOCTOR, BLOODBANK, and DONOR. The main content area has a purple and orange gradient background. A white login form is centered, titled "Blood Bank Login". It contains two input fields: "Email" with the placeholder "Enter Email" and "Password" with the placeholder "Enter Password". Below these fields is a green "Login" button. At the bottom of the form, there is a link: "New Blood Bank click here to Register".

BloodBank (19) WhatsApp

127.0.0.1:5000/login

Gmail YouTube Maps News Home Online Python Com... Microsoft Teams - i...

HOME ADMIN DOCTOR BLOODBANK DONOR

Blood Bank Login

Email

Enter Email

Password

Enter Password

Login

[New Blood Bank click here to Register](#)

User Interfaces and forms

Blood Bank Register:

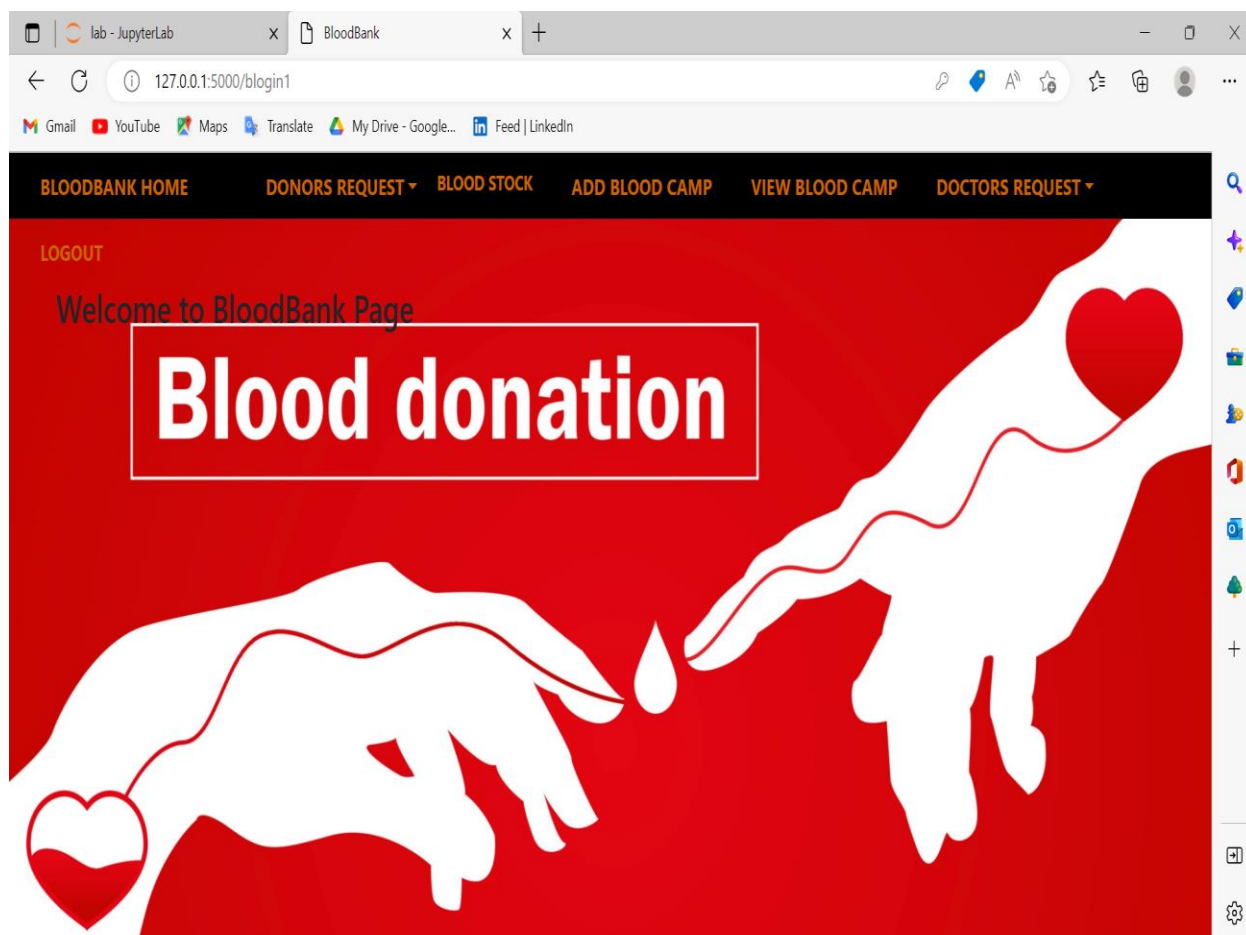
The screenshot shows a web browser window with the address bar displaying "127.0.0.1:5000/bloodBankRegister?". The browser has two tabs: "lab - JupyterLab" and "BloodBank". The page features a black navigation bar with the following links: HOME, ADMIN, DOCTOR, **BLOODBANK**, and DONOR. The main content area is titled "Blood Bank Register" and contains a registration form with the following fields:

- Blood Bank Name: Enter Name
- Phone Number: Enter Phone Number
- Email: Enter Email
- Password: Enter Password
- Location: Enter Location
- Address: Enter Address

At the bottom of the form is a large green button labeled "Register". The browser's taskbar on the right shows various application icons, and the status bar at the bottom left indicates the URL "127.0.0.1:5000/login".

User Interfaces and forms

Blood Bank welcome page:



User Interfaces and forms

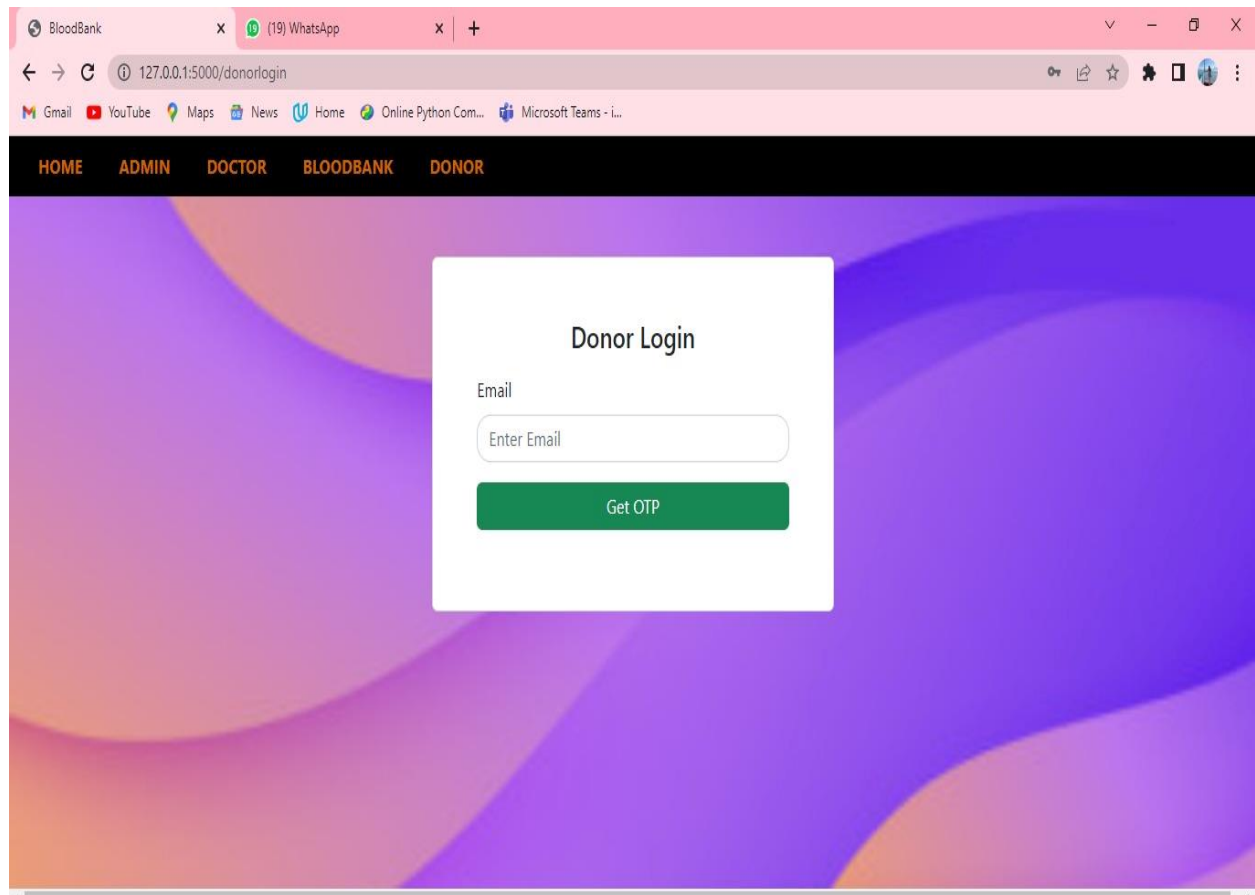
Blood Bank Add Campaign:

The screenshot shows a web browser window with the following details:

- Browser Tabs:** 'lab - JupyterLab' and 'BloodBank'.
- Address Bar:** '127.0.0.1:5000/addBloodCamp'.
- Navigation Bar:** A dark blue bar with links: 'BLOODBANK HOME', 'DONORS REQUEST', 'BLOOD STOCK', 'ADD BLOOD CAMP' (active), 'VIEW BLOOD CAMP', and 'DOCTORS REQUEST'.
- Page Content:**
 - A 'LOGOUT' link in red text.
 - A central white box titled 'Add Blood Campaign' containing:
 - Title:** A text input field with placeholder 'Enter Title'.
 - Address:** A text input field with placeholder 'Enter Address'.
 - Choose Date:** A date picker field showing 'mm/dd/yyyy --:-- --'.
 - About Campaign:** A text area with placeholder 'About Campaign'.
 - Submit:** A green button.
- Right Sidebar:** A vertical bar with various application icons and a search icon at the top.

User Interfaces and forms

Donor Login:



The screenshot shows a web browser window with the address bar displaying "127.0.0.1:5000/donorlogin". The browser has two tabs: "BloodBank" and "(19) WhatsApp". The page features a navigation bar with links: HOME, ADMIN, DOCTOR, BLOODBANK, and DONOR. The main content area has a purple and orange gradient background. A white modal box titled "Donor Login" is centered on the screen. It contains an "Email" label, a text input field with the placeholder "Enter Email", and a green button labeled "Get OTP".

Donor Login

Email

Enter Email

Get OTP

Source codes

Attached in zip file.

Thank You