

A Course Work Project Report

on

“Virtual Plasma Bank”

by

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**Academy of
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Chapter 1

Introduction :

1.1 Objective

- To Administer standards programs that ensure the quality and safety of plasma collection and protect both donors and Patients.
- To advocate for access to the affordability of therapies for patients.
- To become the bridging gap between the Donor and Patient.
- To collaborate with Patient advocacy Organisation.
- To fight Corona Pandemic.

1.2 Introduction to Project

Online Plasma Bank system: This is an online project developed using Php and MySQL. The purpose of this project is to provide plasma to those in immediate need of it, in minimal time and at ease. There are 2 different types of users, the individual user and the organizational user. ‘Organization’ here stands for blood/plasma bank or hospital. Both users can list themselves for blood donation. Key difference between them is that if an organization is registered, they are given priority over independent donors.

This Website is user friendly and helps in finding donors sooner rather than wandering manually everywhere from hospital to hospital.

If any good feedback will be taken positively and if any negative feedback too will be taken positively and try to improve what had lacked. The report is also generated periodically and the database will be cleared according to the time span for faster performance. The website developed

for the Online Plasma Bank system is powered by HTML/ CSS, PHP as front-end & MYSQL EXPRESS as back-end. It is an application which decreases few efforts of searching for a verified donor or nearest blood bank in urgency.

We had Generalised our Website as created below :

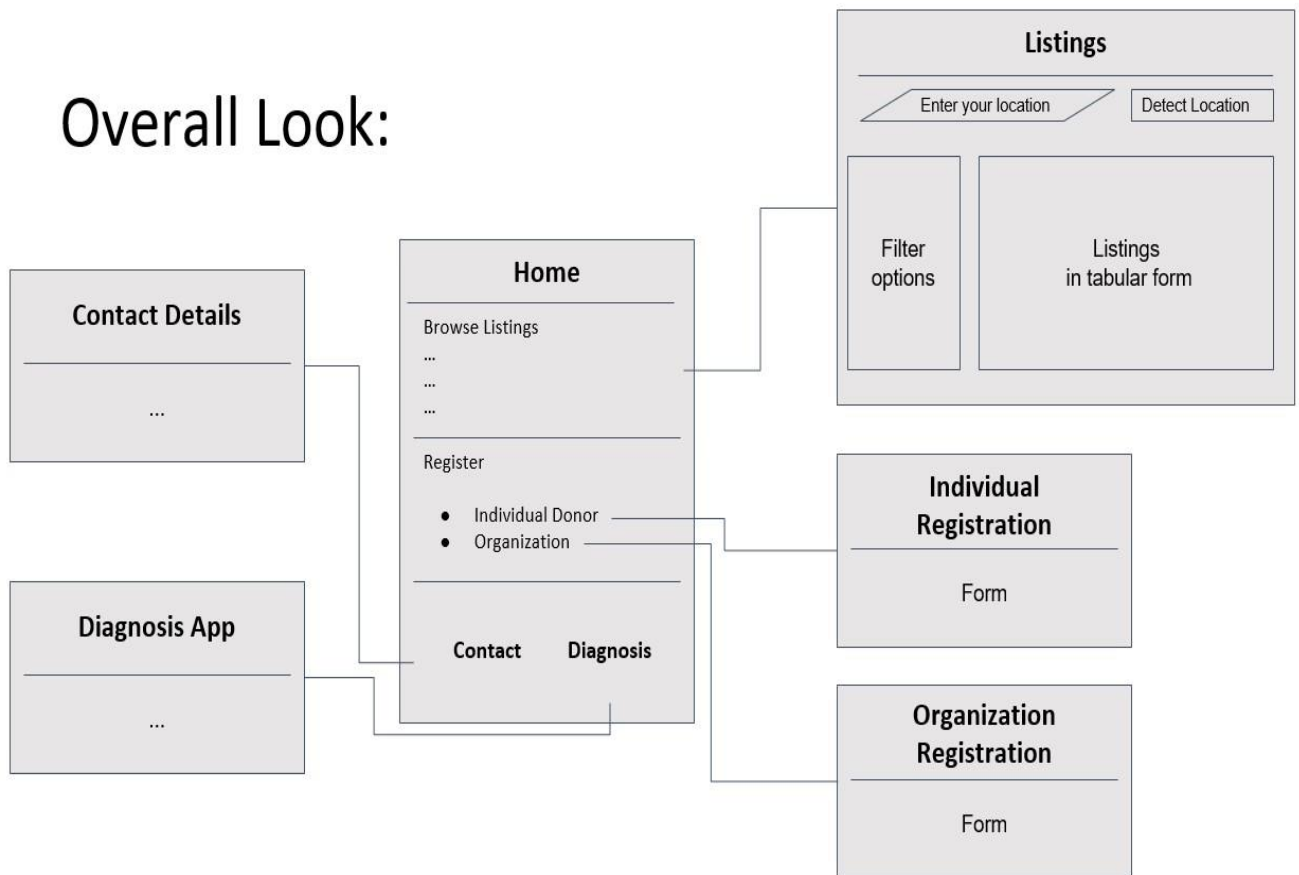


Fig .1.2.1. UI Design

1.3 Features:

Online Plasma Bank is a complete solution that delivers features most requested by hospitals and patients of chronic health conditions.

1.3.1 Anyone-Anywhere-Anytime

All functions are secure, intuitive and user friendly, and can be operated by nontechnical persons at any time, from any remote location, with an Internet connection and Web browser. A high speed Internet connection is not required.

1.3.2 Eliminate Outdated Site Content.

Online Plasma Bank ensures that only valid information appears on your search since we keep in touch with registered donors and take updates from them regularly.

1.3.3 Core Features.

- ✓ Email Authentication
- ✓ All users are verified with proper credentials and a valid email address.
- ✓ Email-Notifications using PHP-Mailer
 - Mail regarding the appointment scheduling.
 - Fault in the application form of donor/receiver.
 - To send the link for verification and change password.
- ✓ Easy Application process to donate and receive plasma.
 - User need to answers some questions at the time of submitting donar application to check the medical history of donar.
 - Id proof like aadhar/PAN card will be taken from the user to verify the identity of the user.

- ✓ Administrator Panel
 - Verifies the user identity. ○ Handles all the donor/receiver requests
 - To approve the plasma bank the approval from the state territory licensing authority is checked.
 - Checks the medical history of the user and finds out whether the user is eligible to donate a plasma.
- ✓ Well Scheduled appointments
- ✓ Plasma bank will provide the detail of appointment timing and date for donor/receiver after the user verification of identity and application form is being done by the admin panel.
- ✓ User Friendly GUI

1.4 Benefits

- a) Minimal browsing time and more accurate data for Donor/Bank location.
- b) Easy to use UI even for technically-illiterate users.
- c) Email-Notifications
- d) Many other features and enhancements

Database Design

2.1 Introduction

Database design is the process of producing a detailed data model of a database. This logical data model contains all the needed logical and physical design choices and physical storage parameters needed to generate a design in a Data Definition Language, which can then be used to create a database. A fully attributed data model contains detailed attributes for each entity.

The term database design can be used to describe many different parts of the design of an overall database system. Principally, and most correctly, it can be thought of as the logical design of the base data structures used to store the data. In the relational model these are the tables and views. In an object database the entities and relationships map directly to object classes and named relationships. However, the term database design could also be used to apply to the overall process of designing, not just the base data structures, but also the forms and queries used as part of the overall database application within the database management system (DBMS).

2.2 Database Design

2.2.1 ER-Diagram

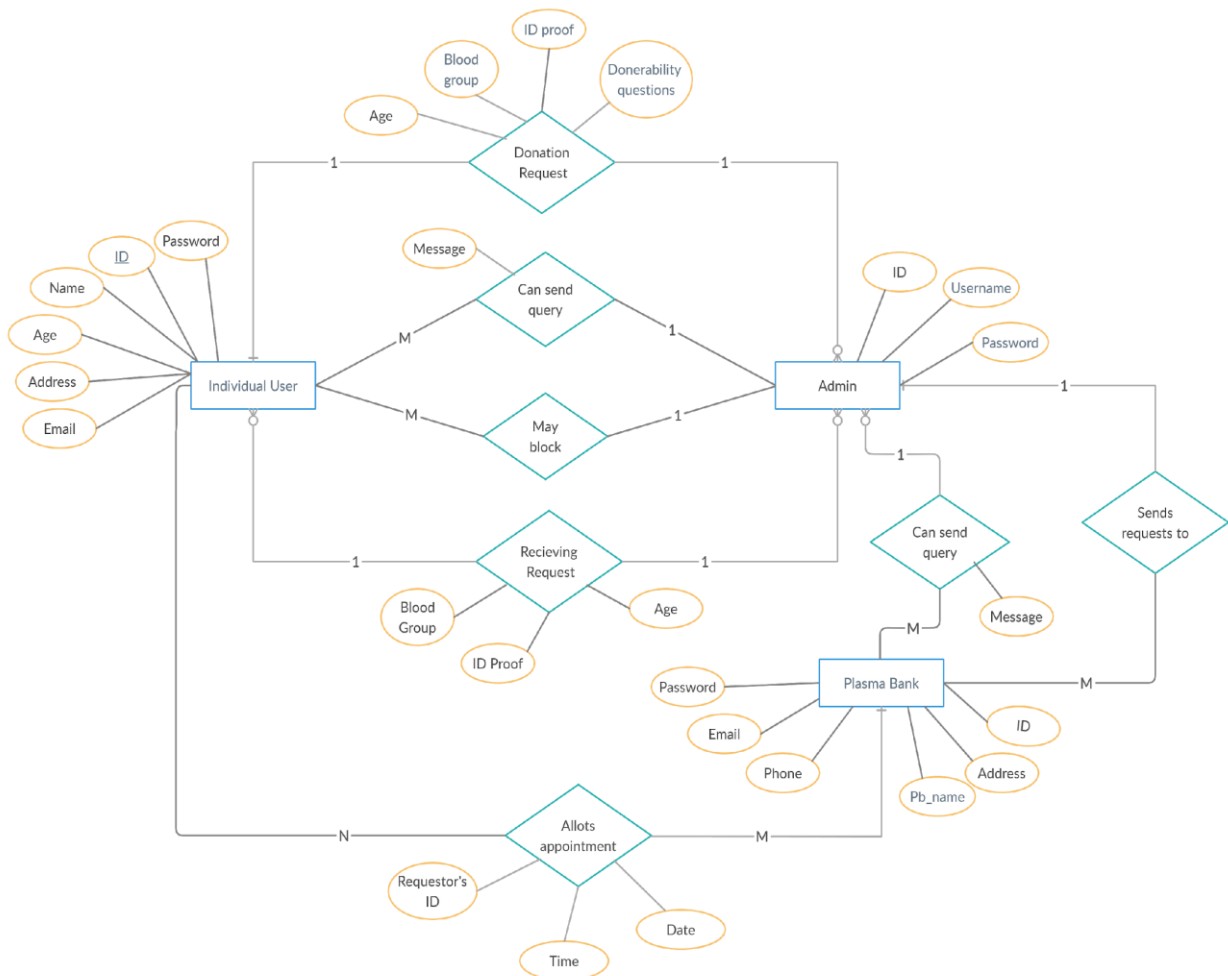


Fig. 2.2.1 ER-Diagram

2.2.2 Database Screenshots

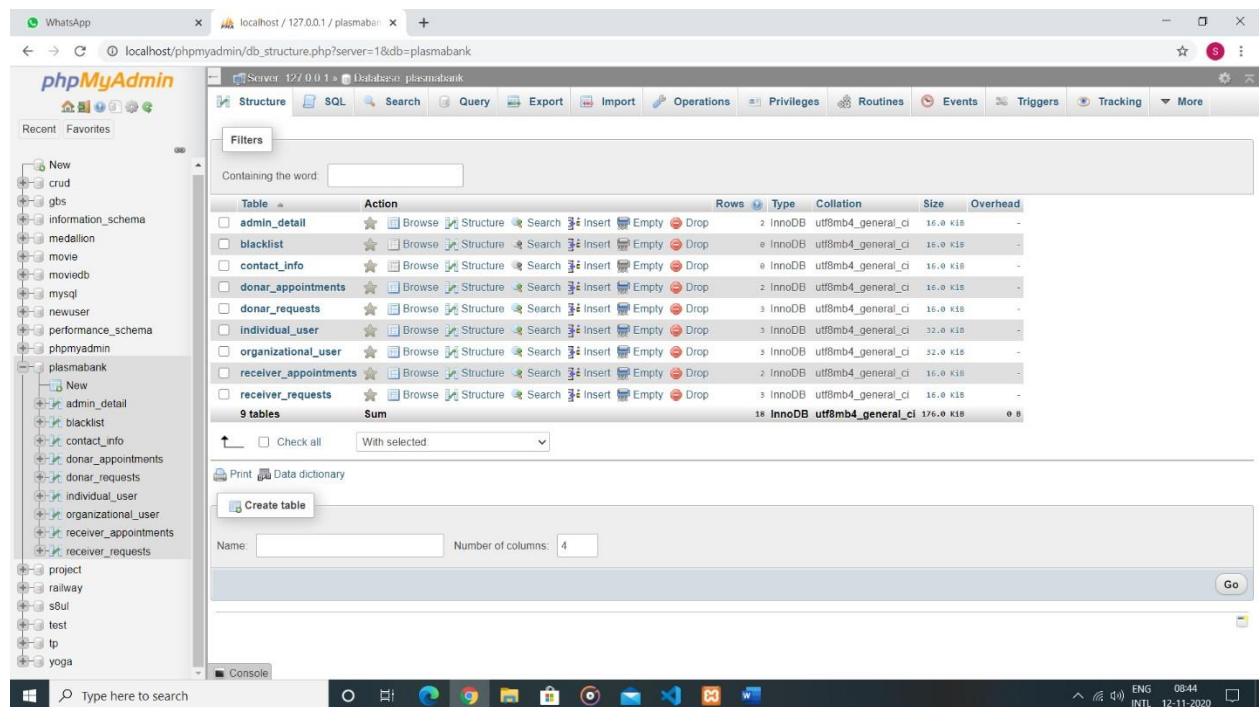


Fig.2.2.2 All Database

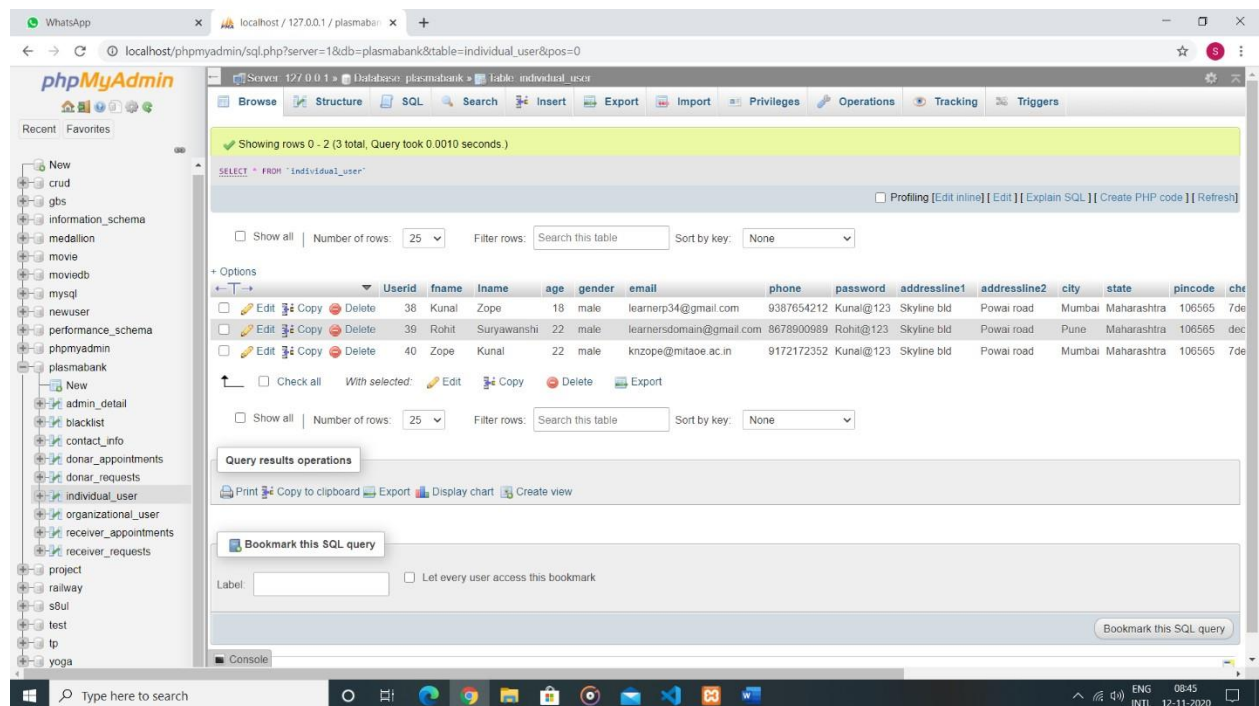


Fig.2.2.3 User Table

Showing rows 0 - 2 (3 total, Query took 0.0006 seconds)

```
SELECT * FROM `organizational_user`
```

	org_id	pbname	email	phone	password	addressline1	addressline2	city	state	pincode	approvalfile
<input type="checkbox"/>	48	Plasma bank 1	learnerp34@gmail.com	9678900989	Kunal@123	Skyline bld	Powai road	Mumbai	Maharashtra	106565	8287115b53c6cbab93000ea4327f
<input type="checkbox"/>	49	plasma bank 2	learnersdomain@gmail.com	7678900989	Kunal@123	Skyline bld	Powai road	Pune	Maharashtra	106565	3f2c97ed8a2acc49e3c901befb0a
<input type="checkbox"/>	50	Plasma bank 3	knzope@mitaoe.ac.in	9387654212	Kunal@123	Skyline bld	Powai road	Mumbai	Maharashtra	106565	4f9eb0b641d5d6c93ffc1eddc39fc

Fig.2.2.4 Plasma Bank Table

Showing rows 0 - 2 (3 total, Query took 0.0009 seconds)

```
SELECT * FROM `donar_requests`
```

	donar_id	user_email	user_phone	donar_name	donar_age	donar_gender	donar_bgroup	donar_city	donar_proof
<input type="checkbox"/>	26	learnerp34@gmail.com	9387654212	Kunal	20	male	A	Mumbai	887309d048bee83ad3eebf2a79a94a389
<input type="checkbox"/>	27	learnersdomain@gmail.com	8678900989	Rohit	20	male	A	Pune	bc33ea4e26e5e1af1408321416956113a
<input type="checkbox"/>	28	learnerp34@gmail.com	9387654212	Zope	20	male	A	Mumbai	0a57cb53ba59c40fc4b692527a38a87c76

Fig.2.2.5 Donar Requests table

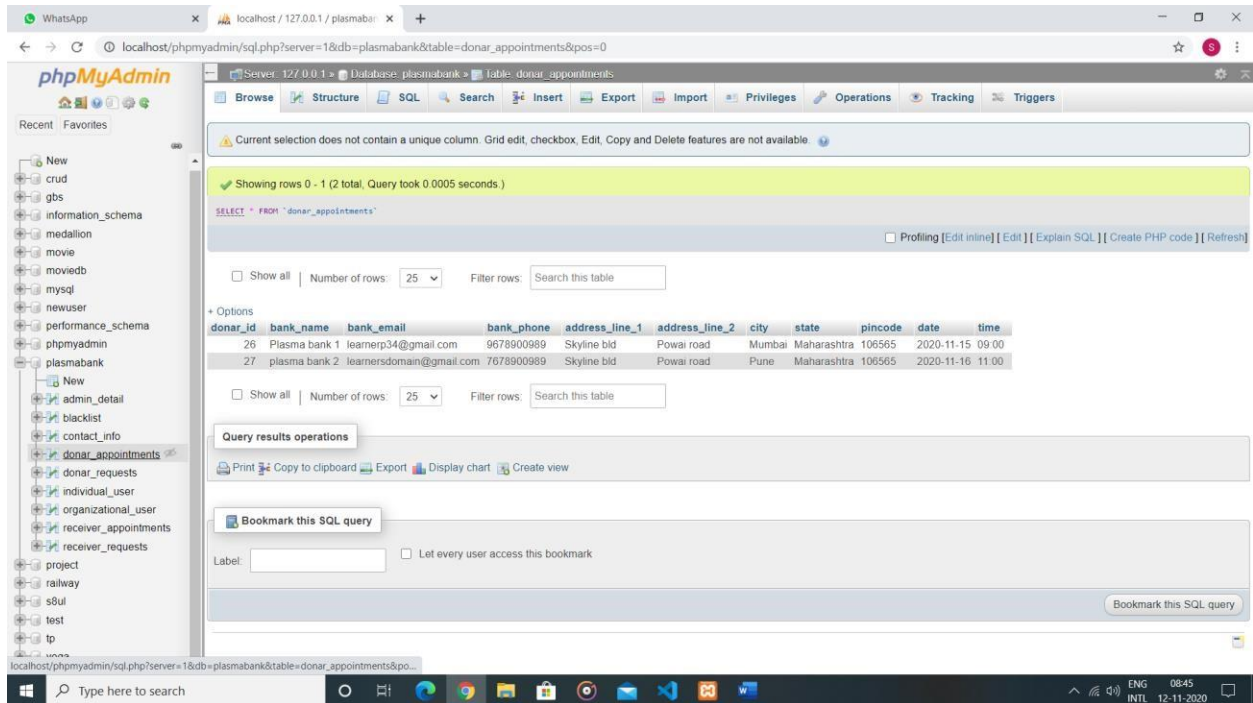


Fig.2.2.6 Donar Appointment table

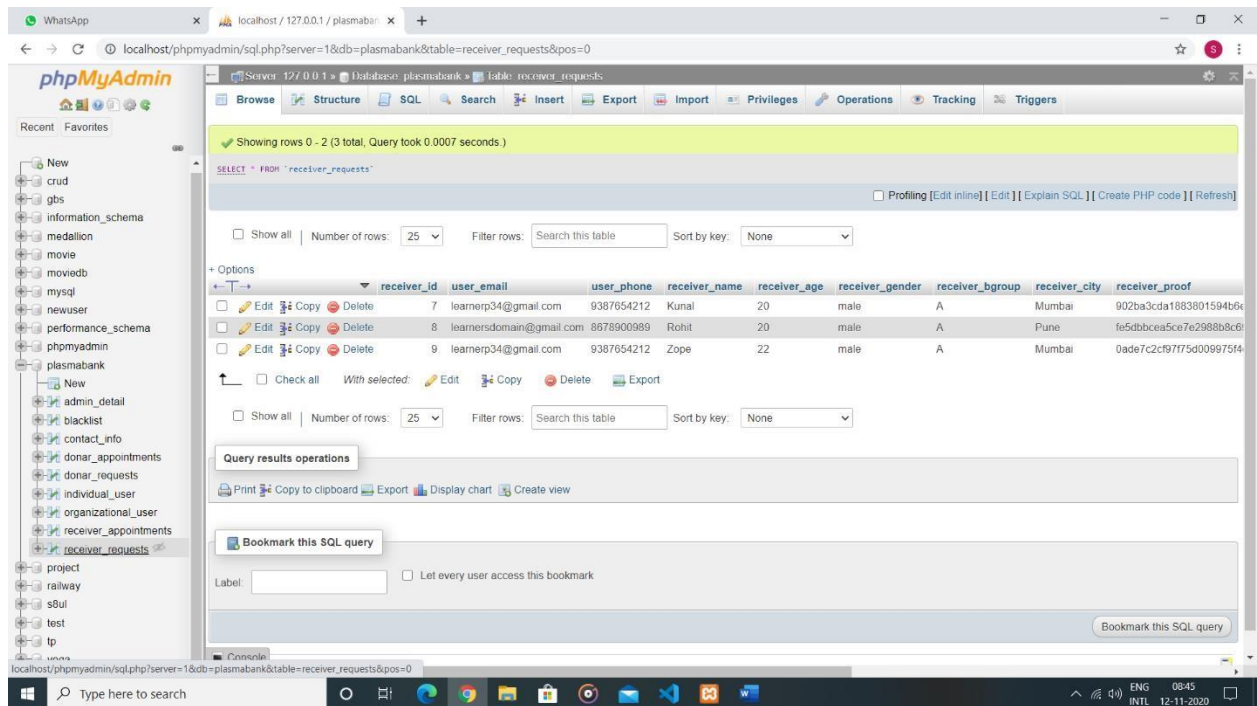


Fig.2.2.6 Receiver requests table

WhatsApp localhost / 127.0.0.1 / plasmabank

localhost/phpmyadmin/sql.php?server=1&db=plasmabank&table=receiver_appointments&pos=0

Server: 127.0.0.1 Database: plasmabank Table: receiver_appointments

Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

Showing rows 0 - 1 (2 total. Query took 0.0007 seconds)

```
SELECT * FROM `receiver_appointments`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table

Options

receiver_id	bank_name	bank_email	bank_phone	address_line_1	address_line_2	city	state	pincode	date	time
7	Plasma bank 1	learnerp34@gmail.com	9678900989	Skyline bld	Powai road	Mumbai	Maharashtra	106565	2020-11-15	12:00
8	plasma bank 2	learnersdomain@gmail.com	7678900989	Skyline bld	Powai road	Pune	Maharashtra	106565	2020-11-16	11:00

Show all | Number of rows: 25 | Filter rows: Search this table

Query results operations

Print Copy to clipboard Export Display chart Create view

Bookmark this SQL query

Label: ☐ Let every user access this bookmark

Bookmark this SQL query

localhost/phpmyadmin/sql.php?server=1&db=plasmabank&table=receiver_appointments&pos=0

Type here to search

ENG 08:45
INIL 12-11-2020

Fig.2.2.7 Receiver Appointment Table

API/Library

3.1 Introduction

An application programming interface (API) is a computing interface which defines interactions between multiple software intermediaries. It defines the kinds of calls or requests that can be made, how to make them, the data formats that should be used, the conventions to follow.

An API (Application Programming Interface) is a set of functions that allows applications to access data and interact with external software components, operating systems, or microservices. To simplify, an API delivers a user response to a system and sends the system's response back to a user.

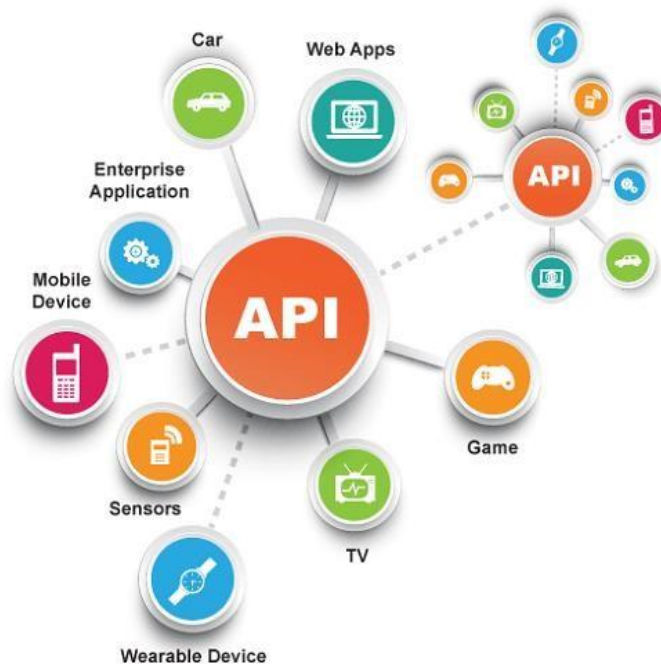


Fig.3.1. Introduction of API (courtesy: Google)

3.2 Usage in Project

PHPMailer



Fig.3.2.1. Php-mailer (Courtesy-Google)

- It is used to send email-Notifications to the user about his application status and various events that plasma bank is going to organize.
- It is used for sending email to the user about the appropriate date and timing of the appointment.
- It is used by admin to send email to plasma bank and donar/receiver user to indicate fault int the application form.
- It is also used for sending the link for email authentication and change password.

Results/Screenshots

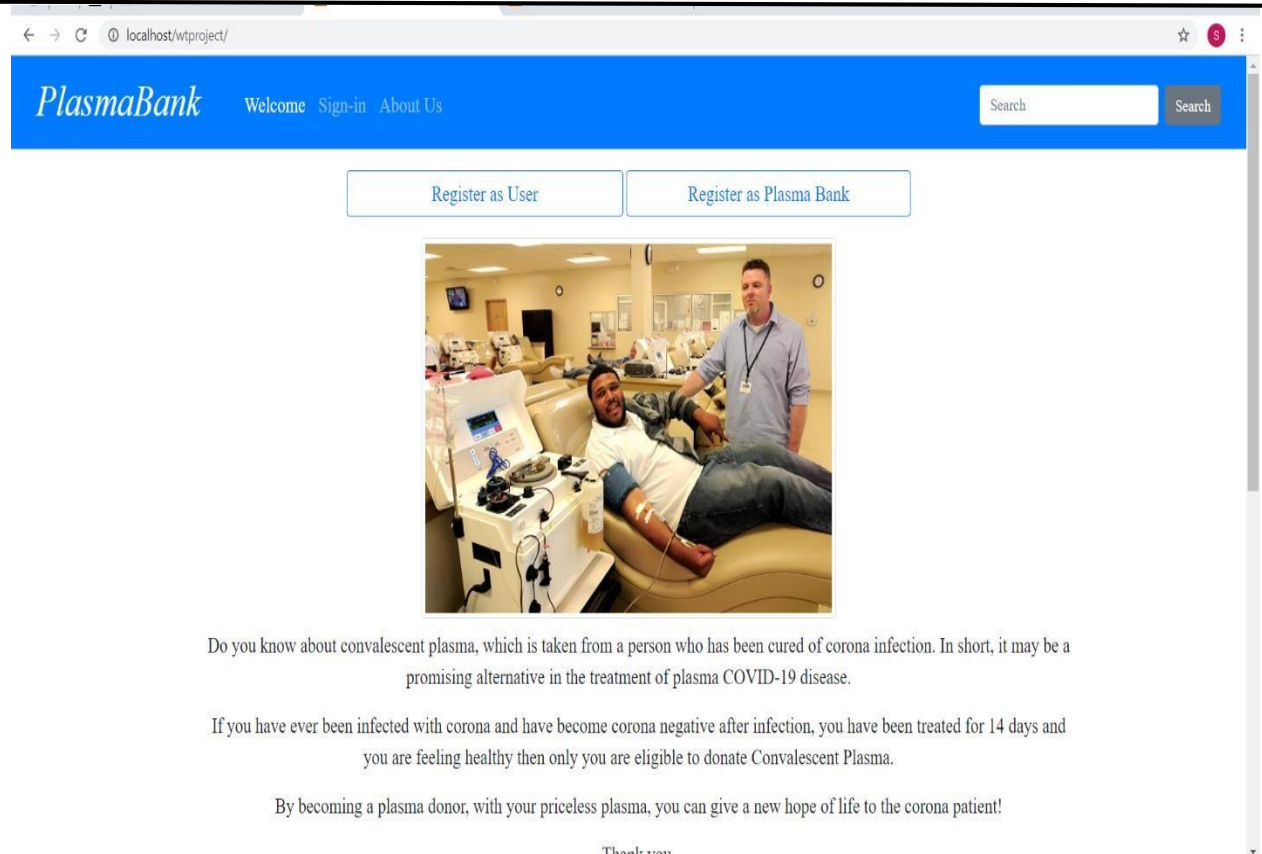


Fig.4.1. Welcome Page

The screenshot shows a web browser window with the URL `localhost/vtproject/registration_individual.php`. The page has a blue header with the *PlasmaBank* logo, links for [Welcome](#) and [About Us](#), and a search bar. The main content area is titled "Individual User Registration Form". The form contains the following fields and options:

- First Name :
- Last Name :
- Age :
- Gender :
☐ Male ☐ Female ☐ Other
- Email Address:
- Mobile number :
- Password:

The Windows taskbar at the bottom shows the search bar, task view button, and several application icons. The system tray on the right indicates the language is ENG, the time is 00:05, and the date is 12-11-2020.

Fig.4.2. User registration form

The screenshot shows the "Plasma Bank Registration Form" in the same PlasmaBank application. The form includes the following fields and options:

- Plasma Bank Name :
- Email Address :
- Mobile number :
- Password:
- Re-enter Password:
- Address :

Fig.4.3. Plasma Bank registration Form

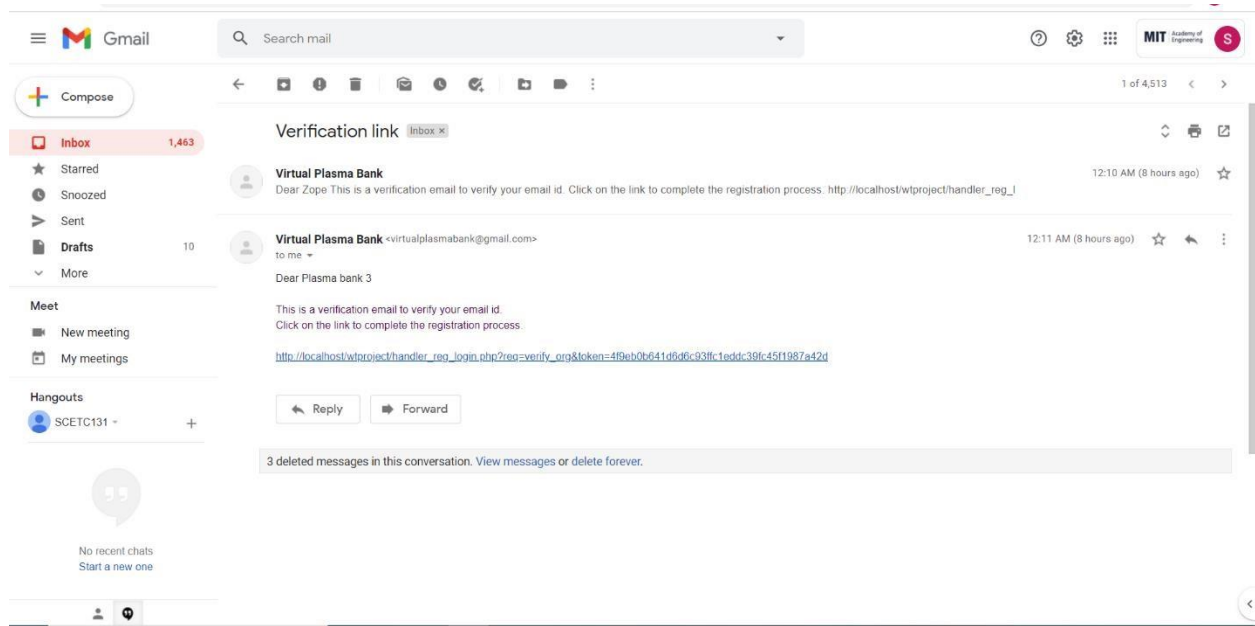


Fig.4.4. Mail Sent using phpmailer

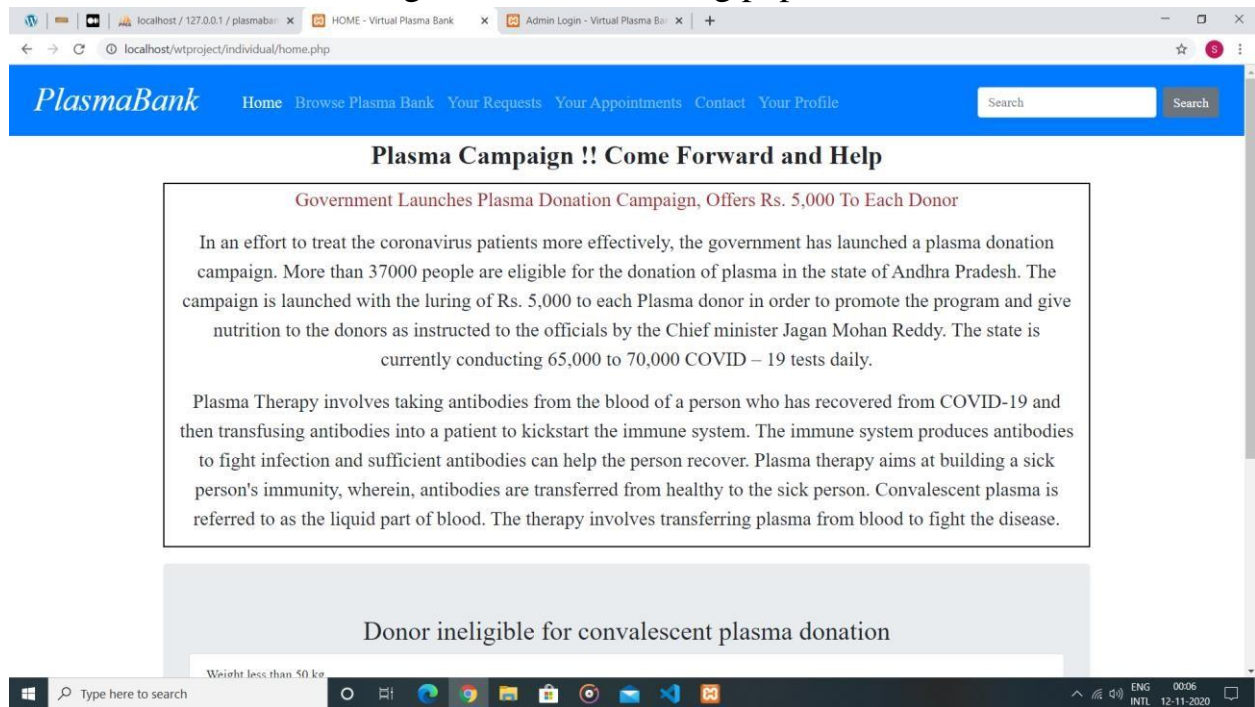


Fig.4.5. User home page

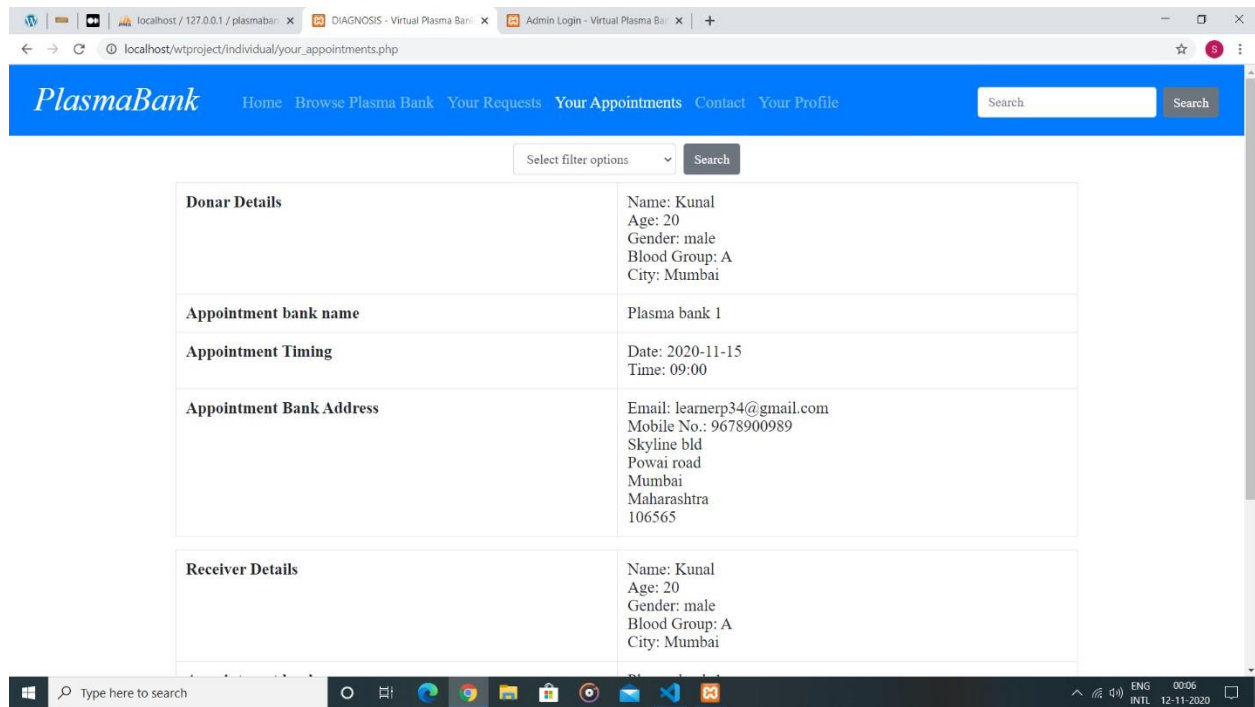


Fig.4.6. User Appointment details page

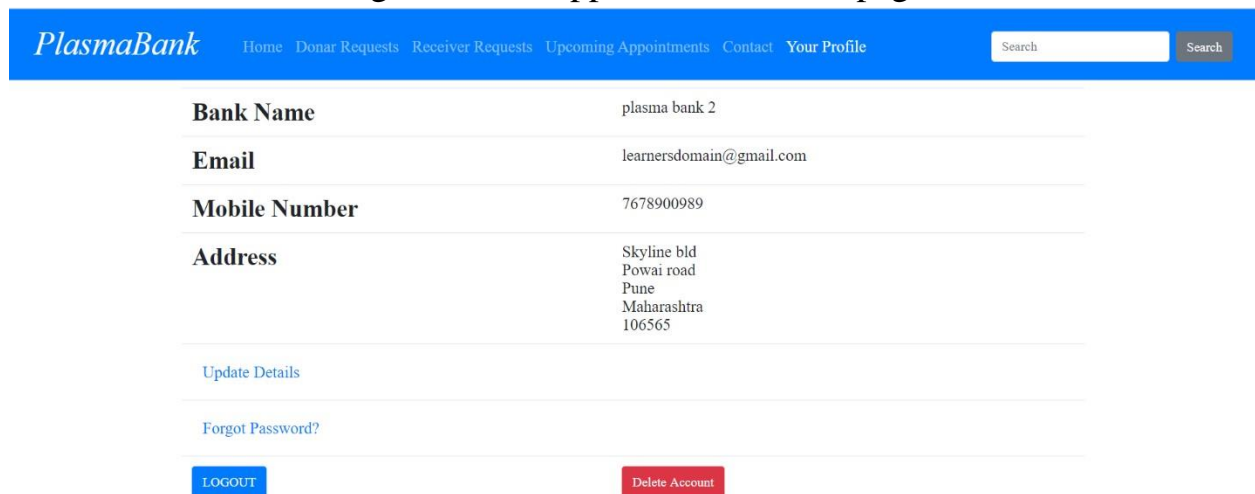


Fig.4.7. Plasma Bank Profile

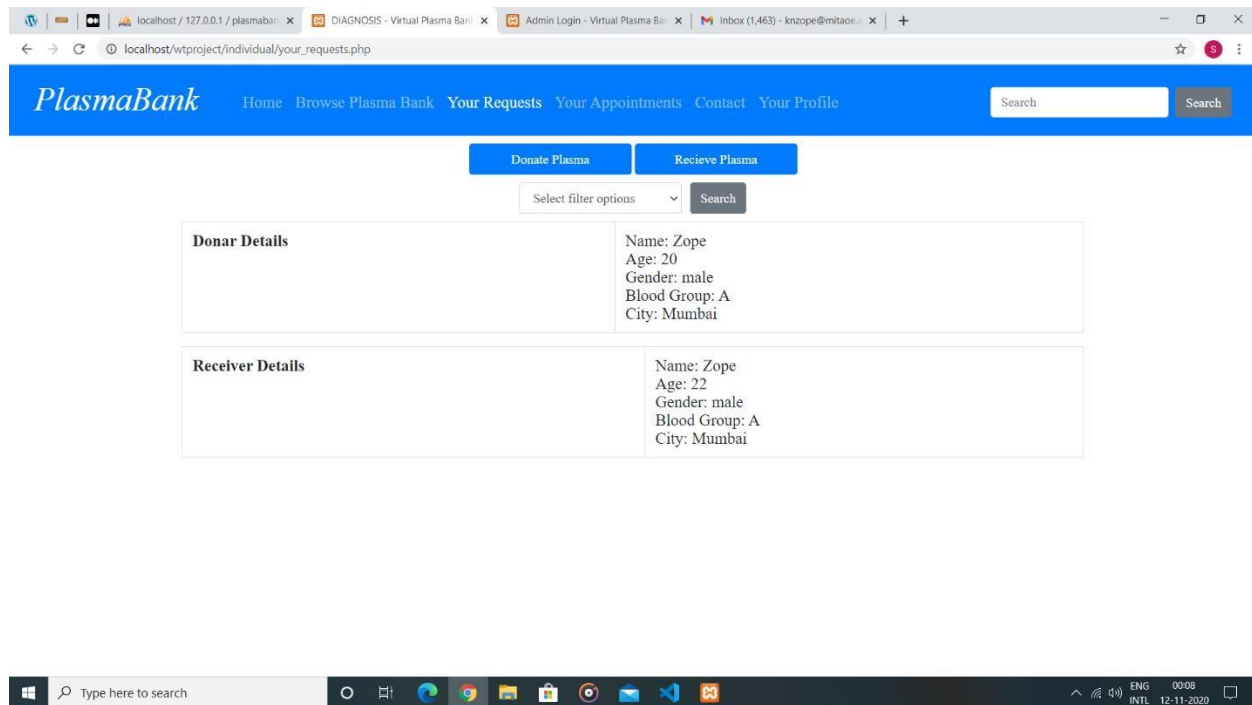


Fig.4.8. User Requests

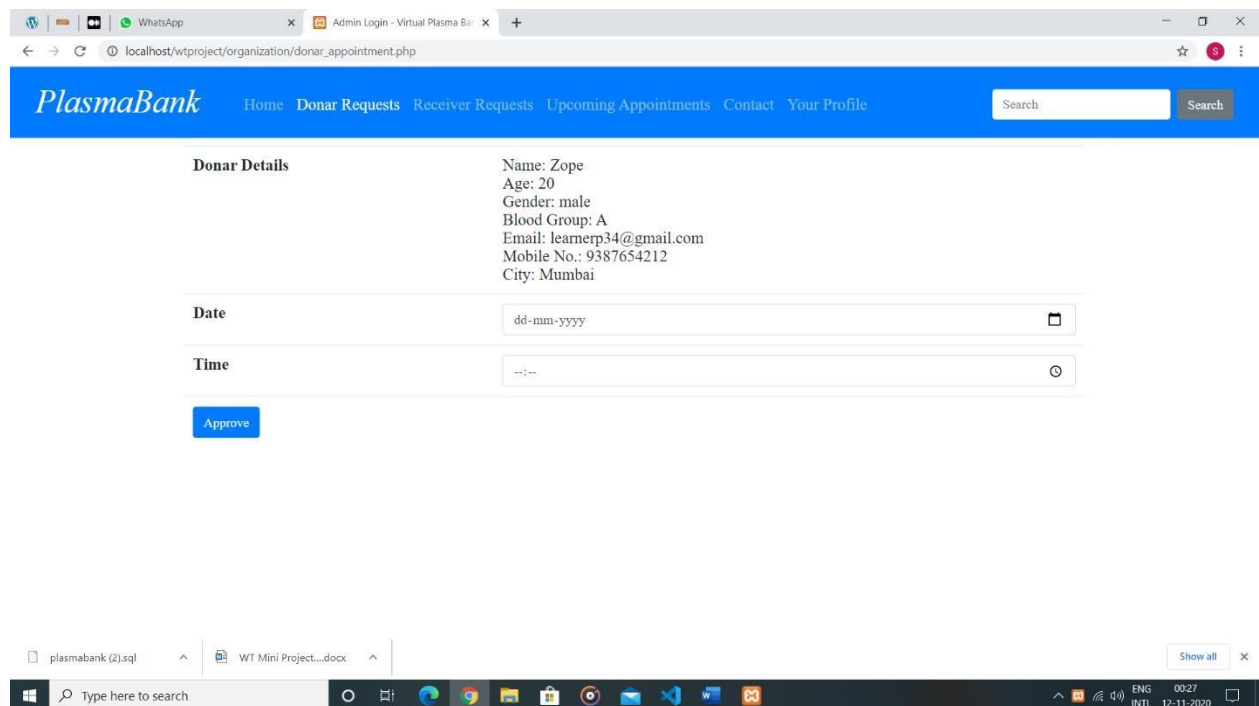


Fig.4.9. Plasma bank accepting donar requests

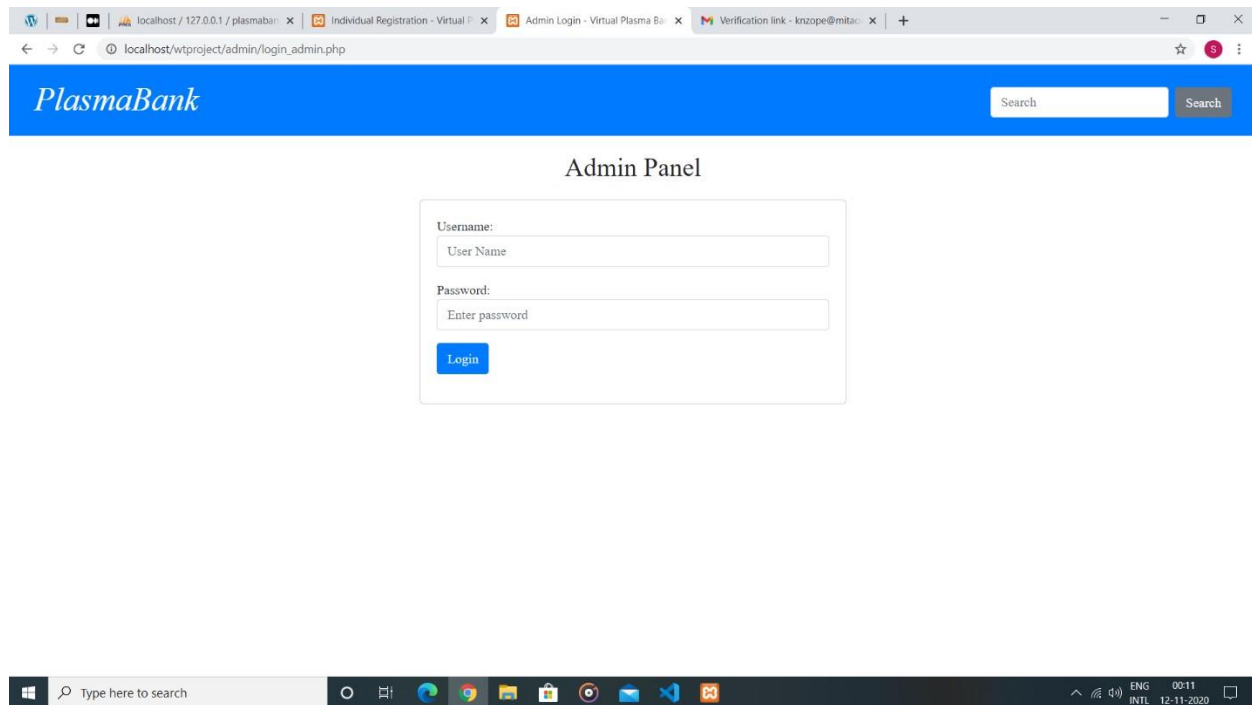


Fig.4.10. Admin Page

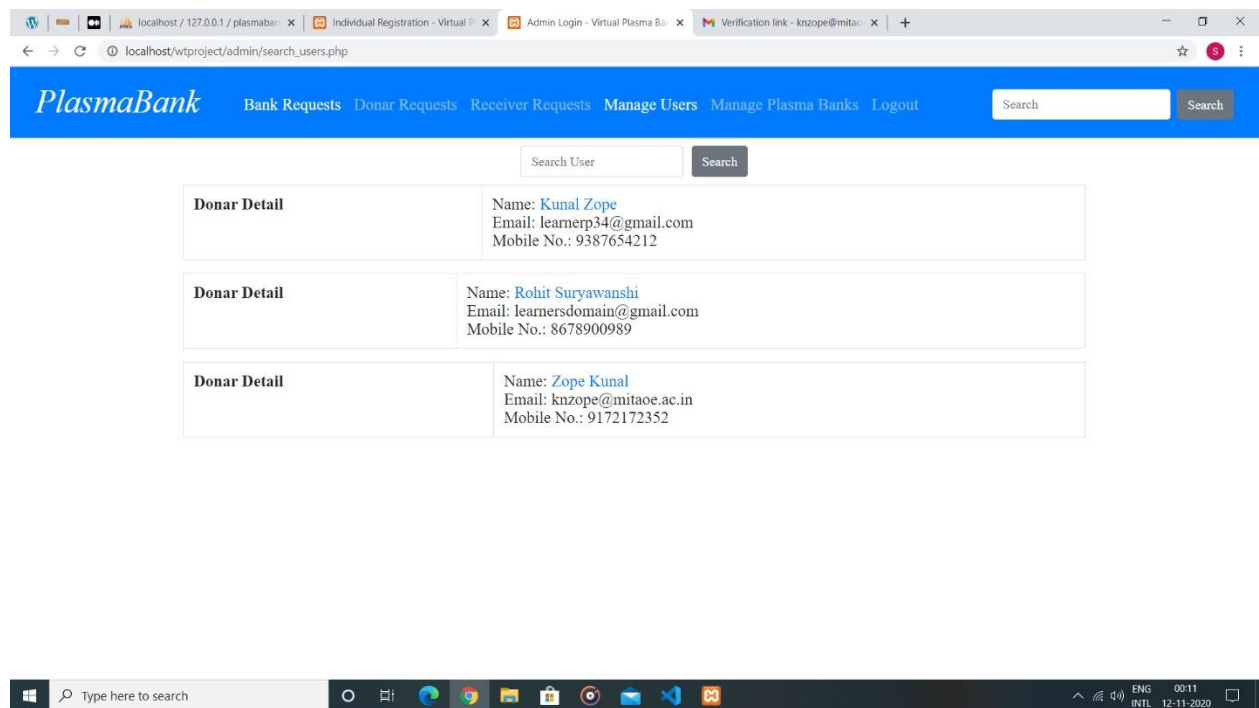


Fig.4.11. Manage user admin page

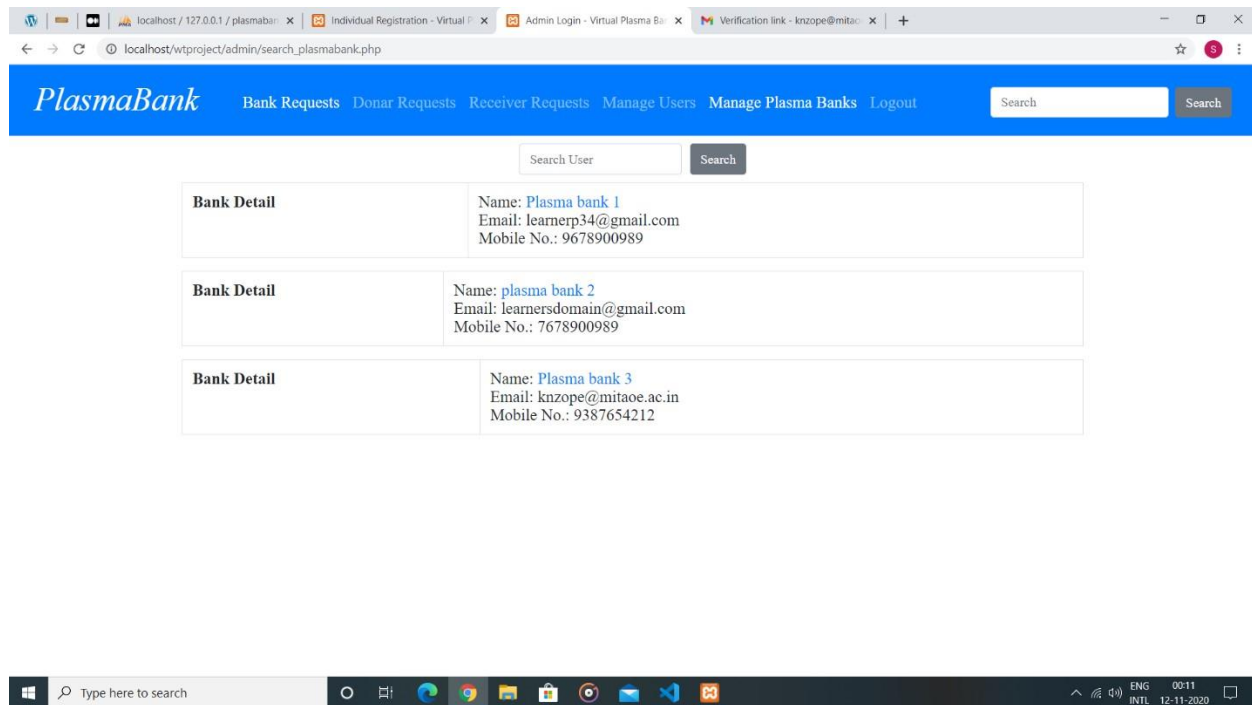


Fig.4.12. Manage Plasma bank admin page

Conclusion

In pandemic struck times, we are seeing a rise in health cases, and it can be crucial for hospitals or patients to get plasma donations for saving lives. On top of this, we are not as prone to going out from place to place on today's date, as we used to do before. Therefore, an online portal where we can contact nearest, verified donors through our computers or phones is very important.

The website will provide a appointment system where normal user (donar/receiver) and plasma bank can get themselves register and can use the features of website like application for donation or receive the plasma. The plasma bank will respond to the application and will provide the appropriate date and timing to the user so that user waiting time will get reduced. The website has a strong admin panel. Admin will verify the plasma bank approval from state territory authority and also verify the identity of user. The strict action has been taken about users and plasma banks who are misusing their accounts. Their account will get deleted and they will be added to blocklist.

This Website will be friendly and helps in finding donors sooner rather than wandering manually everywhere from hospital to hospital. The ultimate goal is to facilitate coordinated and well-informed system capable of maximum user satisfaction.

References

- <https://www.cslplasma.com/>
- <https://www.ilbs.in/plasma/>
- <https://www.donatingplasma.org/>

- <https://indianbloodbank.com/>
- <https://www.hindawi.com/journals/jbt/2014/752182/> [**Journal Paper**]