Blood Bank Donor Management System

PROJECT REPORT

Submitted in fulfilment for the J-Component of CSE3002 – Internet and Web Programming

CAL COURSE

in

B.Tech. (Computer Science)

by

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SCOPE

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Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

Fall Semester 2022-2023

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Abstract:

In the present digital age, a vast number of online blood bank databases are available for usage, however despite their sheer number no notable online blood bank database offers the capability for the direct contact between the donor and the recipient of the donation. This can prove to be a major drawback particularly in cases where there is an urgent need of blood and families scramble to find someone through social media. Our work therefore aims to overcome this communication barrier that can potentially cost someone their life by creating a blood bank database of our own through a web interface containing the relevant details collected from various types of sources such as other Blood banks, NSS, NGO's, hospitals. The data collected from these sources will be maintained in a central server by a database administrator of our interface. This initiative of ours intends to help in keeping track of all information about blood donors and the various blood groups accessible in each blood bank. The goal is therefore to increase transparency in this industry, making obtaining blood from a blood bank simpler, free of any potential corruption, and improve the general blood bank management system. Instead of stocking blood, we are stocking information on blood donors for our userbase. The entire project is being developed keeping in mind the distributed client server technology.

Introduction:

With the recent Covid-19 pandemic we have unfortunately witnessed multiple outcries for help regarding the need for a donor for a patient who was in critical condition and needed an immediate blood transfusion. With social media as well set ablaze with tons of requests from friends and family members regarding blood donors, and the lives lost due to not receiving blood in time, we feel it is imperative to look at the situation closely.

While blood shortage is indeed a significant problem, as per our observations even when there is blood available for the recipients, they have a hard time finding the required donors who can help save their lives, and therefore panic is created.

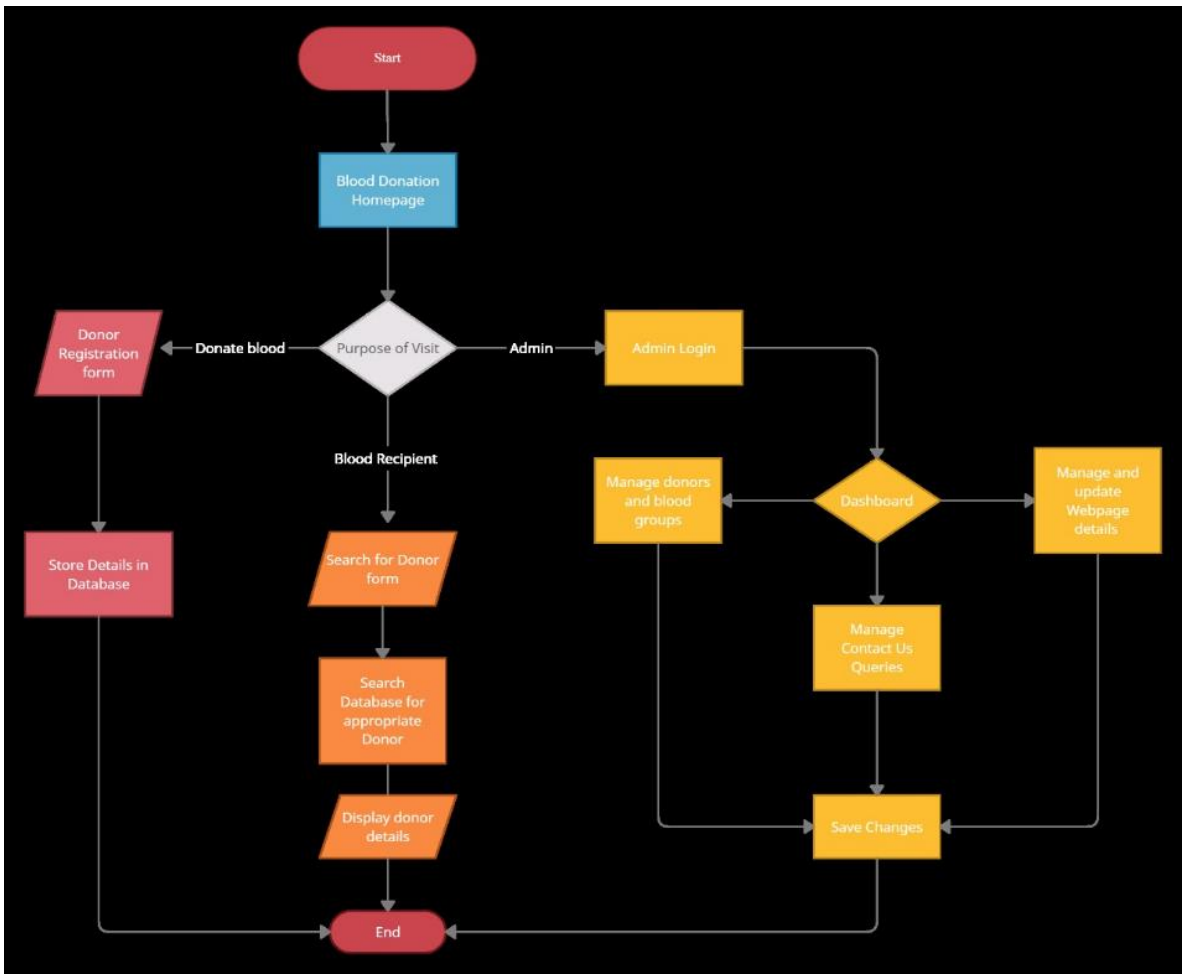
Communication, therefore proved to be a major hindrance in this process where due to not having proper details of the donors and not being able to access those details, blood recipients lost their lives. Therefore, creating a web interface aimed at tackling the issue of communication and transparency seemed like something that is necessary and something we want to attempt to combat this issue that has unfortunately become a common scenery in our daily lives as of late.

With our Blood Bank Donor Management System, christened as **BloodVault,** we aim to not only tackle this problem, but provide a UI suitable for patients of any background to be able to access our database and get the required details they need.

Problem Statement:

Blood is one of **the** most important fluids sustaining human life and its absence can be a large problem that the medical world is still trying to tackle. With the recent Covid-19 pandemic that the world went through, blood banks and social media was submerged with tons of requests for blood of different blood type groups, creating much panic as emergencies were at an all-time high and blood recipients had a hard time finding donors. Currently there is no substitute for human blood despite more than 70 years of research, making it extremely useful for an emergency live saving situation. In a medical case of loss of blood, the only valid option is to find blood donors to save the patient's life, which becomes harder with an imperfect blood donation management system where there is no proper communication and donor details are harder to find. Not to mention reports of corruption when it comes to blood bank management are also rampant, creating distrust towards the industry as there is no transparency. Therefore, we through this project aim to create a web interface through which donors can easily apply and volunteer to donate their blood and the recipients who need blood can easily access and find a perfect donor for their respective emergencies, without too much of a rush and panic.

Process Flow Diagram:



Modules:

Module 1: Admin/User Module

A separate Admin access is needed for our interface to tackle menial tasks such as searching for any duplicate donor submissions, for granting the requests of both the donor and receiver, for the addition and deletion of information, for scanning any fake requests, for updating any information, etc. which has to all be done to ensure smooth operation of the blood bank.

The website we will make can be therefore accessed by Admin and by the User. The interaction part of our site where users will request and read their needed blood groups, the contact details, and other blood group details will be done in this module along with the management of tasks done by Admins, covering the Front-end part of our system.

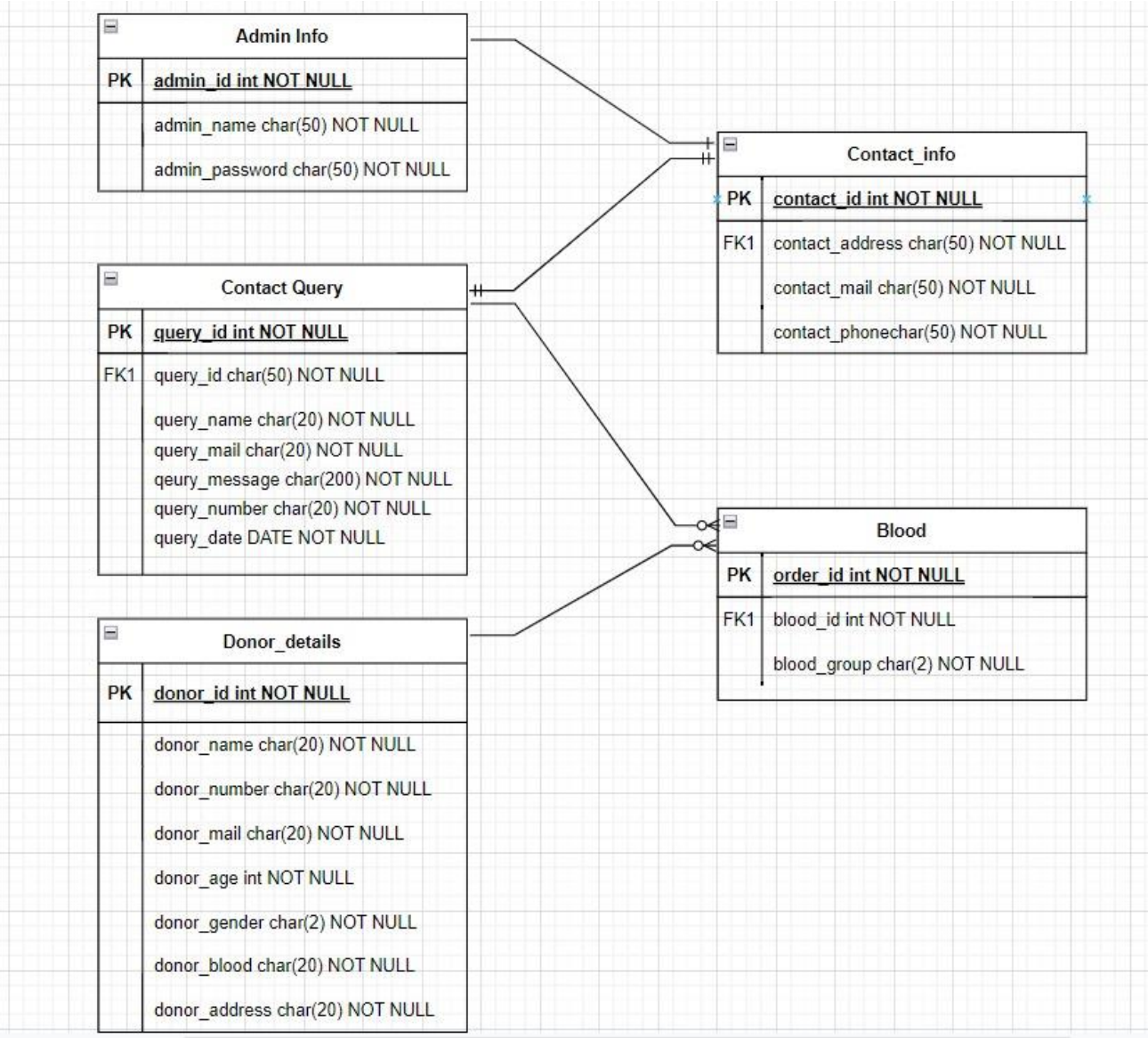
Tools used for this module are HTML, CSS, JavaScript.

Module 2: Server

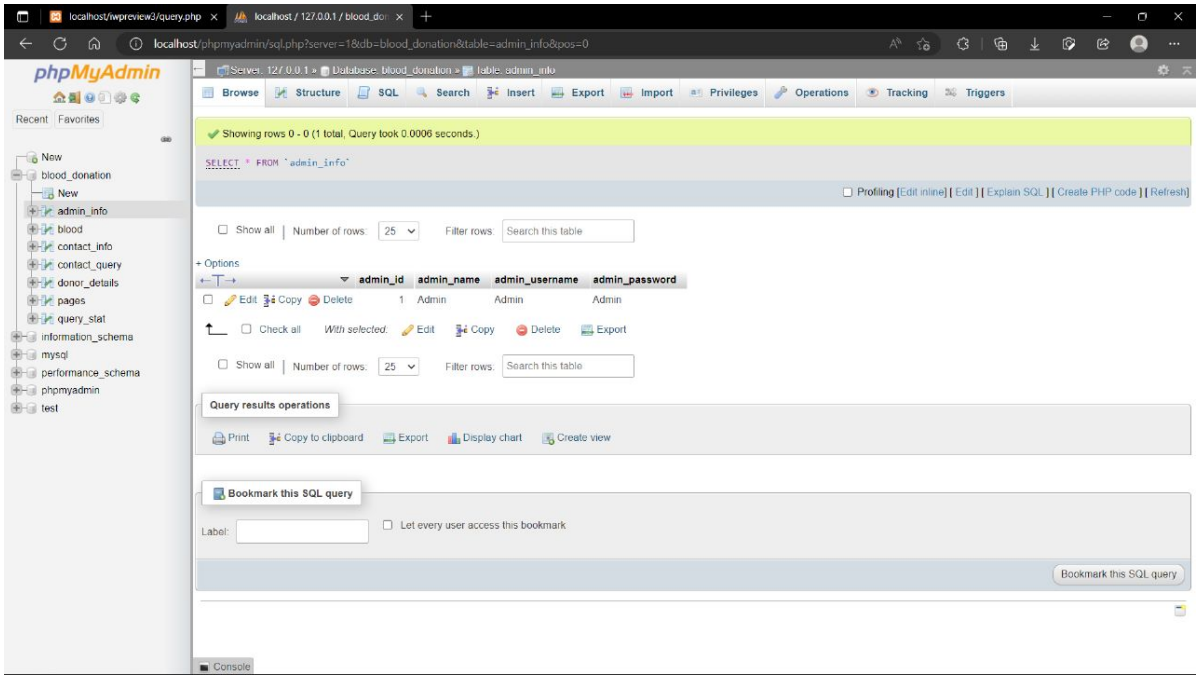
All the entered details and updated details will be stored in the server of our interface in a systematic manner, serving as the backend part of the system. This module will therefore handle the actual data storage.

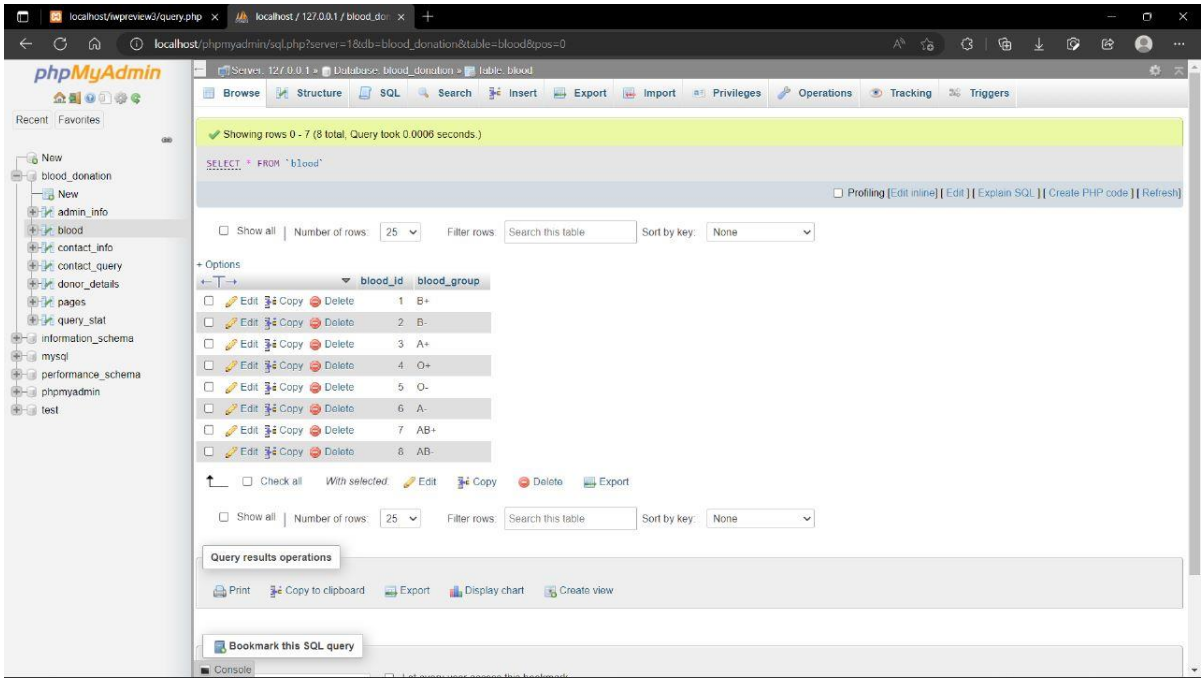
Tools used for this module are PHP, MYSQL.

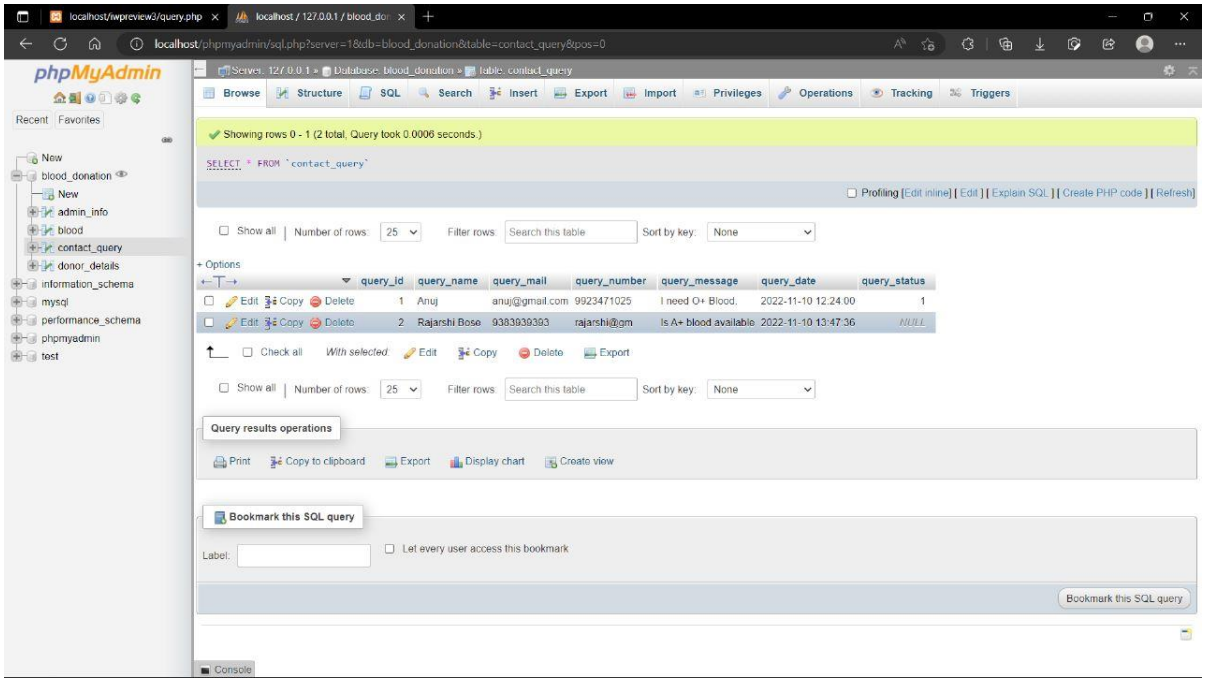
ER Diagram:

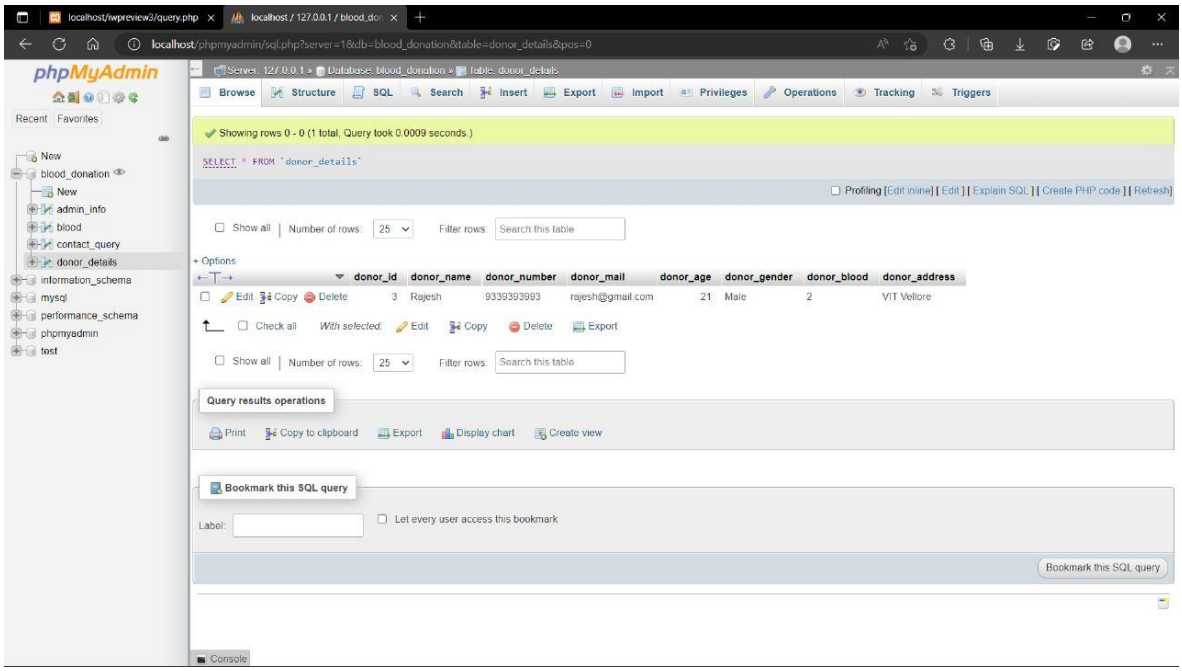

Admin Info
PK
admin_id int NOT NULL
admin_name char(50) NOT NULL
admin_password char(50) NOT NULL
Contact_info
PK
contact_id int NOT NULL
FK1
contact_address char(50) NOT NULL
contact_mail char(50) NOT NULL
contact_phonechar(50) NOT NULL
Contact Query
PK
query_id int NOT NULL
FK1
query_id char(50) NOT NULL
query_name char(20) NOT NULL
query_mail char(20) NOT NULL
qeury_message char(200) NOT NULL
query_number char(20) NOT NULL
query_date DATE NOT NULL
Blood
PK
order_id int NOT NULL
FK1
blood_id int NOT NULL
blood_group char(2) NOT NULL
Donor_details
PK
donor_id int NOT NULL
donor_name char(20) NOT NULL
donor_number char(20) NOT NULL
donor_mail char(20) NOT NULL
donor_age int NOT NULL
donor_gender char(2) NOT NULL
donor_blood char(20) NOT NULL
donor_address char(20) NOT NULL

Database Design:






phpMyAdmin
Recent Favorites
New
blood_donation
New
admin_info
blood
contact_query
donor_details
information_schema
mysql
performance_schema
phpmyadmin
test
Server: 127.0.0.1 » Database: blood_donation » Table: contact_query
Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers
Showing rows 0 - 1 (2 total, Query took 0.0006 seconds.)
SELECT * FROM `contact_query`
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None
+ Options
query_id query_name query_mail query_number query_message query_date query_status
Edit Copy Delete 1 Anuj anuj@gmail.com 9923471025 I need O+ Blood. 2022-11-10 12:24:00 1
Edit Copy Delete 2 Rajarshi Bose 9383939393 rajarshi@gm Is A+ blood available 2022-11-10 13:47:36 NULL
Check all With selected: Edit Copy Delete Export
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None
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
Console


phpMyAdmin
Recent Favorites
New
blood_donation
New
admin_info
blood
contact_query
donor_details
information_schema
mysql
performance_schema
phpmyadmin
test
Server: 127.0.0.1 » Database: blood_donation » Table: donor_details
Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers
Showing rows 0 - 0 (1 total, Query took 0.0009 seconds.)
SELECT * FROM `donor_details`
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
Show all | Number of rows: 25 Filter rows: Search this table
+ Options
donor_id donor_name donor_number donor_mail donor_age donor_gender donor_blood donor_address
Edit Copy Delete 3 Rajesh 9339393993 rajesh@gmail.com 21 Male 2 VIT Vellore
Check all With selected: Edit Copy Delete Export
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
Console

Conclusion:

The website that we have created has successfully implemented the functions that were proposed and have integrated html, CSS, JavaScript and php. The website can actively keep track of the blood donors and the availability of blood, it serves as a medium through which, people can contact and be informed of the same. The necessary recipients of blood may use this site to cite their needs and it can be met by the active donors in the system.

The site can help play a vital role in improving the transparency as now direct details of the donor as required are available and the donors themselves can easily register themselves as well.

References:

[1].Vikas Kulshreshtha, Dr. Sharad Maheshwari Blood Bank Management Information System in India International Journal of Engineering Research and Applications (IJERA), 2015

[2]. Reema Agarwal, Sonali Singh, Chanchal Atal, Dr. Danie Kingsley Blood Bank System using Database Security International Research Journal of Engineering and Technology (IRJET), 2020

[3]. N. Adarsh, J. Arpitha, Md. Danish Ali, N. Mahesh Charan, Pramodini G Mahendrakar Effective blood bank management based on RFID in real time systems International Conference on Embedded Systems (ICES), IEEE, 2014

[4]. M. A. Cohen,W. P. Pierskalla Management Policies for a Regional Blood Bank The Journal of ABB, Transfusion.org, 1975

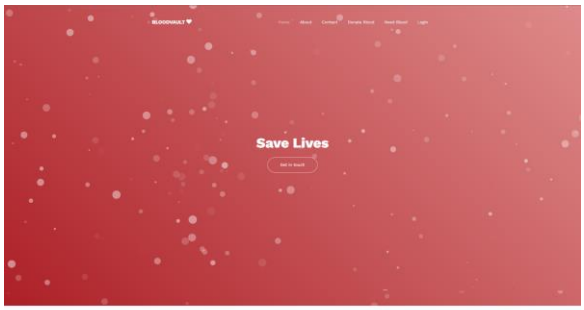
[5]. Abdul Aziz Fahad Design and implementation of blood bank system using web services in cloud environment International Journal of MC Square Scientific Research, Vol.11, No.3, 2019

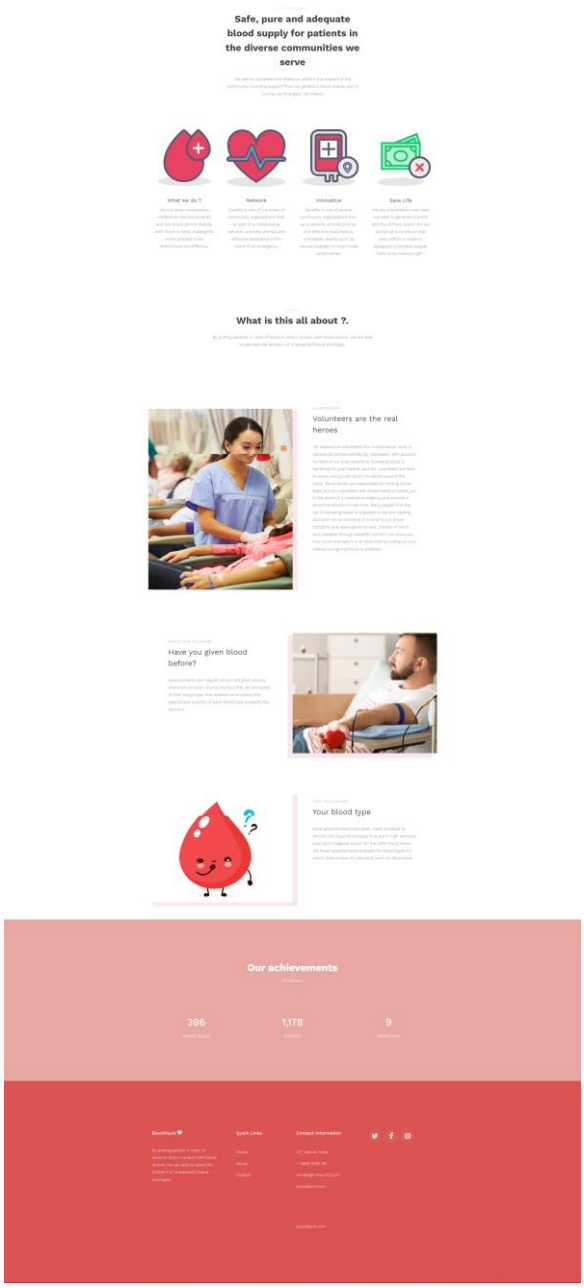
[6]. Shubham Pande, Shweta Mate,Pradnya Mawal,Ayusha Jambulkar,Prof. N.S. More EBlood Bank Application Using Cloud Computing International Research Journal of Engineering and Technology (IRJET), 2018

[7]. K M Akkas Ali1 Israt Jahan , Md. Ariful Islam Md. Shafa Blood Donation Management System American Journal of Engineering research (AJER), 2015

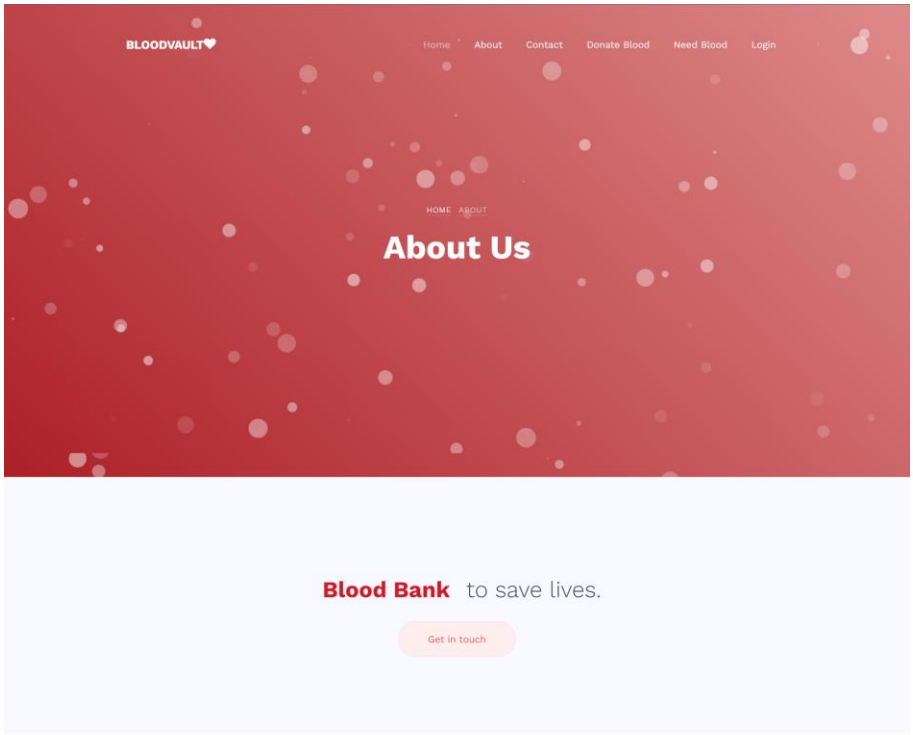
Snapshots:

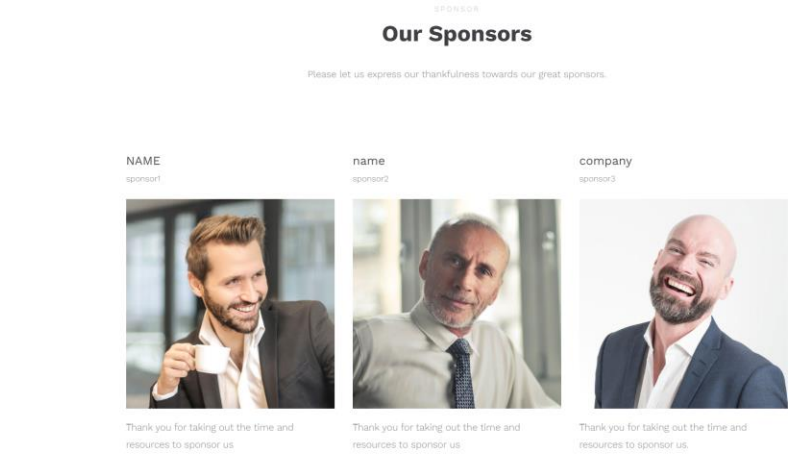
1) Homepage

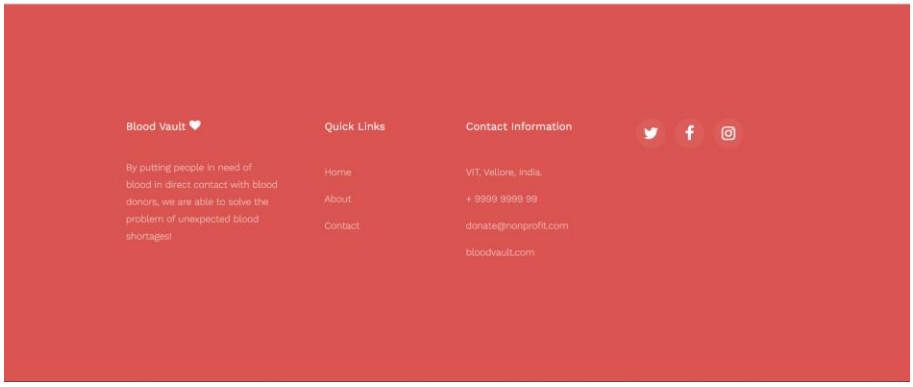




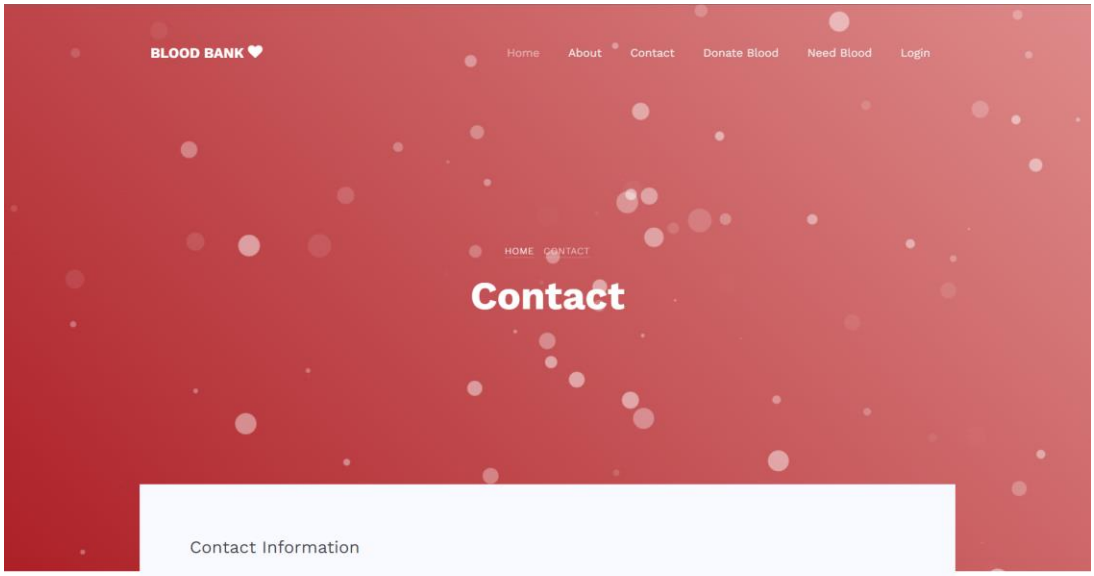
2) About us page

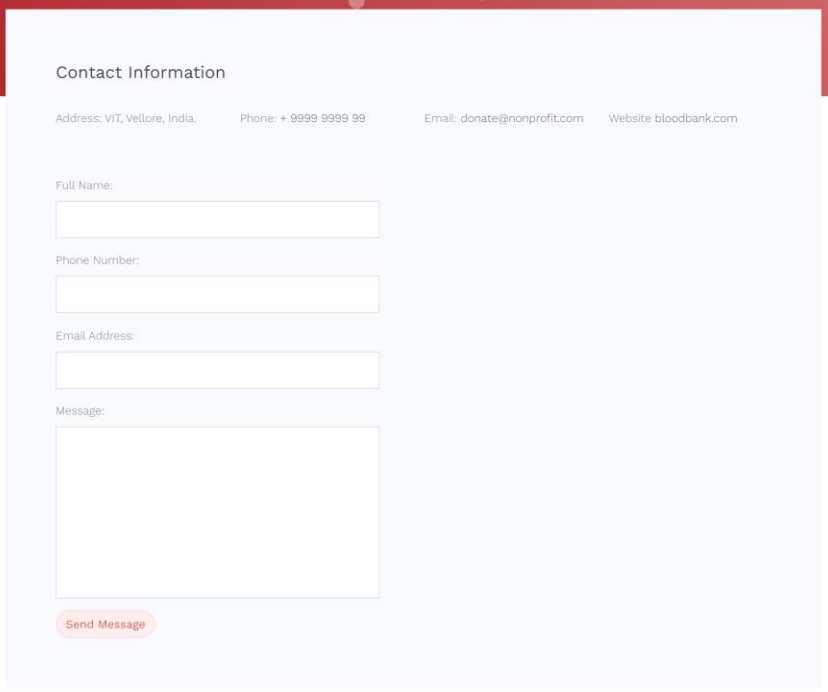


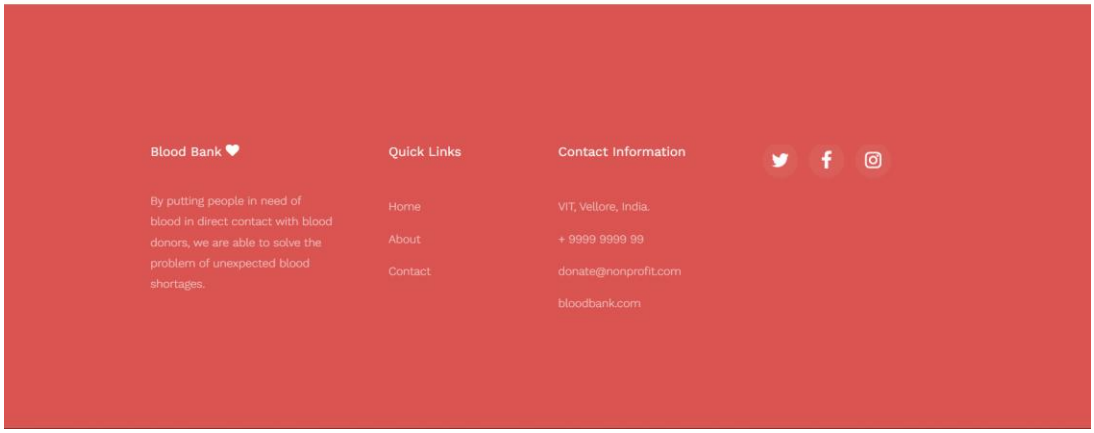




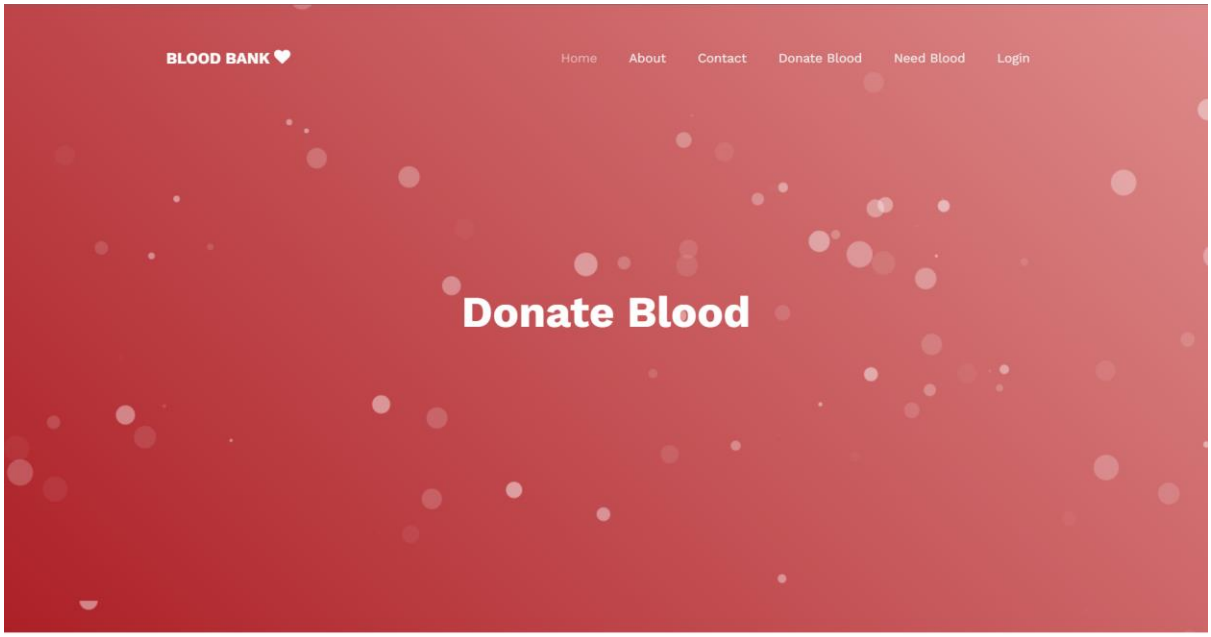
3) Contact us page

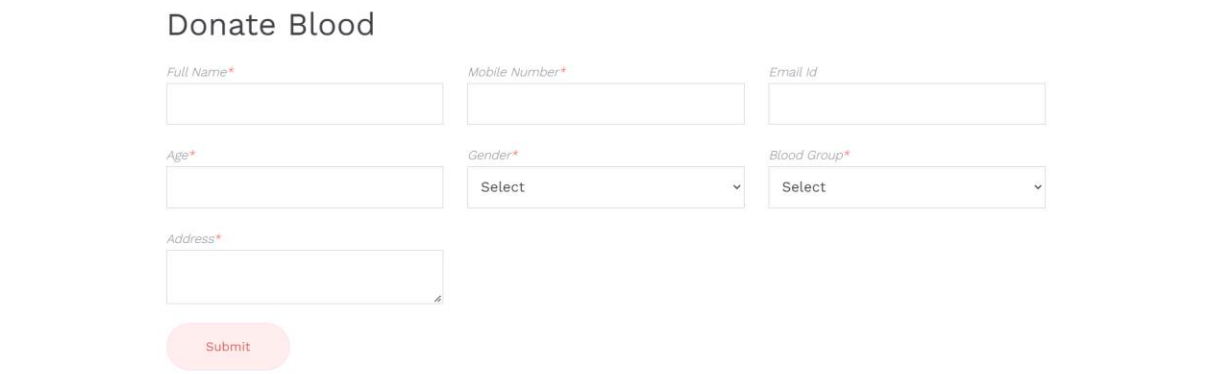


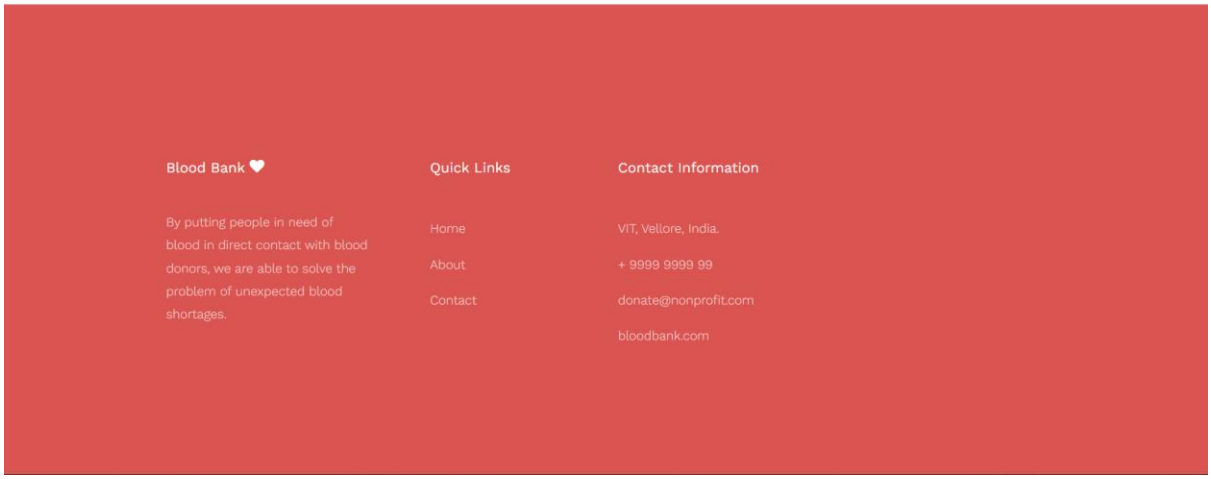




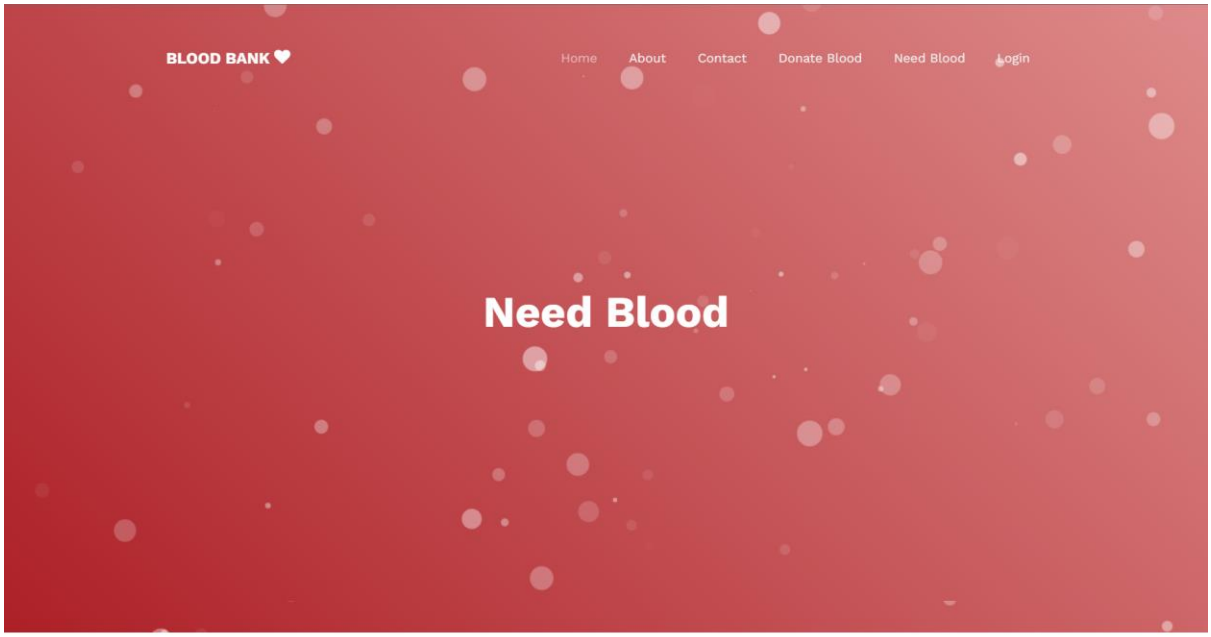
4) Donate Blood Page

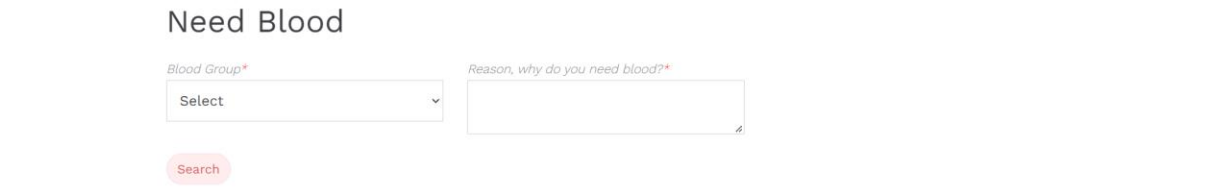


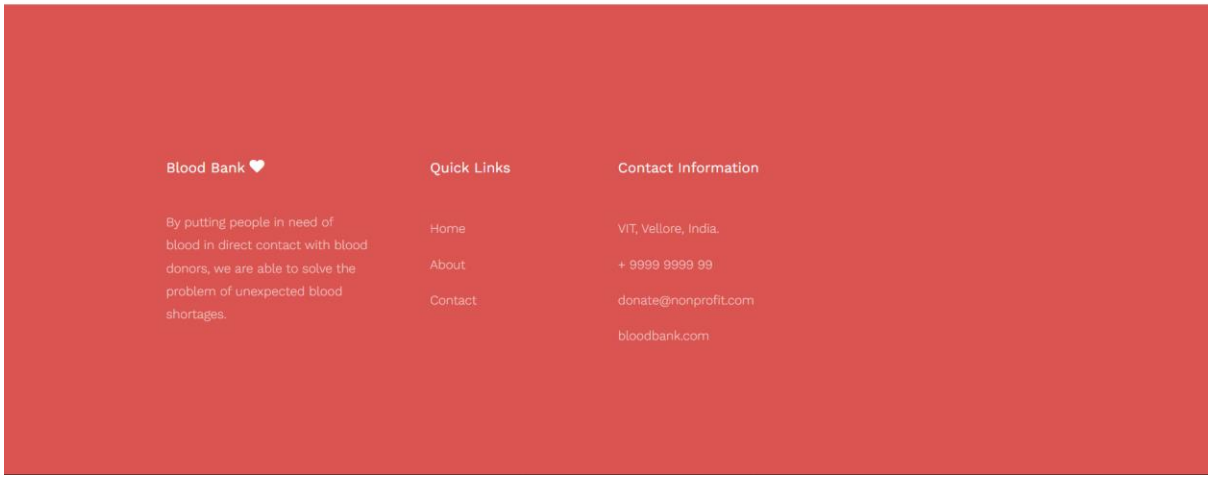




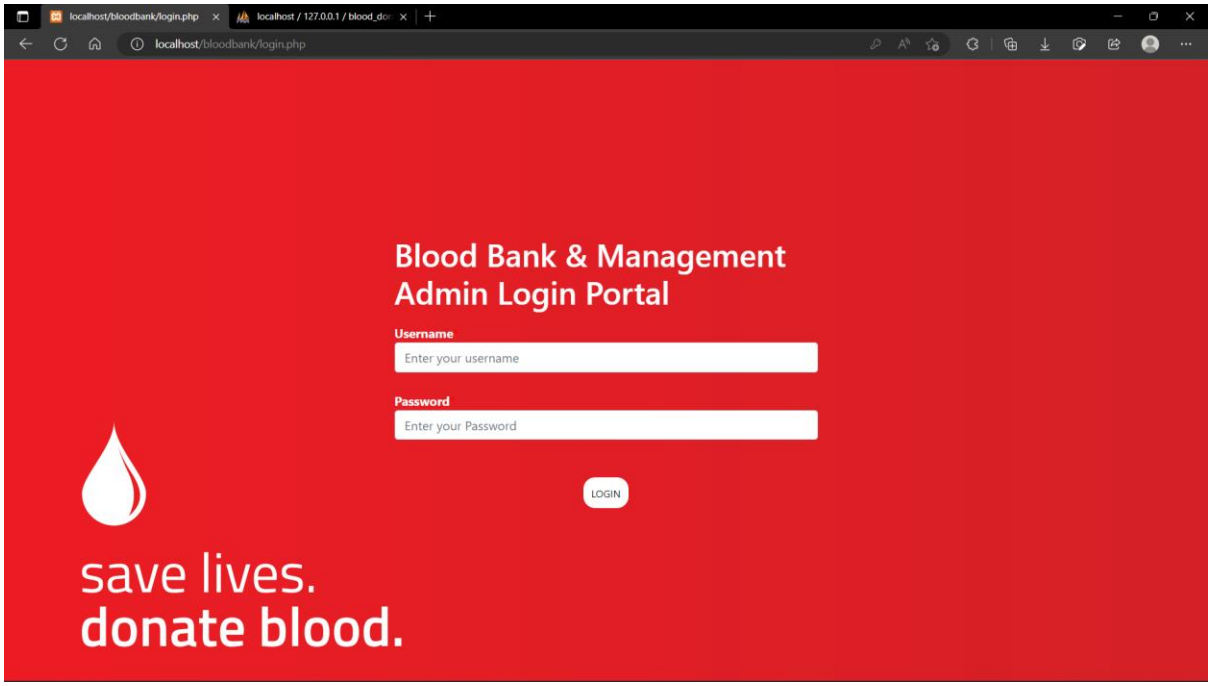
5) Need Blood page



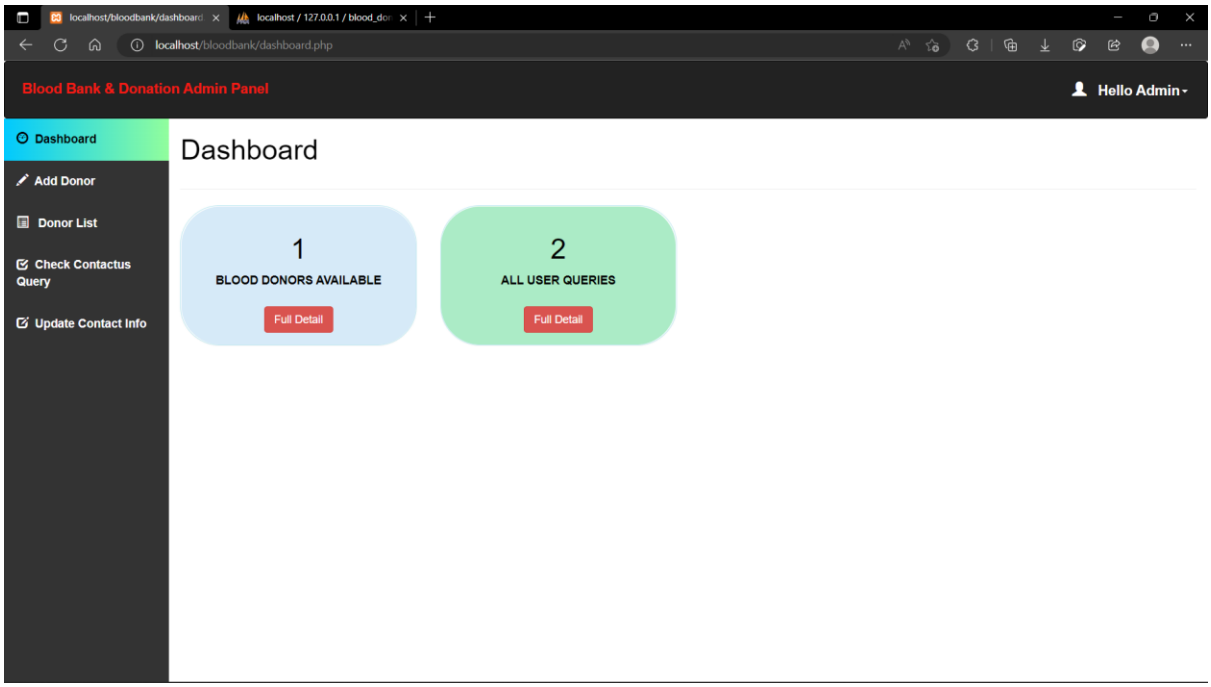




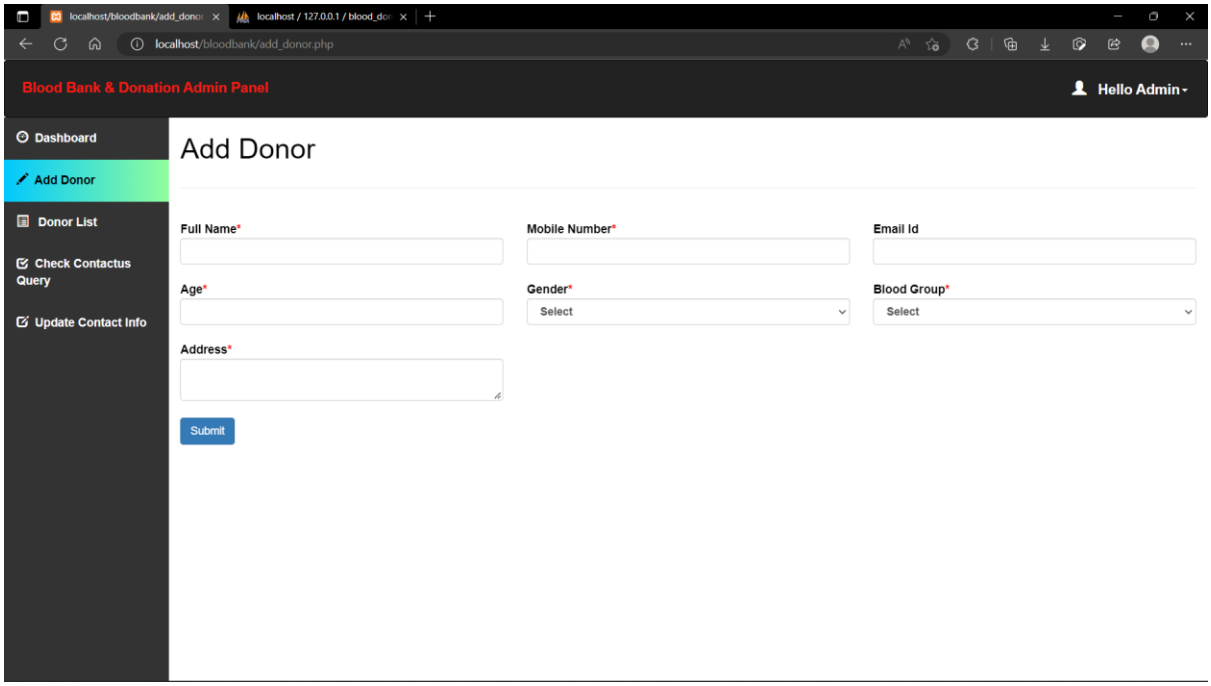
6) Admin login



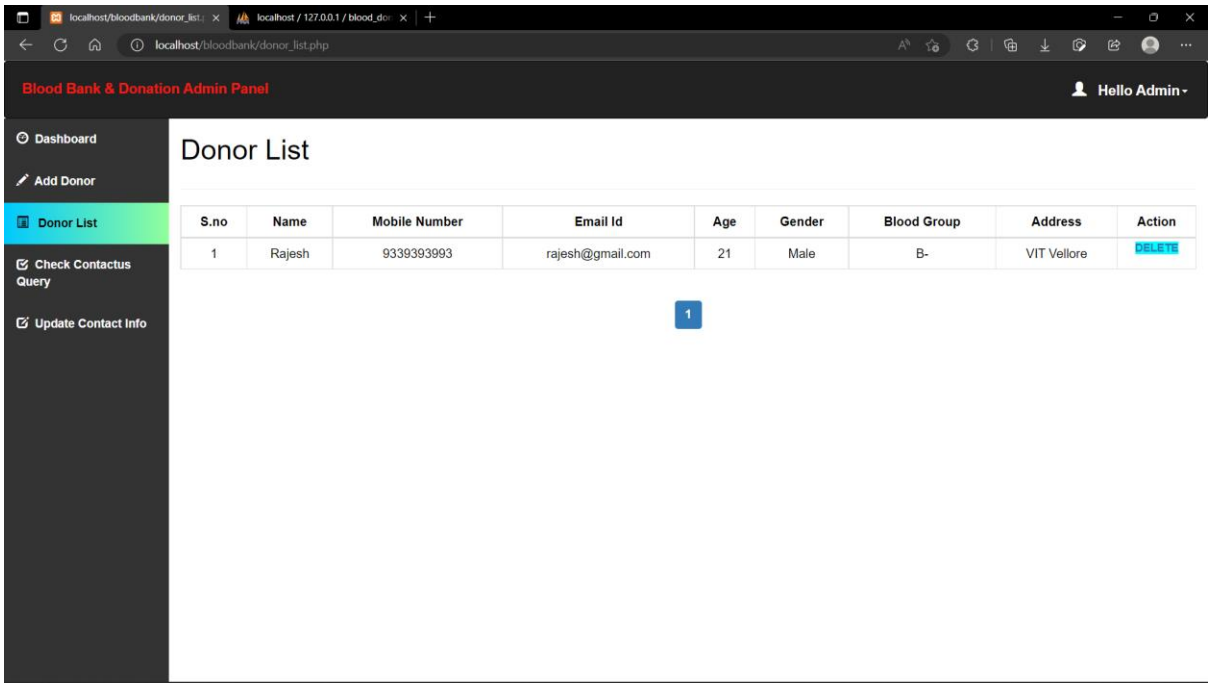
7) Admin Dashboard



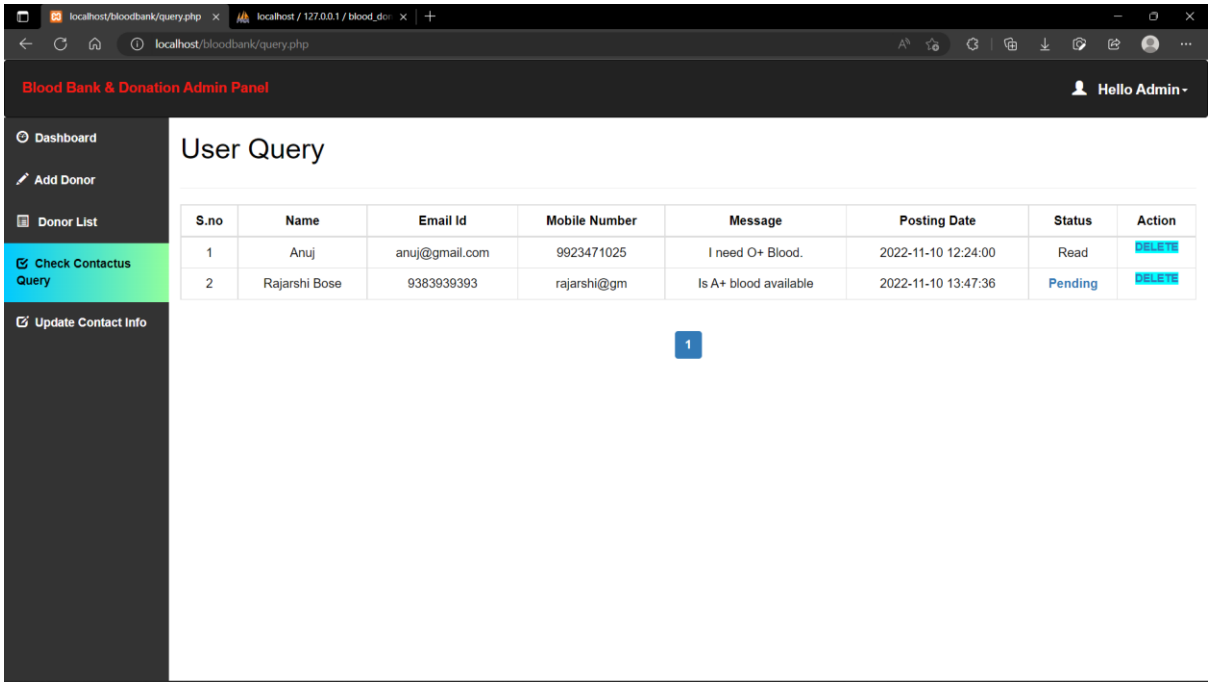
8) Admin add donor page



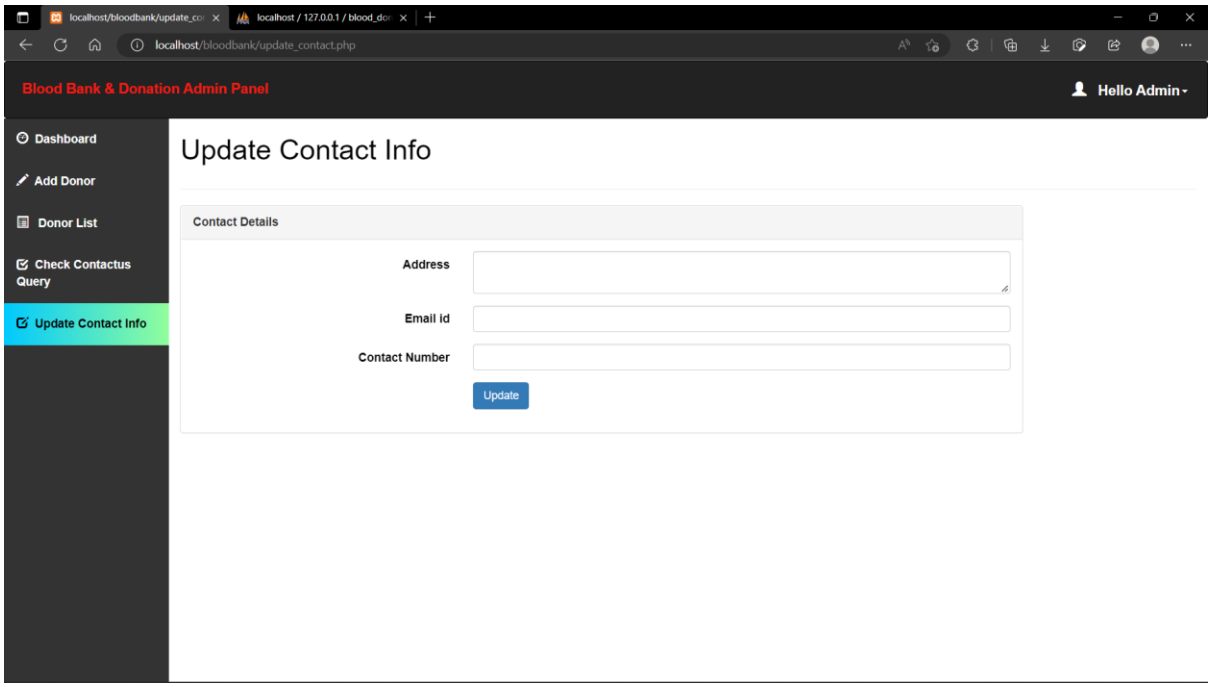
9) Admin donor list page



10) Admin check contact us query page



11) Admin update contact info page



Sample Source Code:

Index.html

```
<!DOCTYPE html>
<html lang="en">

<head>
    <title>BloodVault</title>
    <link rel="icon" href="images/giphy.gif">

    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1,
shrink-to-fit=no">

    <link
href="https://fonts.googleapis.com/css?family=Work+Sans:100,200,300,400,700,80
0" rel="stylesheet">

    <link rel="stylesheet" href="css/open-iconic-bootstrap.min.css">
    <link rel="stylesheet" href="css/animate.css">

    <link rel="stylesheet" href="css/owl.carousel.min.css">
    <link rel="stylesheet" href="css/owl.theme.default.min.css">
    <link rel="stylesheet" href="css/magnific-popup.css">

    <link rel="stylesheet" href="css/aos.css">

    <link rel="stylesheet" href="css/ionicons.min.css">

    <link rel="stylesheet" href="css/bootstrap-datepicker.css">
    <link rel="stylesheet" href="css/jquery.timepicker.css">


    <link rel="stylesheet" href="css/flaticon.css">
    <link rel="stylesheet" href="css/icomoon.css">
    <link rel="stylesheet" href="css/style.css">
</head>

<body>

    <nav class="navbar navbar-expand-lg navbar-dark ftco_navbar bg-dark ftco-
navbar-light" id="ftco-navbar">
        <div class="container">
            <a class="navbar-brand" href="index.html"> BloodVault <i
class="icon-heart" aria-hidden="true"></i></a>
            <button class="navbar-toggler" type="button" data-
toggle="collapse" data-target="#ftco-nav" aria-controls="ftco-nav" aria-
expanded="false" aria-label="Toggle navigation">
```

```
        <span class="oi oi-menu"></span> Menu
      </button>

            <div class="collapse navbar-collapse" id="ftco-nav">
                <ul class="navbar-nav ml-auto">
                    <li class="nav-item active"><a href="index.html"
class="nav-link">Home</a></li>
                    <li class="nav-item"><a href="about.html" class="nav-
link">About</a></li>

                    <li class="nav-item"><a href="contact_us.php" class="nav-
link">Contact</a></li>

                    <li class="nav-item"><a href="donate_blood.php"
class="nav-link"><span>Donate Blood</span></a></li>
                    <li class="nav-item"><a href="need_blood.php" class="nav-
link"><span>Need Blood</span></a></li>
                    <li class="nav-item"><a href="login.php" class="nav-
link"><span>Login</span></a></li>

                </ul>
            </div>
        </div>
    </nav>

    <div class="hero-wrap js-fullheight">
        <div class="overlay"></div>
        <div id="particles-js"></div>
        <div class="container">
            <div class="row no-gutters slider-text align-items-center justify-
content-center" data-scrollax-parent="true">
                <div class="col-md-6 ftco-animate text-center" data-scrollax="
properties: { translateY: '70%' }">
                    <h1 class="mb-4" data-scrollax="properties: { translateY:
'30%', opacity: 1.6 }">
                        <strong> Save Lives</strong></h1>
                    <p data-scrollax="properties: { translateY: '30%',
opacity: 1.6 }">
                        <a href="contact_us.php" class="btn btn-primary btn-
outline-white px-5 py-3">Get in touch</a></p>
                </div>
            </div>
        </div>
    </div>



    <section class="ftco-section">
        <div class="container">
```

```
            <div class="row justify-content-center mb-5 pb-5">
                <div class="col-md-6 text-center heading-section ftco-
animate">
                    <span class="subheading">Our Services</span>
                    <h2 class="mb-4">Safe, pure and adequate blood supply for
patients in the diverse communities we serve</h2>
                    <p>We cannot complete this objective without the support
of the community, including support from our generous blood donors and of
course, our Energetic Volunteers</p>
                </div>
            </div>
            <div class="row">
                <div class="col-md-6 col-lg-3 d-flex align-self-stretch ftco-
animate">
                    <div class="media block-6 services d-block text-center">
                        <div class="d-flex justify-content-center">

                            <img src="images/blood-plus.svg" alt="">
                        </div>
                        <div class="media-body p-2 mt-3">
                            <h3 class="heading">What we do ?</h3>
                            <p>We cut away unnecessary middlemen like blood
banks and link blood donors directly with those in need, making the entire
process more streamlined and effective.</p>
                        </div>
                    </div>
                </div>
                <div class="col-md-6 col-lg-3 d-flex align-self-stretch ftco-
animate">
                    <div class="media block-6 services d-block text-center">
                        <div class="d-flex justify-content-center">
                            <img src="images/global-health.svg" alt="">

                        </div>
                        <div class="media-body p-2 mt-3">
                            <h3 class="heading">Network</h3>
                            <p>Savelife is one of a number of community
organisations that, as part of a collaborative network, provides prompt and
effective assistance in the event of an emergency.</p>
                        </div>
                    </div>
                </div>
                <div class="col-md-6 col-lg-3 d-flex align-self-stretch ftco-
animate">
                    <div class="media block-6 services d-block text-center">
                        <div class="d-flex justify-content-center">
                            <img src="images/save.svg" alt="">
                        </div>
```

```
                        <div class="media-body p-2 mt-3">
                            <h3 class="heading">Innovative</h3>
                            <p>Savelife is one of several community
organisations that, as a network, provide prompt and effective responses to
unforeseen events such as natural disasters or man-made catastrophes.</p>
                        </div>
                    </div>
                </div>

                <div class="col-md-6 col-lg-3 d-flex align-self-stretch ftco-
animate">
                    <div class="media block-6 services d-block text-center">
                        <div class="d-flex justify-content-center">
                            <img src="images/free.svg" alt="">


                        </div>
                        <div class="media-body p-2 mt-3">
                            <h3 class="heading">Save Life</h3>
                            <p>We are a foundation that does not seek to
generate a profit, and the primary reason for our existence is to ensure that
every effort is made to safeguard vulnerable people. Help us by making a gift
!</p>
                        </div>
                    </div>
                </div>
            </div>
        </div>
    </section>



    <section class="ftco-section-parallax">
        <div class="container">
            <div class="row no-gutters justify-content-center mb-5 pb-5">
                <div class="col-md-7 text-center heading-section ftco-
animate">
                    <span class="subheading">Works</span>
                    <h2 class="mb-4">What is this all about ?.</h2>
                    <p>By putting patients in need of blood in direct contact
with blood donors, we are able to alleviate the problem of unexpected blood
shortages.</p>
                </div>
            </div>
            <div class="row">
                <div class="block-3 d-md-flex ftco-animate" data-scrollax-
parent="true">
```

```
                    <a href="portfolio.html" class="image" style="background-
image: url('images/volenteer.jpg'); " data-scrollax=" properties: {
translateY: '-20%'}"></a>

                    <div class="text">
                        <h4 class="subheading">Illustration</h4>
                        <h2 class="heading"><a
href="portfolio.html">Volunteers are the real heroes</a></h2>
                        <p>
                            We depend on volunteers! Our humanitarian work is
carried out almost entirely by volunteers, who account for 96% of our total
workforce. Donating blood is beneficial to one's health, and our volunteers
are here to assist and accept blood donations around the clock. Blood banks
are responsible for storing blood bags, but our volunteers are always ready to
assist you in the event of a medical emergency and provide a blood transfusion
in real time. Many people find the act of donating blood or platelets to be
intimidating and even nerve-wracking. It is time to put those concerns and
reservations to rest. Donors of blood and platelets through Savelife Connect
can show you how quick and easy it is to save lives by rolling up your sleeves
and giving blood or platelets.</p>
                    </div>
                </div>
                <div class="block-3 d-md-flex ftco-animate" data-scrollax-
parent="true">

                    <a href="portfolio.html" class="image image-2 order-2"
style="background-image:
url('images/cef58128383186c0b86de77f53e39e866eae10a2.jpg');" data-scrollax="
properties: { translateY: '-20%'}"></a>
                    <div class="text order-1">
                        <h4 class="subheading">about our volenter</h4>
                        <h2 class="heading"><a href="portfolio.html">Have you
given blood before?</a></h2>
                        <p>Appointments with regular donors are given priority
status on occasion. Due to the fact that we are aware of their blood type,
this enables us to collect the appropriate quantity of each blood type to
satisfy the demand.</p>
                    </div>
                </div>
                <div class="block-3 d-md-flex ftco-animate" data-scrollax-
parent="true">

                    <a href="portfolio.html" class="image" style="background-
image: url('images/5798cce3c0de46605188b58e84ca508f0bb30e99.jpg'); " data-
scrollax=" properties: { translateY: '-20%'}"></a>
                    <div class="text">
                        <h4 class="subheading"> test your blood</h4>
```

```
                        <h2 class="heading"><a href="portfolio.html">Your
blood type</a></h2>
                        <p>More appointments have been made available for
donors who have blood types that are in high demand, such as O-negative blood.
On the other hand, there are fewer appointments available for blood types for
which there is less of a demand, such as AB positive.</p>
                    </div>
                </div>
            </div>
            <div class="row">
                <div class="col-md-12 text-center">
                </div>
            </div>
        </div>
    </section>

    <section class="ftco-section ftco-counter" id="section-counter">
        <div class="container">
            <div class="row justify-content-center mb-5 pb-5">
                <div class="col-md-7 text-center heading-section heading-
section-white ftco-animate">
                    <h2>Our achievements</h2>
                    <p> BloodValut </p>
                </div>
            </div>
            <div class="row">
                <div class="col-md-6 col-lg-4 d-flex justify-content-center
counter-wrap ftco-animate">
                    <div class="block-18 text-center">
                        <div class="text">
                            <strong class="number" data-
number="396">0</strong>
                            <span>Saved Souls</span>
                        </div>
                    </div>
                </div>
                <div class="col-md-6 col-lg-4 d-flex justify-content-center
counter-wrap ftco-animate">
                    <div class="block-18 text-center">
                        <div class="text">
                            <strong class="number" data-
number="1178">0</strong>
                            <span>Donors</span>
                        </div>
                    </div>
                </div>
                <div class="col-md-6 col-lg-4 d-flex justify-content-center
counter-wrap ftco-animate">
```

```
                    <div class="block-18 text-center">
                        <div class="text">
                            <strong class="number" data-number="9">0</strong>
                            <span>Branches</span>
                        </div>
                    </div>
                </div>
            </div>
        </div>
    </section>


        </div>
    </section>

   <footer class="ftco-footer ftco-bg-dark ftco-section">
        <div class="container">
            <div class="row mb-5">
                <div class="col-md">
                    <div class="ftco-footer-widget mb-4">
                        <h2 class="ftco-heading-2">BloodVault <i class="icon-
heart" aria-hidden="true"></i></h2>
                        <p>By putting people in need of blood in direct
contact with blood donors, we are able to solve the problem of unexpected
blood shortages.</p>
                    </div>
                </div>
                <div class="col-md">
                    <div class="ftco-footer-widget mb-4 ml-5">
                        <h2 class="ftco-heading-2">Quick Links</h2>
                        <ul class="list-unstyled">
                            <li><a href="index.html" class="py-2 d-
block">Home</a></li>
                            <li><a href="about.html" class="py-2 d-
block">About</a></li>

                            <li><a href="contact_us.php" class="py-2 d-
block">Contact</a></li>

                        </ul>
                    </div>
                </div>
                <div class="col-md">
                    <div class="ftco-footer-widget mb-4">
                        <h2 class="ftco-heading-2">Contact Information</h2>
                        <ul class="list-unstyled">
                            <li><a href="#" class="py-2 d-block">VIT, Vellore,
India.</a></li>
```

```
                            <li><a href="#" class="py-2 d-block">+ 9999 9999
99</a></li>
                            <li><a href="#" class="py-2 d-
block">donate@nonprofit.com</a></li>
                            <li><a href="#" class="py-2 d-
block">bloodbank.com</a></li>
                        </ul>
                    </div>
                </div>
                <div class="col-md">
                    <div class="ftco-footer-widget mb-4">
                        <ul class="ftco-footer-social list-unstyled float-md-
left float-lft">
                            <li class="ftco-animate"><a
href="https://twitter.com/bloodaid"><span class="icon-
twitter"></span></a></li>
                            <li class="ftco-animate"><a
href="https://www.facebook.com/help/contact/579287765983263"><span
class="icon-facebook"></span></a></li>
                            <li class="ftco-animate"><a
href="https://www.instagram.com/indiablooddonation/?hl=en"><span class="icon-
instagram"></span></a></li>
                        </ul>
                    </div>
                </div>
            </div>
            <div class="row">
                <div class="col-md-12 text-center">


                </div>
            </div>
        </div>
    </footer>

    <div id="ftco-loader" class="show fullscreen"><svg class="circular"
width="48px" height="48px">
      <circle class="path-bg" cx="24" cy="24" r="22" fill="none" stroke-
width="4" stroke="#eeeeee" />
      <circle class="path" cx="24" cy="24" r="22" fill="none" stroke-width="4"
stroke-miterlimit="10"
        stroke="#F96D00" /></svg></div>


    <script src="js/jquery.min.js"></script>
    <script src="js/jquery-migrate-3.0.1.min.js"></script>
    <script src="js/popper.min.js"></script>
    <script src="js/bootstrap.min.js"></script>
    <script src="js/jquery.easing.1.3.js"></script>
```

```
    <script src="js/jquery.waypoints.min.js"></script>
    <script src="js/jquery.stellar.min.js"></script>
    <script src="js/owl.carousel.min.js"></script>
    <script src="js/jquery.magnific-popup.min.js"></script>
    <script src="js/aos.js"></script>
    <script src="js/jquery.animateNumber.min.js"></script>
    <script src="js/bootstrap-datepicker.js"></script>
    <script src="js/jquery.timepicker.min.js"></script>
    <script src="js/particles.min.js"></script>
    <script src="js/particle.js"></script>
    <script src="js/scrollax.min.js"></script>
    <script
src="https://maps.googleapis.com/maps/api/js?key=AIzaSyBVWaKrjvy3MaE7SQ74_uJiU
Lgl1JY0H2s&sensor=false"></script>
    <script src="js/google-map.js"></script>
    <script src="js/main.js"></script>

</body>

</html>
```

Full code uploaded on Github:

https://github.com/JayakumarClassroom/FS22-23_IWP_B2-20BCE2119/tree/main/Project/Review%20-%203