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"ORGAN DONATION DATABASE"

Mini project report submitted in partial fulfilment of curriculum prescribed for the Database Management Systems (20CS510) course for the award of the degree of

Bachelor of Engineering

In

Computer Science and Engineering

By

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This is to certify that the work entitled " ***ORGAN DONATION DATABASE*** " is a bonafide work carried out by **"Chandana M J , Jahnavi B S, Sinchana M P, Yashaswini K S, Lekhana A L,Monika N S"** in partial fulfilment of the award of the degree of Bachelor of Engineering in Computer Science and Engineering of JSS Science and Technology, Mysore during the year 2023. It is certified that all corrections/suggestions indicated during CIE have been incorporated in the report. The mini project report has been approved as it satisfies the academic requirements in respect of mini project work prescribed for the Database management systems (20CS510) course.

Course in Charge and Guided
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Place: Mysuru Date:23/12/2023

ABSTRACT:

The Online Organ Donation Management System is developed by keeping in mind that it should be more beneficial for hospitals, clinics and other health centers to govern the donor registration and user maintenance. It is an online web-based system which can only be insinuate in all over India.The organ management data system offers functionalities to quick access to donor records collected from various parts of the country. In the other kinds of donations, it mainly collects the donations of the donors and deliver them to the respective organizations and provide the information to the respective doctors of that organization to maintain transparency. To manage the donor registration and user maintenance. People who interested can register themselves through this system. Organ transplantation is the only way of giving the gift of life to the patients with organ failure; however, the inadequate supply of organs, especially from deceased donors, has created a wide gap between organ supply and organ demand. Many organs from deceased donors are still not being used worldwide because of lack of information, education, and social system. Effective systems such as opt-out, donation after circulatory death, and donor action programs are needed to promote deceased donations. Counseling on organ donations must be an essential step of families of brain-dead patients. Standard practice should include that physicians call an Organ Procurement Organization coordinator before meeting with the families of potential donors. Tight screening for potential organ donor in intensive care unit, decoupling, and professional counseling are key components. The authorities have to consider the establishment of an opt-out system, and social systemic efforts are needed. Keywords: Organ Donation, Deceased Donor, Promotion, Donor, Transparency, Transplantable Organs.this system also has been tested and evaluated in real life. This Online Organ Donation Management System will help to improve the performance of current situation and overcome the problems that arise nowadays.

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INTRODUCTION:

An Organ Donation Database Management System and its associated website play a crucial role in efficiently managing and facilitating the organ donation process. This integrated system brings together technology, data management, and user interface to streamline the complexities associated with organ transplantation.Organ Donation Database Management System and Website—a cutting-edge platform designed to revolutionize the organ donation process and enhance the accessibility of life-saving transplants. At the intersection of technology and compassion, our system serves as a comprehensive solution to bridge the gap between donors, recipients, and healthcare professionals.

Key Features:

- **Centralized Database:** Our system maintains a secure and centralized repository of donor and recipient information, ensuring accurate and up-to-date records. This centralized database facilitates quick and efficient matching of donors with recipients based on compatibility factors.
- **User-Friendly Interface:** The website provides an intuitive and user-friendly interface for donors, recipients, and healthcare providers. Easy navigation and clear workflows ensure a seamless experience, whether you're registering as a donor, searching for a match, or managing patient records.
- **Secure Data Management:** We prioritize the confidentiality and security of sensitive health information. Robust encryption protocols and stringent access controls safeguard the integrity of the data, adhering to the highest standards of healthcare data management.
- **Real-time Matching Algorithms:** Our advanced matching algorithms analyze donor-recipient compatibility factors in real-time, expediting the matching process. This ensures that potential organ matches are identified swiftly, maximizing the chances of successful transplants.
- **Communication Platform:** The system includes a communication platform that enables secure and efficient communication between donors, recipients, and healthcare professionals. Timely notifications, updates, and alerts keep all stakeholders informed throughout the organ donation journey.
- **Educational Resources:** The website serves as an educational hub, providing valuable information about organ donation, transplantation procedures, and the importance of registration. We aim to raise awareness and dispel myths surrounding organ donation.

LITERATURE REVIEW:

Our project is mainly focused to provide the services to the needy through a single submission and make the donation process easy. In this donation the donor can easily reach the needy through the consent of the admin.In the other kinds of donations, it mainly collects the donations of the donors and deliver them to the respective organizations and provide the information to the respective doctors of that organization to maintain transparency. To manage the donor registration and user maintenance. People who interested can register themselves through this system. The main aim is collecting the donations and transporting them to the respective organizations and also deliver the information to the doctors of that organization. Organ donation is steadily catching up in the Indianstates such as Tamil Nadu, Telangana, Andhra Pradesh, and Kerala. On the bounds of Tamil Nadu Government, Kerala also launched its corpse organ donation program, the Kerala Network for Organ Sharing – popularly called as Mritasanjeevani, a Kerala Government initiative started on 12 August, 2012, for Kerala's Reduce Donor Organ Transplantation Event. Under the program, Kerala has achieved a lot in improving its cadaveric organ donation rate through years.

- Smart Blood banks central distribution system in arab continent saudia Arabia, There is online system having aim for setting up the blood branch in every region of saudia arabia and will check the require amount of blood in each categories, their expiration date and preserving time. To control they have linked everything online like blood bank hospital. What they have done is basically They are running this system with the linear digital algorithm which are computed for the mandate fraction of blood units. Target of this system is to estimate how to take use of blood before its expiration from blood bank and reduce the blood shortage . However there is some limits. They mostly aligned on hospital and blood bank.and drawback is that among donor and hospitals there is no interaction.
- For medical record there is model development for android' based In a very normal way, the medical system do or maintains records and do track or perform the activities mostly on hand written on paper based work. which shows or have much drawbacks. in a current scenario is the healthcare and medical industries can be greatly get help and improved by the application which are emerging trend from information technology and digital generation. For maintaining all the medical record and doing all medical related activities will provide advantage like big storage space(cloud computing), realtime management and etc they have developed online system. it can also improve the quality of system in incredible way. MySQL database has been implemented in a backend. In their assessment which they record every year the improvements Which shows an 75%.
- The design for Integrating health service After having the new technology like 4g and 5g there is less communication and can be see nas most significant problem due to this healthcare system and medical bodies are facing problem like work load and Delay in service.

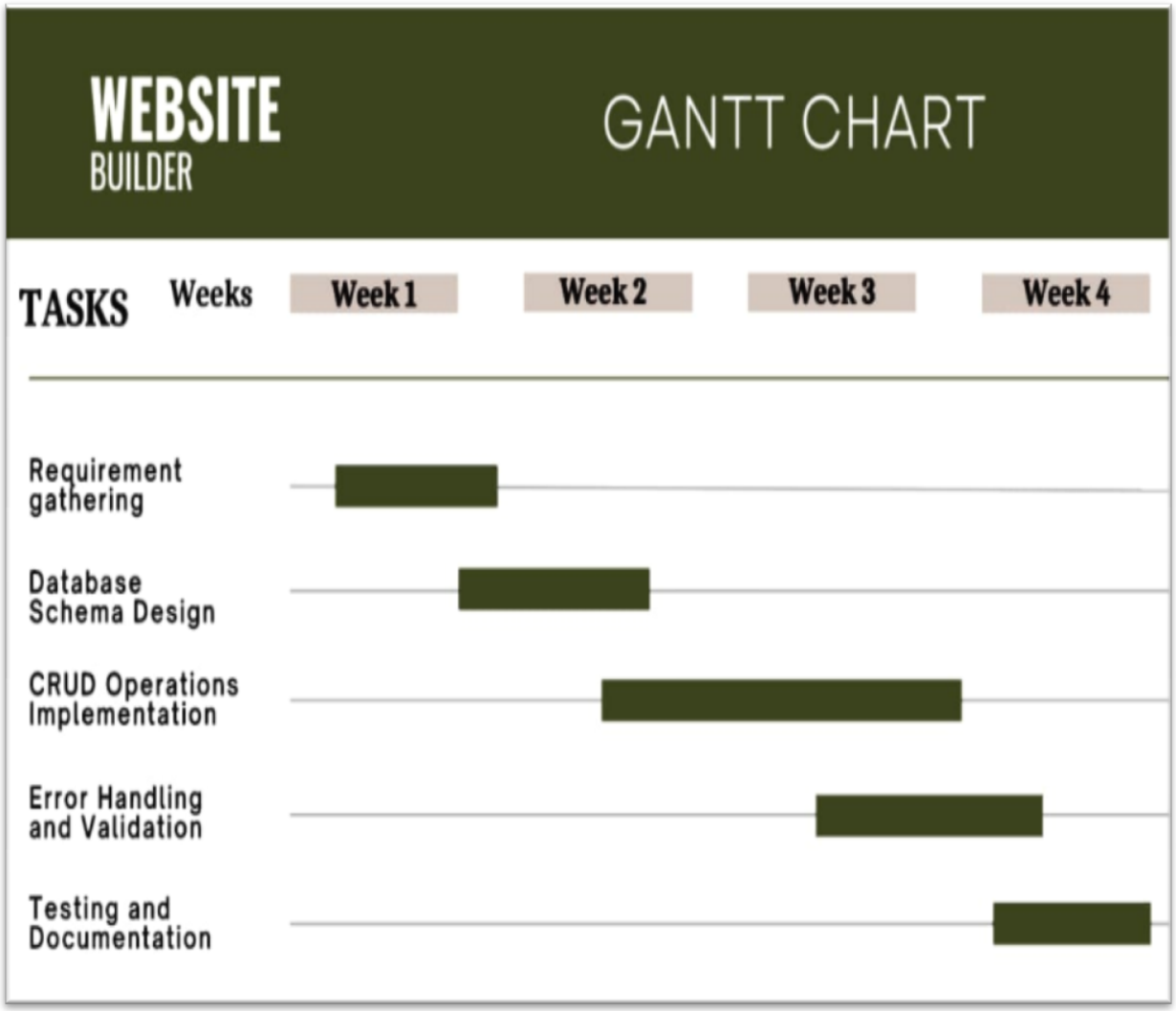
In today world if there is not good interaction between medical staff and service like distribution of medical report among them, then it is making risk to many thing which need to maintain in a worst case state, it can also take down the medical system into worthless state. solution of representative state transfer architecture and [HL7] standard have been setup for speeding server speed and advancement in communication among healthcare system.

PROPOSED WORK:

Our plan is to create a website to make this project run smoothly. We have created a website using HTML,CSS platform as a user interface to provide and collect data from user.This website can access admin and user log in according to need. For the purpose of storing data we have used MySQL as backend and also used PHP to connect the database to frontend. The patient's profile or data is managed by the admin and only admin has access to view data of any donor or patient who have registered themselves. The patient registration should mandatorily be done via admin which requires doctor or hospital consent. Any number of donors can register themselves for donating organ. Website is needed to be organized regularly.

organizations and also provides the information to the volunteers of that organization to maintain transparency. Moreover, the system could be designed in such a way to exchange information with the other tools and take into account their results, producing a result which is already suitable under the three points of opinion. Even in the case of multiple organs to be assigned, the process would turn out to be more efficient, since different software tools could work in parallel substituting human beings and producing results with less cost in term of human resources involved.

PLANNING:


WEBSITE
BUILDER
GANTT CHART
TASKS
Weeks
Week 1
Week 2
Week 3
Week 4
Requirement gathering
Database Schema Design
CRUD Operations Implementation
Error Handling and Validation
Testing and Documentation

SOFTWARE REQUIREMENTS:

- ***Database Management System*:**
  - MySQL (using MySQL Workbench for design and management).
- ***Programming Language:***
  - PHP for server-side scripting to connect the database with the frontend.
- ***Web Development:***
  - HTML, CSS, and JavaScript for frontend development.
- ***Web Development Framework:***
  - PHP and JavaScript are used for backend logic.
- ***Frontend Technologies:***
  - HTML, CSS, and JavaScript for creating the user interface.
- ***Integrated Development Environment (IDE):***
  - MySQL Workbench for database design and management.
  - Text editor or IDE for PHP(MyAdminPHP), HTML, CSS, and JavaScript.

HARDWARE REQUIREMENTS:

- ***Database Server:***
  - Purpose: Store and manage organ donation database.
  - pecifications: RAM(4GB or more), CPU, and storage based on data volume, concurrent users, and performance needs(windows 10 or more). Consider high-speed storage for efficient data retrieval.
- ***Web Server :***
  - Purpose: Serve web-based interfaces for user interaction.
  - Specifications: Deploy a robust web server with optimized resource allocation. Scale resources based on anticipated web traffic.
- ***Client Devices:***
  - Purpose: Run the web application's frontend on desktops or laptops.
  - Minimum Requirements:browser compatibility (e.g., Chrome, Firefox) and hardware requirements, ensuring smooth user experience. Consider responsive design for various screen sizes.
- ***Networking:***

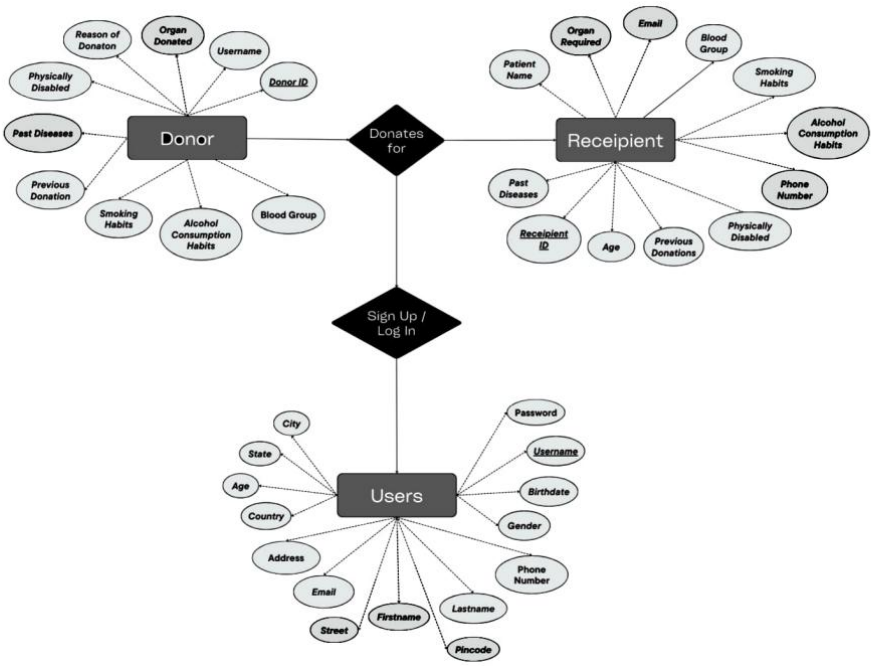
  Purpose: Facilitate communication between client devices, application server, and database server.

Requirements: A reliable network infrastructure with sufficient bandwidth. security measures to protect data during transmission.

- ***Backup and Recovery System:***
    - Purpose: Ensure data integrity and availability through regular backups.
    - Implementation: A comprehensive backup and recovery system for both application and database data. Schedule regular backups and test the recovery process to guarantee reliability.

DESIGN:

-: *ER Diagram* :-



-: ***Schema Diagram*** :-

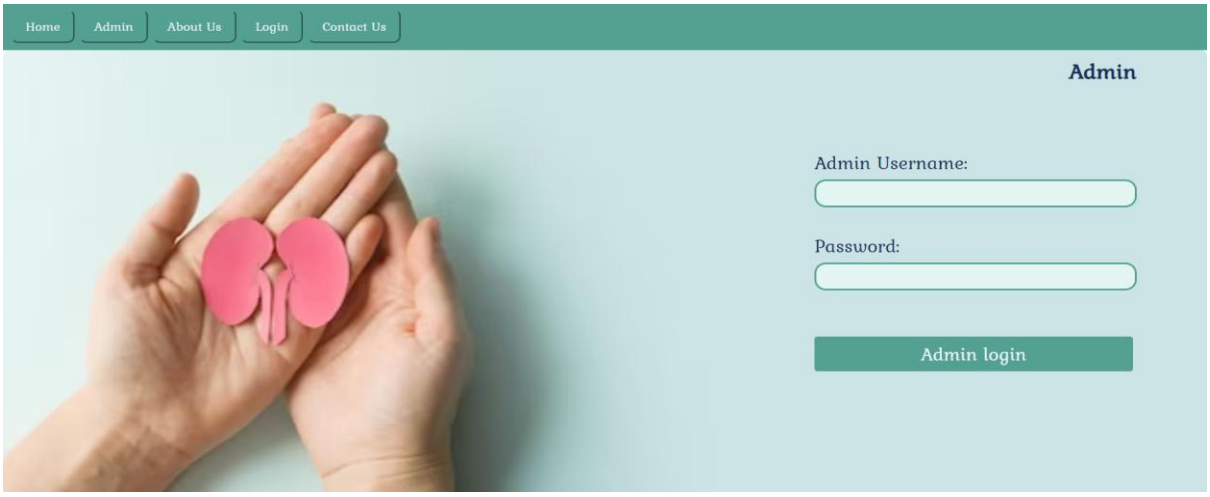
Donor ID	Username	Organ Donated	Reason of Donaton	Past Diseases	Previous Donation	Physically Disabled	Smoking Habits	Alcohol Consumption Habits	Blood Group

Receipient ID	Patient Name	Age	Blood Group	Organ Required	Past Diseases	Previous Donations	Physically Disabled	Smoking Habits	Alcohol Consumption Habits	Email	Phone Number

Firstname	Lastname	Gender	Birthdate	Age	Email	Username	Phone Number	Country	State	City	Street	Pincode	Password

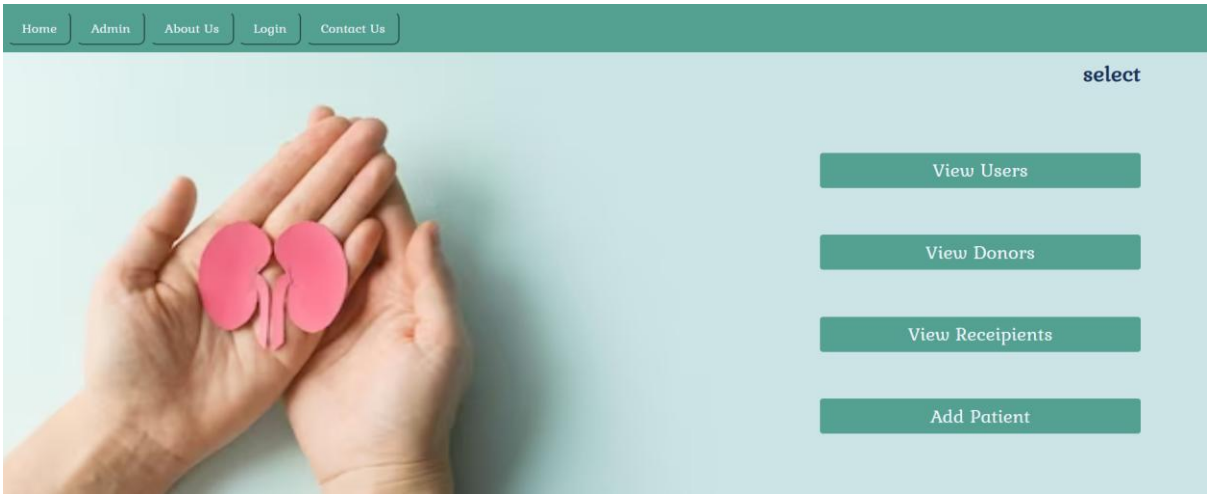
IMPLEMENTATION:

About us:



Admin Login:

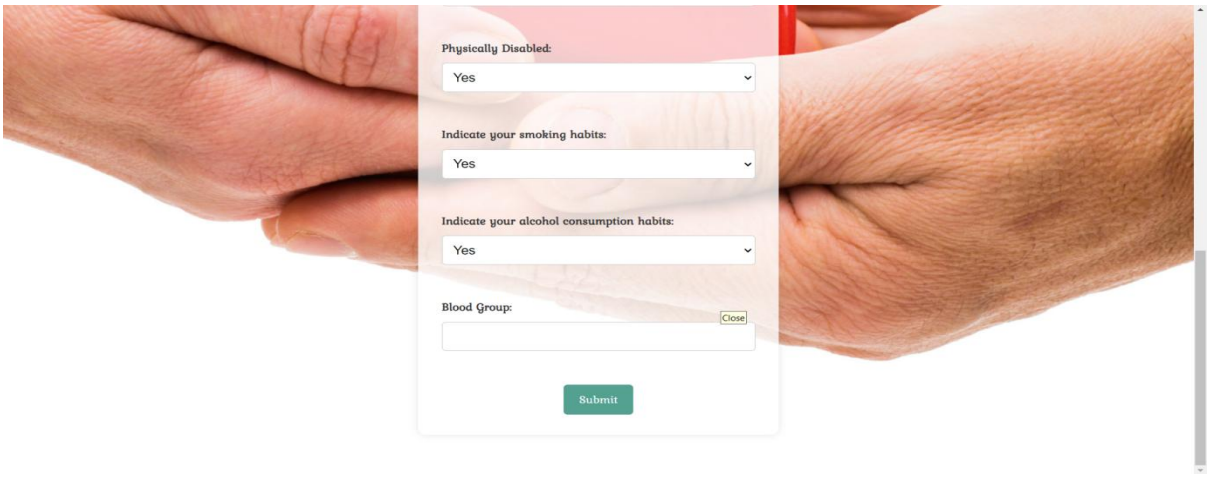
Admin Options:



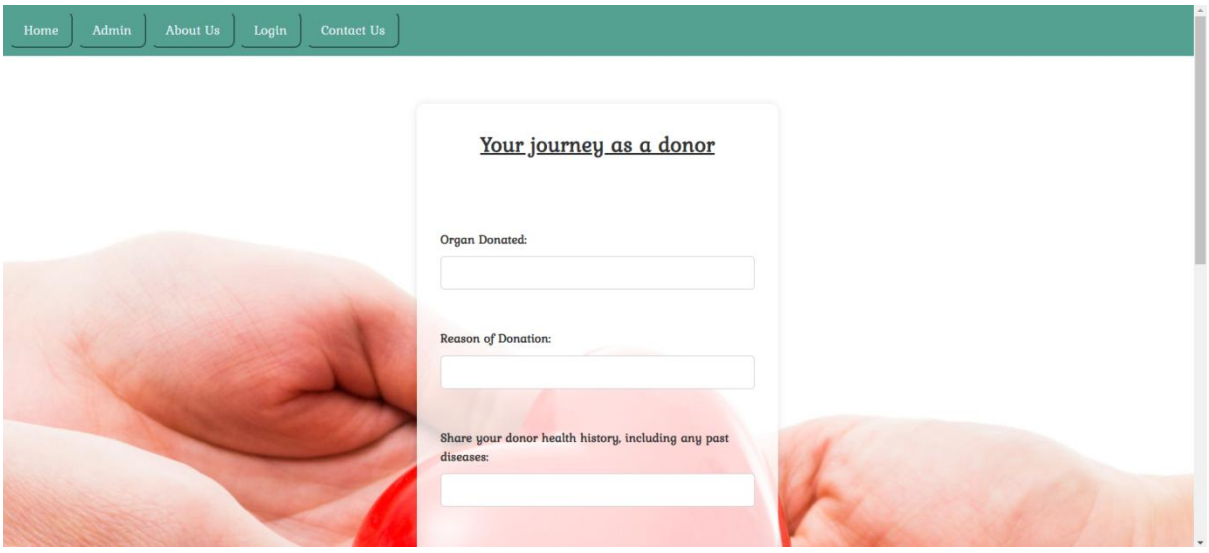
Contact Us:

Donar Details View:

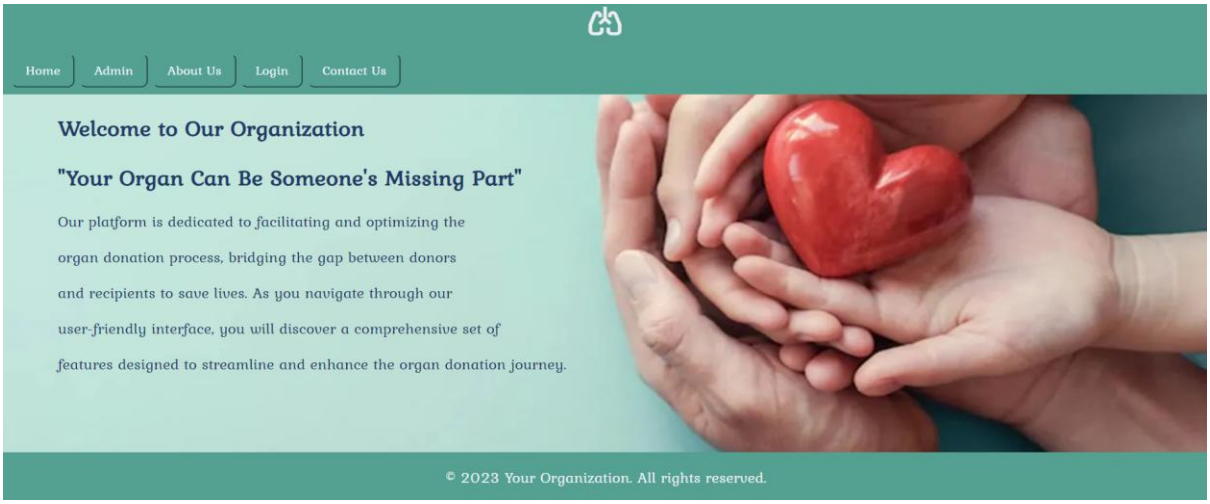
Donar Register1:



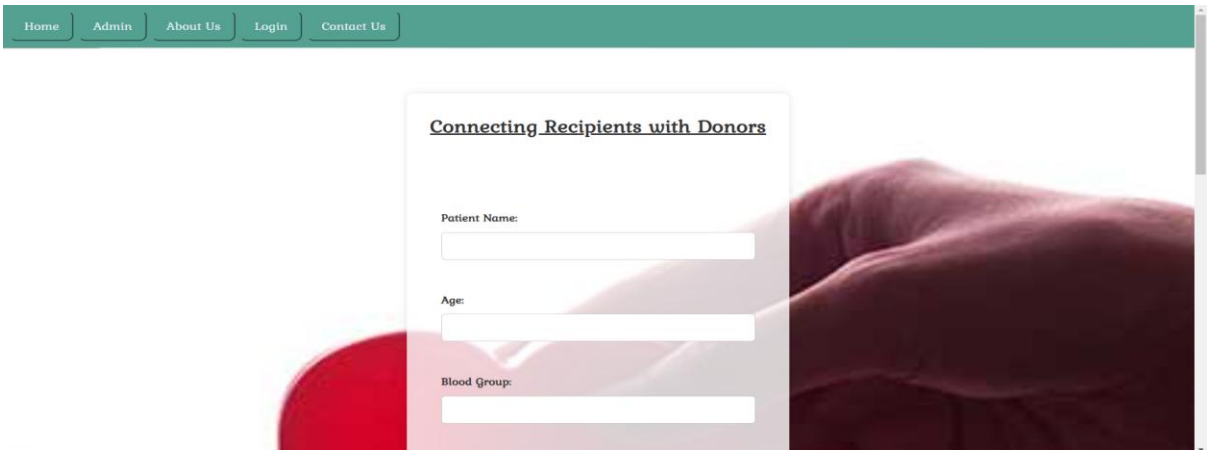
Donar Register2:



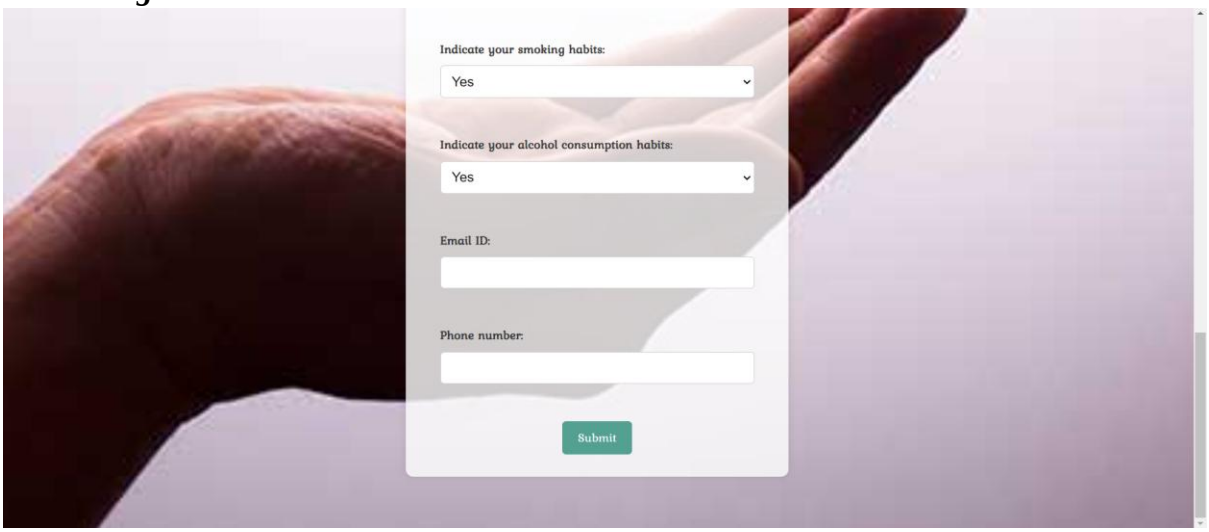
Home:



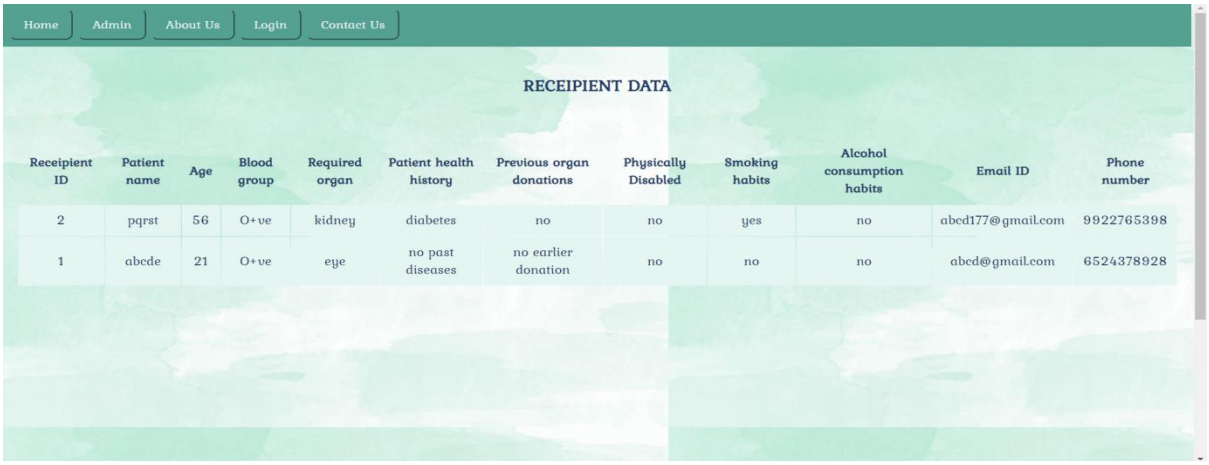
Patient Register 2:



Patient Register 2:



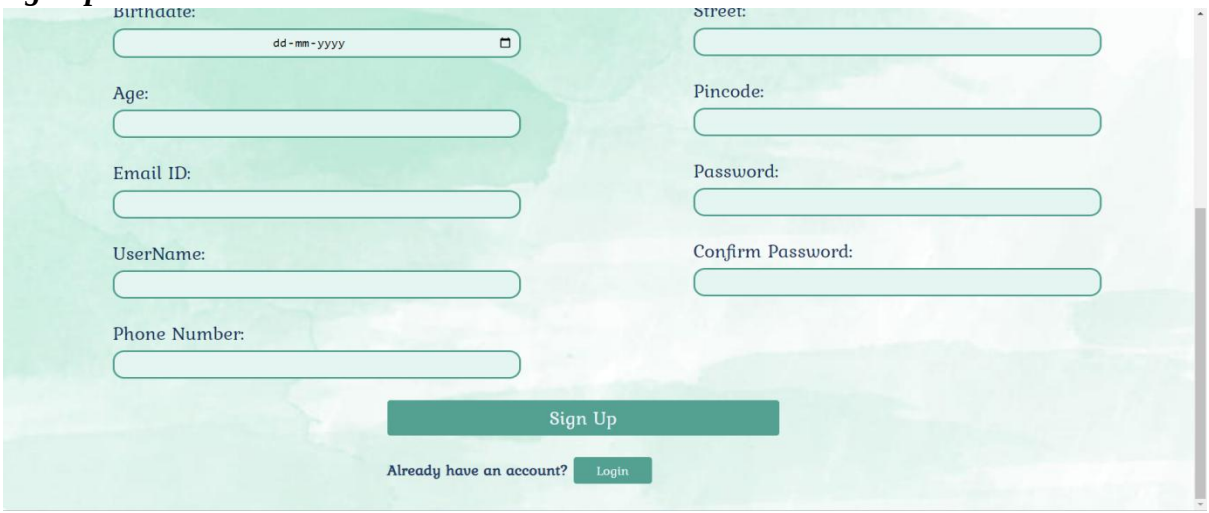
Recepients Details View:



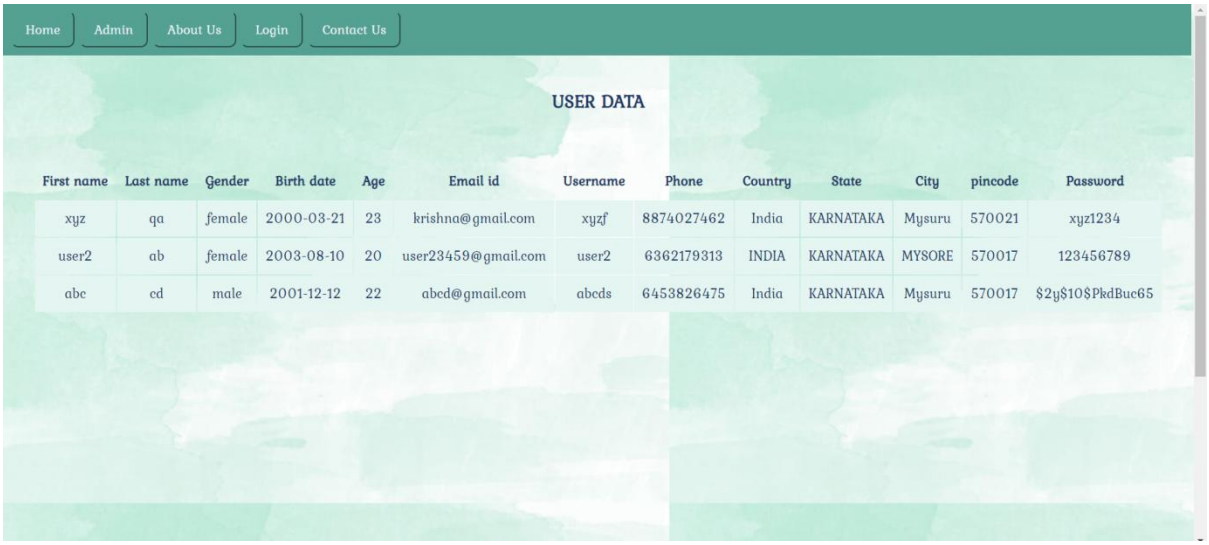
Receipient ID	Patient name	Age	Blood group	Required organ	Patient health history	Previous organ donations	Physically Disabled	Smoking habits	Alcohol consumption habits	Email ID	Phone number
2	pqrst	56	O+ve	kidney	diabetes	no	no	yes	no	abcd177@gmail.com	9922765398
1	abcde	21	O+ve	eye	no past diseases	no earlier donation	no	no	no	abcd@gmail.com	6524378928

Sign up 1:

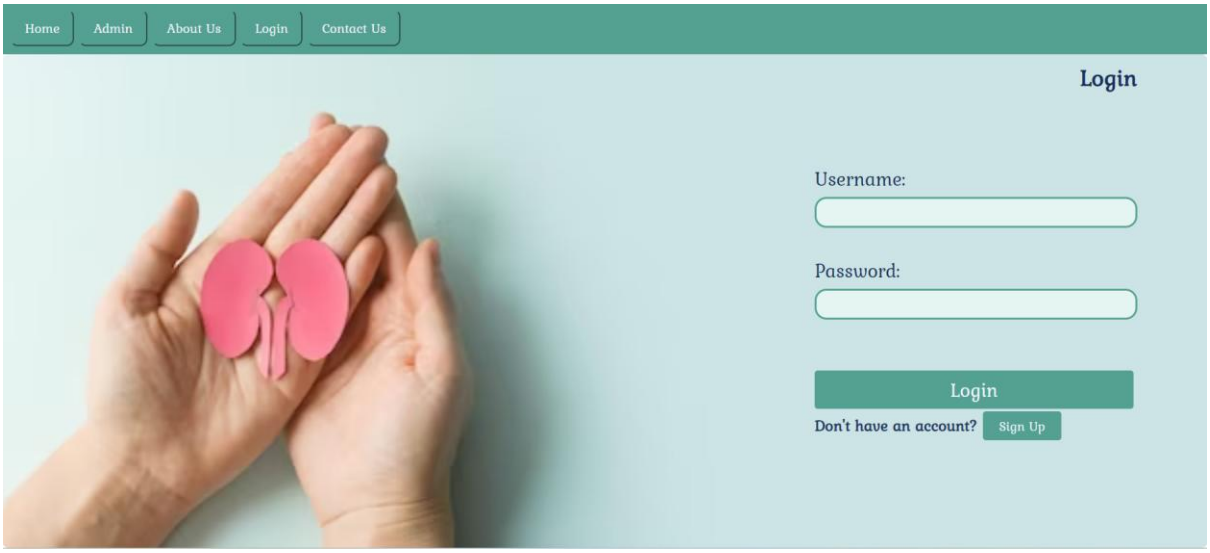
Sign up 2:



User Details View:



User Login:



TESTING:

Sl.no	Test cases	Result	Remark
1.	Verify that users can successfully register as donors or recipients.	Yes	Users can login through username and password
2.	Confirm that user authentication works correctly, and only registered users can access their profiles.	yes	The signup is provided and only signed up users can log in
3.	Ensure that donors can input and update their personal and medical information.	yes	Donors can input their data
4.	Validate that the system properly stores and retrieves donor data from the database.	yes	The database is managed through php can successfully retrieve data
5.	Test the matching algorithm by creating various test scenarios with different compatibility factors (e.g., blood type, tissue match).	no	The further work must be carried out by hospital
6.	Verify that the system accurately identifies potential organ matches in real-time.	no	The further work must be carried out by hospital
7.	Confirm that the communication platform allows secure and timely messaging between donors, recipients, and healthcare professionals.	yes	There is provision to contact organization for queries
8.	Test notifications and alerts to ensure they are delivered promptly.	yes	The alert messages and error messages are provided in case of illegal actions
9.	Attempt unauthorized access to donor or recipient data to verify that security measures are in place.	yes	The verification is done
10.	Ensure that sensitive information, such as medical records, is encrypted and protected.	yes	The information is encrypted and can only be accessed by admin

11.	Validate that the website has a user-friendly interface for easy navigation.	yes	Yes the website is user friendly
12.	Check the responsiveness of the website on different devices and browsers.	yes	The website is responsive for submissions and alerts
13.	Verify that educational materials, such as articles or videos, are accessible and display correctly.	no	No such information is there
14.	Confirm that links to external resources are functional.	yes	Yes the contacting link available
15.	Test the tracking mechanism to ensure users can monitor the progress of the organ donation process.	no	Users cannot monitor the entire process
16.	Confirm that all relevant steps in the process are recorded accurately.	yes	Yes it is recorded by admin
17.	Assess the system's performance by simulating a large number of users accessing the platform simultaneously.	yes	Yes it can bear large number of users
18.	Check the response time of critical functions, such as matching and communication.	yes	The delay is less
19.	Verify that the system regularly backs up data and that the backup can be successfully restored.	yes	There is provision for backup
20.	Test the recovery process in the event of a system failure or data corruption.	yes	The system can recover up to some extent

ADVANTAGES:

1. ***Convenience and Accessibility:*** Easy giving from anywhere, boosting participation and eliminating the need for physical visits.
2. ***Global Reach:*** Supports causes worldwide, fostering global awareness and connectedness.
3. ***Efficiency and Speed:*** Rapid processing ensures quick contributions, crucial in emergencies.
4. ***Lower Overheads:*** Reduces administrative costs, directing more funds to the cause.
5. ***Data Analytics and Engagement:*** Provides insights to enhance donor engagement and improve fundraising.
6. ***Convenience:*** Easily discover and engage with online fundraising platforms.

DISADVANTAGES:

1. ***Security Concerns:*** Potential risks in online transactions may raise donor hesitation.

2. ***Transaction Fees:*** Some platforms charge fees, impacting funds reaching beneficiaries.

3. ***Digital Divide:*** Unequal internet access limits inclusivity in online giving.

4. ***Lack of Personal Connection:*** Online interactions may lack the personal touch, affecting emotional connection.

5. ***Potential for Fraud:*** Risks of fraudulent activities emphasize the need for recipient verification.

APPLICATONS:

- ***Nonprofit Organizations:*** Online donation systems are extensively used by nonprofit organizations, charities, and NGOs to gather funds for their causes and initiatives.
- ***Crowdfunding Campaigns:*** Individuals and groups running crowdfunding campaigns for personal or community projects rely on online donation platforms to collect financial support from a wide audience.
- ***Healthcare and Medical Expenses:*** Online donation systems provide a crucial avenue for individuals facing medical emergencies or requiring financial assistance for healthcare to seek support from a broader community.
- ***Disaster Relief:*** During natural disasters or emergencies, relief organizations leverage online donation systems to quickly gather funds for immediate assistance and recovery efforts.

CONCLUSION:

In conclusion, charitable donations online have transformed the landscape of contribution by providing unmatchable convenience, global reach, and data-driven insights. However, they also bring forth challenges related to security, transaction fees, inclusivity, and personal connection.

To harness the benefits of online donations while reducing the drawbacks, it's essential for both donors and charitable organizations to exercise caution, prioritize security measures, and maintain transparency in their operations. The evolving digital landscape requires a balance between technological advancements and upholding the core principles of ethical and effective philanthropy.

REFERENCES:

1. https://www.bing.com.
2. https://Wikipedia.
3. https://www.organindia.org.
4. https://www.genesis-foundation.net.
5. https://www.slideshare.net
6. https://www.researchgate.net
7. https://ijirt.org
8. https://www.studocu.com
9. https://www.irjmets.com