

# Project Report

**Title:-** Organ Donation System: 'Saving Lives Together

**Abstract:-** The organ donation system aims to save and improve the lives of individuals with end-stage organ failure by facilitating the selfless act of organ donation and transplantation of organs, ensuring equitable access to organs, and providing ongoing support to donors and recipients.

## **Methodology:-**

- We have divided the project into three section
  1. Administration-Have rights to access the donor's list and receivers list and to view matched donor and receiver details  
Only the admin will be able to see matched donors and receivers as we aim to keep confidentiality alive in the process.
  2. Receiver-Have rights to fill the form
  3. Donor-Have rights to fill out the form
- Organs can be donated or requested:
  1. Eye
  2. Liver
  3. Lungs
  4. Heart
  5. Kidney
- Donors and receivers should belong to the below-mentioned addresses:
  1. Deccan Gymkhana
  2. Sasson Road
  3. Nagar Road
  4. Shivaji Nagar
  5. Sangamwadi
  6. Chinchwad
  7. Kothrud

Transplantation center-

1. Kothrud
  2. Sangamwadi
  3. Sassoon Road
- Criteria to find an appropriate donor for receiver:

Eye	Kidney	Heart	Lungs	Liver
1. Blood group 2. BMI<30 3.Age:2-74 years 4.No diabetes	1. Blood group 2. BMI<35 3.Age:18-65 years 4.No diabetes 5.No smoking	1. Blood group 2. BMI<30 3.Age:15-50 years 4.No diabetes 5.No smoking 6. At least 3 HLA factors should match the donor	1. Blood group 2. BMI<30 3.Age:15-50 years 4.No diabetes 5.No smoking 6. At least 3 HLA factors should match with a donor	1. Blood group 2. BMI<30 3. Age<70 years 4.No diabetes 5.No smoking 6. At least 3 HLA factors should match the donor

- After satisfying all the above criteria for each organ, we will search for the nearest transplantation center using **Dijkstra's algorithm**.

### **Validations:-**

- Mobile numbers should be ten digits only.
- Only valid blood groups will be accepted.
- Login credentials for admin should match.
- The wrong organ name will not be accepted.

### **Data Structures used:-**

Linked List, ArrayList, HashMap, Stack, Priority queue, Graph

**Team:- 'Tech Titans'**

**Team Members:-**

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