TO DEVELOP AN APPLICATION TO FACILITATE REGISTRATION AND NOTIFICATION FOR ORGAN DONATION PROCESS

Transplant your absence to the presence

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Abstract

With the increasing popularity of Organ donation, there are 122,581 people need a lifesaving organ transplant (total waiting list candidates) of those, 78,984 people are active waiting list candidates and 15,083 transplants are performed. As of there are only 7,323 donors donated organs this year between January - June 2015[1]. Although there are valid registered donors who are willing to donate but because of lack of awareness in relatives they can't donate. Therefore, it is important and necessary to bring awareness of Organ Donation among people.

Despite significant medical improvement and increased awareness of organ donation, the gap between the number of patients waiting for transplantation and the number of donors widens day by day all over the world [2]. Yet, public views on organ donation are not well understood. Therefore, to address this problem, we aim to propose a system which will bring the awareness in people and make the organ donation process simpler.

The system will take the registrations of hospitals having transplant facilities and willing donor through Aadhaar card number. After death of registered donor, system will notify the registered hospitals and relatives of donors. While registering for the death certificate through Aadhaar card number, the system will analyze its location and send the nearby hospitals to the donor's relative. This would help to spread positive attitudes toward organ donation and transplantation in the society.

Keywords: Organ donation, Aadhaar card number, notification.

I. INTRODUCTION

Organ donation is the process of removing tissues or organs from a live, or recently dead, person called donor to be used in another live person called recipient. Different organs such as heart, liver, kidneys, lung, pancreas and tissues such as corneas and bone marrow can now be successfully transplanted into patients, who can then expect to survive for years or even decades.
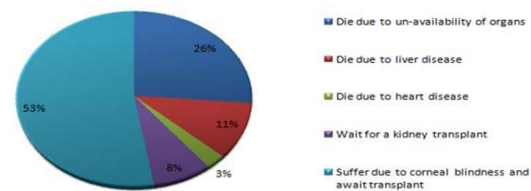
A. Statistics of Organ Donation in India

26%
53%
11%
8%
3%

- Die due to un-availability of organs
- Die due to liver disease
- Die due to heart disease
- Wait for a kidney transplant
- Suffer due to corneal blindness and await transplant

Figure-1: Statistics of organ donation in India[1]

B. Organ Shortage Reasons

Family consent and negative attitude contribute towards organ shortage. This could be due to the following reasons:

1. Religion
2. Fear, ignorance and misunderstanding
3. Legal aspects
4. Media reports on scandals involving organ rackets

Since there are above reasons of organ shortage we intend to build an organ donation system which will have a facility of registering as an organ donor. The system will not only have just information and registrations but our main aim is to send notification after occurrence of death of valid donor and bridge the gap between processes.

The system will notify the registered hospital coordinators according to the nearby location of death of a donor.

Thus the system will bring the awareness and also it will be used for the simplifying the process of organ donation.

C. Purpose

In India there are valid registered donors who are willing to donate but because of lack of family consent they can't donate. Therefore, it is important and necessary to bring awareness of organ donation among people.

D. Objective

Our main objective of system is to simplify the process of organ donation and give a platform to registered donors who are unconcern.

II. LITERATURE SURVEY

Despite advances in medicines and technology, and increased awareness of organ donation and transplantation, the gap between supply and demand continues to widen [2]. The number of people on the national waiting list continues to grow, while rates of donation and transplant stagnate. There is ample of information of the organ donation process available on the internet but still to find real life problems in organ donation and the actual process happens in Pune, India we did survey by visiting some Government and Private hospitals.

As we have visited Government and Private hospitals regarding organ donation process and complexities occurring in it, we recognized that the Zonal Transplant Coordination Centre (ZTCC) is an institute by Government of Maharashtra for equitable allocation for deceased donor (Cadaveric) organs in Pune region since 2002[4]. Different organizations are working mostly on deceased donor (brain dead) organ transplant. We intend to bridge the gap between donor and patient in need of organ transplantation, where our system will have an important role to identify the valid donors even after natural death.

A. Visited Hospitals

Date	Hospital	ZTCC* Coordinator
21/08/15	Deenanath Mangeshkar (private)	Dr. Shilpa Barve
04/09/15	Sassoon (Government)	Dr. Aarati Gokhale
07/09/15	KEM (Government)	Dr. Rohini Sahastrabudhe

Table-1 : Visited hospitals

B. Existing Systems

1. Mohan Foundation

Mohan foundation is an organization started to promote organ donation in Chennai. Its mission is to ensure that every Indian who is suffering from end stage organ failure be provided with the 'gift of life' through a life-saving organ.

2. Shatayu - A Gift of Life

Shatayu's mission is to give light to the importance of organ donation & transplantation and issues related to same wherein it offers direct education and supports research efforts to enhance the available supply.

III. FUNCTIONAL SPECIFICATION

1. The system will contain Aadhaar data set, which will be used to fetch the details of the donor while registration, so as to fill in very less details.
2. On the basis of donor registration, donors list will be generated.
3. Hospital having transplantation facilities will register into system and show the availability for accepting the organs after the death of the donor.
4. After the donor's death, authorized person or doctor has to upload the death certificate into the EVA system.

A. Benefiters

1. A common man who is willing to donate(donor) and his/her family.
2. Recipients registered with Hospitals.
3. The organizations which are working on organ donation can use it for better communication.
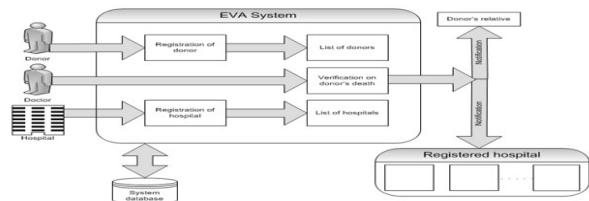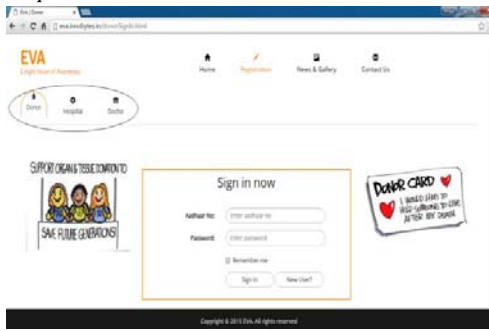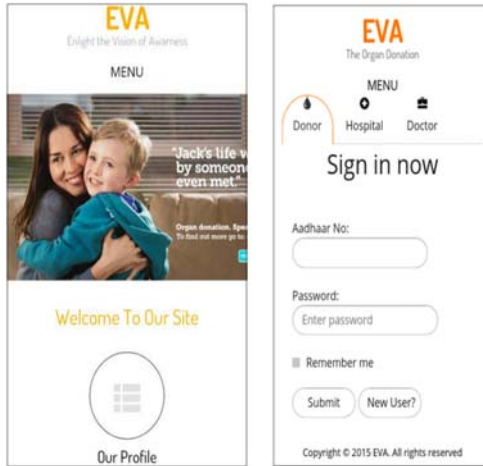
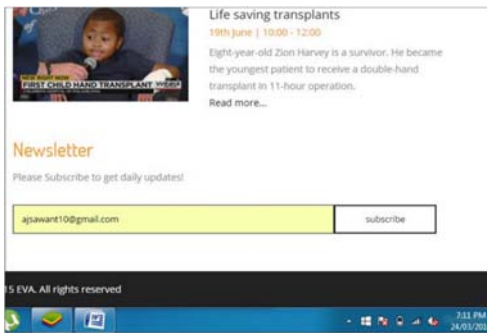## IV. METHODOLOGY

A. Block diagram

Figure-2: Block diagram

B Proposed

Figure 3: We registration pag

Figure 4: Application home & registration pag

Figure 5: Notification

C. Proposed outcomes

1. Notification should go to donor's relative and nearby hospitals after the death of the donor.
2. Time required for sending notification should be less.
3. Locate nearby hospitals.

4. Send periodic notification to registered donors for blood donation.

D. Comparison of Existing systems with EVA

Characteristics	Mohan Foundation	Shatayu	EVA
Basic Functionality	Registration for donor	Registration for donor	1.Registration for donor and hospital 2. Sending notification after donor's death 3. Sending Periodic notification to registered donors
Carry donor card	Always	Always	No need
Users	Donor	Donor	1. Donor 2. Hospital 3. Doctor/ Authorized Person

Table-2 : Comparison of Existing systems with EVA

V. CONCLUSION

Currently there are existing systems which are working only on registration of organ donation process.

There is no such system which bridges the gap between registered donor and recognized hospitals after the death of a donor.

Therefore EVA aims to fill this gap.

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