

Organ Donation Using Salesforce

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Abstract - Health-Care is an important aspect of human life. Doctors and medical professionals spend their whole life trying to save one's life. But sometimes they are unable to do so because a particular organ or a tissue is damaged. The only option to save such patient is organ donation. (But sometimes patients have to face death because of unavailability of organ). A mind-blowing example would be that in 2017, approximately 50000 heart transplants were required but only 339 were donated. With this project we will be trying to bridge the gap between the donors and needy patients by providing a platform to ease the process. This project will be based on Salesforce. It will be used right from gathering of data (i.e. list of hospitals, receivers, donors, etc.) to search for a specific organ for a patient in need. This will work on three forefronts, first, Donor side, where interested people can pledge to donate their body organs. Second, will be Hospitals and organ banks that will be the contact points for a patient, or a person in need of donation. And the third will be the Administrator, who will be managing the Salesforce platform. When the request is raised for an organ then the proposed system will search for a match in the database according to geographical condition and accessibility then the request is responded with proper details. The details would be dynamic; so as to facilitate easy search, but a complete care of privacy would be taken. Every donor and recipient will be anonymous, except on a need to know basis.

Key Words - Salesforce, Community Cloud, Object, LWC, Apex Trigger.

1. INTRODUCTION

1.1 Background

Our history has witnessed the very first ever living human organ transplant in year 1954, where a man donated his kidney to his own twin brother. The surgeon leading the transplant was later awarded with Noble Prize in Physiology or Medicine in 1990 for this achievement. In earlier days transplants were just experiments but now it became a routine. Now a day's there are many organization and programs supporting this with the help of different technologies. Current existing systems fail to serve an easy availability to the users including health

professional, donor and needy receiver. Also data security and integrity were compromised, but with the help of world's leading CRM platform we can solve these issues at finger tips. Salesforce is cloud based service so we may reduce the cost of infrastructure at the ground level. With the help of Salesforce Community Cloud we can develop a web site for the users whose functionality can be access by simple one click registration or login. Websites can be customized to the specific user in order to maintain data privacy.

1.2 Motivation

Organ donation is a life giving process. Organ Donation does not only give someone life but also have affects the people related to that life. Though there is huge difference between the organs available and the number of organs required. As per the analysis, only 10,000 people go under kidney transplant whereas 2 lakh remain in the waiting list, which is only 5% of required organs. 50,000 people are in waiting list for heart transplant, but in 2017, only 339 deceased heart donations were witnessed. This motivated us to go forward with working on this project.

1.3 Problem Analysis

As we all live in such an advanced and dependent technological world, and also we have witnessed how life is changing rapidly with this great enhancement, but the truth is that we still haven't found any reliable replacement for human body organs and tissues. There must be a proper storage, management and usage for the organs available in hospitals. However only this can't fulfil the need for organs as the statistics available globally shows needy patients are in 6 digit numbers and the eligible donor organs are in 3 digit numbers. Many systems have been implemented and tried out with all suitable changes needed but still can't achieve a better efficiency. On the other hand our system proposed by us will use latest technology with less human intervention and greater efficiency with maximum automation. The proposed system has three forefronts Donor/Receiver, Hospital and Organ Bank, Salesforce Administrator. The details would be dynamic; so as to facilitate easy search, but a complete care of privacy would be taken. Every

donor and recipient will be anonymous, except on a need to know basis. The system purpose will show the perfect matches for the desire patient according to the features assigned in the system which contains both medical and geographic factors so not only the accuracy is maintained but also feasibility is considered. With of the help of this approach we can maximize the rate of successful transplantation. At last considering this current scenario of pandemic we have also taken care of plasma donation. Finally user tracking can be done by automation using feedback mail, auto generated mails and events.

1.4 Objective

These are objectives of proposed system.

1. To bridge the gap between organ donors and needy people.
2. To facilitate fastest search to the desire organs
3. To track transplantation process and maintain data efficiently.
4. To provide fast and most reliable match according to the feasibility and medicals factors.

1.5 Thesis Outline

In this paper we have covered following areas as such as introduction to the system which will give brief intro to do system, motivation for the system and problem analysis. Secondly it contains the desire objective which needs to be fulfilled by the system after implementation. Later on Literature review and propose work, conclusion is being explained toughly considering all the statistics and data provided by the national governing agency for the batter functionality of the system. At last the paper is concluded in precise manner with future scope which can improve the efficiency at the great extent to save humanity at last all the references has being considered and listed.

2. LITERATURE REVIEW

2.1 Extremely Effective CRM Solution Using Salesforce (Conference: Journal of Emerging Technologies and Innovative Research Volume: Volume 1 Issue 5)

Salesforce is a great platform and, easy to use, powerful, quick as well as have good community. This paper describes the concept of cloud computing and Salesforce. Salesforce offers a conclusive concept to deliver an easy-to-use CRM Software as a service using a dynamic, scale free cloud computing approach. Salesforce is based on an excellent management, a clear company strategy as well as a business model, which uses cutting edge technology combined with a developer community and an easy-to-use platform, which is delivered in a very cost-effective

manner. So Salesforce.com is an excellent tool which can be used for customer relationship management

2.2 Life Donors: Saving Lives by Using Current Era Smart Technologies (Journal of Information & Communication Technology Vol. 9, No. 2, (Fall 2015) 55-76)

In current technological era, scientists are using smart technologies to help and improve human health care. Donors are able to use the application to specify their information and availability. On the other hand, the web-based system enables hospital management to trace possible willing registered donors along with their nearest possible locations with the help of GPS coordinates whenever needed. Life Donors system shows a significant improvement in timely blood collection especially in case of emergency by involving latest technologies. Life Donors, has significant increase in efficiency and timely blood donation which yields more than 70% over existing systems. Life Donors further will be implemented in different regions of the world to serve the humanity

2.3 Blood and Organ for Patient Using Android Application (eISSN: 2319-1163 | pISSN: 2321-7308) IJRET: International Journal of Research in Engineering and Technology 5 (05), 312, 2016.

A person can significantly help the society, by donating blood. This great cause is implemented by Blood and Organ for Patients by combination of android and website application. The website can be used for registration of hospitals, medical stores and users. Android system can help in better connection of receiver and donor, because of easy accessibility. Also the android application can be used for registration. It can be used for navigation to the nearest medical store, health facility etc. GPS can be used for further accessibility.

3. PROPOSED WORK

The proposed method is to create a system based on Salesforce, such that the plasma/organ donors and receivers can be searched and contacted in stipulated time. This system will be a comprehensive entity which will aim to manage and ease the organ donation and ensure hassle free transplantation process. The system will be used by the hospitals for easy searching of available organ with respect to the patient. The donor will be using this system to register himself for organ donation, and he will be contacted by the hospital for further checkups etc. The system will only require a

computer or mobile with active internet connection. The data will be stored within Salesforce itself.

3.1 Website and Mobile Application

The main purpose of the website or mobile application will be to provide a user friendly platform for all donors, receivers and hospitals. This will be done to facilitate easy and fast access to the system. The website/application is to be designed in such a way that all the data is kept private and only the party with complete authority can view or edit the data required.

3.1.1 Administration

This part focuses on all the entities of the system. As the administration will be the main part of the system. The administration will be responsible for making any changes to the system (codes, objects, records etc.) The website will be managed by the administration. Complete data will be visible to them. Also they will be the one to decide who gets to see what data. Some of the main functions will also contain:

- Manage donor/receiver details, update details, and maintain the hospital details.
- Check whether the system is working without any issues, all the codes are working as expected, etc.

3.1.2 Hospital

Each hospital registered will be given a user-id and a password. The hospital will be responsible for final checking and correcting the data which will be filled by the donor/receiver. After any match found the hospital will receive a notification regarding the contact details etc. and it will do all the other physical works like signing documents etc. After that the hospitals can work on transplantation process.

3.1.3 Donor

Donors are the most important aspect of our system. Because one of the main aim of the system is to increase organ. Every donor will have an email ID linked to their profile. Where they will receive email notifications etc. After logging in to the system, the donor will be presented with a form to fill in the details. These details will later be

checked by the hospital. If a match is found, the donor will receive an e-mail regarding the details.

3.1.4 Receiver

Receivers may or may not directly interact with the system, as the hospital may do that for them. Each receiver will have an email ID linked to their profile. Where they will receive email notifications. After logging in receiver will also be presented with a form to fill in the details. Hospital will check the validity of these details. In case of Blood or plasma donation the receiver will be able to call the matched donor, for easy and timely availability. Also similar to the donor, if a match is found, the receiver will get an mail regarding the details.

3.1.5 Salesforce Database

It will store all the data of donors, receivers, hospitals, opportunities etc. The system will have the ability to allow users to modify details, add details or remove them. It also has capabilities to assess and analyse the data and display it in graphical format, for easy representation.

3.2 Geo-Location

The system can use GPS (or Google Map) for further ease in finding suitable organ donor. As it will check whether the donor is within the same city or within a suitable distance. This can be very useful in sorting the donors which can be present within a short time from the donors in a far off place. Also it can be used to provide route to the donor for reaching the receiver or hospital faster.

4. CONCLUSION AND FUTURE SCOPE

A lot of deaths took place because a needy person didn't get the organ in time. Due to some demerits of the organ donation systems, a person faces death which he/she doesn't deserve. This KODC system will help to overcome this demerit and try to connect the donor and patient in medical emergencies. Finding the suitable organ through this application helps in increasing the chances of saving the patient's life.

5. FUTURE WORK

In future, we hope this system will have a successful impact on the organ donation scenario in India. This system uses cloud services by salesforce to which will

definitely be of great use in future for providing a large no of organ donations. This work may be extended to interconnect the entire organ donor.

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