

School of Computing and Mathematics

PRCO303

Final Stage Computing Project

BSc (Hons) Software Engineering

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E-Donor (Organ Donation Mobile Application)

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# Introduction

## Introduction

My final year project is "E-Donor" (organ donation Mobile application ) . This application is related to health . Currently in Sri Lanka , I have identified that is no proper method to patients find necessary organs for transplants. Therefore, I propose to develop this organ donation Mobile application . The importance of a human life is considered in this application . That is why this project, E-Donor ( Organ donation application ) is chosen to develop . By using this application patients and their family members (users) can view the information about registered donors . Donors can register to application by filling necessary details. Also donors need to submit their full body check-up report within last 2 months . And also, requesters can search and find suitable organ donor if available. And the system is capable of requesting organ donors to donate organ immediately in case of emergency.

We can transplant living organ and tissue from living donor to patient .They are Kidneys , bone marrow, part of the liver , stem cells, part of the lungs

(Daily news, n.d.) (government.nl, n.d.)

This application is a purpose built solution to patients can search and find suitable organ donor if available, this could reduce the number of deaths in many patients. I also think this will help reduce the number of patients who have been on the hospital list for years. Therefore it is very useful to patients and medical staff.

# Business Case

## Business Need

The Sri Lanka is currently used in the hospitals system, the logbook method is used for many activities in the hospitals. As the odds of that method, log books, as facing, can be different, such as the need to find information at the need.

The lack of a proper system to coordinate transplantation became a major problem for the medical community. According to records annually 2000 people died due kidney failure .At least 1700 people die due to cirrhosis or liver diseases. According to that more than 4000 people die every year due kidney and liver failure. Health sector consider this is a biggest health problem that need to be immediately resolve. At present the most common manner of organ donation is through live donors .There were eight kidney transplant centres attached to national hospitals in the country with nearly 400 transplants done every year. When more than 2000 people are died due to kidney failure, only 400 transplants are conducted. We have a problem even though Sri Lanka has high potential to deal with the issue. We need to have a system for organ transplant system. (government.nl, n.d.) (Daily news, n.d.) (Sirimanna, 2017)

Also, in the organ transplantation, the waiting list will have to stay a long time until the patient finds a limb. Many patients have a long time in the waiting list, Often they die.

### Underlaying Problem

We lose a lot of human lives because it takes too long to transplant organs. This has become a timely issue.

Currently, in Sri Lanka, the number of patients is increasing day by day due to many things such as the irregular diet of the people. Most of these patients report cancer and organ transplants. Most of these patients report organ transplants.

When a patient needs an organ transplant, there are two main ways he or she can fulfil it. They are from a family member or an outsider. Of these, the possibility of finding a suitable organ from a family member is very low. All that is left in such a situation is to seek the help of an outsider, in fact this is a very difficult task as well as a very problematic one. Here the patient's family, as well as the patient, have to find an organ that fits the patient. It’s stressful. This is because the number of people who want to donate organs is very limited. Also, different media (Facebook, WhatsApp, Instagram) should be used for that. This method is still used today. But there are problems with that system as well.

Most of the deaths of organ transplant patients are reported due to taking longer to find the organs. If this delay is minimized, we will be able to save these human lives. For that, a method should be devised to find a suitable organ for transplantation as soon as possible. Accordingly, E-Donor (Organ Donation Mobile Application) is a great solution for that.

## Business Objectives

The introduction and implementation of E-Donor(Organ Donation Mobile Application) has provided new experience to Sri Lankan health sector.

* No need to wait too long on the waiting list
* Donors and requesters can access.
* Very efficient to use
* Can be use free of charge
* Everything is updated automatically
* Time saving
* Reliable to use
* Real time application

# Project Objectives

1. Current system is recording information in manually in papers but the new system proposed will be recording the data in database.
2. There is a facility to maintain donners & patients.
3. Everything will be controlled centrally which will lead to high reliable information.
4. In emergencies there is facilities to contact registered donners requesting for organ.
5. To implement high quality & user-friendly mobile application to all users.
6. By using E donor application can reduce deaths of patients.

# Chapter 4: Initial Scope

1. E-Donor is a software solution for real world problem occurs everyday

in Sri Lanka with the help of the application ministry of health can cope up

with organ donations easily through reliable base.

1. Any android & IOS users can get the mobile application installed free to

achieve organ donation activity & there is a menu to select categories of the

system.

1. This propose system will allow,

* Users to get registered & check availability of organs.
* Check availability of organ donors.
* This methodology can be shared through social media to make people aware.
* Reduce the work load of manual documentation.
* Can add request for emergency situation asking for organ donners to

donate.

* Use latest technologies to give better user experience.
* The app can contact donors via mobile and email.

# Method of Approach

In the beginning of this solution implementation had three main phases, the first one is

verification of the assumptions obtained from the questions formulated. The second

and the major task is engaging the doners, staff, non-academic staff and other people

who are donating organ , Hospitals and their real-world

problems. The final and the third task is making unique solution for the problem and

implementation. The second and the third task triggered parallelly since the second

task needed much more resource in order to make unique solution like this. Also, it was

independent. The quantitative and qualitative research application was utilized to the

first two tasks in creating this unique project .

Software requirements for developing all new cross platform mobile

1. Design tools:

* Draw .io
* Adobe Photoshop
* Adobe Illustrator

1. Mobile application developing tools:

* Android Studio
* XCode
* VS code

1. Programming languages & other scripting languages:

* React Native
* Php
* Android
* IOS
* JavaScript
* MySQL
* Node.js

Diagram

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Figure 1. A diagram that can explain your project

# Project Plan

## Control Plan

The following PRINCE2 control techniques will be employed

* End-Stage reports;
* End-Stage review (with supervisor);
* Fortnightly Highlight report12;
* Risk management (see Section 7);
* Communication plan (see Section 6.2),
* Quality plan (see Section 8).

## Communication plan

In addition to ad-hoc supervisor meetings as necessary, planned review/feedback meetings will be held at the end of each stage in order to discuss the end-Stage report, the next Stage plan, and to review any technical deliverables produced during the stage. Feedback meetings will also be held following the submission of the two Interim reports.

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Table 1. Stage 1 Plan

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Table 2. Stage 2 Plan

# Initial Risk List

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Table 3. Initial Risk List

# Initial Quality Plan

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Table 4. Quality Plan

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