

**“APEKSHA” ONLINE DONATION WEBSITE
FOR CANCER HOSPITAL
MAHARAGAMA.**

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Declaration of the candidate & Supervisor

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The above candidate has carried out work for the Bachelors of Information Technology Degree report under my supervision.

Name of the supervisor: Nethmini T Weerawarna

Signature of the supervisor:.....  Date:... 27/03/2023.....

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Abstract

The world is going through many changes with the new technology. The way that people dealing with obstacles are also changing due to new technologies. In Sri Lanka too, people deal with things that are changing day by day. Donation is an area that has undergone massive change due to new technology.. However, in our country, technology is still not used for many donations. Due to that, difficulties can occur to donors when they are donating anything. Time consideration is important in any of activities for people. So, one of the major obstacles which a donor has to face is that they can't waste time for donations or they don't have time to wait in a queue. People prefer online donation methods because of time criticality of the donation process.

When considering the cancer hospital in Maharagama, the present situation of country is highly affects this institution as well. This is because, the hospital is lacking in moneyfor day to day activities such as medicines of patients, food and other things. So, many patients are facing a huge issue about money. However, there are many people who like to donate to that hospital. But the issue is that they don't have time to come and donate them. If there is any kind of platform to do all of the donations easily, it will be a great opportunity to increase donations. So, in this project I try to fulfil these needs of that

hospital and introduce a user friendly donation system for this hospital. The concept which I'm presenting requires several hardware components. My concept is a donation system for Maharagama Cancer Hospital and I have decided to develop it by using PHP and connect it with a MySQL database.

The keywords: system, donation, hospital, cancer

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LIST OF ABBREVIATIONS

Abbreviations	Description
ODS	Online Donation System
NHSL	National Hospital Sri Lanka
ARC	American Red Cross
NBTS	National Blood Transfusion Service
MSD	Medical Suppliers Division
FA	Feeding America

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1. Introduction

Online donation is the new way of social assistance in world. Nowadays, health technologies are developing rapidly in the world. Incurable diseases are also cured with the latest technologies and medical researches. With the rapidly developing technologies, medical professionals must be able cope with changing trends and technologies. Not only that sides, in medical, donation side also now going with latest technologies. Also donations in various service channels of financial institutions makes great impact on social charity and helps people in need. So, for health also the donations are very helpful, because donors can help the people who wants the donations. There is a variety of financial and payment services available in this society, which enable users to send money by using online methods. So, as an online donation platform, charity donation is a new feature of online activity. Then in the donation system after the selection of the wanted charity, donors can donate money using a bank card number and related password. In addition, the function of charity donation is essentially different from the other services which are available in these systems. Users receive financial benefits, in other services. As the charity organizations offer intangible services which the donor does not consume, if there is any facility to do them online, the donors also have a courage to do donations and then the donations will be increased. Additionally, in health sector of Sri Lanka, like Maharagama cancer hospital, donations are currently happening through offline means. It means donations are happening manually. Then the donors go to the hospitals and they have to discuss with directors and then do donations. Donors cannot donate via web sites because they is no any website to donate via them. So, this project tries to introduce a donation system for hospitals like Maharagama Apeksha hospital to get donations easily from donors who wish to donate and it will be a great opportunity to donors because it is easy to do donations through online methods and they can get many advantages like saving time, because they don't want to go to a bank or hospital to get details about their donations. Eventually, people will become familiar with online donation systems, and because of that not only their time, also the

hospital staff's time can protected. Therefore, I hope to solve the above mentioned problem using this system.

1.1. Background

In our country cancer patients are increasing day by day. So, most of them are get their treatments in Maharagama cancer hospital. Providing treatments for them is a huge task and many people help for them. There are people in all ages and also some are residential patients. So for all of the patients the hospital staff will try to do their best. So, to do them many peoples are donating for that hospital by giving money, food, drug, blood and so many things.

In many countries, there are many systems to donate for needed organizations and assist them. Then, donors login to that web site and book a time for their donations. So they don't have to go anywhere and also they don't need to waste their valuable time. Because of that, in these countries the donations are increasing day by day and it is a great help for organizations that are in need. There are some web applications that allow them to contact the charity organization and by contacting them, they can directly work with the organizations. So when we think about Sri Lanka, there are only few applications like that. But if there is any donation systems in here it will be a great help for the organizations in need. So, in Sri Lanka, when we think about donation systems, which for hospitals, there is no any donation system like that. So, if there is that kind of donation system, it will be a great help for our hospitals. Because of the current situation of our country, there are so many hospitals in need. As an example, when we think about Maharagama Apeksha Hospital, (cancer hospital) we can see there are so many poor people who are cancer patients. However, due to the current economic situation of our country, the hospital also does not have medicines and patients too do not have the ability get them for money. So, if they have any people to help them it will be a great help for them. So, this is one example for the necessity of a donation system for the cancer hospital.

Furthermore, there are many people who like to donate to the cancer hospital. There are many reasons for donations. Some people donate in memory of a family member who has passed away due to cancer and some donate because it is a charitable thing to do. The issue is if someone wants to get details about that they should come to the hospital and get details about them. It is very difficult for donors to visit the hospital twice for this purpose. Because of that, donors are not encouraged to donate anything, because they don't have more time to spend and because the entire process is very inefficient and inconvenient. So, if there is an online donation system the donors can donate easily for that. Not only that, if there is such an application it will help to encourage people to donate. Today, people have a very busy schedule and they don't like to waste time for anything. So, if there is an online system we can do all things easily without time wasting.

So, by this system, I am trying to introduce an online donation management system for cancer hospital to avoid these issues of manual donation process and increase donations for that hospital. In addition, it will be a great help for patients and hospital when fulfilling the needs of the hospital.

1.2. Problem Statement

My project is a donation system for Maharagama cancer hospital. Due to the current situation of the country, the hospital does not have enough money to fulfil their medicines and other needs. So, if people are donating to them it will be a great help for the hospital. But the problem is there is no online donation management system for this hospital. Due to that many people are not encouraged to do donations. The issue is when someone wants to donate something they should come and get details or call the hospital. Also, for some donations definitely they should come to the hospital and meet the donation unit and should get the approval from them. However, the issue is, if someone came to get details from hospital they have to spend more time for that. This is because, sometimes there is no authorized person since sometimes they are on leave or sometimes they are in long meetings. At that time, after waiting more time, some donors are frustrated and go back without getting details about them. At that time, the hospital

musses that donation and sometimes it will be a big loss for them. Also, when talking about donation unit, they have mentioned that getting calls to know details about the donations is troublesome for them, because they have to repeat same information so many times in every calls. In addition, when there is a booking, they record it in a paper. So, it is very difficult to carry these documents around when they go somewhere. As an example, for special soup donation, it is handled by a doctor and he says that it is very difficult to carry the noted papers when he goes somewhere and also it is very difficult to get calls sometimes. At that times he will miss certain calls and then they will miss a donation for hospital. But if there is an online booking system, they can respond for them when they free.

Under situations like these, there are many people who like to donate that hospital. However, as mentioned before, the issue is there is no system for online donations management. So, the donors are facing many inconveniences when they try to donate.

So, in my system, for donors, they can book time for donate blood, food, or other general items. They can get a needed drug list and they can send a request to organize a entertainment activity. In addition, they can register as volunteers for the hospital.

When think about food donation, for cancer hospital we can give alms like normal soup, special nutrition soup, breakfast, lunch, dinner, fruits, king coconut and many things. Current system for giving soup is, we can buy vegetables and go and give to the hospital and then, they will prepare it and give to the patient. So, some people are booking a time to give them and but there are some people give donations without pre booking since they don't have the time to come and schedule a time. Some people don't even know that there is a calling process. The problem is that sometimes, for one day, there will be one or two people who give vegetables to make soup. So, it is wasteful. Because though they have many sets of vegetables to make soup, they can't make with all of them. They are preparing them for the amount of patients. They are not preparing more. Also, there are many days that anyone don't give vegetables to make soup. So, if we have a proper

system, we can manage them and get one vegetable set for one day and we can ask others to give their vegetables in another day, which don't have any vegetable set. Then the hospital can reduce the wastage of vegetable and also they will be able to give soup regularly, without taking money from government and they can spend it for another special need of the hospital.

Also, there are many people who want to do blood donations. But they do not like come to donate because in hospitals sometimes they have to stay in a queue. They don't have time to waited in a queue. So, by this system, they can book a time and go to donate blood. This reduces time wastage.

Drugs donation is also same. Since the needed drugs are changing day by day, donors have to come to the hospital and take the drug list and go to a pharmacy and buy them and give them to the hospital. But if there is an online system to get the list for them, it will be very helpful for donors and also the hospital staff. This way, it is possible to save time of both donors and the hospital.

Entertainment program request is another type of donation. If someone or a community wants to organize an entertainment program for children ward or any other ward, currently they have to go to the hospital and firstly meet they the head of the ward and request permission from that person. After getting his permission, then the requesting person should write a letter and go to the director and give it to him and get his approval. This will take more time and the requesting person will get fed-up of waiting. Sometimes they had to spend whole day for the hospital because, sometimes director is in long meetings and so on. So, the donors also face inconveniences and they are not trying to do that kind of activity again because of the time wasting for the hospital. So, by this system, they can do it by this web site through online means.

Another one is there are many people who are volunteering to work for the hospital and help them. However, it is difficult for them to do that, because there is no proper system to get details and also if they want to get details they had to come to the hospital. So, they do not like to waste time and because of that they are not encouraged do that. But by using this system, they can register for preferred volunteering activity online and when hospital wants they can contact that person immediately. So, it will be very helpful for the hospital also because, they don't want to spent money on such activities, because, there are persons who like to join as volunteers for the work.

There is another feature, that is there are some volunteers who like to help for the hospital. So, they can register in this system and when hospital need them, they can contact those people.

Also, another feature is fund donation.

There are some people who wish to donate for this hospital, but they can't give a large amount of money. Because of that they are shy to coming to hospital because they can only give few money and they think that it is offense to go and donate 100 rupee for hospital. So, if there is any application they can do donations using an online method, if the people can donate only 100 rupee he or she can donate it, without any embarassment. When considering the admin side, they can approve requests related to them by going through the details and there is a calendar which will display bookings to get a quick idea about booked donations. So, when someone asks for details about donations bookings, it'll be very easy to them. Also, they can get details about donors and if there is any need to get a report of monthly donations or donor list they can generate a report about them.

Above all, I hope to provide a comfortable user experience and it will increase the positive attitude of people for donations, because this system will increase the convenience of doing donations to this hospital.

1.3. Motivation & Significance of Project

The primary motivation for this project is, because of the current situation of the country cancer hospital have many needs to fulfil. But hospital can't fulfil most of them because of the current situation. But if there any donors, they can fulfill most of these needs. So, this project will attempt to fulfil these needs from donors by creating a website for them. Also, I am eager to learn and gain experience in web site development. The paper-based system, calling or visiting is very tiresome and need lots of time to spend. So, these are the reasons which motivated me to work on my project more. In addition, such a system will surely be a blessing for both donors and hospital staff who is handling donations.

1.4. Aims and Objectives

Project Title: Online Donation System For cancer hospital, Maharagama.

Aims: Develop an Online donation system for cancer hospital, Maharagama.

Objectives:

- Performing and conducting a study on the technology used to develop a donation system
- Design and integrate an automated system to improve the services and decreased the time spent calls offered in the donation.
- Design and implement register page, login
- Design and implement blood donation appointment booking
- Design and implement food donation booking
- Design and implement general item donation booking
- Design and implement entertainment activity booking
- Design and implement volunteer registration booking
- Design and implement send emails for blood donors for donations

- Design and implement drug donation details pages
- Design and implement fund donation
- Design and implement entertainment activity booking
- Conducting formal evaluation of system
- Design and implement a calendar to get summary of all donation types bookings
- Organization and maintenance of donation facilities allow the ease of their access.

2. Literature Review

There are some real-world web-based applications for some type of donations. But there is no a collection of these type donation applications. So, some of them are described below.

2.1. Critical evaluation of 5 existing solutions

2.1.1. The National Hospital of Sri Lanka(NHSL)

This is the main web site of NHSL and donation is a one of feature of that web site.

General Features of NHSL:

- Only handling Fund and essential needs donations
- Donation details
- Donation Requests
- Account details for fund donations without online payment

General Features of Apeksha System:

- Donation details
- Donation Bookings
- Donation requests
- Need lists
- Fund donation
- Food Donation

- Item Donation
- Drug Donation
- Entertainment Activity Donation
- Volunteering Request Handling

Drawbacks:

- Only handling Fund and essential needs donations
- No time booking for handover donations
- No blood donation booking
- No food donation booking
- No Drug Donation booking
- No Entertainment Activity Donation
- No Volunteering Request Handling

In NHSL web site there are only details of how to donate, why donate and etc. There is no any facility for book any time to handover donations. Also, there is no any facility to get current needed drug list or other necessary item lists. If someone wants to donate something or get to about the essential needs they have to get calls and contact them to get to know about them. But in my system, I'm solving all of drawbacks of this system. Because, there is features to handle blood, food, drug, fund, other essential donations, entertainment and volunteering activities. People can make pre-bookings and come and handover them without waiting in queues. So, this system is much more useful than NHSL system when think about donation handling.

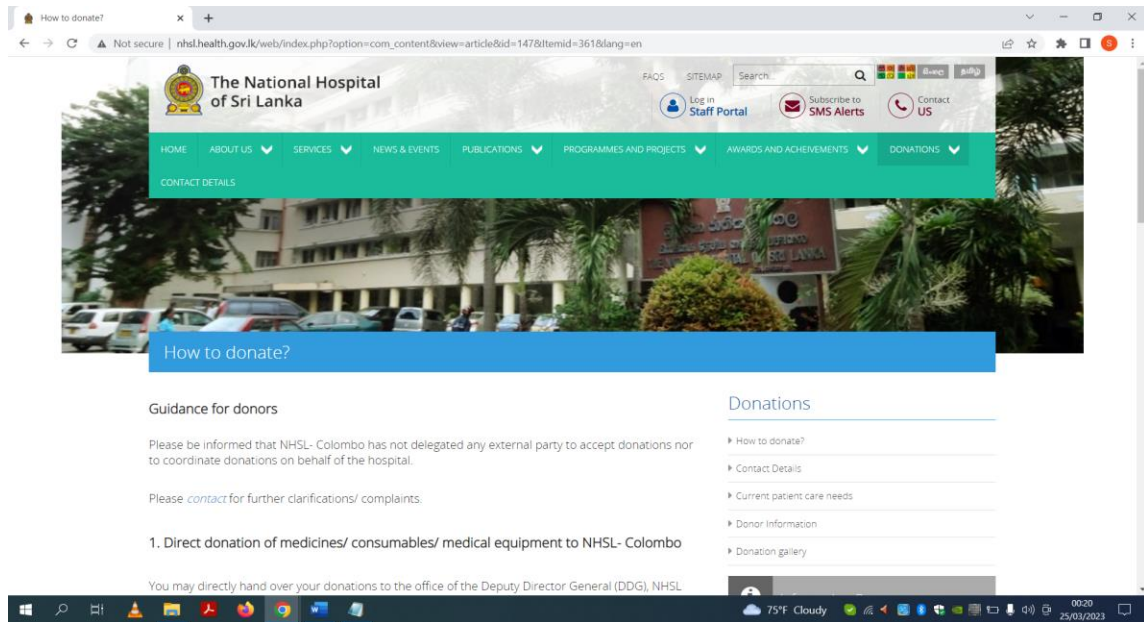


Figure 1: NHSL

2.1.2. American Red Cross(ARC)

This is a blood donation booking web site. So, in here donors can login and book their donation times.

General Features of ARC:

- By using this web site, donors can search a place by date or distance and they can book a place near them to do donations which are available.
- Can get details about previous appointments
- Can update profile details
- Can get details about near donations camps.
- Can filter donation camps by date and distance

General Features of Apksha System:

- Donors can search dates and times for donations
- Can get details about previous appointments
- Can update profile details

Drawbacks:

- Can do only blood donations

In ARC, there is a map facility to search a donation camp. However, my system is for a hospital. So, there is no need of searching donation camps by map. However, though there is more map facility for my system, I think my system is more suitable for a hospital, because there is not only blood donation, also there are some other types of donations.

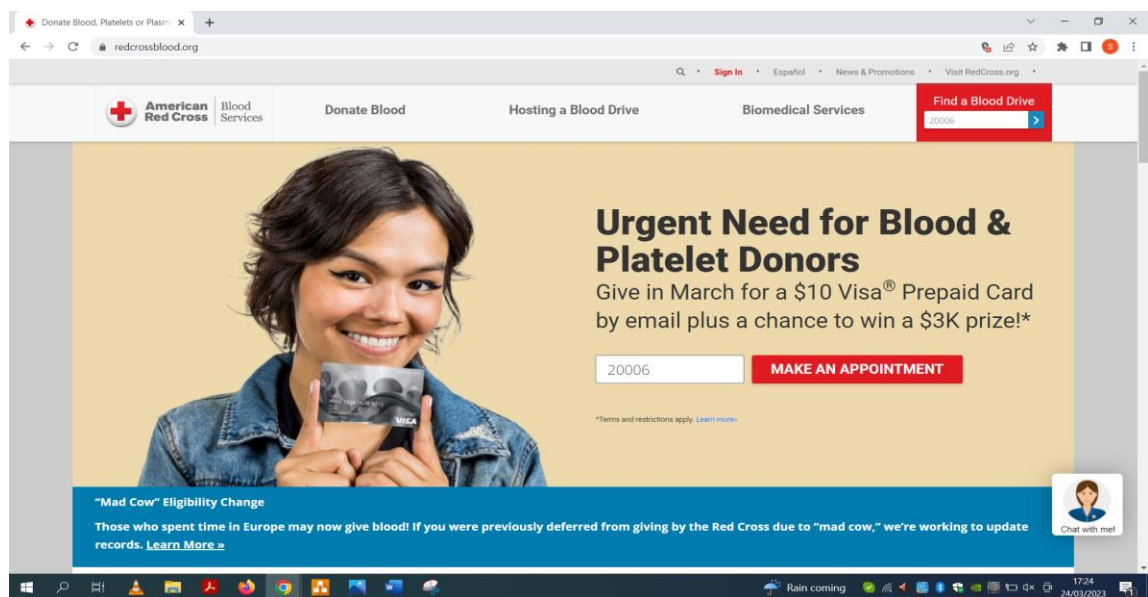


Figure 2:ARC

2.1.3. National Blood Transfusion Service(NBTS)

This is a blood donation camp organizing web site. So, in here organizers can see details about blood donation camps if they have, by searching date

General Features of ARC:

- organizers can see details about blood donation camps
- Users Can see about Donation Testing

- Users Can see about Compatibility Testing Section
- Users Can see about Histocompatibility Laboratory
- Users Can see about Reference Laboratory

General Features of Apksha System:

- Donors can search dates and times for donations
- Can get details about previous appointments
- Can update profile details

Drawbacks:

- Can't do bookings online
- Can't search donation camps, because, it is not updating regularly.

In NBTS, there are only details about how to organize a blood camp, how to test blood donations, (how to check eligibility for bone marrow and solid organ transplant) and such details. But there is no any booking for blood camps or any other facilities. So, this is only a donation details site. But my system is for cancer hospital and there are many facilities than in this site. Because, in my system, there is fund donation, food donation, drug donation, general item donation, entertainment activity bookings, volunteering and many kind of facilities than this. So, I think my system is more suitable for a hospital.

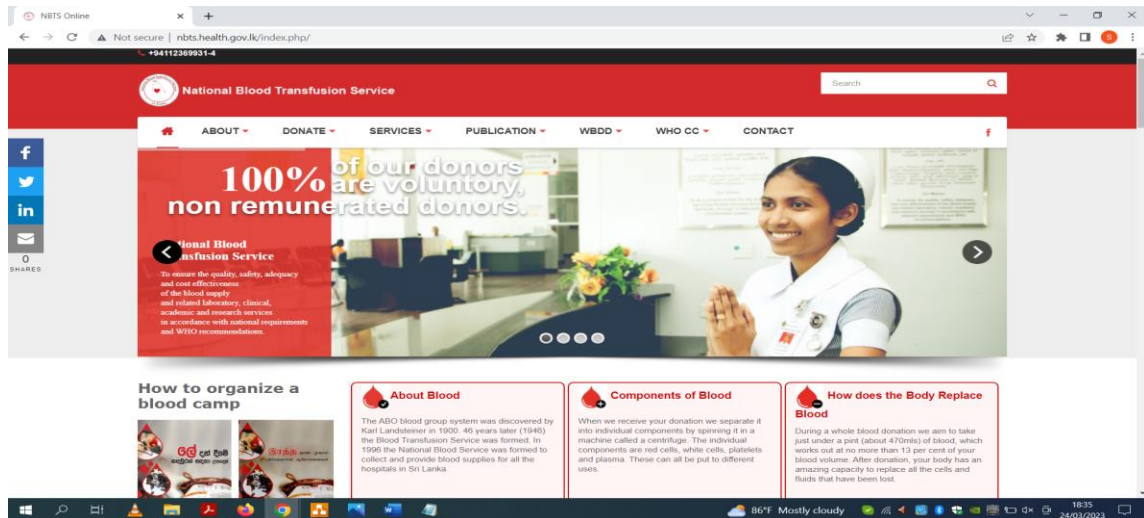


Figure 3:NBTS

2.1.4. Medical Suppliers Division(MSD)

This is a website for providing all Pharmaceuticals, Surgical items, Laboratory Items, Radioactive Items, Printed materials, etc. for Government sector healthcare institutions throughout the country. They get donations also from donors and fulfill needs. So, donors can donate them in three ways. They are buy and handover, financial donations or share the costs.

General Features of MSD:

- Donate Pharmaceuticals, Surgical items, Laboratory Items, Radioactive Items, Printed materials
- Donate fund
- Sponsor for donations

General Features of Apksha System:

- Donate Pharmaceuticals, Surgical items, Laboratory Items, Radioactive Items, Printed materials which is daily updating
- Booking a time for donations
-

Drawbacks:

- In this MSD, the needed drug list is not updated since 2021
- Other needed lists also not updated since 2021
- No booking donation time facility
- No more details about how to donate and donation process (Pages are not working)

In MSD, there is only 2021 details about needed Pharmaceuticals, Surgical items, Laboratory Items, Radioactive Items, Printed materials. Also, there is no any booking facility for doing donations. So, this is only a donation details site. But in my system there is many facilities than this site. There is fund donation, food donation, drug donation, general item donation, entertainment activity bookings, volunteering and many kind of facilities than this and it also has a facility to update drug list. So, I think my system is more suitable for a hospital.

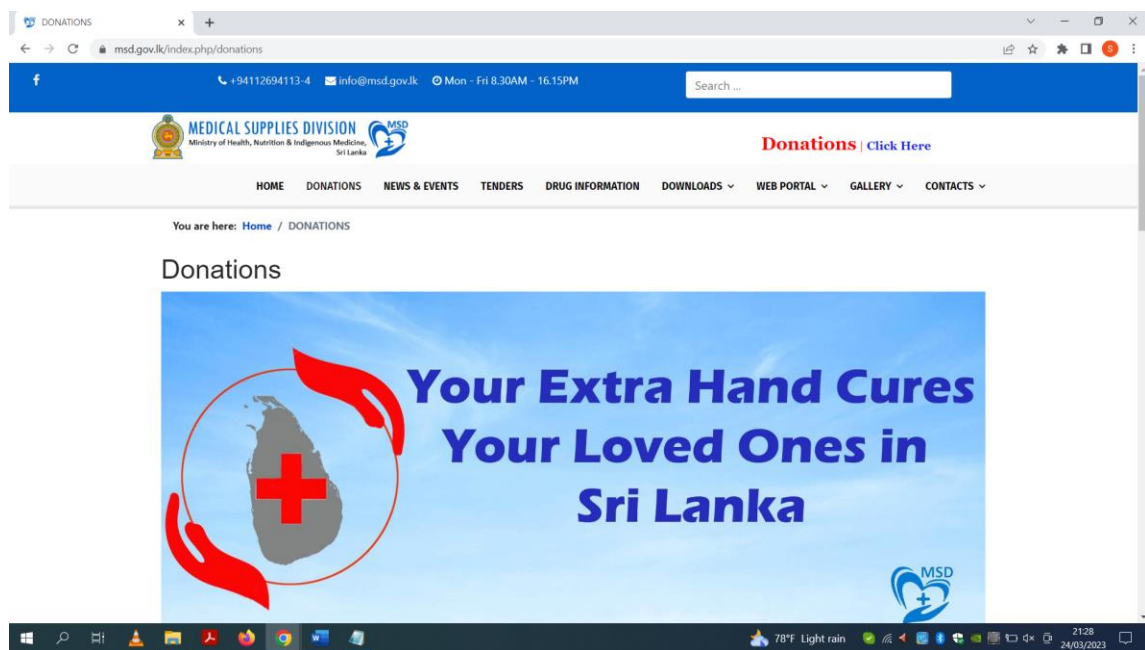


Figure 4:MSD

2.1.5. Feeding America(FA)

Feeding America is the largest hunger-relief organization in the United States. They are a nationwide network of food banks, food pantries, and community-based organizations in the United States. They work to end hunger by providing food and support to millions of people.

General Features of FA:

- Donate funds for foods
- Give funds for one day meal
- Give funds for a month meal

General Features of Apeksha System:

- Donate funds
- Donate foods for one ward or more than others
- Donate foods for one meal
- Donate foods for one month or preferred time period

Drawbacks:

- In this FA they are collecting only funds for meals

Some people don't like to donate funds and they like to donate foods. So, these people can't donate them through FA. But in my system, donors can donate funds or food items as they prefer according to food menu of the hospital. Then, both kinds of people can fulfil their donations easily. Not only that in my system, they can donate other needed items, drugs, many wanted things for hospitals. They can also request for entertainment activities, and volunteering also. Due to these features, my system is more useful than this FA system, because, donors can donate many ways for the hospital.



Figure 5: Feeding America

3. Project Plan and Initial Design

For this proposed project, I have decided that agile is the suitable methodology, Because it can produce more features in a short period than others and also it is faster, flexible and efficiency than others. We can check the progress of our development many times by using agile because agile work with sprints. Therefore, we can go step by step with the expected deliverables and we can contact hospital and check with them also when we needed. Then we can break the system development process into stages and prepare a plan for each step separately. Then we can fix bugs after each stage of the implemented functionality, So we can save time.

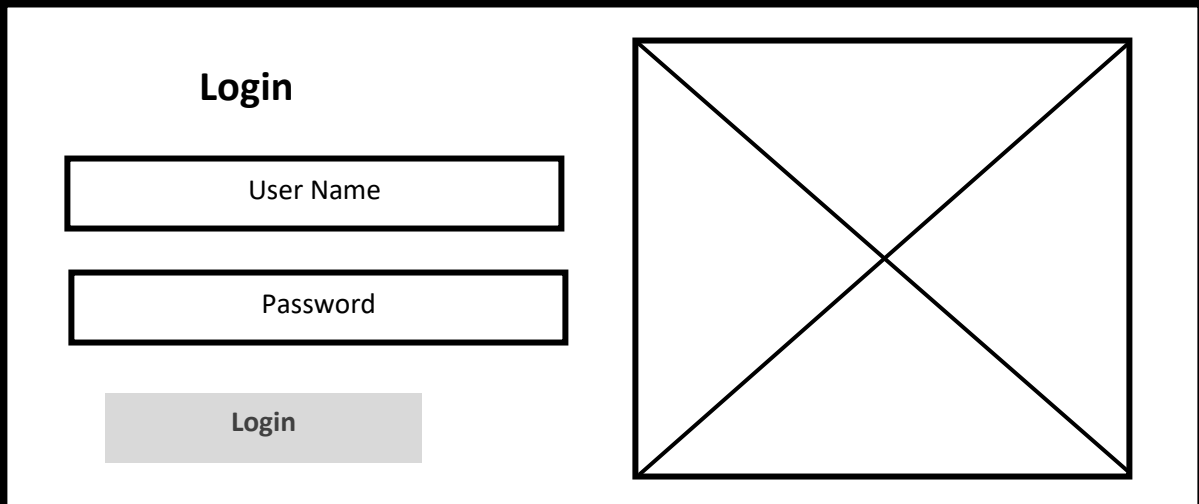
3.1. Components of the System

System components are divided into three main parts in this project. They are software, hardware and database. Details of them are as follows.

3.1.1. Software Component and Tasks

In this project there are food donation, drug donation, blood donation and other essential items donations, fund donation and entertainment activity booking, volunteering requesting components as software components.

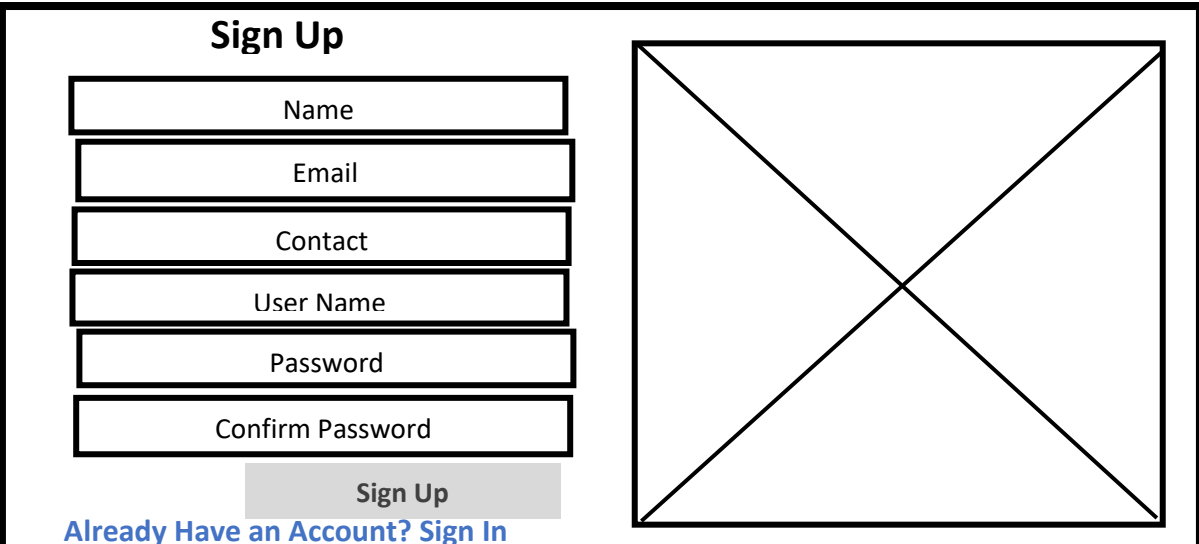
Login Page



The Login Page UI mockup is enclosed in a black rectangular border. On the left side, the word "Login" is centered at the top in a bold black font. Below it are two white rectangular input fields with black borders. The first field is labeled "User Name" and the second is labeled "Password". Below these fields is a gray rectangular button with the word "Login" in black text. To the right of the input fields and button is a large square placeholder with a black border and a black 'X' drawn across it from corner to corner.

Figure 6: Login Page

Registration Page



The Registration Page UI mockup is enclosed in a black rectangular border. On the left side, the words "Sign Up" are centered at the top in a bold black font. Below them are six white rectangular input fields with black borders, stacked vertically. The labels for these fields are "Name", "Email", "Contact", "User Name", "Password", and "Confirm Password". Below the input fields is a gray rectangular button with the words "Sign Up" in black text. Below the button is a blue hyperlink that reads "Already Have an Account? Sign In". To the right of the input fields and button is a large square placeholder with a black border and a black 'X' drawn across it from corner to corner.

Figure 8:Registration Page

Home Page Before Login

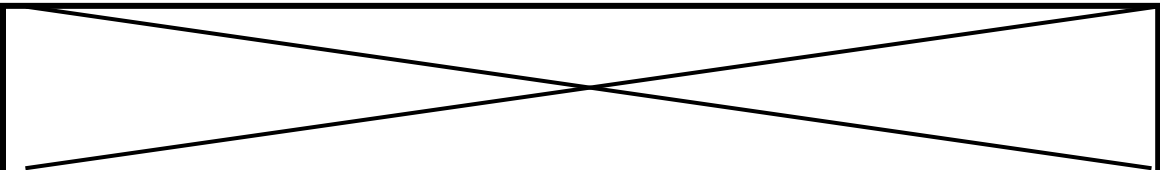
Home	About Us	Contact Us	Donations	Others	Login
					
<div>Blood Donation</div>	<div>Food Donation</div>	<div>Fund Donation</div>			
<div></div>					

Figure 9:Home page before Login

Contact Us Page

Home						About Us	Contact Us	Donations	Others	Login
				Name		Email				
				Subject						
				Message						

Figure 10:Contact Us

Dashboard

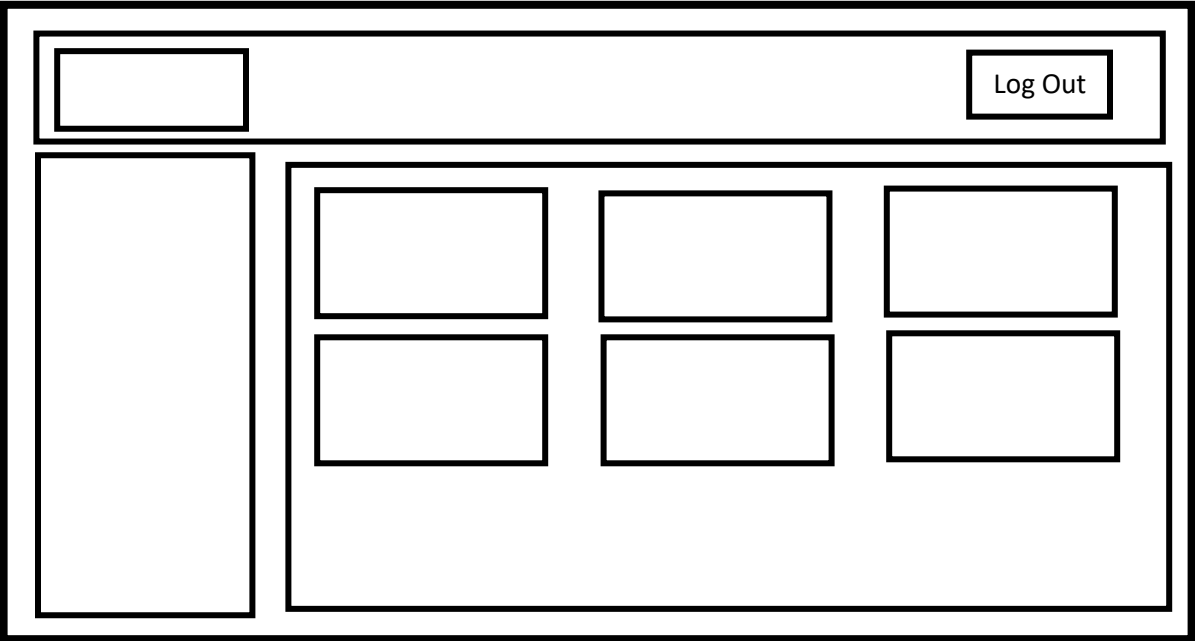


Figure 12:Dashboard

Blood donation Booking Page

Nav Bar

Side Bar

Name

Email

Contact

Height

Weight

Blood Group ▼

Date

Time

Booking

Figure 13:Blood donation Booking Page

Food Donation Requesting Page

The image shows a wireframe of a web page for requesting food donations. It has a top navigation bar (Nav Bar) and a left sidebar (Side Bar). The main form area contains the following fields from top to bottom: Name, Email, Contact, Food Category (with a downward arrow indicating a dropdown menu), Quantitv, Ward Number, Date, and Time.

Figure 14:Food donation Booking Page

3.1.2. Database Component

Table 1:Database Component

cancer_donation_database															
Table Name	Table Description														
Admin	Contains details of the admin of the system. These details will be provided by the admin themselves in the registration page.														
	Data fields and data types:														
	<table><tr><td><u>admin_id</u></td><td>VARCHAR(100)</td></tr><tr><td>admin_name</td><td>VARCHAR(100)</td></tr><tr><td>admin_email</td><td>VARCHAR(100)</td></tr><tr><td>admin_phone</td><td>VARCHAR(10)</td></tr><tr><td>admin_username</td><td>VARCHAR(10)</td></tr><tr><td>admin_pass</td><td>VARCHAR(10)</td></tr><tr><td>admin_role</td><td>VARCHAR(10)</td></tr></table>	<u>admin_id</u>	VARCHAR(100)	admin_name	VARCHAR(100)	admin_email	VARCHAR(100)	admin_phone	VARCHAR(10)	admin_username	VARCHAR(10)	admin_pass	VARCHAR(10)	admin_role	VARCHAR(10)
	<u>admin_id</u>	VARCHAR(100)													
	admin_name	VARCHAR(100)													
	admin_email	VARCHAR(100)													
	admin_phone	VARCHAR(10)													
	admin_username	VARCHAR(10)													
	admin_pass	VARCHAR(10)													
admin_role	VARCHAR(10)														

Donor	<p>Contains details of the donors of the system.</p> <p>These details will be provided by the donors themselves in the registration page.</p> <p>Data fields and data types:</p> <table> <tr><td><u>donor_id</u></td><td>INT</td></tr> <tr><td>donor_name</td><td>VARCHAR(50)</td></tr> <tr><td>donor_email</td><td>VARCHAR(50)</td></tr> <tr><td>donor_contact</td><td>VARCHAR(10)</td></tr> <tr><td>username</td><td>VARCHAR(10)</td></tr> <tr><td>password</td><td>VARCHAR(10)</td></tr> <tr><td>donor_nic</td><td>VARCHAR(12)</td></tr> <tr><td>donor_address</td><td>VARCHAR(100)</td></tr> </table>	<u>donor_id</u>	INT	donor_name	VARCHAR(50)	donor_email	VARCHAR(50)	donor_contact	VARCHAR(10)	username	VARCHAR(10)	password	VARCHAR(10)	donor_nic	VARCHAR(12)	donor_address	VARCHAR(100)				
<u>donor_id</u>	INT																				
donor_name	VARCHAR(50)																				
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username	VARCHAR(10)																				
password	VARCHAR(10)																				
donor_nic	VARCHAR(12)																				
donor_address	VARCHAR(100)																				
entertainment_activity	<p>Contains details of the entertainment activity requests. These details will be provided by the donors themselves in the entertainment activity requesting.</p> <p>Data fields and data types:</p> <table> <tr><td><u>ea_id</u></td><td>INT</td></tr> <tr><td>ea_requester_name</td><td>INT</td></tr> <tr><td>ea_requester_phone</td><td>VARCHAR(150)</td></tr> <tr><td>ea_requester_email</td><td>INT</td></tr> <tr><td>ea_description</td><td>VARCHAR(50)</td></tr> <tr><td>ea_topic</td><td>INT</td></tr> <tr><td>ea_date</td><td>DATE</td></tr> <tr><td>ea_time</td><td>TIME</td></tr> <tr><td>ea_status</td><td>boolean</td></tr> <tr><td>ea_feedback</td><td>VARCHAR(50)</td></tr> </table>	<u>ea_id</u>	INT	ea_requester_name	INT	ea_requester_phone	VARCHAR(150)	ea_requester_email	INT	ea_description	VARCHAR(50)	ea_topic	INT	ea_date	DATE	ea_time	TIME	ea_status	boolean	ea_feedback	VARCHAR(50)
<u>ea_id</u>	INT																				
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ea_requester_email	INT																				
ea_description	VARCHAR(50)																				
ea_topic	INT																				
ea_date	DATE																				
ea_time	TIME																				
ea_status	boolean																				
ea_feedback	VARCHAR(50)																				
Fund_donation	<p>Contains details of the fund donation of the system. These details will be provided by the donors themselves in the fund donation page.</p> <p>Data fields and data types:</p> <table> <tr><td><u>fund_d_id</u></td><td>INT</td></tr> <tr><td>fund_d_type</td><td>VARCHAR(50)</td></tr> <tr><td>fund_d_amount</td><td>INT</td></tr> <tr><td>fund_d_card_no</td><td>INT</td></tr> <tr><td>fund_d_description</td><td>VARCHAR(100)</td></tr> <tr><td>fund_d_expire_date</td><td>DATE</td></tr> <tr><td>fund_d_csv</td><td>INT</td></tr> </table>	<u>fund_d_id</u>	INT	fund_d_type	VARCHAR(50)	fund_d_amount	INT	fund_d_card_no	INT	fund_d_description	VARCHAR(100)	fund_d_expire_date	DATE	fund_d_csv	INT						
<u>fund_d_id</u>	INT																				
fund_d_type	VARCHAR(50)																				
fund_d_amount	INT																				
fund_d_card_no	INT																				
fund_d_description	VARCHAR(100)																				
fund_d_expire_date	DATE																				
fund_d_csv	INT																				

blood_donation	<p>Contains details of the blood donation of the system. These details will be provided by the donors themselves in the blood donation page.</p> <p>Data fields and data types:</p> <table> <tr><td><u>bd_id</u></td><td>INT</td></tr> <tr><td>bd_dob</td><td>INT</td></tr> <tr><td>bd_height</td><td>INT</td></tr> <tr><td>bd_weight</td><td>INT</td></tr> <tr><td>bd_group</td><td>VARCHAR(5)</td></tr> <tr><td>bd_booking_date</td><td>DATE</td></tr> <tr><td>bd_last_date</td><td>DATE</td></tr> <tr><td>bd_booking_time</td><td>TIME</td></tr> </table>	<u>bd_id</u>	INT	bd_dob	INT	bd_height	INT	bd_weight	INT	bd_group	VARCHAR(5)	bd_booking_date	DATE	bd_last_date	DATE	bd_booking_time	TIME
<u>bd_id</u>	INT																
bd_dob	INT																
bd_height	INT																
bd_weight	INT																
bd_group	VARCHAR(5)																
bd_booking_date	DATE																
bd_last_date	DATE																
bd_booking_time	TIME																
food_donation	<p>Contains details of the food donation of the system. These details will be provided by the donors themselves in the food donation page.</p> <p>Data fields and data types:</p> <table> <tr><td><u>fd_id</u></td><td>INT</td></tr> <tr><td>fd_description</td><td>VARCHAR(50)</td></tr> <tr><td>fd_categoryid</td><td>INT</td></tr> <tr><td>fd_quantity</td><td>INT</td></tr> <tr><td>fd_ward</td><td>INT</td></tr> <tr><td>fd_date</td><td>DATE</td></tr> <tr><td>fd_time</td><td>TIME</td></tr> </table>	<u>fd_id</u>	INT	fd_description	VARCHAR(50)	fd_categoryid	INT	fd_quantity	INT	fd_ward	INT	fd_date	DATE	fd_time	TIME		
<u>fd_id</u>	INT																
fd_description	VARCHAR(50)																
fd_categoryid	INT																
fd_quantity	INT																
fd_ward	INT																
fd_date	DATE																
fd_time	TIME																
other_donation	<p>Contains details of the general item donation of the system. These details will be provided by the customers themselves in the general item needed donation page.</p> <p>Data fields and data types:</p> <table> <tr><td><u>itemd_id</u></td><td>INT</td></tr> <tr><td>itemd_description</td><td>VARCHAR(50)</td></tr> <tr><td>itemd_type</td><td>VARCHAR(50)</td></tr> <tr><td>itemd_quantity</td><td>INT</td></tr> <tr><td>itemd_date</td><td>DATE</td></tr> <tr><td>itemd_time</td><td>TIME</td></tr> </table>	<u>itemd_id</u>	INT	itemd_description	VARCHAR(50)	itemd_type	VARCHAR(50)	itemd_quantity	INT	itemd_date	DATE	itemd_time	TIME				
<u>itemd_id</u>	INT																
itemd_description	VARCHAR(50)																
itemd_type	VARCHAR(50)																
itemd_quantity	INT																
itemd_date	DATE																
itemd_time	TIME																

volunteer_appointment	<p>Contains details of the volunteer appointment booking of the system. These details will be provided by the donors themselves in the volunteer appointment booking page.</p> <p>Data fields and data types:</p> <table> <tr> <td><u>volunteer_id</u></td><td>INT</td></tr> <tr> <td>volunteer_name</td><td>VARCHAR(50)</td></tr> <tr> <td>volunteer_address</td><td>VARCHAR(50)</td></tr> <tr> <td>volunteer_phone</td><td>INT</td></tr> <tr> <td>volunteer_availability</td><td>VARCHAR(50)</td></tr> <tr> <td>volunteer_description</td><td>VARCHAR(50)</td></tr> <tr> <td>volunteer_activity</td><td>VARCHAR(50)</td></tr> </table>	<u>volunteer_id</u>	INT	volunteer_name	VARCHAR(50)	volunteer_address	VARCHAR(50)	volunteer_phone	INT	volunteer_availability	VARCHAR(50)	volunteer_description	VARCHAR(50)	volunteer_activity	VARCHAR(50)
<u>volunteer_id</u>	INT														
volunteer_name	VARCHAR(50)														
volunteer_address	VARCHAR(50)														
volunteer_phone	INT														
volunteer_availability	VARCHAR(50)														
volunteer_description	VARCHAR(50)														
volunteer_activity	VARCHAR(50)														
distribution	<p>Contains details of the distribution of donation hospital receives. These details are handling by the general item donation handling admin.</p> <p>Data fields and data types:</p> <table> <tr> <td><u>distribution_id</u></td><td>INT</td></tr> <tr> <td>item</td><td>VARCHAR(50)</td></tr> <tr> <td>quantity</td><td>VARCHAR(50)</td></tr> <tr> <td>description</td><td>VARCHAR(50)</td></tr> <tr> <td>date</td><td>DATE</td></tr> <tr> <td>time</td><td>TIME</td></tr> <tr> <td>ward</td><td>INT</td></tr> </table>	<u>distribution_id</u>	INT	item	VARCHAR(50)	quantity	VARCHAR(50)	description	VARCHAR(50)	date	DATE	time	TIME	ward	INT
<u>distribution_id</u>	INT														
item	VARCHAR(50)														
quantity	VARCHAR(50)														
description	VARCHAR(50)														
date	DATE														
time	TIME														
ward	INT														
food_category	<p>Contains details of the food categories donors can donate. These details will be provided by the food donation handling admin.</p> <p>Data fields and data types:</p> <table> <tr> <td><u>f_category_id</u></td><td>INT</td></tr> <tr> <td>f_category_name</td><td>VARCHAR(50)</td></tr> <tr> <td>f_category_description</td><td>VARCHAR(50)</td></tr> </table>	<u>f_category_id</u>	INT	f_category_name	VARCHAR(50)	f_category_description	VARCHAR(50)								
<u>f_category_id</u>	INT														
f_category_name	VARCHAR(50)														
f_category_description	VARCHAR(50)														

drug_list	<p>Contains details of the needed drug list. These details will be provided by the drug donation handling admin.</p> <p>Data fields and data types:</p> <table border="1"> <tr> <td>dl_id</td><td>INT</td></tr> <tr> <td>drug_list</td><td>VARCHAR(50)</td></tr> <tr> <td>updated_date</td><td>DATE</td></tr> </table>	dl_id	INT	drug_list	VARCHAR(50)	updated_date	DATE
dl_id	INT						
drug_list	VARCHAR(50)						
updated_date	DATE						

3.1.3. Hardware Component

8GB Memory

50GB SSD Hard Disk Drive

Intel Xeon 4core Processor

3.2. Proposed Methodology

In my proposed system, firstly when a user browses this web site they can see the home page. In that home page there are some details about all donations. Then users can go to the about us page. In that, they can get detailed information about the hospital, about this system, the process of this system, vision and mission of system as well. Then, another one is the 'Contact Us' page. In that, users can send messages for them to ask for information. Then the admin will get that message and reply to them. After that there is donation tab. In that there is fund, food, blood, other items donations. But un registered users can't see any donation booking page without login. They can see only details pages without login. If they want to donate anything they should login first. So, in the blood donation section, without login the user can see what is blood donation, the process of it, blood donation gallery. After that if the user wants to donate blood he should login first and go to the blood donation page and fill the booking form. In that form he has to add height, weight, blood group, the date he can donate and the time slot that he can come. After selecting these things, they can book that time slot.

Another one is food donation. In here the user should select the food category and the quantity. Then if they have any specified ward to give them they can add them also. Then should select the date and time and send the request to accept for the admin. Then if the admin accepts it, he will receive an email and also his profile's booking details updated. After getting confirmation, before 5 days to donation, he'll receive a reminder email regarding the donation. At that time he can confirm it or cancel it.

Fund donation is another facility and then people can donate any amount of money they can. So, if the people can donate only Rs.100, they can still donate it. But, to do donations the user should login first.

Other needed items donation is another feature of this system. In here the admin will add the needed items for the hospital. Then if anyone can donate them they can send a request to visit and handover them. Then they will receive a time to come and handover them, without any time waste.

Also, in drug donation page, there is an updated drug list and donors can get it and do donations using it without come and take taking the list. Also, if they want to avoid from time consuming, they can book a time and come to handover those drugs.

When considering the admin side, there are several administrators who handle each donation. Main admin is assistant director and he is the person who registers staff for this system. Then these staff members can get login details and login to the system. Also, when there is an entertainment activity request, after submitting general & volunteering donation administrators confirmation, that request passing to assistant director and his decision is the final decision about that request. If he gives the confirmation, they can proceed it further. Also, he can see every booking category details and details about every donors.

Other admins are,

Blood Donation Administrator – He is the person who manages blood donation details. He can see the details about bookings, donor details and he can send requests for donors when there is a lack of blood by asking to donate blood, if they can donate.

Food & Drug Donation Administrator – he is the person who handles food donations and drug donations. He has the responsibility to update the needed drug list and when he received a food donation request he is the person who getting actions about them. When he get the request for donation he should go through the details and if there is any doubt, he can contact the request person and settle the doubt and approve or reject the request.

Fund Donation Administrator – he is the person who get details about fund donations. Every time he needs to, he can generate a report of donations amount and handle these donations.

General & Volunteering donation Administrator – he is the person who handle general item donations. So, he has the right to update the website with needed item details and when there is a booking, he is the person who can accept it. Also, if someone wants to organize a entertainment activity, he'll request it and after requesting he is the person who approve it. In here, after his approval, it is going to assistant director as next step and after confirming him the request will accepted. In addition, when someone registered as volunteer, he is the person who contact him when hospital wants a help from them.

When both of admin and users forget their passwords they can reset their passwords.

3.3. Technologies Adapted

For coding – PHP

Bootstrap

Database – PhpMyAdmin

3.4. Test and Deployment Plan

Testing of some components have done meanwhile developing them. It is helped to improve the code quality and operational quality of the system. I have used white box testing, black box testing, unit testing, integration testing, system testing functional and non-functional testing.

- Functional testing

This is a black box testing type and it is related to the functional requirements of a system.

- Non-functional testing

This is also a type of black box testing but it is not related to testing of specific functionality, but non-functional requirements such as performance, scalability, usability.

- Unit Testing

The system is break into small modules and then develop those modules one by one before develop the whole system at ones. It should be tested after finishing one module. This process is called as unit testing. In unit testing, it determines that the developed module is fit for use. The goal of unit testing is to isolate each part of the program and show that the individual parts are correct.

- Integration Testing

Individual software modules are combined and tested as a group after finishing several modules. This is called as integration testing. This type of testing verifies the integration between modules whether it is running with no errors. Integration testing is capable of displaying data about defects between integrations of modules.

The purpose of integration testing is to verify functional, performance, and reliability requirements placed on major design items.

- System Testing

This testing takes place after the whole system is developed and all the modules are integrated. This will test the whole system whether it is running according to the specified hardware and software requirements. System testing of software or hardware is testing conducted on a complete, integrated system to evaluate the system's compliance with its specified requirements.

- Test Cases

Table 2: Test cases for login

Test Case ID: AD01					
Tested Component: Login					
Module Name: Login					
Tested Area: Functionality of the login					
Test no	Test Description	Steps to Test	Expected Results	Actual Result	Status
AD01_1	Login to system	Provide the user id and password and click login in button. (admin)	After the submission system will redirected to the admin's dashboard.	Redirecting to the admin dashboard.	Pass
AD01_2	Login to system	Provide the user id and password and click login in button. (user)	After the submission system will redirected to the Users dashboard.	Redirecting to the Users dashboard.	Pass
AD01_3	Login with empty fields	Provide empty fields and click Log in button	Show an error message	Error message showing	Fail

AD01_4	Login with false user name	Provide wrong user name and try to login	Show an error message	Error message showing	Fail
AD01_5	Login with false password	Provide a correct user name and a wrong password then click sign in	Show an error message	Error message showing	Fail

Table 3:Test cases for blood donation

Test Case ID: AD02					
Tested Component: Book Blood Donation					
Module Name: Blood Donation					
Tested Area: Functionality of the Blood Donation					
Test no	Test Description	Steps to Test	Expected Results	Actual Result	Status
AD02_1	Booking a time slot for blood donation	Provide the Correct every details and click booking button	After the submission system will redirected to the bookings page.	Redirecting to the bookings page.	Pass
AD02_2	Booking a time slot for blood donation.	Provide the past date and correct other details.	system will show date is not existing	show error message date is not existing	Fail
AD02_3	Booking a time slot for blood donation.	Provide empty fields and click booking button	Show an error message	Error message showing	Fail

Table 4:Test cases for food donation

Test Case ID: AD03					
Tested Component: Book Food Donation					
Module Name: Food Donation					
Tested Area: Functionality of the Food Donation					
Test no	Test Description	Steps to Test	Expected Results	Actual Result	Status
AD03_1	Booking a time slot for food donation	Provide the Correct every details and click booking button	After the submission the system will redirected to the bookings page.	Redirecting to the bookings page.	Pass
AD03_2	Booking a time slot for food donation.	Provide the past date and correct other details.	system will show date is not existing	show error message date is not existing	Fail
AD03_3	Booking a time slot for food donation.	Provide empty fields and click booking button	Show an error message	Error message showing	Fail
AD03_4	Booking a time slot for Other food donation	Click booking Cancel button	After the submission system will show message your booking successfully cancelled.	show message your booking successfully cancelled.	Pass

Table 5: Test cases for fund donation

Test Case ID: AD04					
Tested Component: Book Fund Donation					
Module Name: Fund Donation					
Tested Area: Functionality of the Fund Donation					
Test no	Test Description	Steps to Test	Expected Results	Actual Result	Status
AD04_1	Donation Fund	Provide the Correct every details and click proceed button	After the submission system will redirected to the summary page.	Redirecting to the donation summary page.	Pass
AD04_2	Donation Fund	Provide the Correct every personal details and incorrect card number and click proceed button .	system will show card number is not valid	show error message card number is not valid	Fail
AD04_3	Donation Fund	Provide the Correct every details and incorrect card expire date and click proceed button .	system will show card detail is not valid	show error message card details is not valid	Fail
AD04_4	Donation Fund	Provide the Correct every details and incorrect card cvc and	system will show card detail is not valid	show error message card details is not valid	Fail

		click proceed button .			
AD04_5	Donation Fund	Provide the Correct every details and empty card details and click proceed button .	system will show Please insert card detail	show error message Please insert card detail	Fail
AD04_6	Donation fund	Click donation Cancel button	After the submission system show message your donation process successfully cancelled.	show message your donation successfully cancelled.	Pass

Table 6:Test cases for entertainment activity request

Test Case ID: AD05					
Tested Component: Request Entertainment Activity					
Module Name: Entertainment Activity					
Tested Area: Functionality of the Entertainment Activity					
Test no	Test Description	Steps to Test	Expected Results	Actual Result	Status
AD05_1	Sending a request for entertainment activity	Provide the Correct every details and click send button	After the submission system will redirected to the bookings page.	Redirecting to the bookings page.	Pass
AD05_2	Sending a request for entertainment activity	Provide the past date and correct other details and click send button.	system will show date is not existing	show error message date is not existing	Fail
AD05_3	Sending a	Provide the	system will	show error	Fail

	request for entertainment activity	reason field empty and correct other details and click send button.	show please fill every fields	message please fill every fields	
AD05_4	Sending a request for entertainment activity	Provide all empty fields and click send button	system will show please fill every fields	Error message showing	Fail
AD05_5	Sending a request for visiting appointment	Click booking Cancel button	After the submission system will show message your booking successfully cancelled.	show message your booking successfully cancelled.	Pass

Table 7: Test cases for other item donation

Test Case ID: AD06					
Tested Component: Book Other Item Donation					
Module Name: Other Item Donation					
Tested Area: Functionality of Other Item Donation					
Test no	Test Description	Steps to Test	Expected Results	Actual Result	Status
AD06_1	Booking a time slot for Other Items donation	Provide the Correct every details and click booking button	After the submission system will redirected to the bookings page.	Redirecting to the bookings page.	Pass
AD06_2	Booking a time slot for Other Items donation	Provide the past date and correct other details.	system will show date is not existing	show error message date is not existing	Fail

AD06_3	Booking a time slot for Other Items donation	Provide empty fields and click booking button	Show an error message	Error message showing	Fail
AD06_4	Booking a time slot for Other Items donation	Click booking Cancel button	After the submission system will show message your booking successfully cancelled.	show message your booking successfully cancelled.	Pass

4. Conclusion and Recommendations

The main aim of this project is to develop an online donation system for cancer hospital, Maharagama. When think about cancer hospital in Maharagama, present situation of country is highly affected for that also. Because, that hospital have a lack of money for day-to-day activities such as medicines of patients, foods of them and many things. So, many patients are facing a huge issue about money. But there are many people who like to donate for that hospital. But the issue is they don't have time to come and donate them. If there is any kind of platform to do all of donations easily, it will be a great opportunity to increase donations.

Also, sometimes there is a lack of blood in the hospital for blood transfusions to cancer patients. Then people are prefer to donate blood. But the queue and slowness of the staff is the reason to people are not willing to donate blood. This is because they don't have time to spend and wait in there. So, if there is any online blood donation time booking system, people will begin to book and come at the relevant time. So, it is a help for both of the staff and donors. Also, sometimes there are several food donations for one day and somedays there is not even one donation. Because of that sometimes vegetables are wasting. So, if there is a booking system it will be a great management for food

donations. Also, if they can't come on that day, they can't give that foods on that day they can cancel their bookings before 5 days. Also this system allows to send a reminder about the booking before 5 days. Then it will be helpful for both staff and donors. Finally, this system will be very helpful system for donors to do their donations and help to save others' valuable lives.

5. References

- [1] 2017. <https://journal-bpa.org/index.php/jbpa/article/view/129>. [online] 4th Research Department, Policy Research Center for Ministry of Civil Affairs of the People's Republic of China, Beijing, China. Available at: [Accessed 1 March 2023].
- [2] 2020. Web-based Charity Management System. [online] The Department of Computer Science Faculty of Computing and Applied Sciences Baze University, Abuja. Available at: [Accessed 27 February 2023].
- [3] A. Bhati and R. Hansen†, "A literature review of experimental studies in fundraising", 2020.
- [4] 2016. Global Status Report on Blood Safety and Availability. [online] world health organization. Available at: [Accessed 1 March 2023].
- [5] P. Annear and D. Huntington, Case-based payment systems for hospital funding in Asia: an investigation of current status and future directions. 2015.
- [6] G. Muhammad, H. Fazal, H. Asif, F. Abbas and I. Memon, "An ERP Based Blood Donation Management System for Hospital and Donor", 2020.
- [7] Global Financial Stability Report. 2010.
- [8] "Ethical Issues in an Emerging Health Care Funding Practice", 2016.
- [9] Peter A. Ubel, Cindy L. Bryce, Laura A. Siminoff, Arthur L. Caplan, and Robert M. Arnold, "Pennsylvania's Voluntary Benefits Program: Evaluating An Innovative Proposal For Increasing Organ Donation", 2000. 6
- [10] Paula Chatterjee, MD, MPH; Atheendar S. Venkataramani, MD, PhD; Anitha Vijayan, MD; Jason R. Wellen, MD, MBA; Erika G. Martin, PhD, MPH, "The Effect of State Policies on Organ Donation and Transplantation in the United States", 2015.

- [11] C. Mon, K. Cheng and A. Shibghatullah, "Mobile application: donate day", *Journal of Physics: Conference Series*, vol. 1529, no. 3, p. 032022, 2020. Available: https://www.researchgate.net/publication/342271895_Mobile_application_donate_day. [Accessed 1 March 2023].
- [12] A. Aflaki and A. Pedraza-Martinez, "Humanitarian Funding in a Multi-Donor Market with Donation Uncertainty", *Production and Operations Management*, vol. 25, no. 7, pp. 1274-1291, 2016. Available: <https://onlinelibrary.wiley.com/doi/abs/10.1111/poms.12563>. [Accessed 5 March 2022].
- [13] A. Aflaki and A. Pedraza-Martinez, "Humanitarian Funding in a Multi-Donor Market with Donation Uncertainty", *Production and Operations Management*, vol. 25, no. 7, pp. 1274-1291, 2016. Available: <https://onlinelibrary.wiley.com/doi/abs/10.1111/poms.12563>. [Accessed 5 March 2022].
- [14] Ming Jiang¹ , Ping Fu¹ , Hexin Chen¹ , Mianshu Chen¹ , Bo Xing¹ , and Zhonghua Sun¹ , Ping Deng² , Guang Wang² , Yi Xu² , Yu Wang, "A Dynamic Blood Information Management System Based on RFID", 2005.
- [15] "Blood donation systems as an integral part of the health system", 3rd Regional Blood Transfusion Center General Hospital of Athens "G. Genimatas", 2000

6. Appendix

6.1. Appendix A - Timeline - Gantt chart

Months	December	January	February	March	April	May
Planning						
Designing						
Create Blood Donation feature						
Create Food Donation feature						
Create Fund Donation feature						
Create other all features						
Finishing Overall Project						

Software Requirements Specification

for

Online Donation Web Site For Cancer Hospital Maharagama.

Version 1.0 approved

Prepared by M.K.S.S. Leelananda

**Bachelor of Information Technology
Centre for Open and Distance Learning
University of Moratuwa.**

25/03/2023

Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1.Purpose

“Apeksha” is an IT based system, proposed to the final year project of the Bachelor of Information Technology at the University of Moratuwa. The Software Requirements Specification (SRS) is contains detailed description of the requirements for the Donation system for Maharagama Cancer Hospital.

It provide a thorough understanding of what can be expected from the newly introduced system that is being built. The current version of SRS will cover the chapters of introduction, overall description, system features, and external interface requirements including the design and also covers initial requirement specification for users, developers, and project managers, testers, and other stakeholders. A thorough understanding of the system and its functionality will enable the development of appropriate software for the end user, which will be used in the development of subsequent stages of the project.

This SRS will serve as the project’s foundation. The Donation system can be designed, built, and tested using this SRS. This SRS will be used by the system development team building the Donation system as well as the hospital staff or end users. The Project team will use the SRS to fully understand the Donation system’s expectations before developing the appropriate software. The Online Donation System (ODS) for cancer hospital web application is intended to provide complete solutions for vendors as well as donors through a single get way using the internet. It will enable vendors to setup online drug donations, also food donations, search and book about blood donation appointments, other general donations, and also registering for volunteering services through online without visiting to the hospital physically.

Many versions of the document will be made in response to user input and needs, in the future and making further changes to the document accordingly. The proposed system's features, objective, proposed system interfaces, as well as what the system will do, the constraints it must work within, and how the system will respond to changes in the future, will all be covered in this document.

1.2.Document Conventions

This document is formatted by using the Standard IEEE template.

This is prepared using Microsoft Word 2013 and used the font type 'Times NewRoman' and all are regular. The fixed font size that has been used to type this document is 12pt with 1.5 line spacing. Used the bold property to set the headings of the document and *Heading 1 size is 18 pt and Heading 2 size is 14.*

1.3.Intended Audience and Reading Suggestions

This project is the university level project and is implementing under the guidance of university.

Users will be able to understand the new system more clearly if they are aware of the aims, objectives, and benefits of the system that will be developed. Users should start reading from the first chapter to get a feel of what it covers because they will have a clearer understanding of the purpose behind compiling this text and its guiding principles.

Analyzed requirements are the most important factor that developers should consider when determining what state a system is in when it comes to development. To specify the system's scope, the non-functional and functional needs must be determined. (what should be developed and what should not).

Therefore, based on the project scope, the general description is the most important part for the developer of system features, requirements for external interfaces, and other nonfunctional requirements. In addition to using design diagrams, other criteria, including inputs and outputs, storage, users, and more, can be used to determine processes.

The project management establishes the system's scope using this SRS as a guide. Project managers can completely understand user requirements by reading the paper attentively. A copy of the SRS document is also given to the project manager, who is in charge of overseeing the team, setting goals, and dealing with user-related problems. After reading the chapter on the project scope, the project manager should study the following chapters sequentially.

When testing the functionality of a system, understanding user requirements is essential. During the phase of gathering requirements, testing is incorporated into the agile method. The SRS gives testers instructions on how to conduct out testing tasks and achieve the end result. Since it is fair to evaluate each section of every document throughout the project, testers can be pointed to the SRS's beginning in order to keep the system's accuracy and quality.

Finally, This project is useful to everyone who wants to donate for this cancer hospital, who wants to donate blood for this cancer hospital, who wants to donate foods for this hospital, and also drugs and other items. Then, the intended audience of this document would be donors and admin of the hospital and specific staff who train to maintain this and the project team with the objective to refer and analyze the information. The SRS document can be used in any case regarding the requirements of the project and the solutions that have been taken. The document would final provide a clear idea about the system that is building

1.4.Project Scope

The purpose of the online system is to create convenient and easy-to-use online system for users, trying to give information about blood donations, food or drugs donations for cancer hospital.

The system is based on a relational database with. We will have a database supporting to handle these works. In this system people who like to donate can donate by this system.

As the charity organizations offer intangible services which the donor does not consume, if there is any facility to do them with online, the donors also have a courage to do donations and then the donations will be increased. Additionally, in health sector of Sri Lanka, like Maharagama cancer hospital, now a days donations are happening through offline. It means donations are happening

via manually. Then the donors go to the hospitals and discussing with donations management unit members and then do donations. Then, donors are not began to donate via web sites because they have no any experience to donate via them. So, this try is to introduce a system for hospitals like Maharagama Apeksha hospital to get donations easily from donors who wish to donate and it will be a great opportunity to donors because it is easy to do donations through online and they can get many advantages like time is not consuming, because they don't want to go to hospital to get donation details. Because of that after sometimes most of the people are practiced to use this system and because of that not only their time, also the hospital staff time can protected. When we think deeply about this issue, in Sri Lanka, cancer patients are increasing day by day. Because of the current situation of country, hospital didn't have enough money to give treatments and other facilities for patients. But there are many people, who prefer to donate cancer hospital. But the difficulty is as their busy schedule they don't have an enough time to come and waste time to give their donations. When they want to donate something, They have to call and contact them or come to the hospital. Not only that there are some people who wish to donate for this hospital, but they can't give more money. Because of that they are shy to coming to hospital because they can only give few money and they think that it is offense to go and donate 100 rupee for hospital. So, if there is any application they can do donations in online, if the people can donate only 100 rupee he or she can donate it, without any shy. Also, for cancer hospital we can give arms like soup, king coconut and many things. Current system for give soup is we can buy vegetables and go and give to the hospital and then, they will prepare it and give to the patient. So, some people are booking a time for give them and but there are some people give donations without pre booking. Because, they don't have time for come and scheduling a time. But the thing is sometimes, for one day, there will be one or two peoples who give vegetables to make soup. So it is waste full. Because though they have many sets of vegetables to make soup, they can't make with all of them. They are preparing them for the amount of patient. They are not preparing more.

Also there are many days that anyone don't give vegetables to make soup. So if we have a proper system we can manage them and get one vegetable set for one day and we can ask others to give their vegetables in another day, which don't have any vegetable set. Then the hospital can reduce the wastage of vegetable and also they will be able to give soup regularly. Also when think about hospital donation management team, it is very difficult to maintain donation details manually. Because, they have to keep all records in papers and when they want to get a information about them it is very difficult to filter them and get details because, they are keeping in papers. Also, when they go some where, they had to take those and go sometimes.

Also, there are many people who want to do blood donations. But they don't come to donate because in hospitals sometimes they have to stay in a que. But they don't have time to waited in a que. So, by this system, they can book a time and go to donate blood. So the time of them is protected. Drugs donation is also same. Because the needed drugs are changing day by day, donors have to come for the hospital and take the drug list and go for a pharmacy and buy them and give them to the hospital. But if there is a online system to get the list for them, it will be very helpful for donors and also the hospital staff. Because, the time of both people are savings.

Also, it is very difficult to tell about donation process, for the donation unit receptionist, for all who is calling and ask about them. Because, for a one day, many people are coming and also calling to get details. So, the receptionist should repeat the details again and again. But if there is a proper system for donors to get details about donation process it will be helpful for both side. Above all, we hope to provide a comfortable user experience.

1.5.References

- [1] pdfcoffee.com. 2022. Software Requirement Specification Document - PDFCOFFEE.COM. [online] Available at: <<https://pdfcoffee.com/software-requirement-specification-documentpdf-free.html>> [Accessed 5 September 2022]
- [2] 2020. Web-based Charity Management System. [online] The Department of Computer Science Faculty of Computing and Applied Sciences Baze University, Abuja. Available at: [Accessed 5 September 2022].
- [3] A. Bhati and R. Hansen†, "A literature review of experimental studies in fundraising", 2020.
- [4] 2016. Global Status Report on Blood Safety and Availability. [online] world health organization. Available at: [Accessed 5 September 2022].
- [5] P. Annear and D. Huntington, Case-based payment systems for hospital funding in Asia: an investigation of current status and future directions. 2015.

2. Overall Description

2.1.Product Perspective

This System is mainly towards persons who are willing to donate blood, fund, drugs, other items, food or requesting appointment for entertainment activities to the cancer hospital. Through this system it will be easier to give a donor for the particular needs of patients and easy to build the procedure of donatio. n. connection between donor & the hospital. The main intend of building this system is to formal the

Also this System is a new self-contained software product which will be produced by creater in order to overcome the problems that have occurred due to the current manual system. The newly introduced system will provide an easy access to the system and it will contain user friendly functions with attractive interfaces. The system will give better options for the

problem of travelling, donating, knowing detail and all the other required tasks that has been specified by the donor. The final outcome of this project will increase the efficiency of almost all the tasks done at the hospital in a much convenient manner. The entire software product includes the all relevant features to create a better connection between the donor & hospitals.

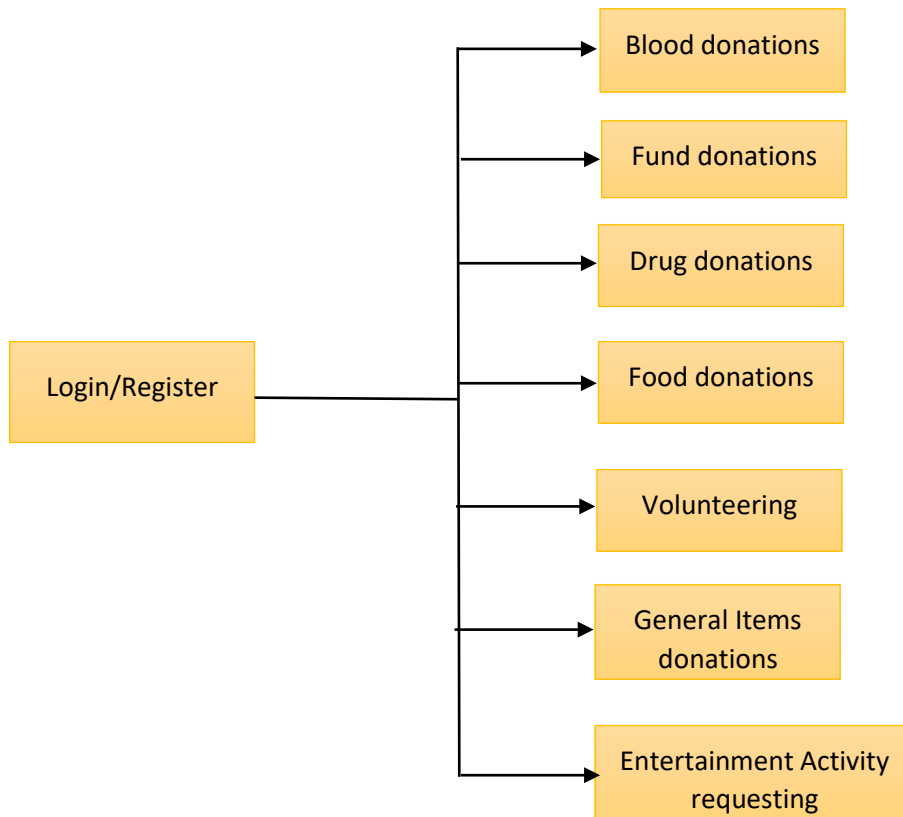


Figure 1:Major Components of the system

2.2.Product Features

The major features the system contains will be summarized in this section. As mentioned earlier in this document, ‘Apeksha’ web application will have the following main features.

As a donor, people can get details about donation processors without logging to the system. At there, they can get details about blood donation, fund donation, food donation, general item donation, drug donation and entertainment event organizing. Also, they can get volunteering program details. But, if they want to donate, they should have to login to the system. So, donor will be able to get registered or login if they already have a user account.

Once they have registered, and login, if someone wants to donate blood, they can book a time for blood donation by entering his personal details. After that he can view about his booking and past donations also.

When some one wants to donate food, there are many kind of food donations they can do and, after selecting a food and filling the date and other details, they can send a request. Accepting is done by the hospital staff and After accepting the request they can give that donation.

Like that, When someone wants to donate general items such as bed sheets, plates, cloths, books, pencil, pen, toys etc they also have another form and they also should have to sent a request for them. If there is no any issue they are accepting and then they can donate them.

If someone wants to donate drugs, there is a drug list in the web site and they can buy it and donate it. Also, if someone wants to donate funds, they can online transfer money for the hospital account. If someone or a community wants to organize a entertainment program for children ward or any other ward, now they have to go to the hospital and firstly meet they ward main person and request from that person the permission. After getting his permission, then the requesting person should write a letter and go to the director and give it for him and get the approval of him. This will take more time and the requesting person fed-up of waiting. Because, sometimes they had to spend whole day for the hospital because, sometimes director is in long time meetings and like that. So, the donors are also faced inconvenience and they are not trying to do that kind of activity again because of the time wasting for the hospital. So, by this system, they can do it by this web site through online.

Also, there are many people who are volunteering to work for the hospital and help them. But they are not begin to do it, because, there are not a proper system to get details and also if they want to get details they had to come for the hospital. So, they don't like to waste time and because of that they are not begin to do that. But by using this system, they can register for preferred volunteering activity online and when hospital wants they can contact that person immediately. Soo, it will be very helpful for the hospital also. Because, they don't want to spent money like that activities, because, there are persons who like to join as volunteers for the works.

When think about hospital staff, if there is any request, they can accept or decline the requests and go further with the process and also they can get reports about the donations in wanted times. So, it will be very helpful for them.

Administrators:

This module focuses on the admin. Each member in a Admin is given a user name and password, which identifies him uniquely. The member is given a login form. he enters the login details user id and password. The options given to

- Maintain fund donation details
- Maintain blood donors details
- Maintain food donation details
- Maintain volunteering appointment details
- Maintain blood donation details
- Maintain drug donation details
- View Doners
- Logout
- Change Password

Donor:

Each member in a Donor is have a user id and password, which identifies him uniquely. The member is given a login form. he enters the login details user id and password. The options given to a each donor are

- change password
- registration
- get details about blood donation
- get details about food donations
- send a request to get food donation time
- get details about drug donation
- get details about general item donation
- register for volunteering services
- donate funds
- book time slot to come and give blood for hospital
- logout

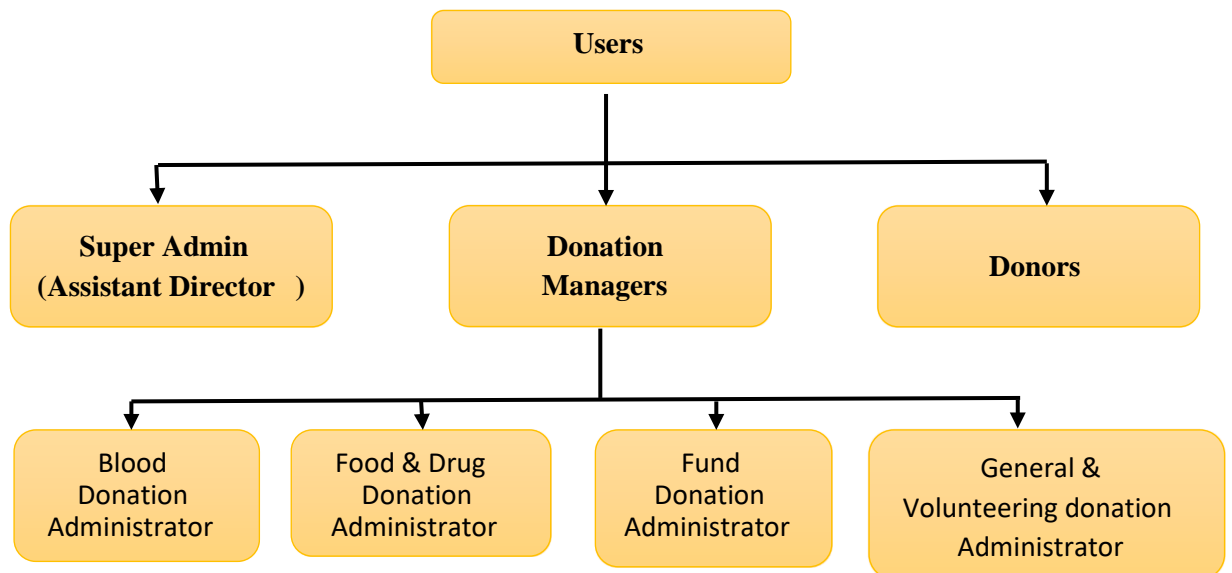
2.3.User Classes and Characteristics

Figure 2:User Classes

Characteristics of Users

1. Assistant Director

He has the privilege of Monitoring and authorization of all the tasks handle by the system. He can access every function performed by the system. Main admin can access to the administration panel which is consider the core of the system. As the main authorized person about the donations he gets the ability to access the all donations details such as fund donation, blood donation, food donation etc . Meanwhile he will be able to take all the kinds of reports available in the system. Also, when there is a volunteering or entertainment activity request, the administrators send the details for him and finally he has to approve or reject that. By his decision, the approval or rejection is happened.

2. Blood Donation Administrator

He has the privilege of Monitoring and authorization of all the tasks about the blood donation. He can see the details of blood donor request and also he can add the donor details. Also, when there is a lack of blood in the hospital, they can send emails to the donors who has that blood group and ask them to donate if they can.

3. Fund Donation Administrator

He has the access for fund donation activities. So, he can see about the fund donation details, and fund donor details.

4. Food & Drug Donation Administrator

He has the access for Food & Drug Donation activities. So, he can see the food donation request, drug donation requests and also he can update the drug donation and food donation detail showing page. When the wanted drugs list is change he can update the current needed list. Also, he can see the donation details and donations bookings. By this page they can manage these donations. Also when they want to get details about donation bookings there is a facility to get that details through a calendar.

5. General & Volunteering donation Administrator

He has the access for the general item donation page. There are so many things that the donors can donate them. So, after getting that requests, they can accept

the details. And process it. Also when they want to get details about donation bookings there is a facility to get that details through a calendar.

Also, there are many people who like to give volunteer services for the hospital. So there is a facility to register like that persons and this person can see that registrations. So, if there is a opportunity for like that person they can contact them and get the service of them without paying money.

Also, there are some people who like to organize an small events for cancer patients in children ward or any kind of ward. So, the donors can send request for them and then they can see them and accept or reject them. After accept them, it will go to the assistant director and after his approval, this person can process it further.

6. Donor

In this system donor can do fund donations, food donations, and blood donations, drug donations, general item donations, volunteering registration, entertainment activity registration. So, when think about blood donations first, they can see how to donate, what are the qualifications to donate and can see a donation gallery without login to the system. Also they can register as a donor in this system and then he can book a appointment to donate. For one time group 6 person can register because, there is a facility for donation 6 people one time. Then think about food and general item donations then they can see about food donation gallery and after login they can book a time slot to donate their foods for hospital. After sending request they have to wait till the acceptance and after accept the request they can do the donations. Before two days to the donation they received a reminder mail to get the confirmation about the donation. When think about fund donation they can pay through the system and also they can see about fund donation gallery. Also they can donate drugs. There is the updated list of needed medicines in the website and they can get them and donate them. Then the donors can organize a event for patient and they can send a request for the hospital about that. After approval received they can go further with it. Also if there is volunteers to help for hospital they can register by using the system and when the hospital wants that service they will contact the volunteer. Also they can change there password when he want or when they forget.

2.4.Operating Environment

Hardware and software requirements

Hardware:-

1. Operating System Supports all known operating systems, such as Windows, Linux
2. Computer 512MB+ RAM, monitor with minimum resolution of 1024x768, keyboard, and mouse
3. Hard Drive should be in NTFS file-system formatted with minimum 10 GB of free space
4. A printer will need to be used to print these reports if want

Software:-

1. Software is designed to run on any platform above Microsoft Windows 7 (32bit).

2.5. Design and Implementation Constraints

The developer(I) put my best efforts in the development of the system. Certain design and implementation constraints are applied to maintain system reliability and longevity. The system will need at least 512 MB of memory. However, it is recommended to have 1GB of memory. Time is the most significant restriction to build up the application because the project will have a deadline. Due to the limited time, this application will only be produced in English.

2.6.User Documentation

A user manual provided which is providing will provide a clear idea of how interact with the system. It is written by using a simple, understandable language which hides the internal complexity of the system.

2.7.Assumptions and Dependencies

It is assumed that every donor has even a mobile phone. The system database will be accessible in real time. The donor doesn't present any fake details to the system. Donors who want to contribute to a donation will definitely send a request through the system. The admin doesn't use the details of the donors for illegal works. Always admin confirming the confidentiality of the donors information.

3. System Features

In this system there are many efficient features. In this system when think about donors, firstly they can see the home page and without login they can only view everything such as blood donation details, fund donation details, food donation details and everythings. But they want to do any process they should login first. After login they can do every donations. So, the high priority system features are below.

3.1. Login and Registration

3.1.1.Donor Login

3.1.1.1 Description and Priority

Before login donors only can view the details. They can't do any donations. By using this feature people who can donate and who wish to donate he can login using password and username. This is a high priority feature.

3.1.1.2 Stimulus/Response Sequences

User types

username

User types

password

User clicks log in

System validates

3.1.1.3 Functional Requirements Login is a functional requirement in this system. In here without login donor can't select a time slot to donations. Then, after entering correct username and password they can login to the system. Also in here if he forget his password he can reset his password.

3.1.2. Admin Login

3.1.2.1 Description and Priority

Before login admin can't do anything. By adding user name and password admin can login to the system. This is a high priority feature.

3.1.2.2 Stimulus/Response Sequences

User types username

User types password

User clicks log in

System validates

3.1.2.3 Functional Requirements Login is a functional requirement in this system. In here without login admin can't do anything. Then, after entering correct username and password they can login to the system. Also in here if he forget his password he can reset his password.

3.2. Book time slots for blood donation

3.2.1 Description and Priority

In this section it is covering blood donation process. In present people can't spend more time for donating blood. Because the people are busy and they don't like to spend more times for like this things. So, the donations are decreased and as a result of

this in this hospital there is a lack of blood. Blood if there is a proper system for doing this and if it is not get more times most of people are begin to donate blood. By using this feature we can solve that problem and can increase donations. By using this feature people who can donate and who wish to donate can donate after login to the system. Before login he can go through the details about blood donation process, blood donation gallery and etc. After them they can login and book a time slot to donate. This is a high priority feature.

3.2.2 Stimulus/Response Sequences

Click book time slot button

Fill required details

Select a time slot among available time slots

Click submit button

3.2.3 Functional Requirements

Book time slots for blood donation is another feature of this system. After login donor can go to the blood donation page and he can click book time slot button and then he can select a time which is available in the system. After selecting he can submit the button and then the admin can see the booking details of the donor.

3.3. Book food donation

3.3.1 Description and Priority

In present there is a lack of money for hospital to give foods for patients. So, they are asking helps from others. But because there is not any proper system for this for one day there are several alms and some days there is no even one alms. So, by this feature I try to solve that problem. By using this feature people who can donate food and who wish to donate can book a donation time to donate after login to the system. Before login he can go through the details about food donation gallery and etc. After them they can login and send a request for donate foods. After getting the approval the can donate it. This is a high priority feature.

3.3.2 Stimulus/Response Sequences

Click donate food button

Fill required details

Select a date to donate

Click submit button

3.3.3 Functional Requirements

food donation facility is another feature of this system. After login donor can go to the food donation page and he can click donate food button and then he can fill the required fields and submit details. In that fields donor should filled quantity, type of food and etc. After submitting request admin will receive a message and then he can accept or decline the request. So, according to the admin's action the donor can donate.

3.4. Book drug donation

3.4.1 Description and Priority

In present there is a lack of money for hospital to buy medicines for patients. So, they are asking helps from others. But because there is not any proper system for this. Currently, donors coming and meet the drug donation unit and they get the needed drug details and went to a pharmacy and buy it. But it very difficult. Because, there

is no a person all time related to the drug donation details and at that time donors have to wait till they come. By using this feature people who can donate drug can get the needed medicine list from this system. This is a high priority feature.

3.4.2 Stimulus/Response Sequences

Click donate Drug button

Get the Drug List

3.4.3 Functional Requirements

Drug donation facility is another feature of this system. After browsing that page they can get the drug list.

3.5. Fund donation

3.5.1 Description and Priority

Now there is no any online payment method for this hospital. So, to donate donor should go there and do the payments. But it is very hard and because of that some people are not begin to donate. But they always telling if there is any online payment system, the donations will be increasing because donors begin to transfer money online. If someone can donate only Rs.100 they can donate like that also by this system. By using this feature people who can donate money and who wish to donate can donate after login to the system. Before login he can go through the details about fund donation gallery and etc. After them they can login and do the donations. This is a high priority feature.

3.5.2 Stimulus/Response Sequences

Click donate fund button

Fill required details

Select a payment method

Fill payment details

Click submit button

3.5.3 Functional Requirements

fund donation facility is another feature of this system. After login donor can go to the fund donation page and he can click donate fund button and then he can fill the required fields, payment details, card details and submit details. In that fields donor should filled payment methods, card details and etc. After doing payments admin will receive a message of donation details and money debiting from donors account.

3.6. Entertainment activity request

3.6.1 Description and Priority

In this hospital there are some people they like to organize any kind of entertainment activity for patients. The normal procedure is, that person should go to that unit and meet the person in there and tell about the need. Then they ask that person to write a letter and get approval of assistant director. Then he should go there and he should wait till director coming. So, this is a time wasting activity. So, people not begin to do them. But, by this function we can manage it by system.

So, it will be a help for all. This is a high priority feature.

3.6.2 Stimulus/Response Sequences

Click Event button

Fill required details

Click submit button

3.6.3 Functional Requirements

Event requesting is another feature of this system. After login donor can go to the Event requesting page and he can click visit button and then he can fill the required fields and submit details. After admin will receive a message of request and then he can approve or decline that request. After accept the request it will show to the assistant director and he can approve or reject the request. Then it will show to the requesting persons and they can go further with that feedback. Then the donor will receive a email before few days to confirm the attendance.

3.7. Volunteering activity request

3.7.1 Description and Priority

In this hospital there are some people they like to give any kind of service that they can freely for the hospital. The normal procedure is, that person should go to that unit and meet the person in there and tell about the need. Then they take that person to meet the assistant director and after discussing it will go further. But if there is no director at that time he had to wait or come again. So, donors don't like to do that and because of the

time wasting like this, they are not begin to do these kind of works. This have medium priority.

3.7.2 Stimulus/Response Sequences

Click Volunteering button

Fill required details

Click submit button

3.7.3 Functional Requirements

Volunteering registering is another feature of this system. After login they can go to the Volunteering registering page and then he can fill the required fields and submit details. After admin will receive a message of request and then he can contact that person when they want that service.

4. External Interface Requirements

4.1. User Interfaces

The system will be aligned according to the user's device. It should not be constrained by the screen size. The system should be available to view on mobile, laptop and tablet technologies.

The layouts are developed to be adaptable and match their technologies.

This is the home page of this web system. In navbar there are some tabs and they are

Home – it is the home page

About Us – it is about the hospital details

Contact Us – It is about the contact details of the hospital. Also if we want to know something we can send a message through this.

Donations – It has three sub categories such as food donation, fund donation, blood donation, general items

Entertainment Activity– by using this users can send an request to entertaining activity providing all details

Volunteering – Volunteers can register by using this

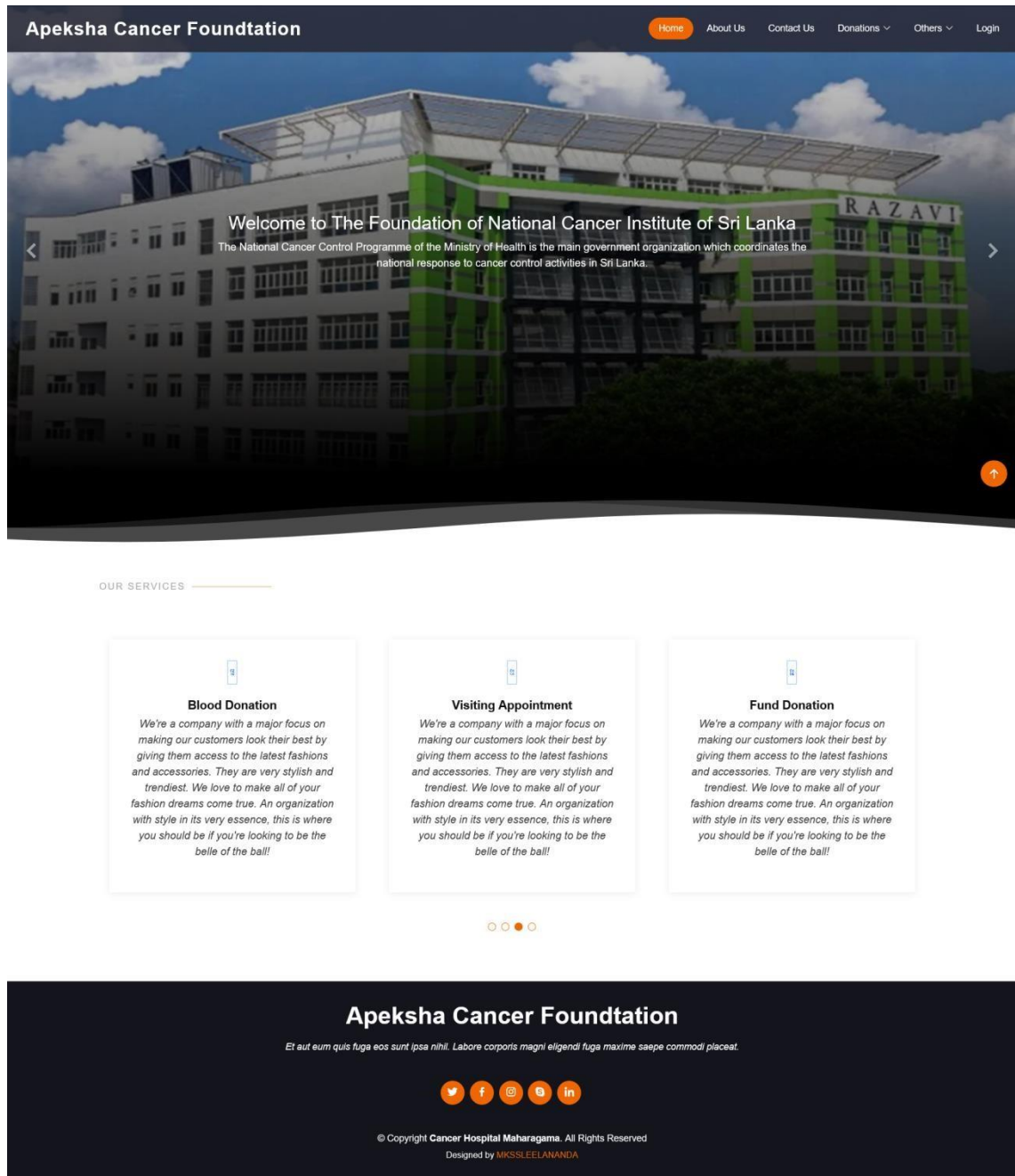


Figure 3: Home page

Login

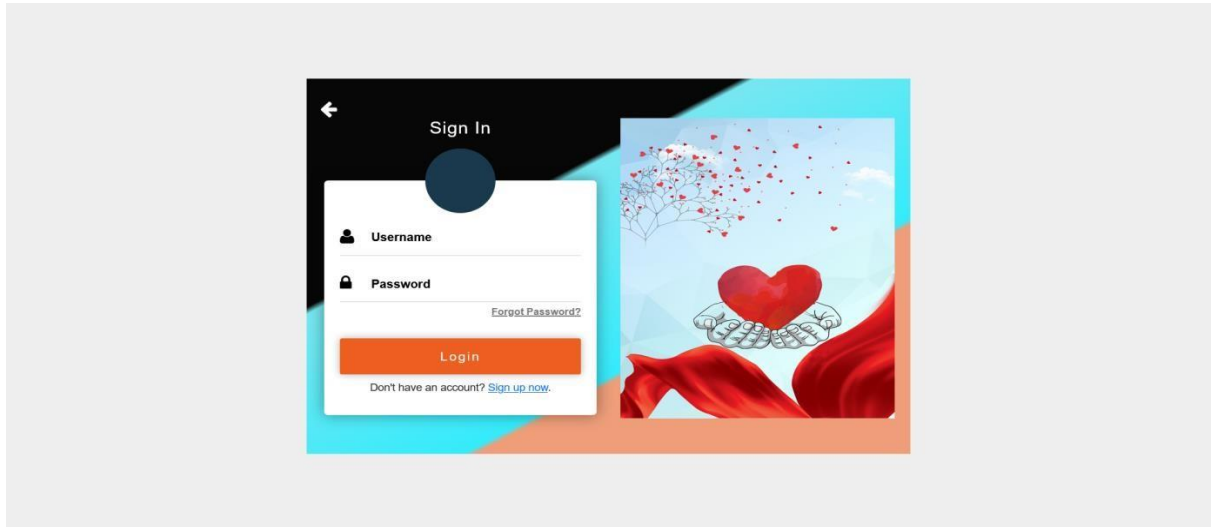


Figure 4:Login

Contact Us

This is contact us page and by using this they can ask what they want to know by sending a message. After that admin will receive the message and he will be reply for them.

Figure 5:Contact Us

About Us

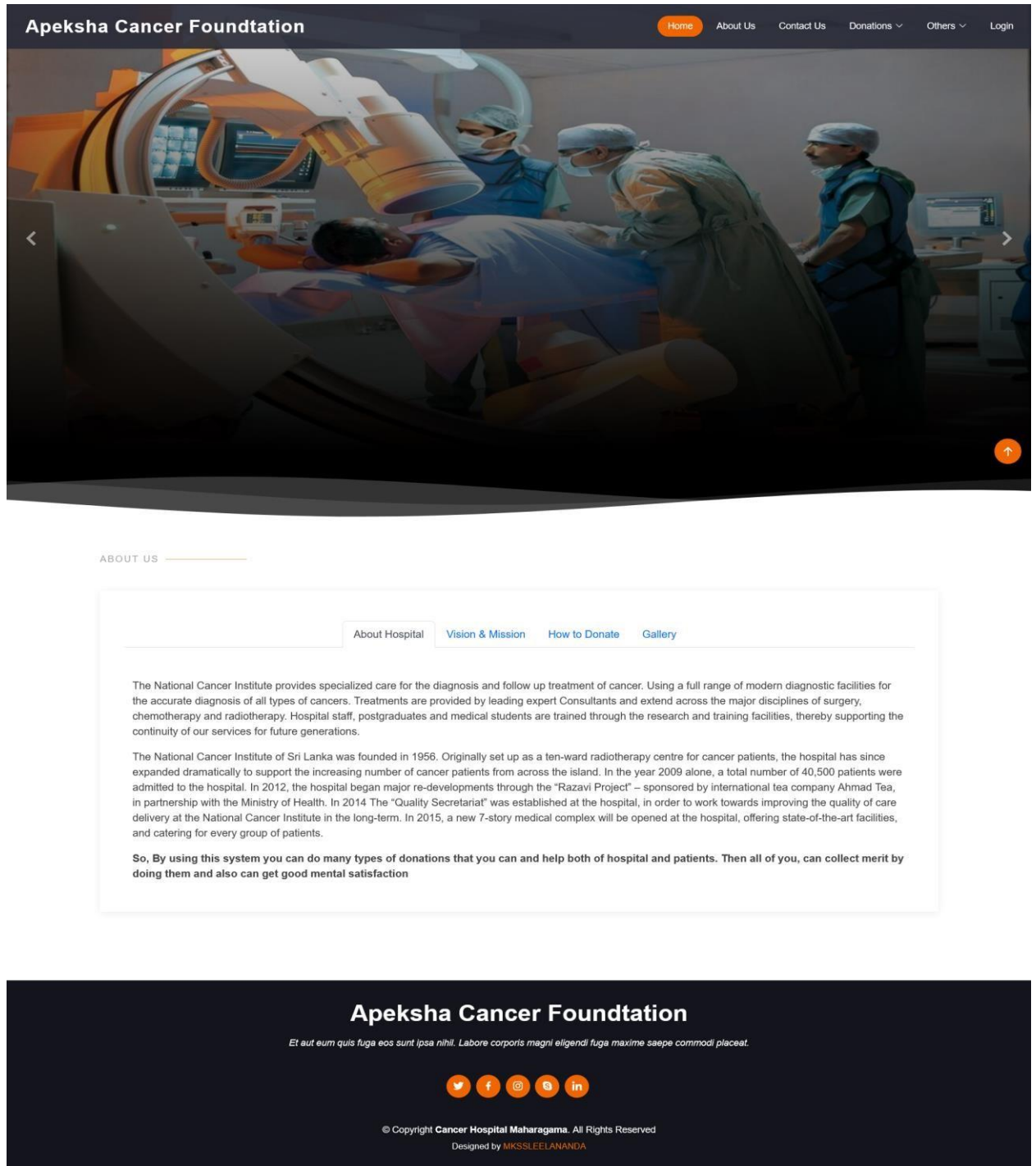


Figure 7:About Us

Donations tab

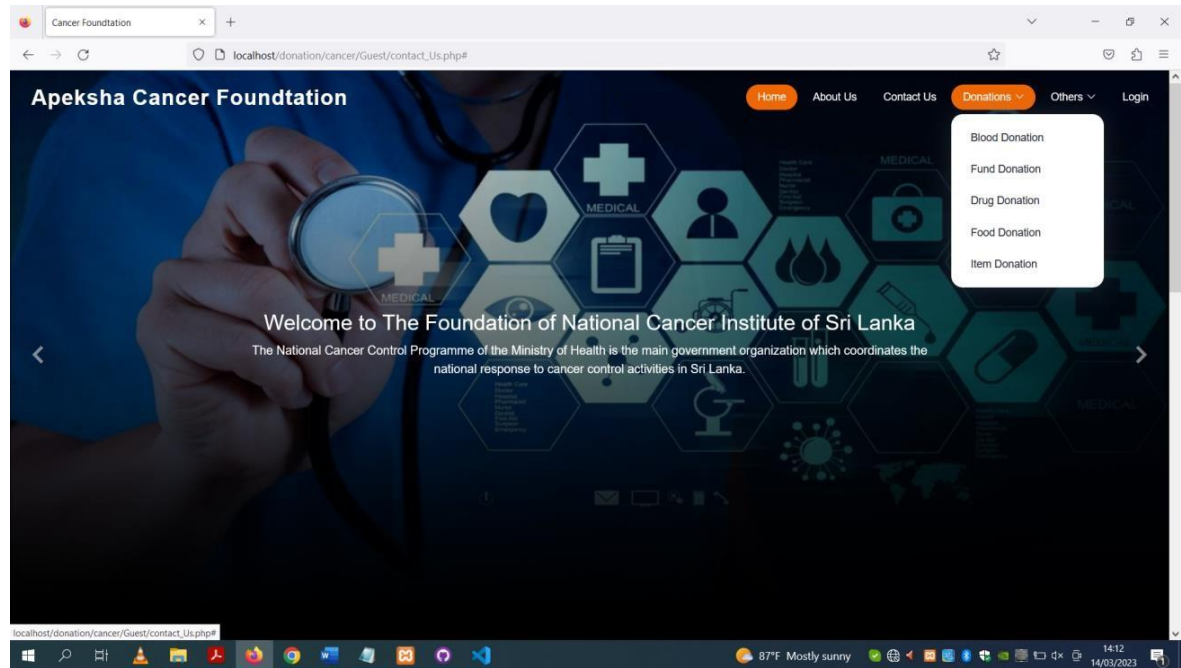


Figure 8:Donations

Blood Donation

By Clicking Blood Donation it goes to this. Users can get more details before login. They can see gallery of donation camps. Without login to the system they can't book an appointment to donate. By clicking why blood they can get this.

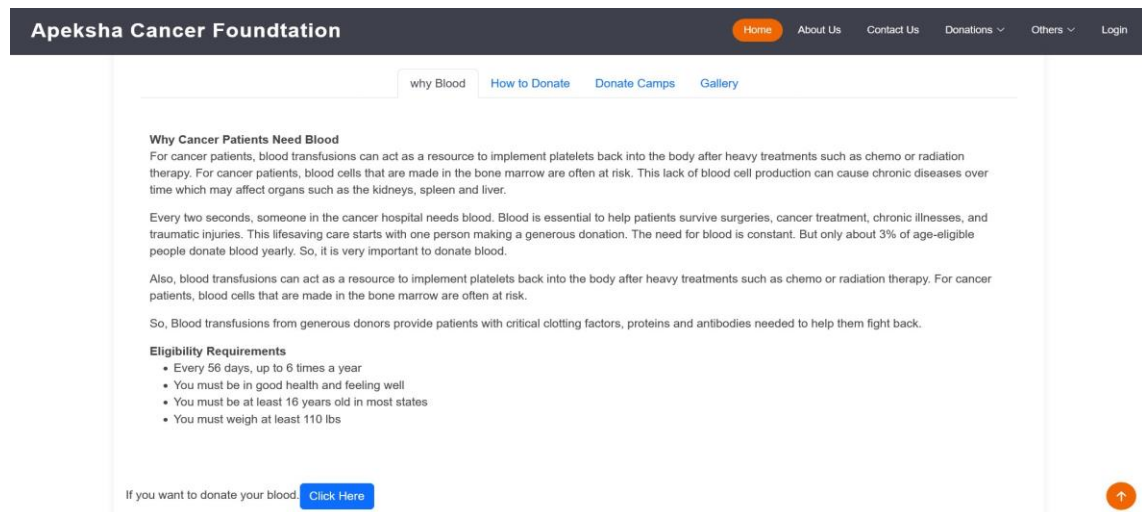


Figure 9:Blood Donation

By clicking how to donate user receive this.

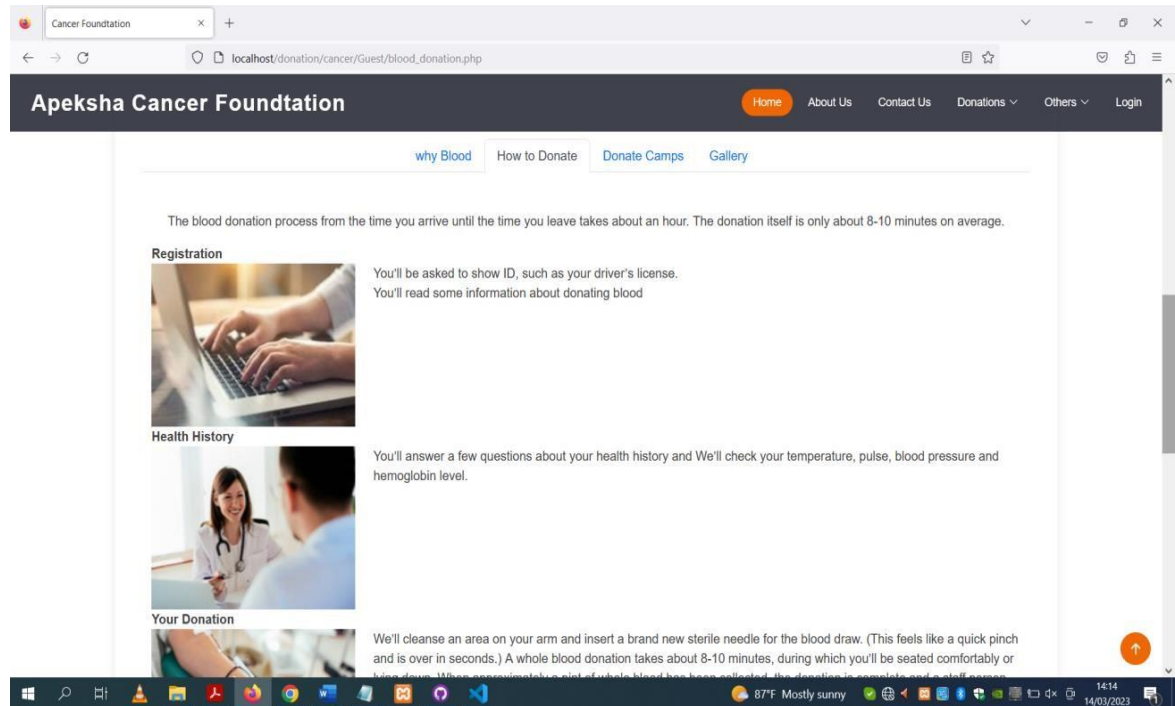


Figure 10:How to Donate

Food Donation

Without Login users can't send a request to donate foods

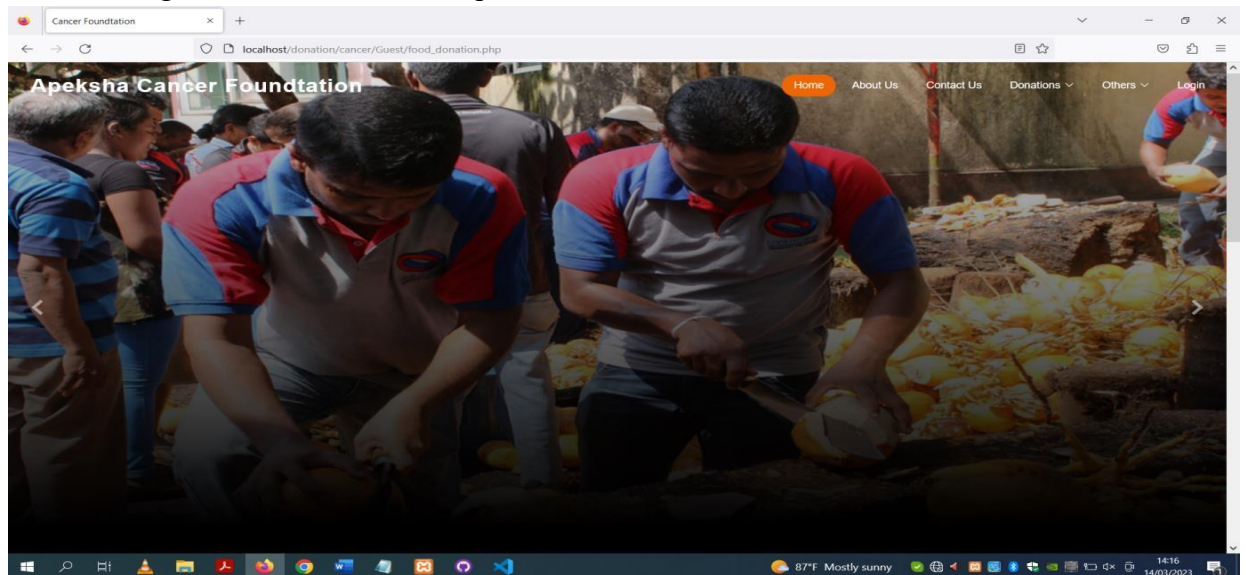


Figure 11:Food Donation

For other donations,
Entertainment Activity
Volunteering are the two categories.

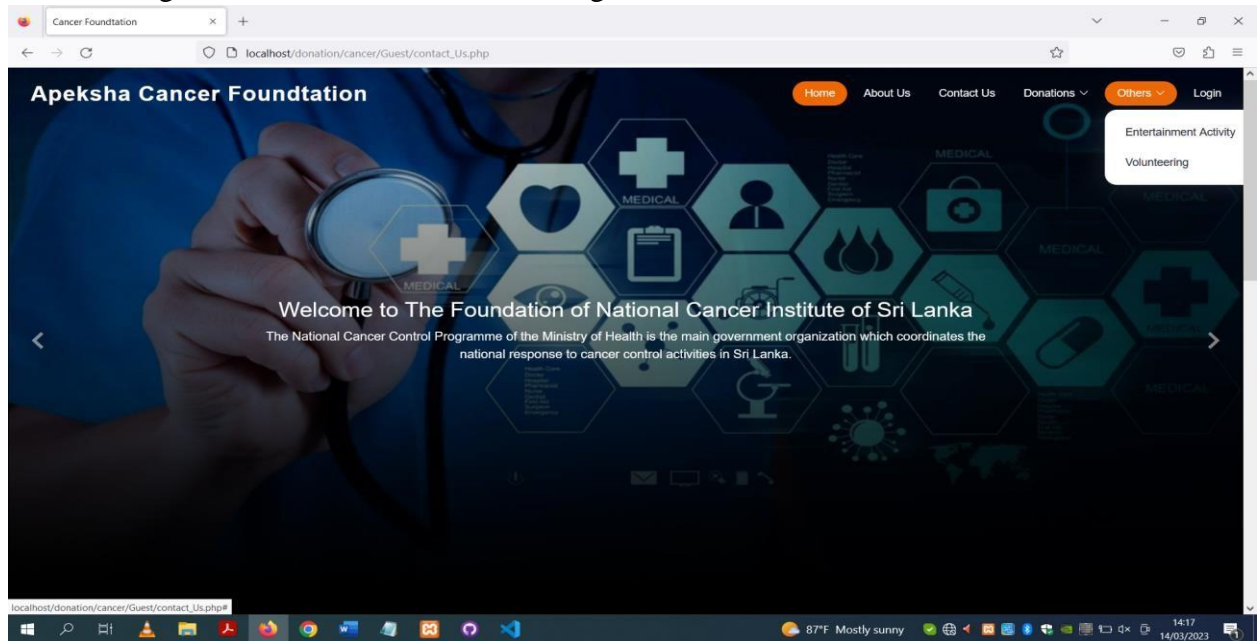


Figure 12: Other Donations

Donor Dashboard

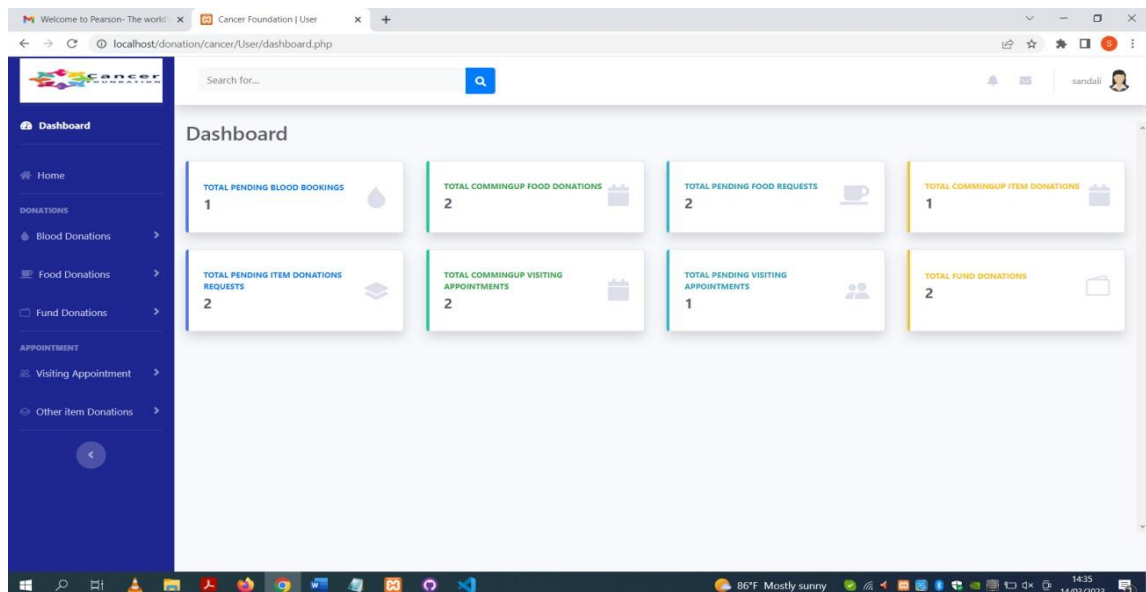


Figure 13: Donor Dashboard

Admin Dashboard

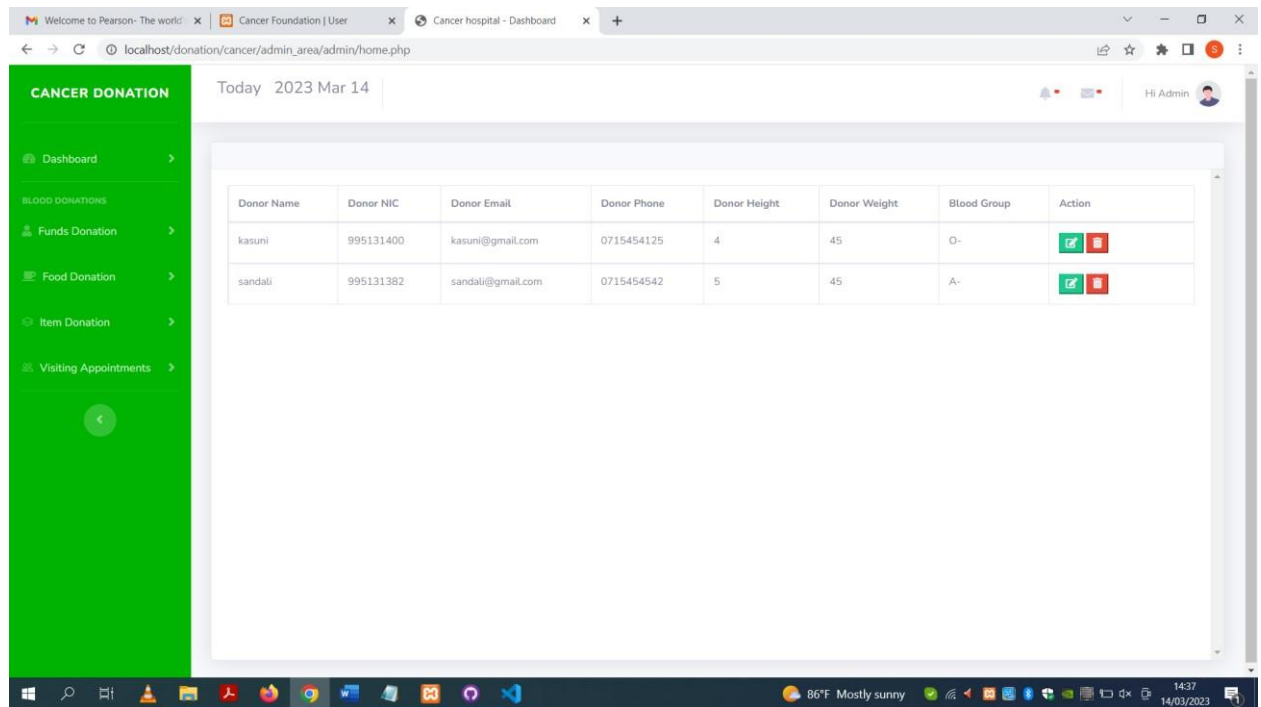


Figure 14:Admin Dashboard

4.2. Hardware Interfaces

Operating System Supports all known operating systems, such as Windows, Linux. Computer 512MB+ RAM, monitor with minimum resolution of 1024x768, keyboard, and mouse. Hard Drive should be in NTFS file-system formatted with minimum 10 GB of free space. So, A particular computer must meet the above requirements in order to effectively use the maximum benefits of the system. When registering a staff he get an email about his account password and username and it will be sent to the staff in the form of an e-mail notification. So there is a need for a broadband internet connection. A printer will be needed if they need to print reports about payments.

4.3. Software Interfaces

A computer which is this software going to be install wants to have Windows Operating System equal or above, Windows 7. On this Windows platform visual code and eclipse will be installed and that will be the platform the particular software will be run. Also, There should be mysql installed in the same computer.

4.4. Communications Interfaces

When a specific staff user created at the same time an e-mail notification will be sent to the staff person's e - mail account. Then he/she can reset his or her password and then he can login to the system. So, it requires having a stable internet connection. Mostly a broadband connection with computer will provide the efficient service.

5. Other Nonfunctional Requirements

5.1. Performance Requirements

It is the acceptable response times for system functionality. Although the system is designed to get the lowest possible system performance, system performance is largely depend on the performance of the hardware and software components of the installed computer. When considering system's time relations, the loading time of the user interface screens should not take more than two seconds. It should allow quick access to system functions. When login, login information must be verified within five seconds to cause the system to be effective. Query results returning should be within five seconds refines the search function.

5.2. Safety Requirements

In this system there are some sensitive information of donors. The admin side can use by several staff members. But the thing is only admin can register staff and after that the staff will receive a email about user name and password. After that they can login to the system. It means normal staff members can't access the registration and only admin can use it. So, Access to the various subsystems is protected by user login screen which requires a username and password. This provides different views and available functions of users through the system.

5.3. Security Requirements

In this system there are some sensitive information of donors. Also, The admin side can use by several staff members. So, there is a security issue if the all can register to the system. To avoid from it, admin can register staff and after that the staff will receive an email about user name and password. After that they can login to the system. It means normal staff members can't access the registration and only admin can use it. So, Access to the various subsystems is protected by user login screen which requires a username and password.

5.4. Software Quality Attributes

Availability: - The system must be available during 7 days and 24 hours.

Correctness: - to what extent the program conforms to the specifications, fulfills the objectives of the user's mission.

Efficiency: - Through the system, how much less resources and time is wants to achieve a specific task.

Flexibility: - The ability to add new functions to the system and handle them comfortably.

Integrity: - How the system demystifies the information in the system and how it avoids data loss. For that can encrypt sensitive information

Maintainability: - How easy to maintain the system as it is and fix defects by making changes.

Portability: - This donation system must run in any Microsoft Windows environment

Reliability: - Specify the factors which are needed to establish the required reliability of the software system at the time of delivery. It Mean Time Between Failures and Mean Time To Recovery

Reusability:- What is the ability to use the available components of the system also in other systems.

Testability:- Put effort into testing to ensure that it works as intended

Usability:- How easily one can take advantage of the system and user friendliness.

6. Other Requirements

When the system is fully developed, several sessions should needed for hospital staff to understand its functionality and some time to adapt the system. After these sessions, it is required to spend some time in the background of the system for an agreed period of time. This time period I used to identify new bugs which

could not be reached in earlier stages of the development process. The staff should have a valid email account to receive email notifications.

Appendix A: Glossary

SRS - Software Requirements Specification

ODS - Online Donation System

6.3. Appendix C - Use Case Diagrams

Donation System

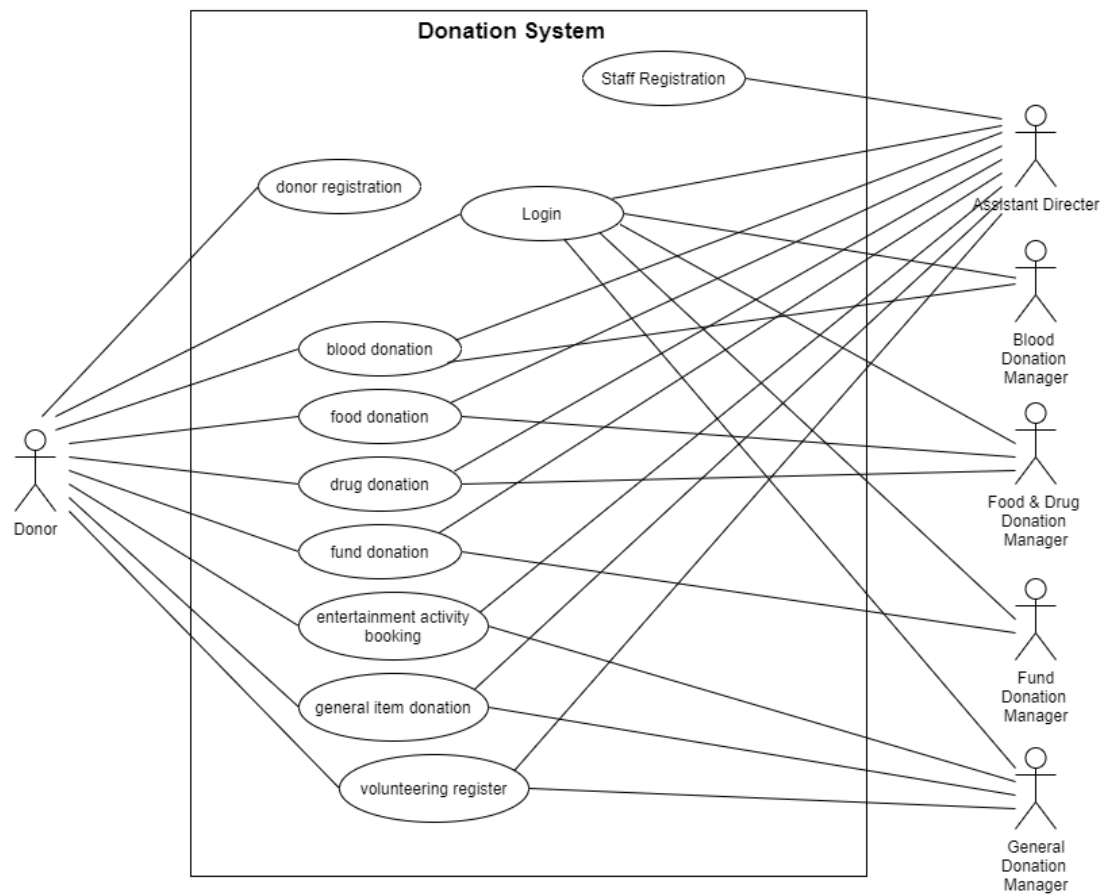


Figure 15: Donation system

Blood Donation Management

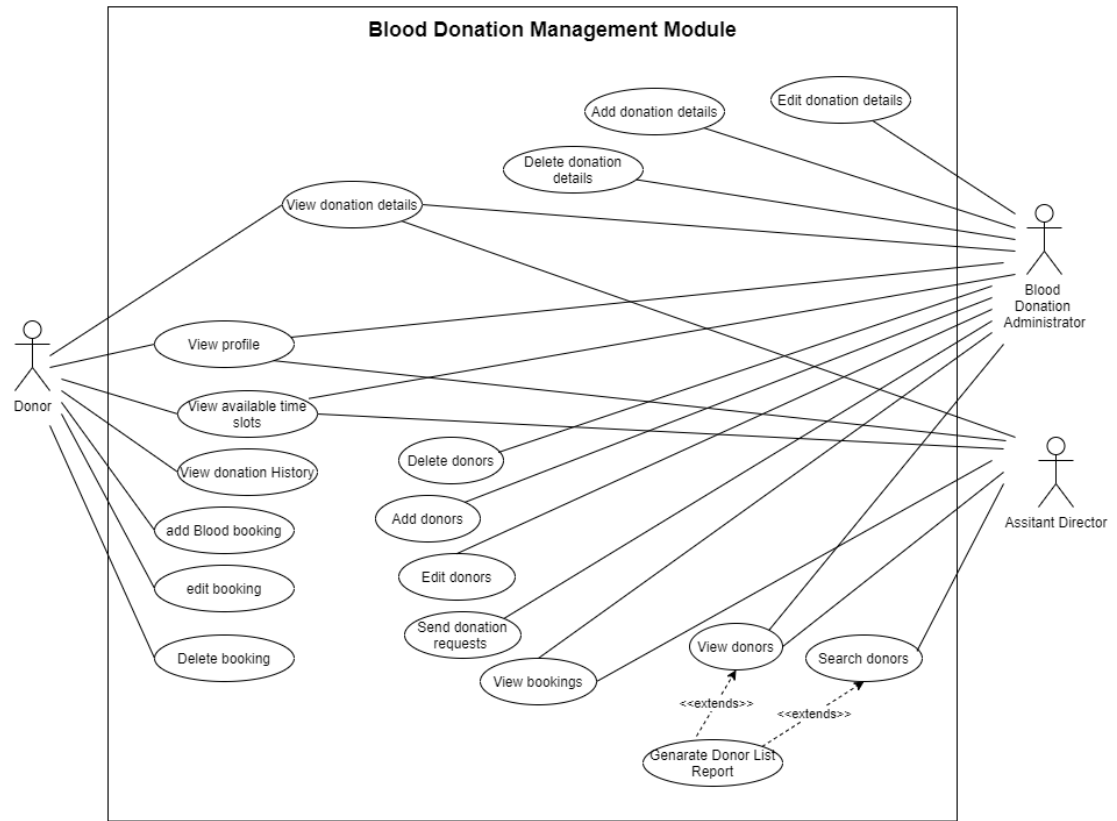


Figure 16: Blood Donation Management Module

Food Donation Management

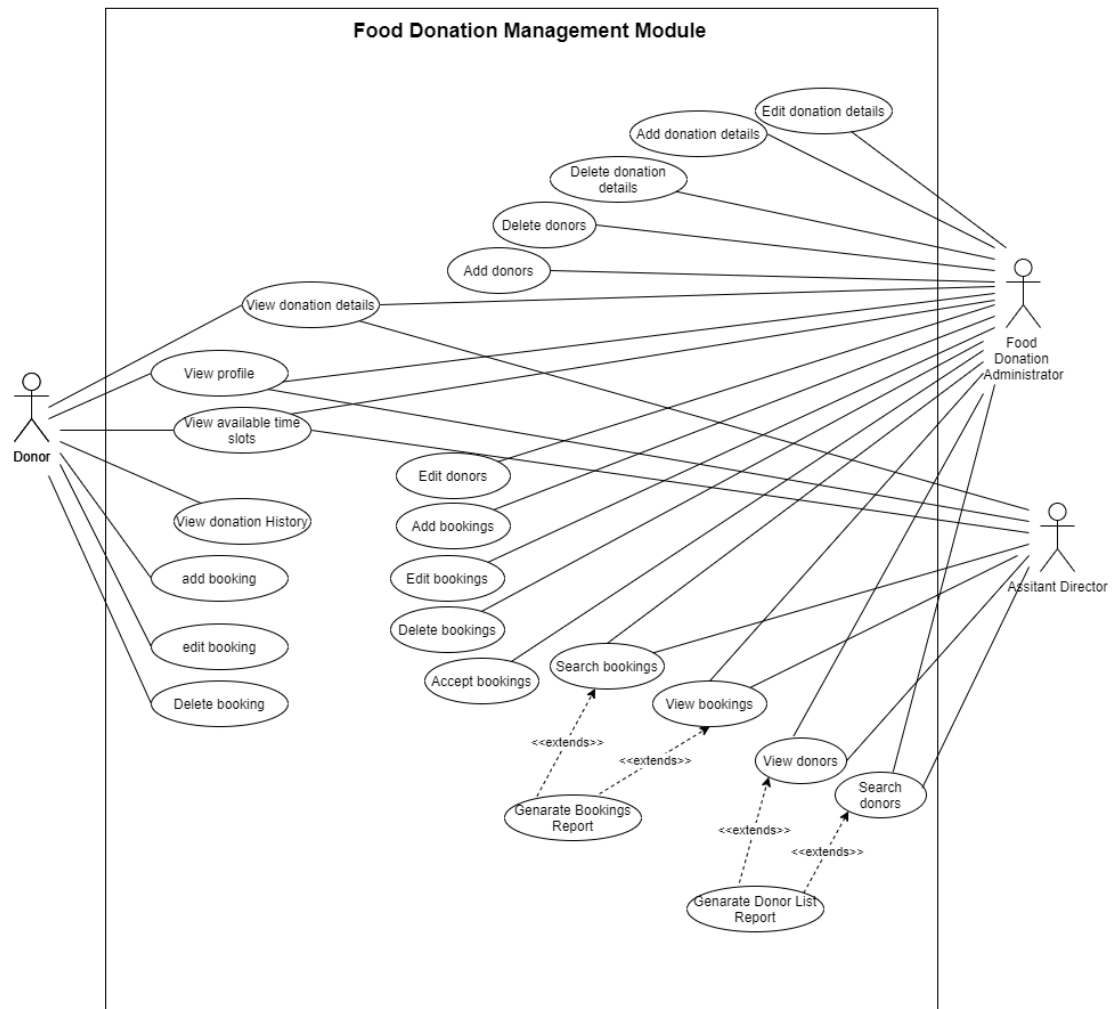


Figure 17: Food Donation Management

Entertainment Activity Management

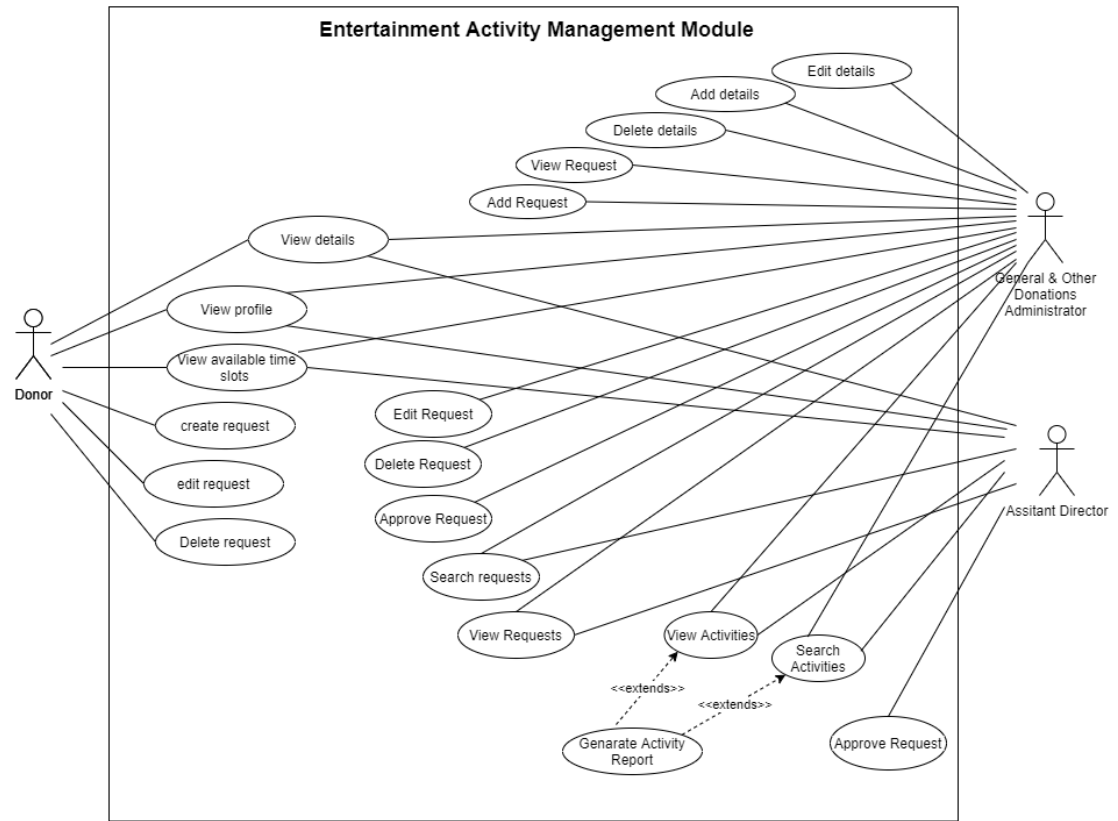


Figure 18:Entertainment Activity Module

6.4. Appendix D - Activity Diagrams

Activity Diagram for Donor Login

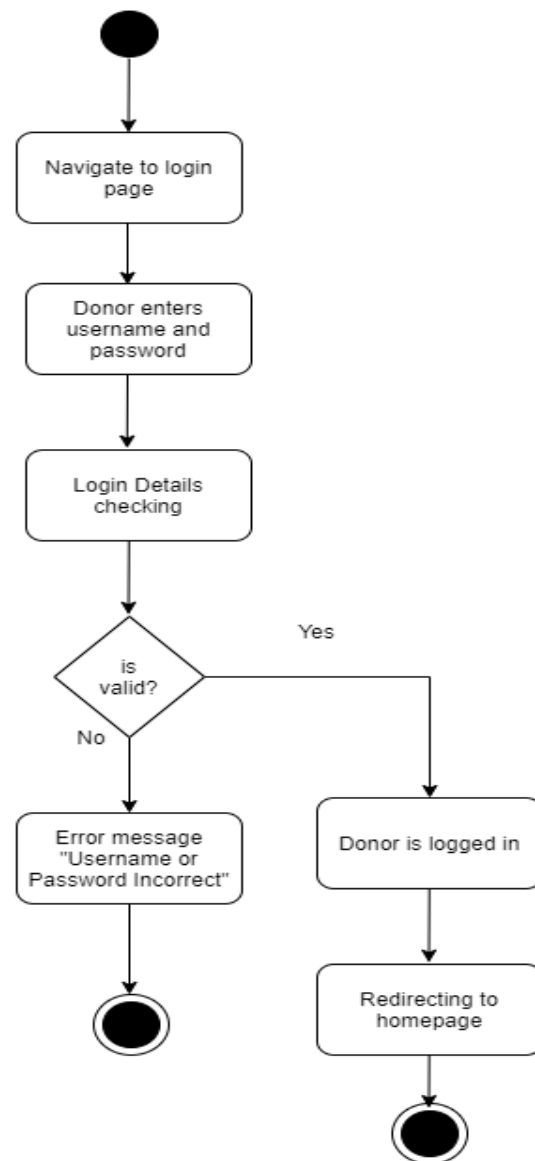


Figure 19:Activity Diagram for Donor Login

Activity Diagram for Entertainment Activity Request

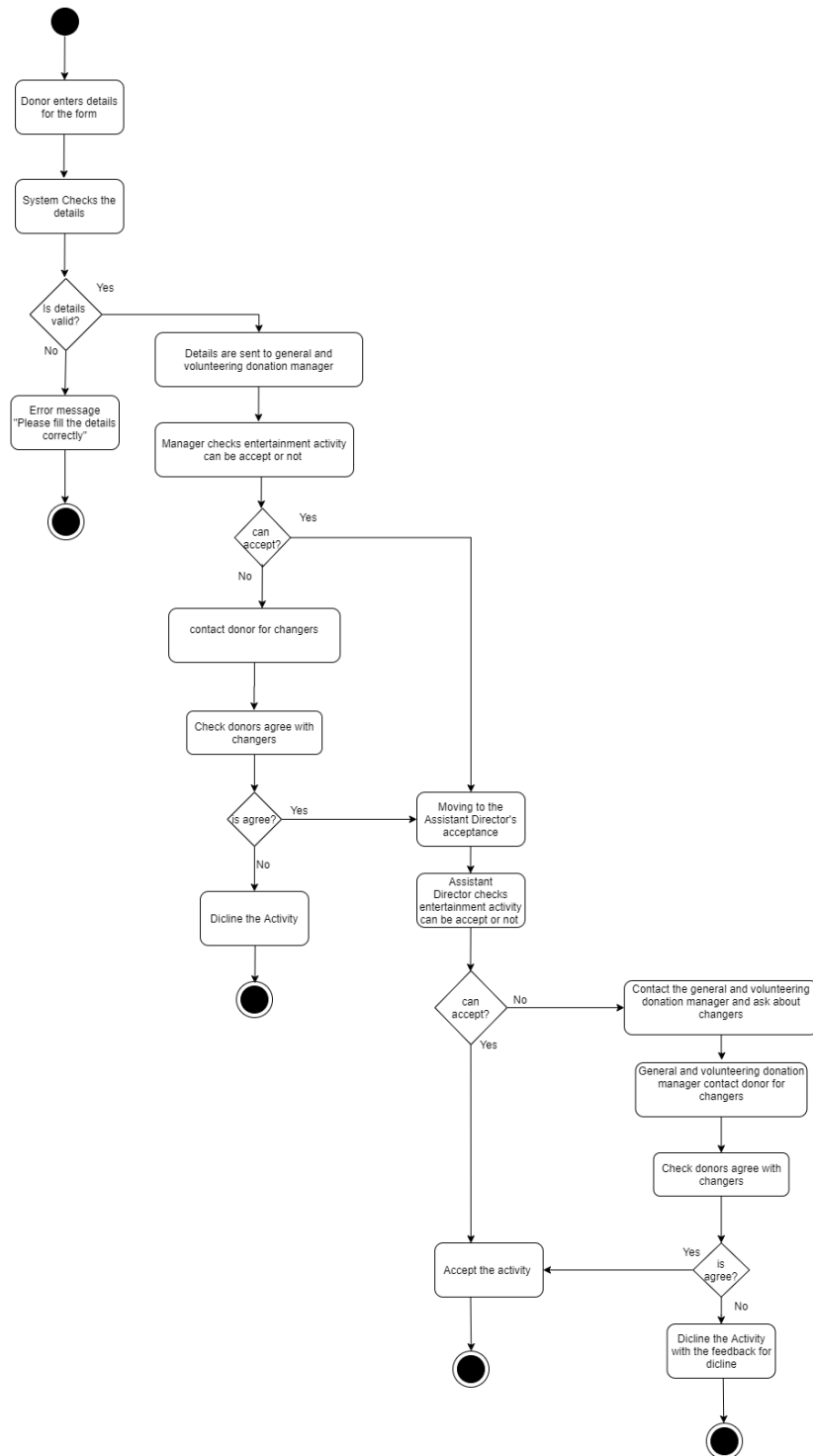


Figure 20:Activity Diagram for Entertainment Activity

Activity Diagram for Food Donation Request

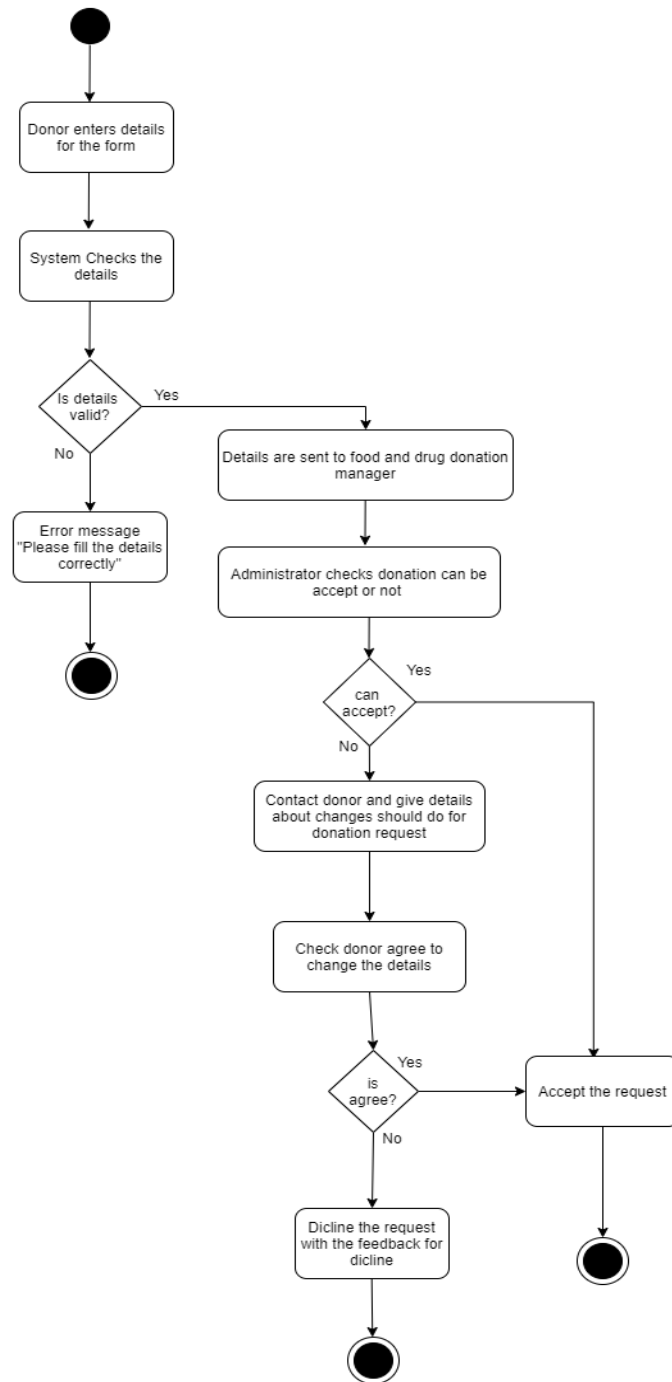


Figure 21: Use case for food donation

6.5. Appendix E – ERD

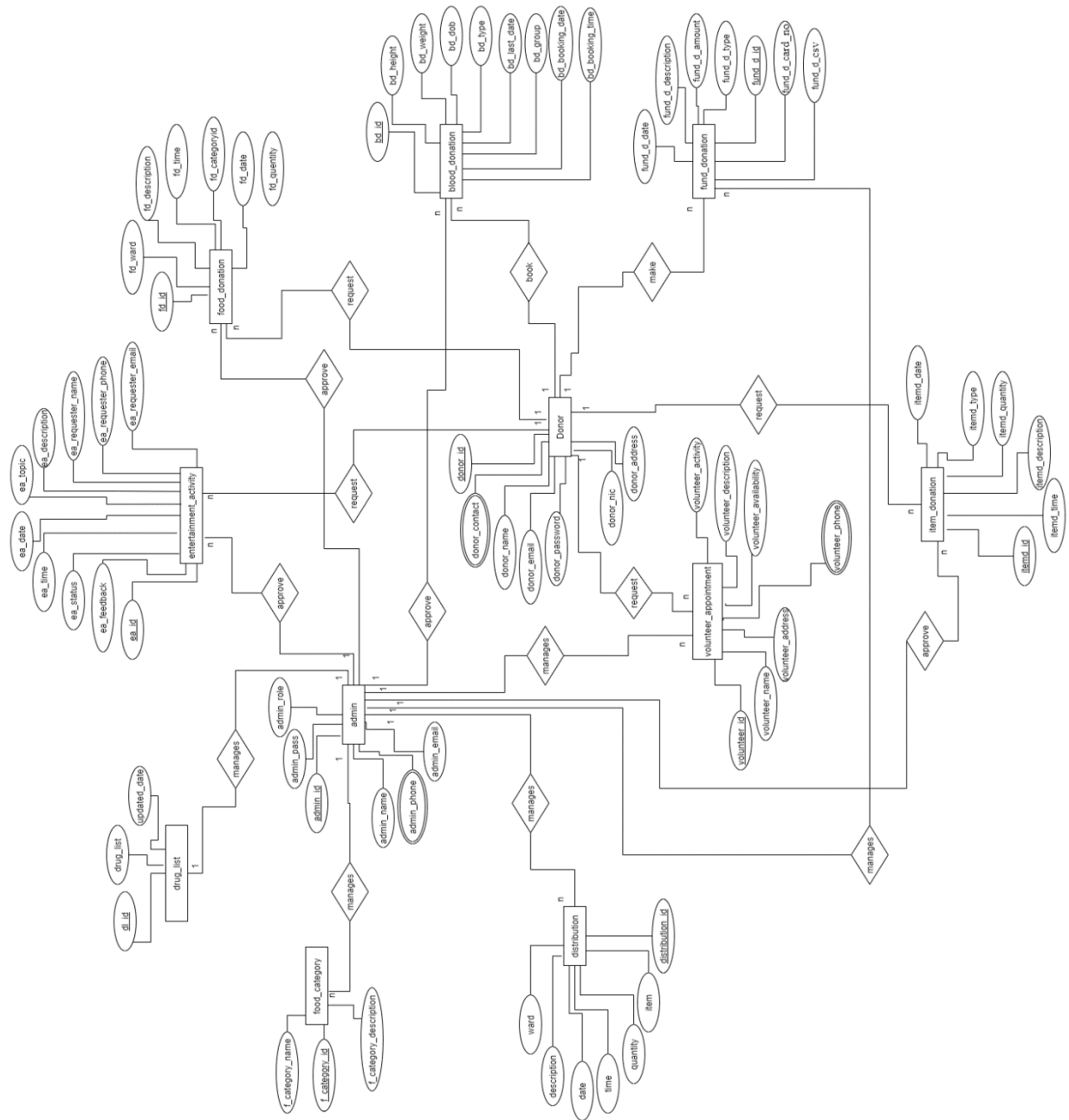


Figure 22:ERD