

Assignment 1 – Blood Donation System

IT1060 – Software Process Modeling

Year 1 Semester 2 - 2022

Assumptions we have made when doing the assignment:

- **❖** We have assumed that the actors except donor and patient, other actors have their own login given by the admin at first.
- **❖** We assumed that sometimes donor also can act as a patient. So, we identified a general relationship between donor and patient.
- **❖** We assumed that after the admin finds an error, admin will get the support from relevant technical teams to solve the problems and give solutions to the users.

We used a special method to identify the use cases uniquely. We used a Use Case ID which indicate the system name, actor, and numbering.

BDS_A_0001
(BDS – Blood Donating System / A – Admin / 0001 – Use case number)

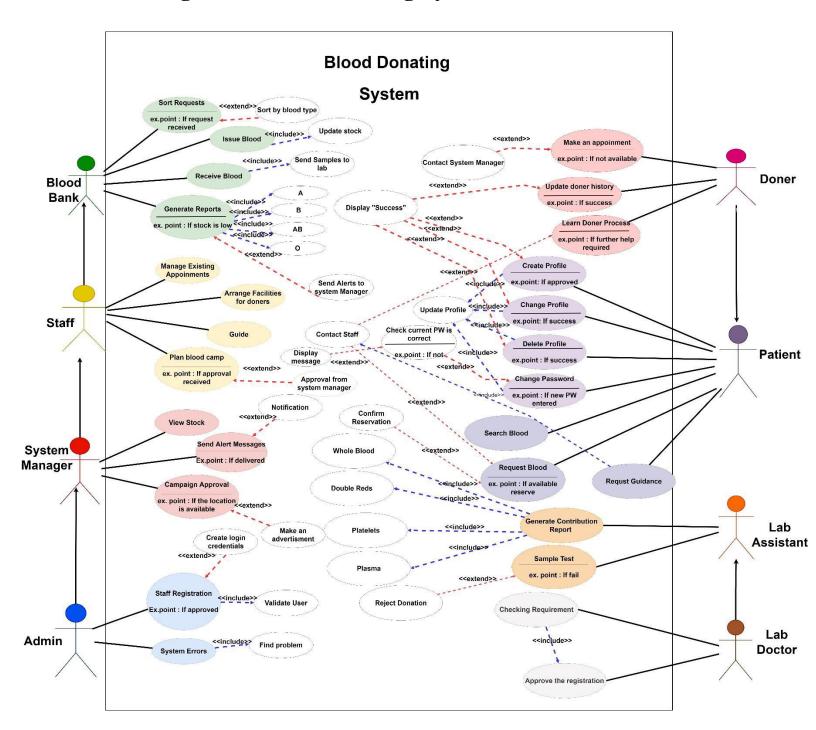


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Year 1 Semester 2 - 2022

Use Case Diagram - Blood Donating System





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Use Case Scenarios

Use case ID	BDS_A_0001		
Use case name	Staff regi	Staff registration.	
Summary	Registering staff to the system		
Priority	3	3	
Preconditions	Admin h	as checked availability of staff registration form	
Postconditions	Admin h	as sent staff registration confirmation e-mail	
Primary Actors(s)	Admin		
Trigger	Admin can create a staff Loggins		
	Step	Action	
	1	Check the new user registration tab	
	2	Choose staff registration tab	
	3	Fill the staff registration form	
Main Scenario	4	Assign to their roles and rights	
	5	Attach relevant documents to the confirmation email	
	6	Send confirmation email	
	7	Wait for the approval	
	Step	Action	
Extensions	7a	If approved create a staff login credentials	
	7b	If rejected contact system manager	
Open Issues	1	Should the system ask if the system manager approva is mandatory?	



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Use case ID	BDS_A_0002	
Use case name	System errors	
Summary	Checking errors in the system	
Priority	4	
Preconditions	User couldn't login to the system	
Postconditions	Admin has found a solution permanently	
Primary Actors(s)	Admin	
Trigger	Admin can fix a system error	
Main Scenario	Step	Action
	1	Log in to the admin panel
	2	Checking whether the error is going on
	3	Finding where the error is going on
	4	Make a permanent solution
	5	Send error fixing message to user
	Step	Action
Extensions	2a	check whether user enter the invalid credentials
	3b	If error is going on the data base system, change the decision
Open Issues	1	Should the system ask if always admin can fix the system errors



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IT21204942		
IT21304842	100	
Use case ID	BDS_BB_0001	
Use case name	Generate Reports	
Summary	Generate reports if there is any type of blood stock isn't available.	
Priority	2	
Preconditions	Blood bank has signed in using the credentials we have given them.	
Postconditions	Generate final report whether they could restock or not.	
Primary Actors(s)	Blood bank	
Trigger	The blood stock is running out.	
Main Scenario	Step	Action
Iviain Scenario	1	Log into the system using the given credentials
	2	Check the stock
	3	If any blood group's stock is running out, take notes.
	4	Calculate the result.
	5	Make a report including the current stock count.
	6	Send that report to the system manager.
	Step	Action
Extensions	6a	Send alert messages to system manager.
Open Issues	1	Should the system ask if the user wants to arrange a blood donation camp before get approval?



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Use case ID	BDS_BB_0002	
Use case name	Issuing Blood	
Summary	Issue the blood according to the requests received from the patients	
Priority	2	
Preconditions	Should have a clear idea about type of blood requested and amount requested	
Postconditions	Stock Up	odate
Primary Actors(s)	Blood bank	
Trigger	Gather sorted requests	
	Step	Action
	1	System displays account types
	2	Blood bank chooses account types
Main Scenario	3	Blood bank enters his / her credentials
	4	System displays welcome message
	5	Gather the sorted requests
	6	Check the patient details
	7	Note down the required amount of blood with type
	8	Give a form to patients to confirm
	9	Issuing the blood to the relevant parties
	10	Update the stock
Extensions	Step	Action
EXTERISIONS		2
Open Issues	10	Should ask "Update Stock Now"



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Use case ID	BDS_BB_0003	
Use case name	Receive Blood	
Summary	Collect blood from doners	
Priority	1	
Preconditions	Should I	nold a blood camp
Postconditions	Updatin	g the stock
Primary Actors(s)	Blood Bank	
Trigger	Hold blood camp	
	Step	Action
Main Scenario	1	Hold the blood camp
	2	Collect blood from donors
	3	Send it to the lab Technician / Lab doctor
	4	Request them to separate the blood
	5	Request a contribution report from lab technician / Lab doctor
	6	Get the sorted blood from lab
	7	Store it in the blood bank
	8	Log into the system using credentials
	9	Update the stock
	Step	Action
Extensions		21
Open Issues	8	Should the system ask sort request/ issue blood/ receive blood or generate reports?



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IT21256196		
Use case ID	BDS_BB_0004	
Use case name	Sorting requests	
Summary	Sorting out the requests from patients according to their need	
Priority	3	
Preconditions	Should	d log into the system
Postconditions	Identi	fy the requests separately
Primary Actors(s)	Blood bank	
Trigger	Collecting the requests	
	Step	Action
Main Scenario	1	System displays account types
	2	Blood bank chooses account types
	3	Blood bank enters his / her credentials
	4	System displays welcome message
	5	View the requests from patients
	6	Identify their needed type of blood
	7	Sort the requests according to the blood type
	Step	Actions
Extensions	8	2
Open Issues	4	Should the system ask if the user wants to view blood requests?



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Use case ID	BDS_D_0001	
Use case name	Make an appointment	
Summary	Donor makes an appointment to donate blood	
Priority	1	
Preconditions	Register	to the system
Postconditions	Received	d an appointment date, time, and location
Primary Actors(s)	Donor	
Trigger	Donor Make a reservation	
Sty and to	Step	Action
Main Scenario	1	Log in to the system as a donor
	2	Moving to date reservation page
	3	Decide a date, time, and venue
	4	Set up an appointment
	5	System display appointment sent to approve
	6	Wait for the approval
	7	Donor received confirmation details
	Step	Action
	1a	If donor is a new user, must register to the system as a donor
Extensions	1b	If donor is a new user, fill the donor form
	3a	If the dates are unavailable, contact the system manager
	7a	If appointment details are correct, receive confirmation message
Open Issues	1	Should the system ask if the user need to make an appointment without any delays or approval?



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IT21292040		
Use case ID	BDS_D_0002	
Use case name	Learn	Donor process
Summary	Donor also can learn their process in the system	
Priority	2	
Preconditions	Donor	has signed up in our website
Postconditions	An email about the further processing	
Primary Actors(s)	Donor	
Trigger	Donor can learn their responsibilities	
	Step	Action
	1	Donor logs in to the system
	2	Navigate to the contact us page
	3	Search relevant process
	4	Learn donor process in the system
	5	Learn their responsibilities in the system
	Step	Action
Extensions	4a	If donor doesn't satisfy, they can also contact staff team
	5b	Get some idea about their responsibilities
Open Issues	1	Should the system ask if the user wants to request blood?



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Use case ID	BDS_D_0003		
Use case name	Update donor history		
Summary	Donor u	Donor updates their previous donation history	
Priority	3		
Preconditions	Donor h	as registered as a donor	
Postconditions	Donor c	an update and maintain their donation history	
Primary Actors(s)	Donor		
Trigger	Donor has updated their donation history		
	Step	Action	
	1	Log in to the system as a donor	
Main Scenario	2	Move to the user profile	
	3	Get a brief idea about their donation history	
	4	Add a previous donation history to the system	
	5	Update user profile	
	6	System display need to be verified	
	7	Wait for verified	
	8	Complete updating of donation history	
	Step	Action	
Extensions	1a	assuming donor is an existing user, if not, register as a donor	
LATCHSIONS	1b	Checking validate user or not	
	8a	System display update and verified successfully	
Open Issues	1	Should the system ask if the user wants to arrange a blood donation camp before get approval?	



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Use case ID	BDS_LA_0001	
Use case name	Generate contribution report	
Summary	Generate contribution report after the donation program.	
Priority	5	
Preconditions	Donors have donated the blood.	
Postconditions	Update the blood stock details.	
Primary Actors(s)	Lab Assistant.	
Trigger	A donor(s) has/have donated blood.	
Main Scenario	Step	Action
	1	Log in using the credentials we have already given.
	2	Go through the reports of the staff who are working on collecting blood.
	3	Summarize those reports and do calculations.
	4	Make a contribution report.
	5	Update the blood stock details in the database.
	Step	Action
Extensions		-
Open Issues	4	Should ask whether we want to generate graphical representation as well?



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IT21304842			
Use case ID	BDS_LD_0001		
Use case name	Approve donors' registration forms		
Cummanı	If the donor has completed all the requirements		
Summary	they should have, approve it.		
Priority	3		
Preconditions	The lab	doctor should have gone through the	
Freconditions	registr	ation form.	
Postconditions Sending a message to inform		g a message to inform that the	
Tostconuitions	registration form is approved.		
Primary Actors(s)	Lab do	ctor	
Trigger	Lab doctor has gone through the registration		
11,8801	form.		
Main Scenario	Step	Action	
	1	Log in using the credentials we have	
		already given.	
	2	If all the conditions have completed by	
		the donor, approve it.	
	3	Send a message to the donor informing	
		that they have approved it.	
	4	If the conditions are not completed	
	—	inform the donor including the reason.	
Extensions	Step	Action	
		20	
Onen lesues	1	Should ask to display donor registration	
Open Issues	1	forms?	



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Use case ID	BDS_LD_0002	
Use case name	Check donors' registration forms	
Summary	Checking whether the donor has completed all the requirements a blood donor should have.	
Priority	3	\$30°
Preconditions	Log in to the system using the credentials we have given already.	
Postconditions	Approve/Reject the registration form.	
Primary Actors(s)	Lab doctor	
Trigger	The donor has sent a registration form	
7000	Step	Action
Main Scenario	1	Log in using the credentials we have already given.
	2	Check whether there are any donors' registration forms
	3	Access to the donor's registration form.
	4	Go through it and check whether he/she has completed all the requirements a donor should have.
	5	After considering the requirements approve it or reject it
	Step	Action
Extensions		-
Open Issues	1	Should ask to display if there's any donor registration forms?



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Use case ID	BDS_P_0001	
Use case name	Request	blood
Summary	Patient o	an request blood via our website
Priority	1	
Preconditions	Patient h	nas signed up in our website
Postconditions	An email	about the confirmation
Primary Actors(s)	Patient	
Trigger	Patient h	nas decided to request blood
	Step	Action
	1	System displays account types
	2	Patient chooses account types
Main Scenario	3	Patient enters his / her credentials
	4	System displays welcome message
	5	Get form to request blood
	6	Fill the form
	7	Attach relevant documents to the form
	8	Submit the form
	9	Waiting for request approval
	10	Receive an email
	Step	Action
Extensions	10a	If approved receive blood
	10b	If rejected contact staff
Open Issues	1	Should the system ask if the user wants to request blood?



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IT21272936		
User Case ID	BDS_P_0002	
User case name	Change Password	
Summary	Chan	ge the user profile password
Priority	3	SO SO
Preconditions	A vali	d profile
Postconditions	Chan	ge the password
Primary Actor(s)	Patie	nt
Trigger	Patient decided to change the password of the profile on our website	
	Step Action	
Main Scenario	1	Log in to our website
	2	Visit to the user profile page
	3	Click on change password
	4	Enter the current password and new password
	5	Reenter new password again
	6	Click on save button
	Step	Action
Extensions	1a	Validate user
	4a	Check the current password correct or
		not
	6a	Displays a message password updated successfully
Open Issues	Should the system ask if the patient can update password several times?	



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IT21272936		
User Case ID	BDS_P_0003	
User case name	Create a profile	
Summary	Creat	e a profile on website
Priority	2	
Preconditions	A vali	id email
Postconditions	Patie	nt profile
Primary Actor(s)	Patie	nt
Trigger		nt decided to create a profile on our
	webs	
	Step	Action
Main Scenario	1	Search our website
	2	Click on register now
	3	Select patient profile
	4	Enter all the required information
	5	Click on register now
	6	Wait for the confirmation
	7	Log in to the website
	Step	Action
Extensions	5a	If approved displays a message profile
	6	created successfully
	7a	Validate user
Open Issues		Should the system ask if patient need a profile to receive blood?



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IT21272936		
User Case ID	BDS_P_0004	
User case name	Delete profile	
Summary	Delet	e the profile on website
Priority	2	
Preconditions	A vali	d profile
Postconditions	Delet	e the profile
Primary Actor(s)	Patient	
Trigger	Patient decided to delete the profile on our website	
	Step	Action
Main Scenario	1	Log in to our website
	2	Visit to the user profile page
	3	Click on delete profile
	4	Delete the profile
	Step	Action
Extensions	1a	Validate user
	4a	Displays a message profile deleted successfully
Open Issues		Should the system ask if the patient can delete their profile before receiving blood?



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User Case ID	BDS_P_0005	
User case name	Change	profile
Summary	Change	the profile on website
Priority	2	
Preconditions	A valid p	profile
Postconditions	Change	the profile
Primary Actor(s)	Patient	
Trigger	Patient decided to change the profile on ou website	
Main Scenario	Step	Action
	1	Log in to our website
	2	Visit to the user profile page
	3	Change the information
	4	Click on save
Extensions	Step	Action
	1a	Validate user
	4a	System displays a message profile update successfully
Open Issues		the system ask if the patient can their profile before receiving blood?



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IT21272936		
User Case ID	BDS_P_0006	
User case name	Searc	ch blood
Summary	Searc	ch the blood types on website
Priority	5	
Preconditions	A vali	id patient account
Postconditions	Searc	ch the blood patient wants
Primary Actor(s)	Patie	nt
Trigger	Patient decided to search blood on our website	
	Step	Action
Main Scenario	1	Log in to our website
	2	Visit to user profile
	3	Go to Search the blood option
	4	Type the required blood type
	5	View blood availability
	6	If want, make the request at the same time
	Step	Action
Extensions	1a	Validate user
	6a	Displays a message form submitted successfully
Open Issues	Should the system ask if the patient nee	



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Use case ID	BDS_S_0001	
Use case name	Arrang	ge facilities for donor after donation
Summary	Taking	care of donors
Priority	5	
Preconditions	Should	complete the donate process
Postconditions	Check	on donors' health condition
Primary Actors(s)	Staff	
Trigger	Make sure of donors' health conditions after donation	
	Step	Action
Main Scenario	1	Arrange a separate place for donors who has already donated
	2	Get the list of donors who donated the blood from doctor
	3	Taking the donors to the arranged place
	4	Give them more liquids like king coconu
	5	Check blood pressure and pulses
	6	Keep the donor under observation for 30 minutes
	7	Make a list of donors who completed the observation
	Step	Action
Extensions	34	Z.
Open Issues	1	Should the system ask if the user wants to arrange a blood donation camp



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IT21304842			
Use case ID	BDS_S_0002		
Use case name	Guide	Guide	
Summary	Give gu	uidance for donors and patients	
Priority	4		
Preconditions	Should	receive request for guidance	
Postconditions	Give the relevant directions		
Primary Actors(s)	Staff		
Trigger	Direct the donors and patients to the right path		
	Step	Action	
	1	Logging to the system using user credentials	
Main Scenario	2	Gather the requests	
	3	Filter the request as donor and patient	
	4	Get the details of requested person	
	5	Contact the persons personally	
	6	Identify their problems	
	7	Give solutions for their problems	
	8	Get feedback from them	
- 0-1990 • 69,0001	Step	Action	
Extensions		-	
Open Issues	1	System should display if there are any request for guidance	



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Use case ID	BDS_S_0003	
Use case name	Plan campaign	
Summary	Staff can plan blood donation campaigns	
Priority	2	
Preconditions	Gather	more donor appointments
Postconditions	Plan a b	lood donation campaign
Primary Actors(s)	Staff	
Trigger	Staff plan a blood donation camp	
	Step	Action
Main Scenario	1	System displays report of sorted donor appointment
	2	Get a brief idea about donors
	3	Decide a date, time and venue
	4	Create a request for blood donation camp
	5	Send the request to system manager
	6	Wait for the approval
	7	Arrange the blood camp
Faculary	Step	Action
Extensions	7a	If approval is received, then plan the blood camps
Open Issues	1	Should the system ask if the user wants to arrange a blood donation camp before get approval?



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Use case ID	BDS_S_0004	
Use case name	Manage	existing appointments
Summary	Staff can manage donor appointments	
Priority	3	
Preconditions	Staff has	signed up in our website
Postconditions	Generat	e a report by sorting donor appointments
Primary Actors(s)	Staff	
Trigger	Staff generated a report	
	Step	Action
	1	System displays account types
Main Scenario	2	Staff chooses account types
	3	Staff enters his / her credentials
	4	System displays welcome message
	5	Show appointments that are submitted by donors
	6	Sort donor appointments according to date and time they submitted
	7	Generate a report about donor appointments
	Step	Action
Extensions	7a	Get the approval of system manager
Open Issues	6	Should the system ask if the staff wants to get all deta aboutonors?



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12 12		72227
Use case ID	BDS_S_0005	
Use case name	Plan ca	ampaign
Summary	Staff c	an plan blood donation campaigns
Priority	2	
Preconditions	Gathe	r more donor appointments
Postconditions	Plan a	blood donation campaign
Primary Actors(s)	Staff	
Trigger	Staff p	lan a blood donation camp
***************************************	Step	Action
Main Scenario	1	System displays report of sorted donor appointments
	2	Get a brief idea about donors
	3	Decide a date, time, and venue
	4	Create a request for blood donation camp
	5	Send the request to system manager
	6	Wait for the approval
	7	Arrange the blood camp
	Step	Action
Extensions	7a	If approval is received, then plan the blood camps
Open Issues	1	Should the system ask if the user wants to arrange a blood donation camp before get approval?



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IT21256196		
Use case ID	BDS_SM_0001	
Use case name	Campaig	n Approval
Summary	Giving a	pproval to hold the blood camps
Priority	4	
Preconditions	Should r	eceive requests for blood camps
Postconditions	Giving a	pproval for blood camps and publishing it
Primary Actors(s)	System I	Manager
Trigger	Receive	requests for blood camps
	Step	Action
	1	System displays account types
	2	System Manager chooses account types
Main Scenario	3	System Manager enters his / her credentials
	4	System displays welcome message
	5	Check if there's any requests for blood camps
	6	Sort them according to the date and time
	7	Check whether they have specified a location or not
	8	Check the availability of the location
	9	If it is not available, try for another location until it works
	10	Release the approval for the blood camp
sis section out states	Step	Action
Extensions	8a	If location is available, make an advertisement and publish it
Open Issues	1	System should display if there's any requests for blood camps



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IIID	BDS SM 0003	
Use case ID	BDS_SM_0003	
Use case name	Send Alert Messages	
Summary	Send Alert Messages to the doners	
Priority	5	
Preconditions	System Manager should log into the system	
Postconditions	Alert Message to the doners	
Primary Actors(s)	System Manager	
Trigger	System Manager should know the stock levels	
Main Scenario	Step	Action
	1	System displays account types
	2	System Manager chooses account types
	3	System Manager enters his / her credentials
	4	System displays welcome message
	5	Gather alert messages from blood bank
	6	Confirm the alert messages
	7	Create an alert message
	8	Send it to the relevant list of doners
Extensions	Step	Action
	13	-
Open Issues	1	System should ask whether it should display alert messages from blood bank?



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Challenges Faced by Each Member

Student ID: IT21256196

Student Name: WIJERATHNA N. T

When we were doing our assignment the main challenge, we faced was managing our time with our busy schedules. As we all are doing jobs it was hard to get-together to discuss the assignment. Somehow, we managed to get-together and discuss things. And we used zoom platform for the discussions. When we were doing the assignment, we went through the lecture slides regarding use case diagram before the lecture as the time was limited for the assignment. We went through some YouTube videos to understand the lesson, but it was hard to understand by our own. But after attending the lecture we were able to draft a better use case diagram because we have already done some self-studies by that time. After creating the use case diagram, we started to work on use case scenarios. Here, the only resource we had is template in the lecture slide and help of google. But we really needed to have a look at senior's work to get a proper idea. As the leader I separated the use cases and gave them to each member. Some of them could not sent it on the day I requested. So, I gave them some extra time to complete the work. While they were doing their parts, I tried to contact some seniors to get some advice. After the members sent me the use case scenarios, I went through all to clarify whether there is anything to change or not. It was hard cause we could not meet with each other to do the final discussion. So, we had to do it online. During this assignment as the leader of the group I had a big responsibility to guide my team to give a better output at the end. And throughout the whole assignment we had to face many power cuts. But at the end we did a fantastic job as a team with all five members support and dedication.

Student ID: IT21304842

Student name: DISSANAYAKE A.S.H

As our group members planned to do the assignment before the lecturer go through the lecture, I had to refer lecture slides by myself and do a self-study. It was hard because I did not have any seniors I know or someone who can explain it to me. As a weekend batch student, we did not have enough time to plan this group assignment as because of this covid situation we only meet four times per a month. I have never donated blood so, at first, I did not have a clear idea about what shout this process be like and about the users who use this system.



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Student ID: IT21272936

Student Name: S.K.D.T. SILVA

Our group assignment topic is blood donating system. Since it's not unique kind of topic, we went for a deep study about it. The other major problem limited time. All our group members are very busy with their jobs on weekdays. Therefore, we didn't have time to get together and prepare for this group assignment. We took number of zoom meetings to complete this assignment, which didn't go smoothly due to the current power interruption in our country, and the mobile internet connection also very poor during the power interruption period. Sometimes we had to wait until we got our power back to continue our assignment. Each member of our group had a specific task to complete. We faced so many problems during this assignment, but I think we did a good job as a team.

Student ID: IT21338120

Student Name: WIJESINGHE S.A.A.K

As a group member and a weekend branch student we faced many challenges while doing this assignment. We haven't time to get together and discuss about this. But we made some virtual meetings and some days we had to come to campus to do the assignment. First, we got this topic we all haven't any idea about this and this that time we haven't do use case scenario lecture. So, we had to refer some videos and we had to refer the lecture by ourselves. It was hard to get proper idea about use case without participating the lecture.

Student ID: IT21292040

Student Name: SASANKA M.W.K.L

When we are working on our assignment, we had to face many challenges. As a student in the weekend batch, we did not have enough time to prepare for the group project in this pandemic situation. Somehow, we used the Zoom platform to do the assignment. In addition, we had to deal with power outages in this situation.

Furthermore, Lack of proper understanding of the concepts of blood donation and Blood donation principles are not well understood. We went through Lecture slides and some topic related YouTube videos to understand the topic and use case. Finally, with the help and devotion of all five members, we completed a terrific task as a group.