Sri Lanka Institute of Information Technology

Assignment 2

MLB_09.02_06

Blood Donation System

Software Process Modeling – IT1060

B.Sc. (Hons) in Information Technology

Assignment 2 Cover Sheet

PROJECT ID	MLB_09.02_06
CASE STUDY NAME	Blood Donation system

Group Details:

	Student Registration Number	Student Name
1	IT23389656	AHAMED M.N.I
2	IT23382244	FERNANDO B.S.N
3	IT23394124	BAGYA R.M.S
4	IT23391468	PERERA K.D.S
5	IT23388284	NETHSARANI P.A.T

Assignment 2 Certify Sheet

We hereby certify,

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☑ We have contributed in this assignment to the best of our ability.

And we understand,

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Student Details:

	Student Name	Student Registration Number	Date	Signature
1	IT23389656	AHAMED M.N.I	29/04/2024	

Part 1- (1)

Use Case Scenario

1. First Time Donor – First time donation

Number	1	
Name	First Time Donor	
Summary	The Donor donates bool for the first time	
Priority	04	
Pre- condition	Individual has never donated blood	
Post- condition	Donor successfully donated for the first time	
Primary actor(s)	First time donor	
Trigger	The individual registers through the system to donate blood	
Main scenario	Step	Action
	1	The individual registers to the system to donate blood
	2	The system guides the individual through the registration process, collecting personal information like medical history, and blood type
	3	The individual Is briefed to a medical screening.
	4	Once the medical screening is cleared the donor is provided with a appointment form.
	5	The donor schedule an appointment.

Extensions	step	Branching action

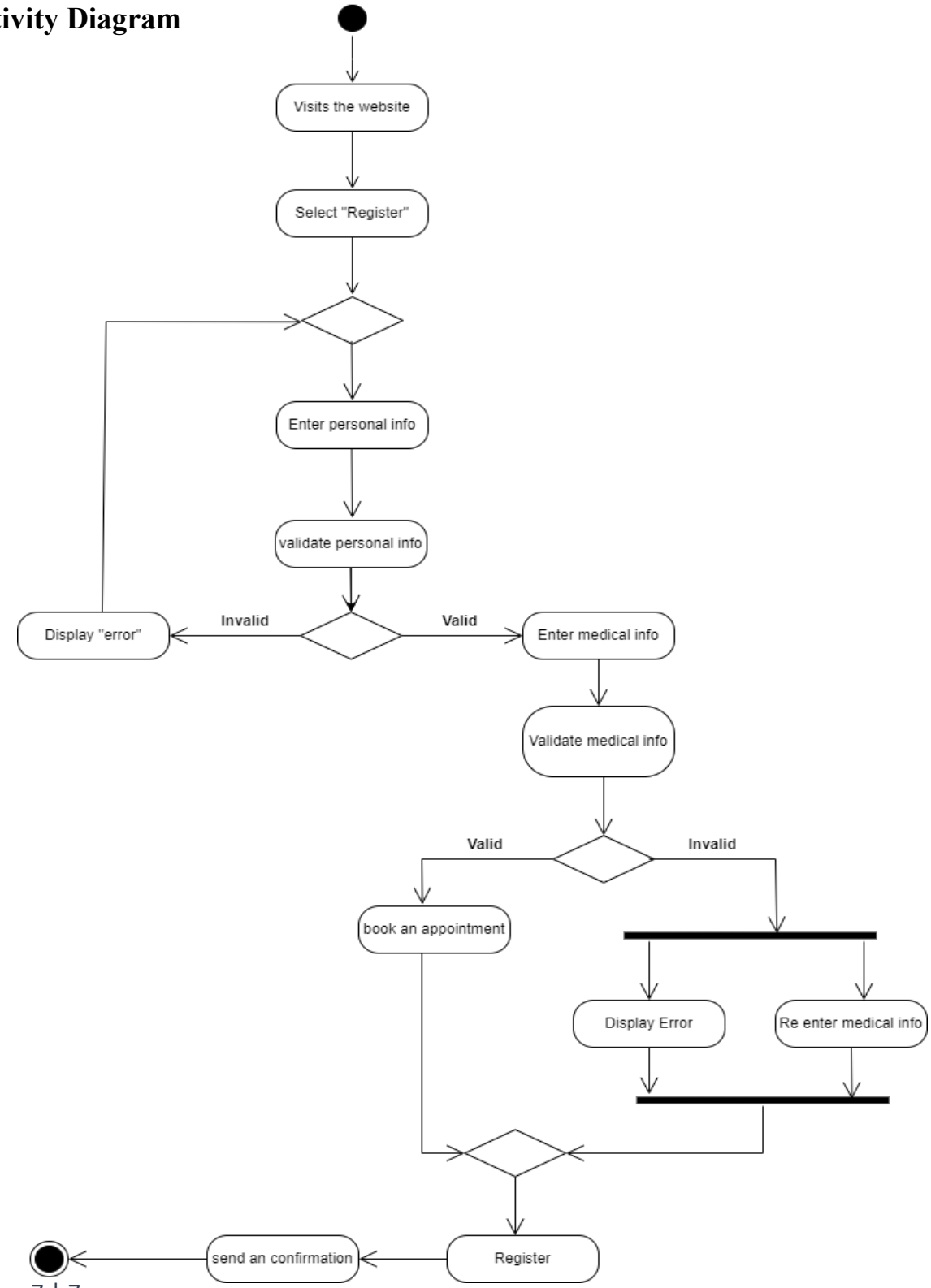
First time donor - Receive post donation care.

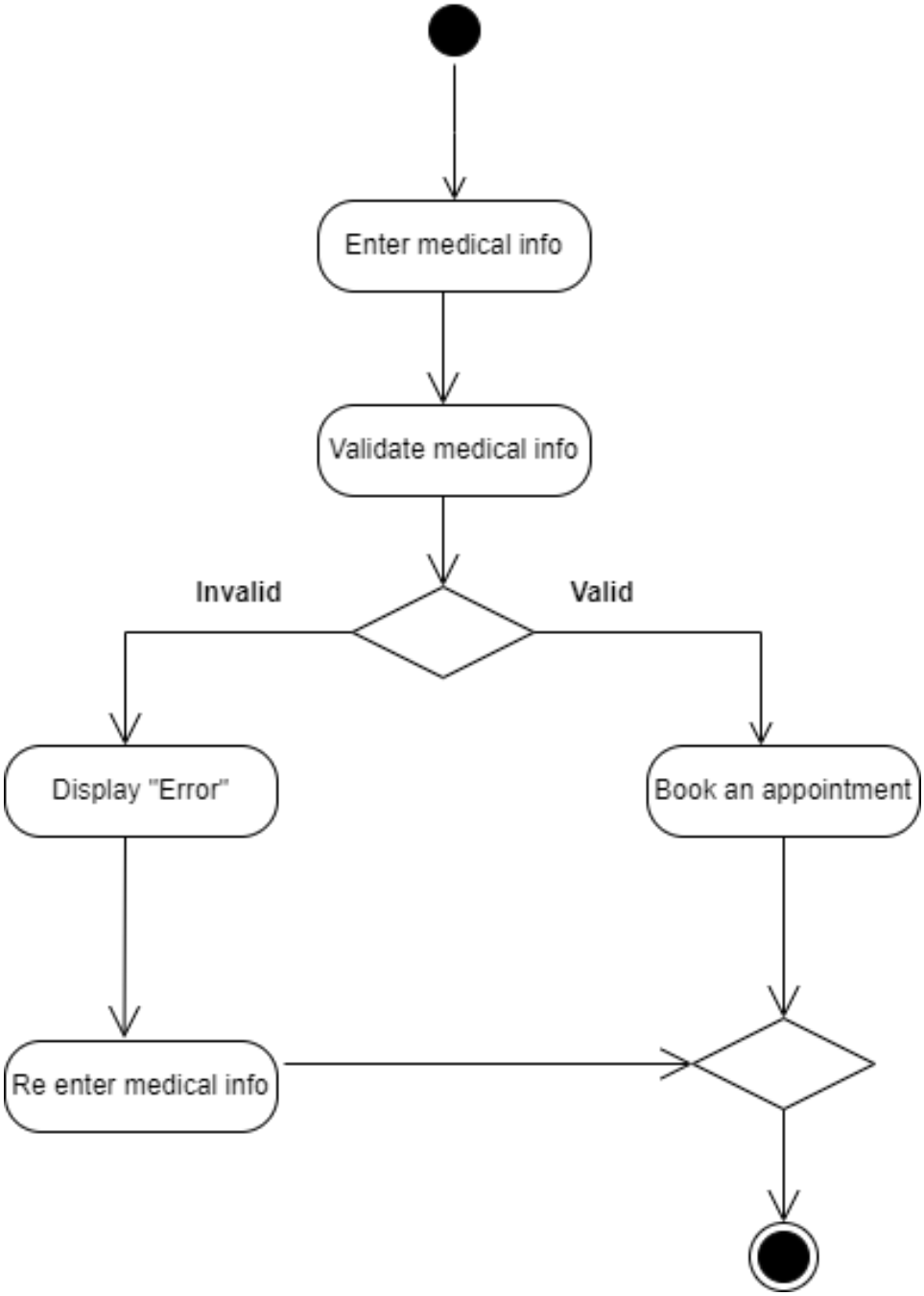
Number	02	
Name	Receive post donation care.	
Summary	Follow up care process after the donation.	
Priority	04	
Pre- condition	The donor has donated blood	
Post- condition	Post donation care is given addressing any adverse reactions. The donor details have been updated.	
Primary actor(s)	Blood donor	
Trigger	After the donation post donation care has been initiated.	
Main scenario	Step	Action
	1.	Remains under observation for a specified period.
	2.	The overall condition is monitored to determine any adverse reactions or complications.
	3.	The donor may get asked to report any kind of discomfort felt.
	4.	The system updates the donor details.
Extensions	Step	Branching action

	3a	If the feedback forms are not available request a new form.
	4a	If the feedback forms are not filled correctly, display an error message to the evaluator.

Part 1- (2)

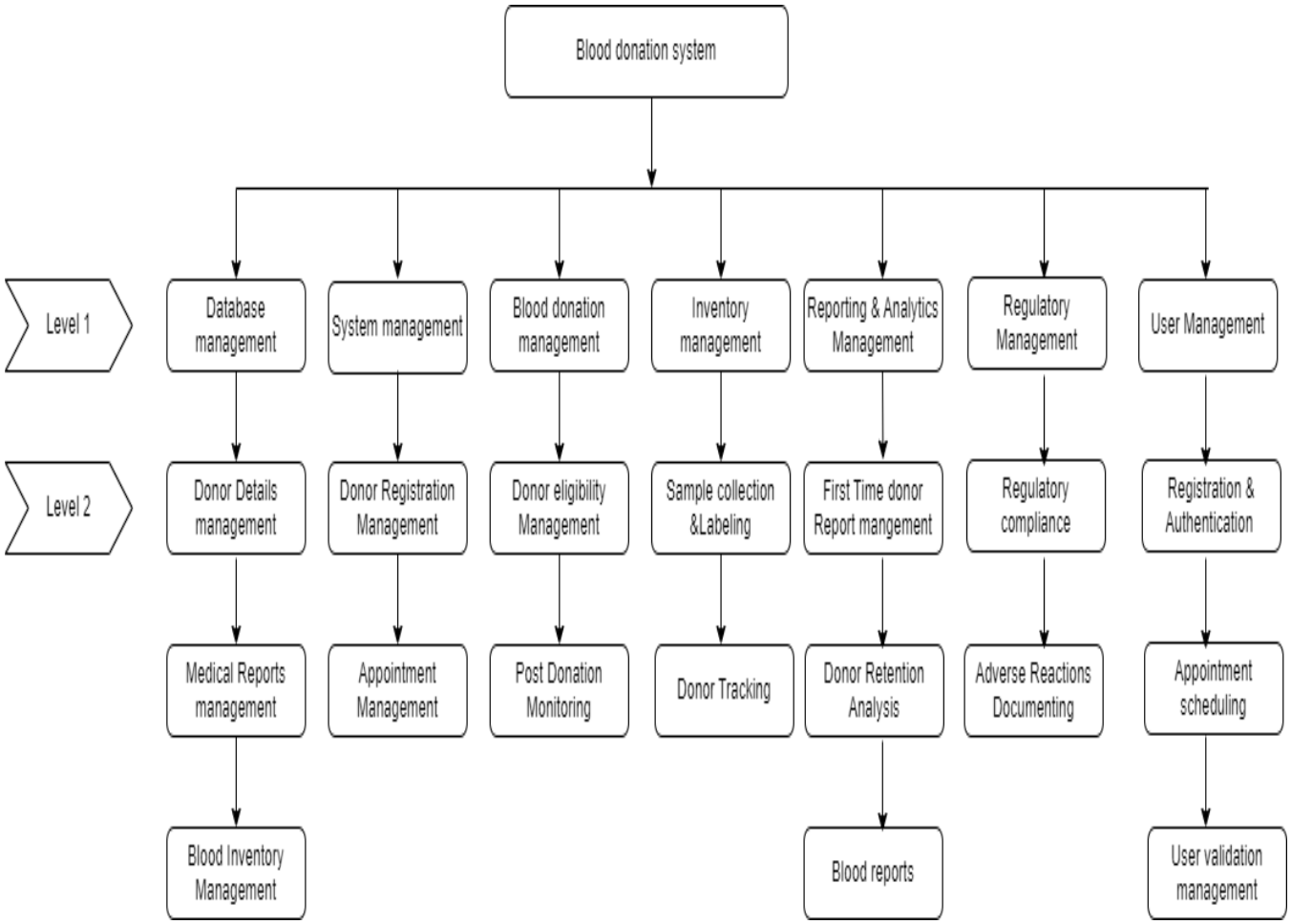
Activity Diagram




Enter medical info
Validate medical info
Invalid
Valid
Display "Error"
Book an appointment
Re enter medical info

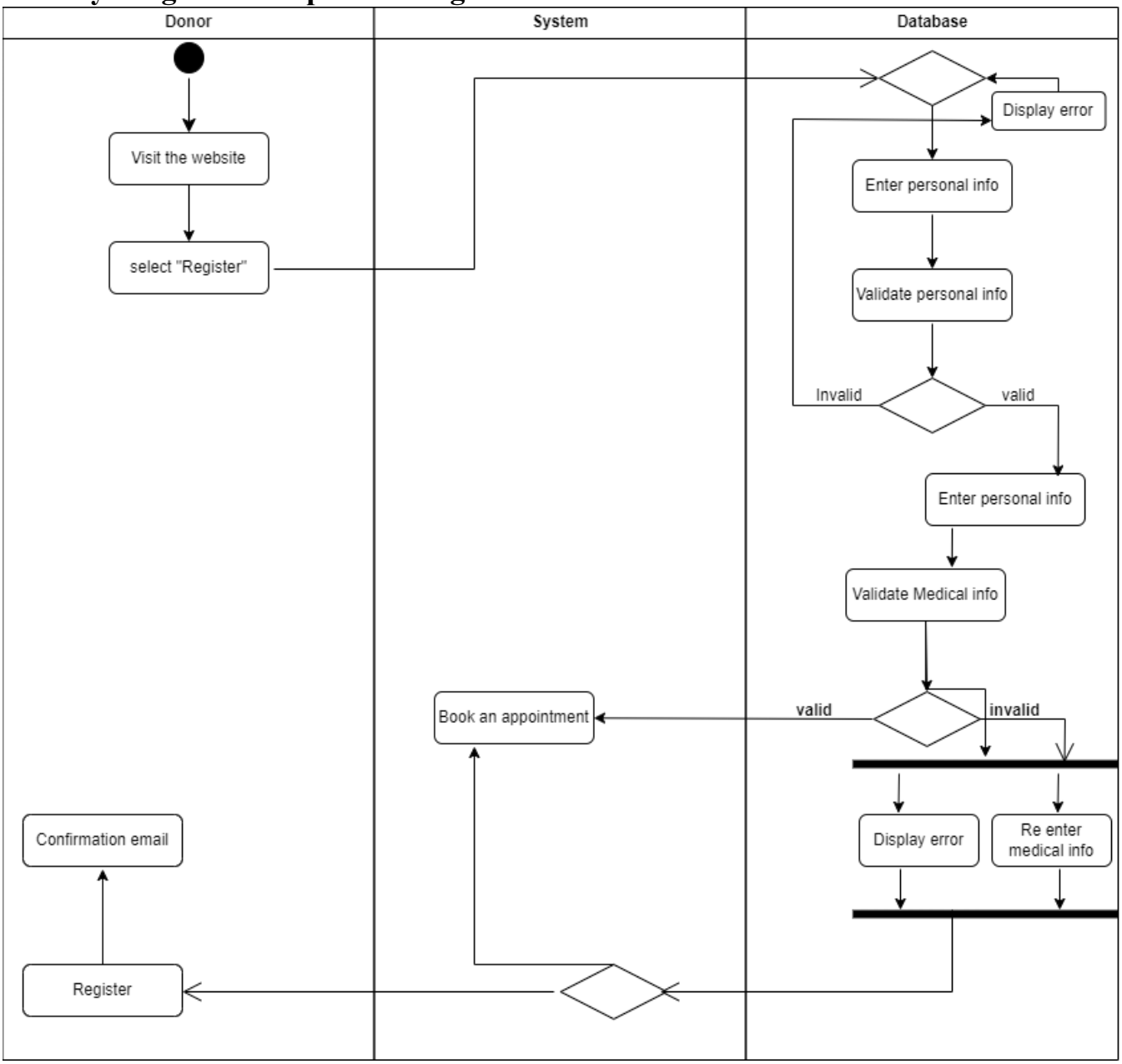
Part 2- (1)

Sub Systems



Part 2- (2)

Activity Diagram with partitioning



IT1060 – Software Process Modeling **2024**

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Student Details:

Student Name	Student Registration Number	Date	Signature
FERNANDO B.S.N	IT23382244	29/04/2024	

Part 1- (1)

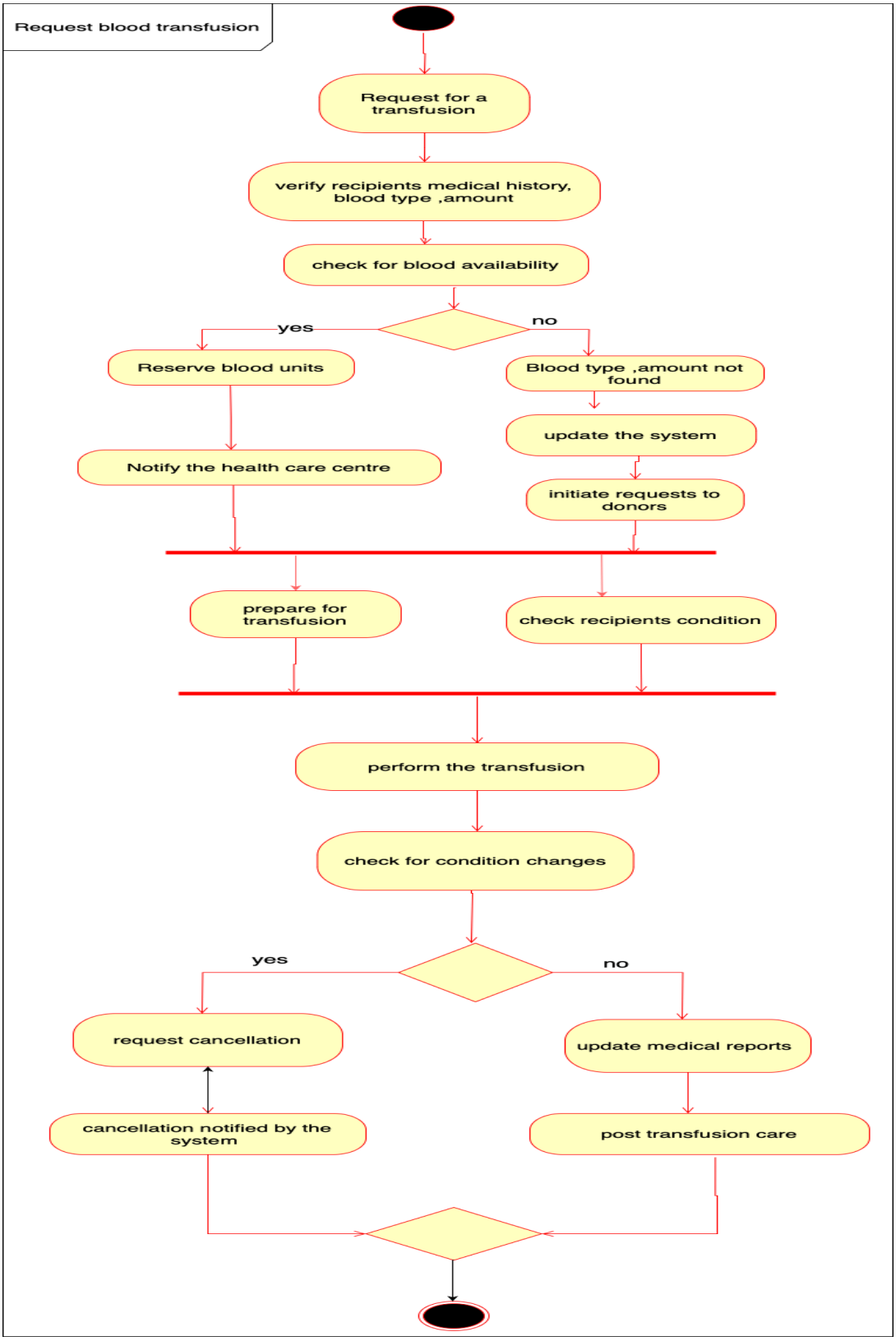
Use Case Scenario

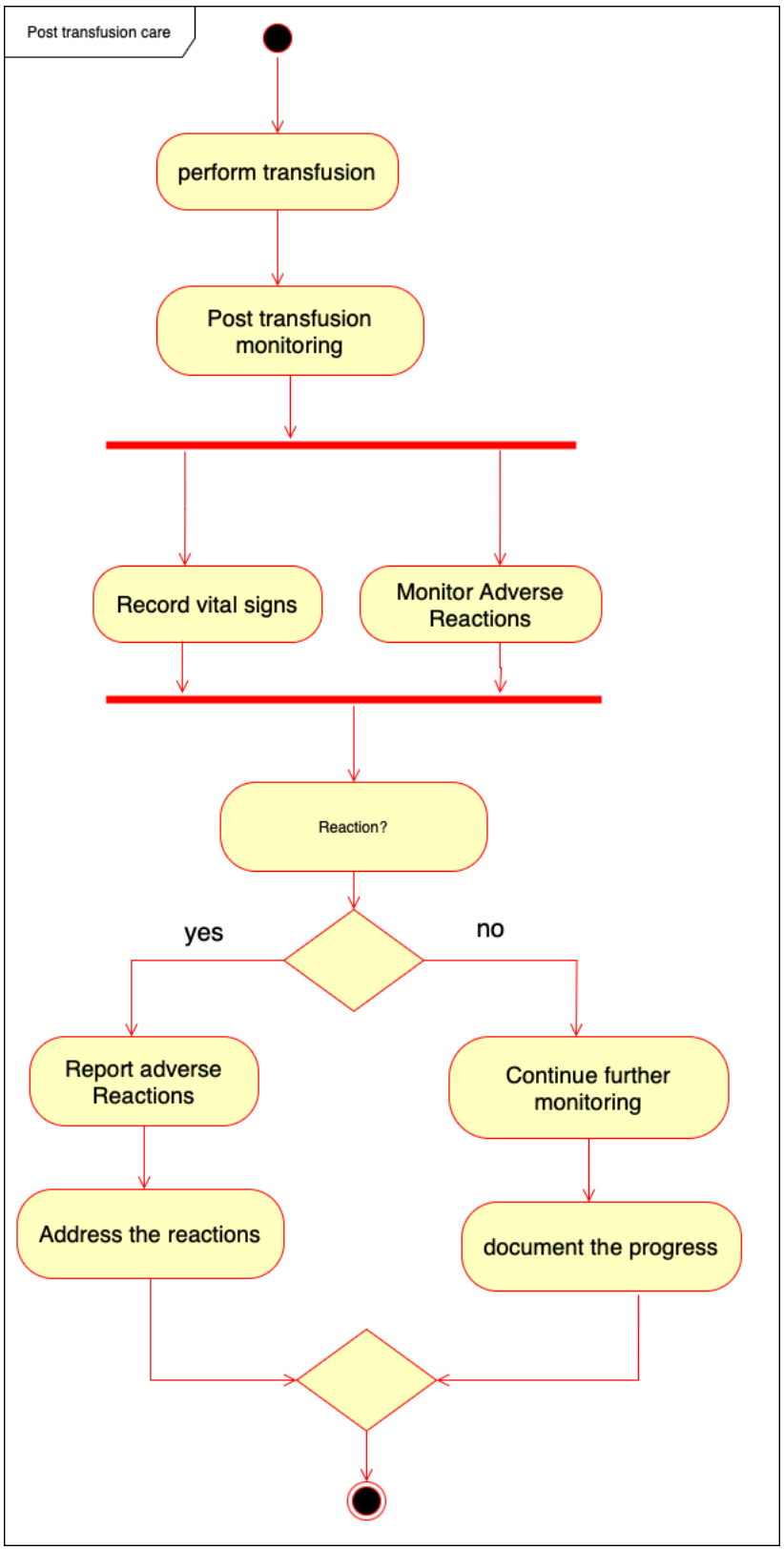
Number	1	
Name	Request blood transfusion	
Summary	The process of blood transfusion requested by the recipient	
Priority	05	
Pre-conditions	The recipient is diagnosed with an illness requiring a blood transfusion	
Post-conditions	The recipients request for blood has been processed and if available blood will be reserved. A schedule for the transfusion is arranged.	
Primary Actor(s)	Blood recipient	
Trigger	A request for a blood transfusion is initiated.	
Main scenario	Step	Action
	1.	Requests for a blood transfusion.
	2.	The Recipient provides personal information and medical history mentioning the blood type and the amount.
	3.	May be asked to provide additional information to determine the urgency
	4.	The system verifies the recipients information and check for availability of blood as well as the compatibility
	5.	If compatible blood units are available system will reserve the blood and schedule for a transfusion..
	6.	If there were no blood units available system gets updated.
	7.	System initiate requests to donors.
	8.	If blood units are there the recipient will be notified of the details ,time ,date and location to proceed with the transfusion.
	9.	Check for condition changes .

	10.	If there is a change in the condition of the recipient, request for a cancellation.
	11.	System notifies the cancellation.
	12.	If there is no change in condition records will be updated.
	13.	Recipient receives post transfusion care.
Extensions	step	Branching Action
	2a	Add patient information
	2b	Verify the information.
	3a	Specify the requirements
	4a.	Check compatibility.

Part 1- (2)

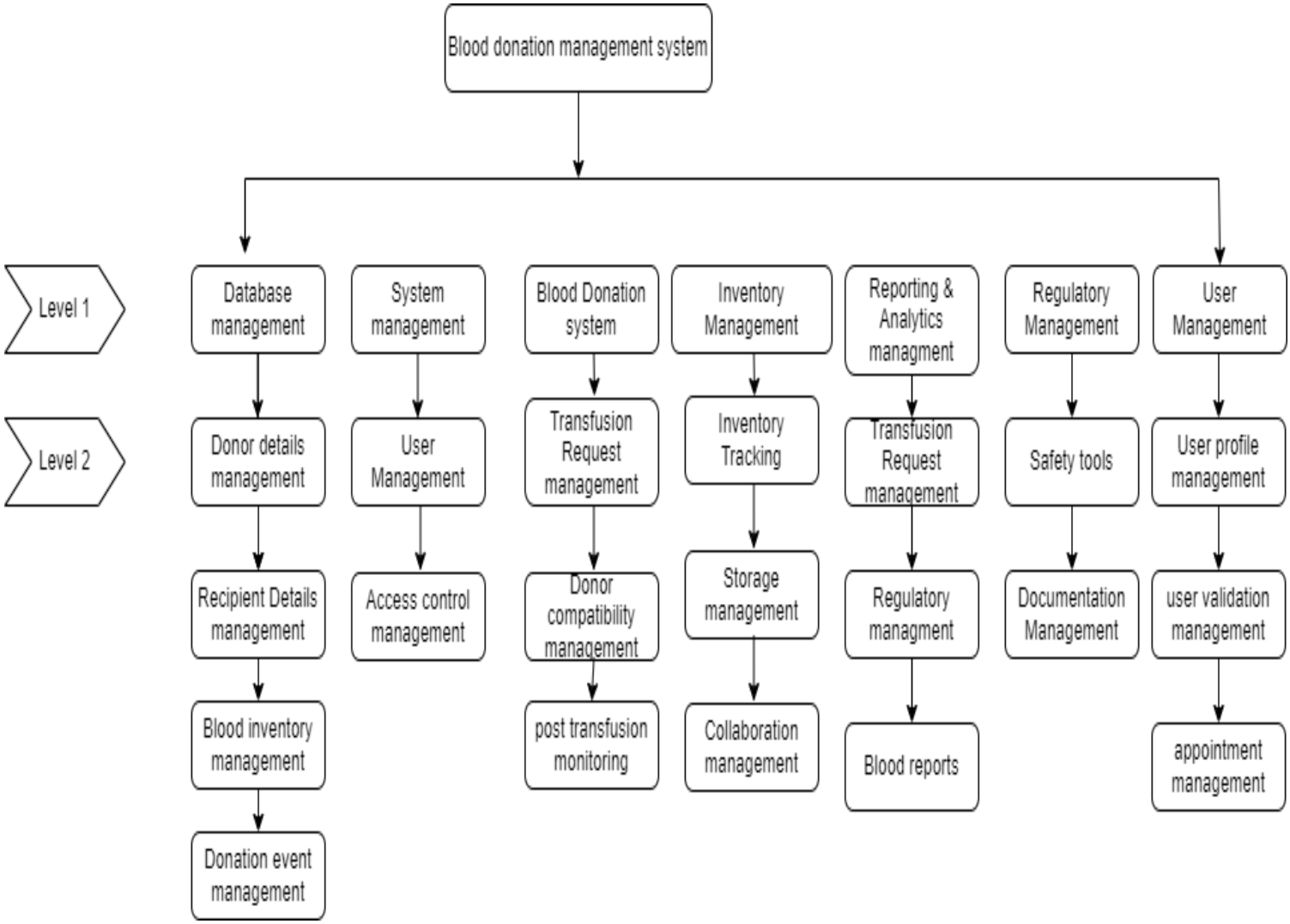
Activity Diagram




Post transfusion care
perform transfusion
Post transfusion monitoring
Record vital signs
Monitor Adverse Reactions
Reaction?
yes
no
Report adverse Reactions
Address the reactions
Continue further monitoring
document the progress

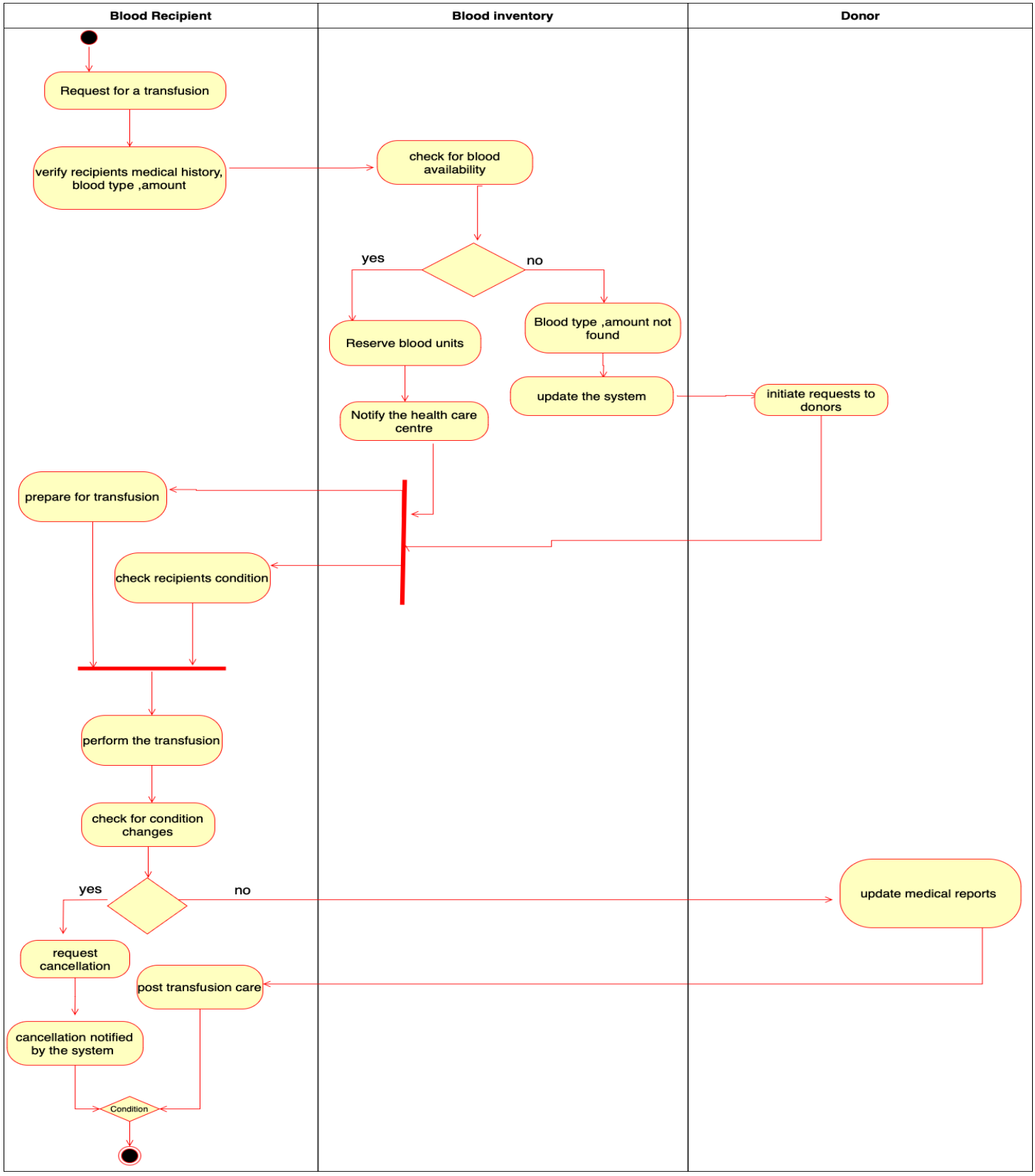
Part 2- (1)

Sub Systems



Part 2- (2)

Activity diagram with partitioning



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Student Details:

Student Name	Student Registration Number	Date	Signature
BAGYA R.M.S	IT23394124	29/04/2024	

Part 1- (1)

Use Case Scenario

Number	11	
Name	Checking Blood donation process	
Priority	2	
Pre-conditions	Login in to your account	
Post-conditions	Checking blood reports and past records	
Primary actor(s)	Regular blood donor	
Trigger	User check his\her past records	
Main scenario	**Step**	**Action**
	1.	Login in to your account
	2.	Check newly campaigns
	3.	Go to his\her profile
	4.	Check past blood donation records
	5.	Check Past blood reports
	6.	Understand the process of blood donation
Extensions	**Step**	**Branching Action**
	1a	System notify the password is incorrect
	1b	System recommend to set new password and re-login
	4a	If there is not your past record inform the health care provider
	5a	if there is not your past blood reports inform the health care provider
Number	10	
Name	Make a new appointment for next blood donation campaigns	

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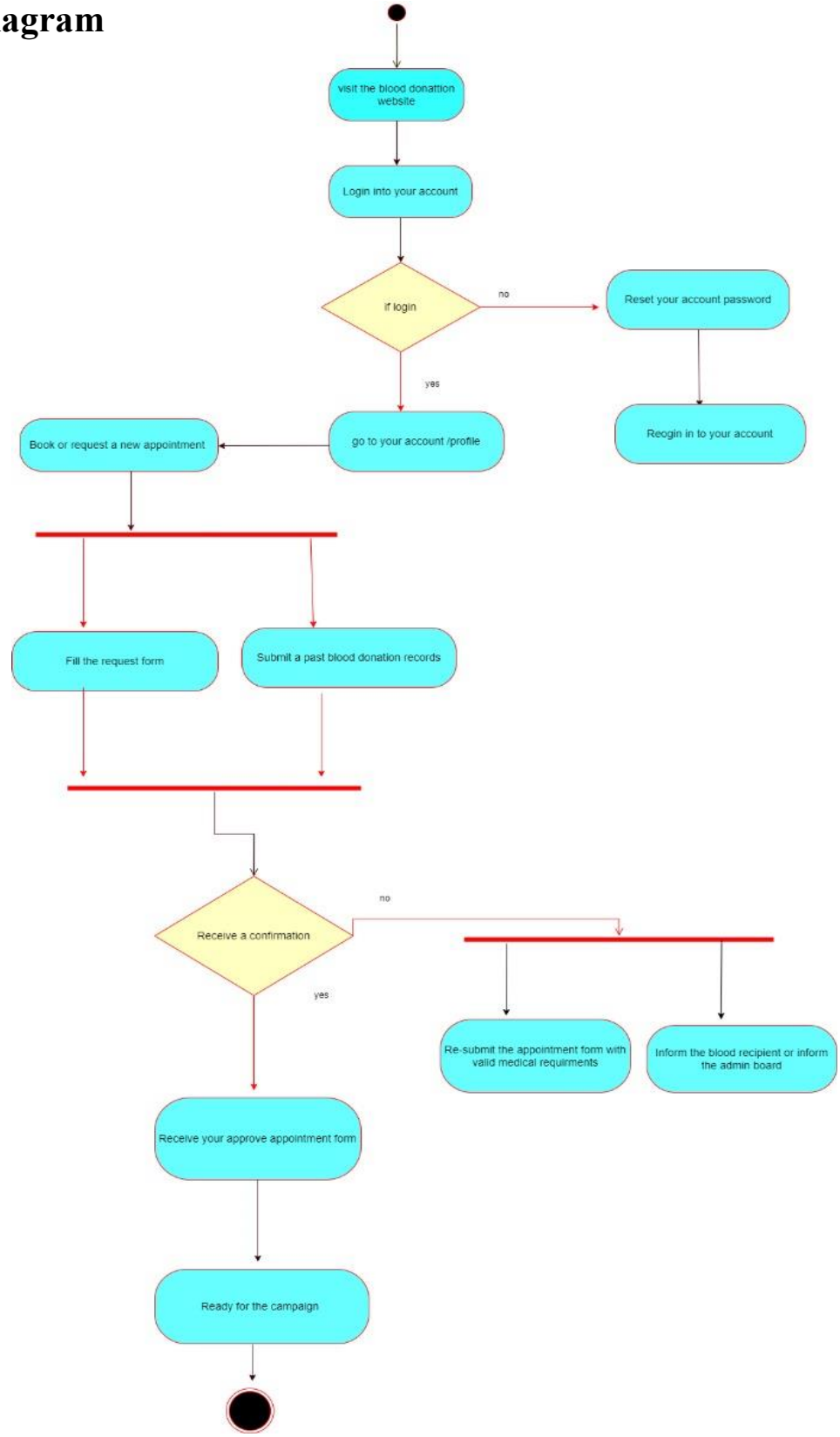
Summary	Register to the blood donation campaign as regular blood donor	
Priority	2	
Pre-conditions	Login in to his/her account.	
Post-conditions	Register for the next blood donation campaign	
Primary actor(s)	Regular blood donor	
Trigger	User has register to next campaign	
Main scenario	**Step**	**Action**
	1.	Visit site as a regular donor
	2.	Login in to his/her account
	3.	Go to user profile and check information
	4.	Search for new blood donation campaigns
	5.	If there a new campaigns you can make a appointment
	6.	Fill the appointment form
	7.	Submit the appointment form
	8.	Wait for the confirmation
Extensions	**Step**	**Branching Action**
	2a	System notify the password is incorrect
	2b	After few try system will recommend you to set new password
	2c	After you can re-login to your account
	7a	System notify some details are missing

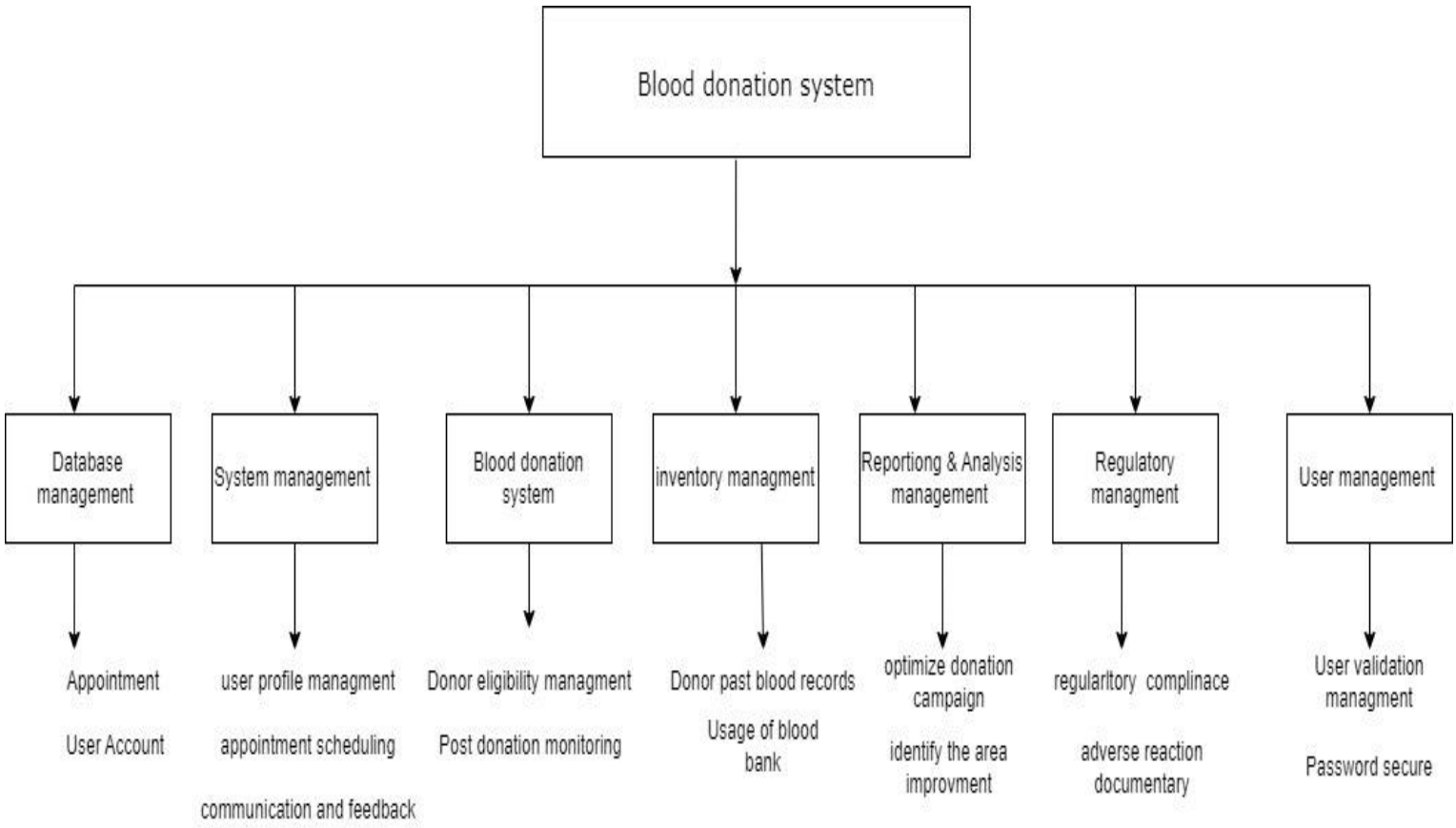
Part 1- (2)

Activity Diagram



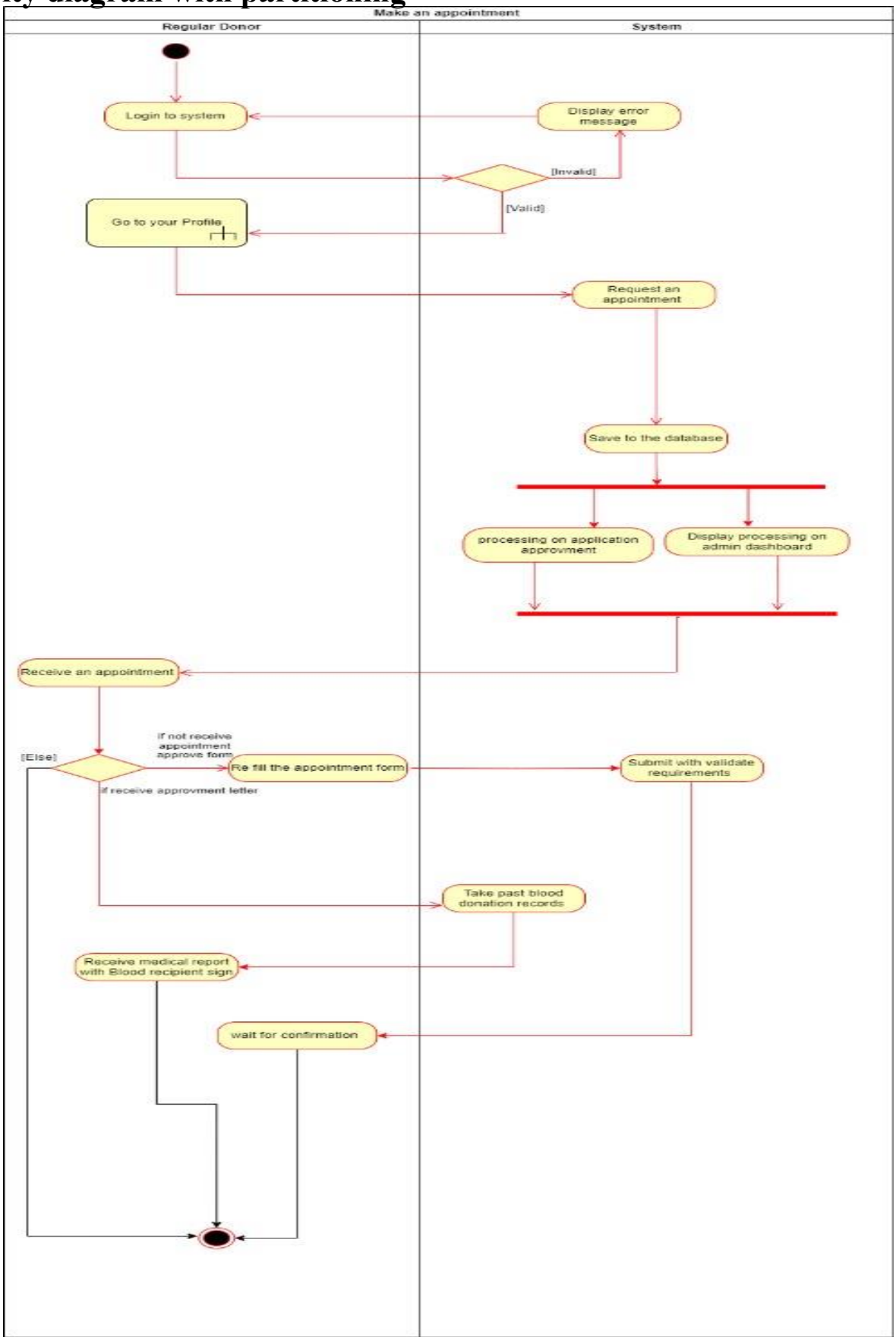
Part 2- (1)

Sub Systems



Part 2- (2)

Activity diagram with partitioning



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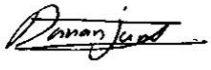
PERERA K.D.S	IT23391468	29/04/2024	

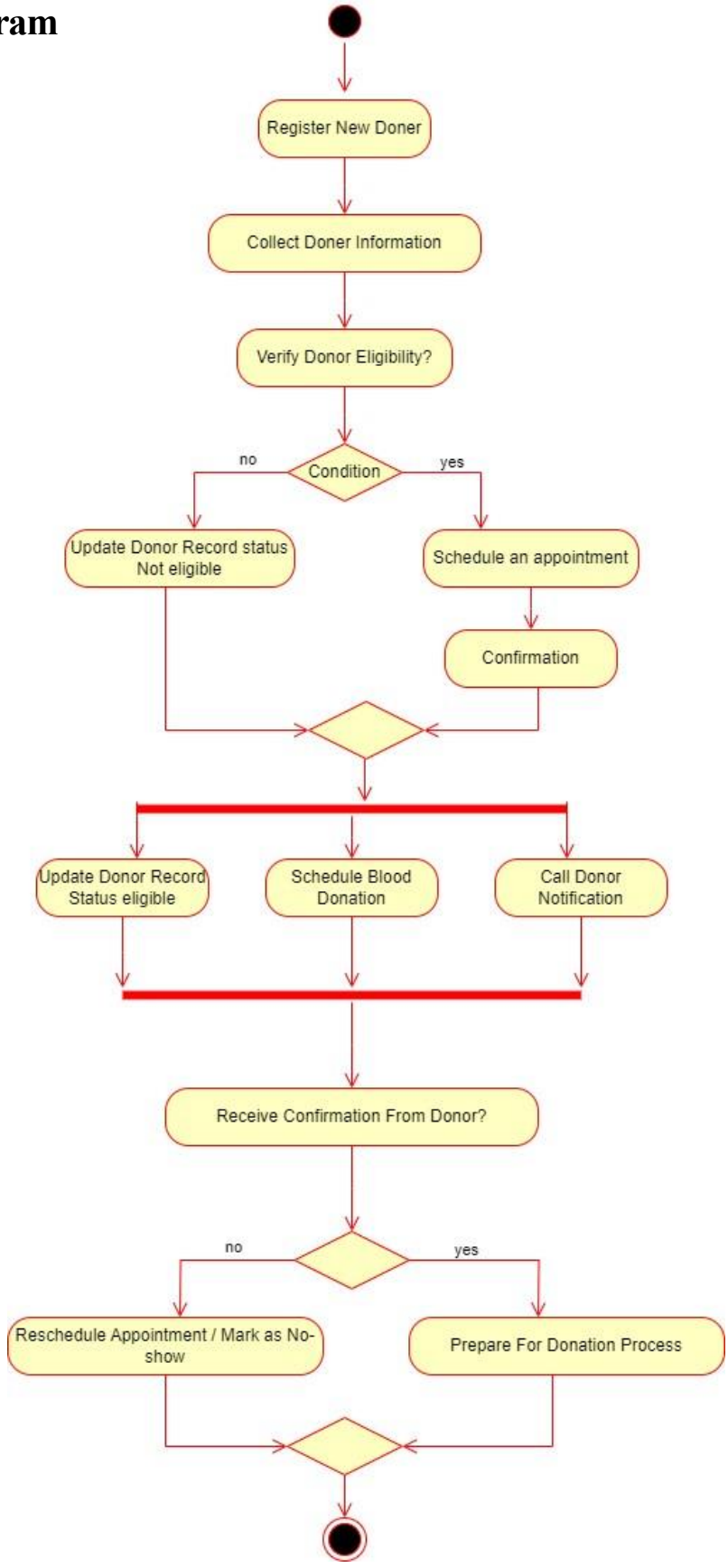
Part 1- (1)

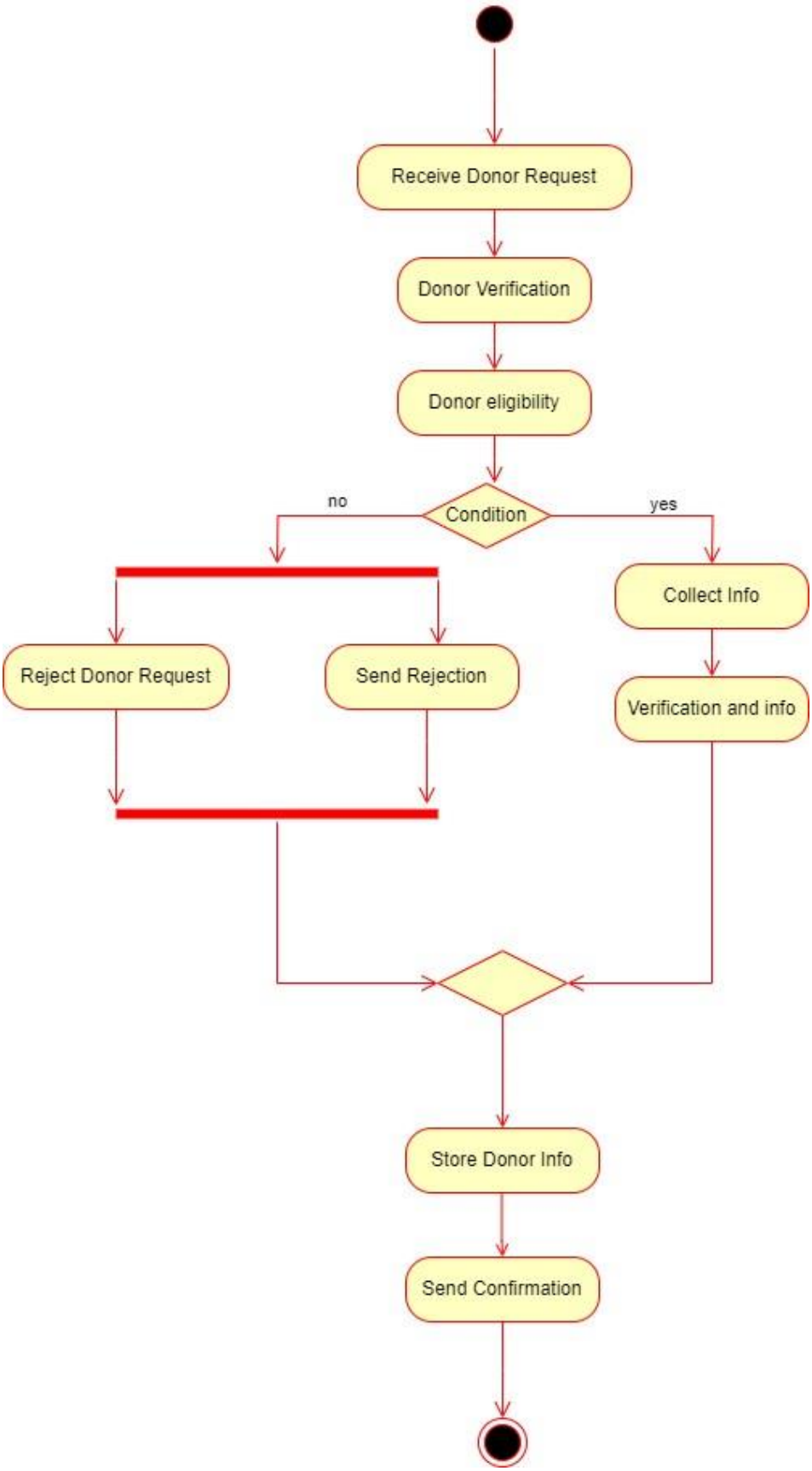
Use Case Scenario

Number	5	
Name	Manage donor information and eligibility	
Summary	To manage the donators information and eligibility to donate	
Priority	04	
Pre-conditions	The system has a database for storing and managing the information of the donors and eligibility criteria	
Post-conditions	The information of the donor and the eligibility status has been recoded and updated in the data base	
Primary Actor(s)	Coordinator	
Trigger	The coordinator collects and updates the potential donor information as well as the eligibility	
Main scenario	Step	Action
	1.	A potential doner register and login to blood donation system.
	2.	The system collects the donor's information and the donor's medical history.
	3.	The system verifies the donor's identity.
	4.	The system goes through the medical history and determine the eligibility of the donor for blood donation.
	5.	If the donor verifies the eligibility criteria, the system confirms and schedule an appointment.
	6.	The system will provide the pre instructions and guideline in preparation for the donation.
	7.	The manager then will update the donors record details.
Extensions	step	Branching Action
	7a	Update the donor records
	3a	Verify the information
	5a	Finish confirmation
	5b	Schedule and appointment

Part 1- (2)

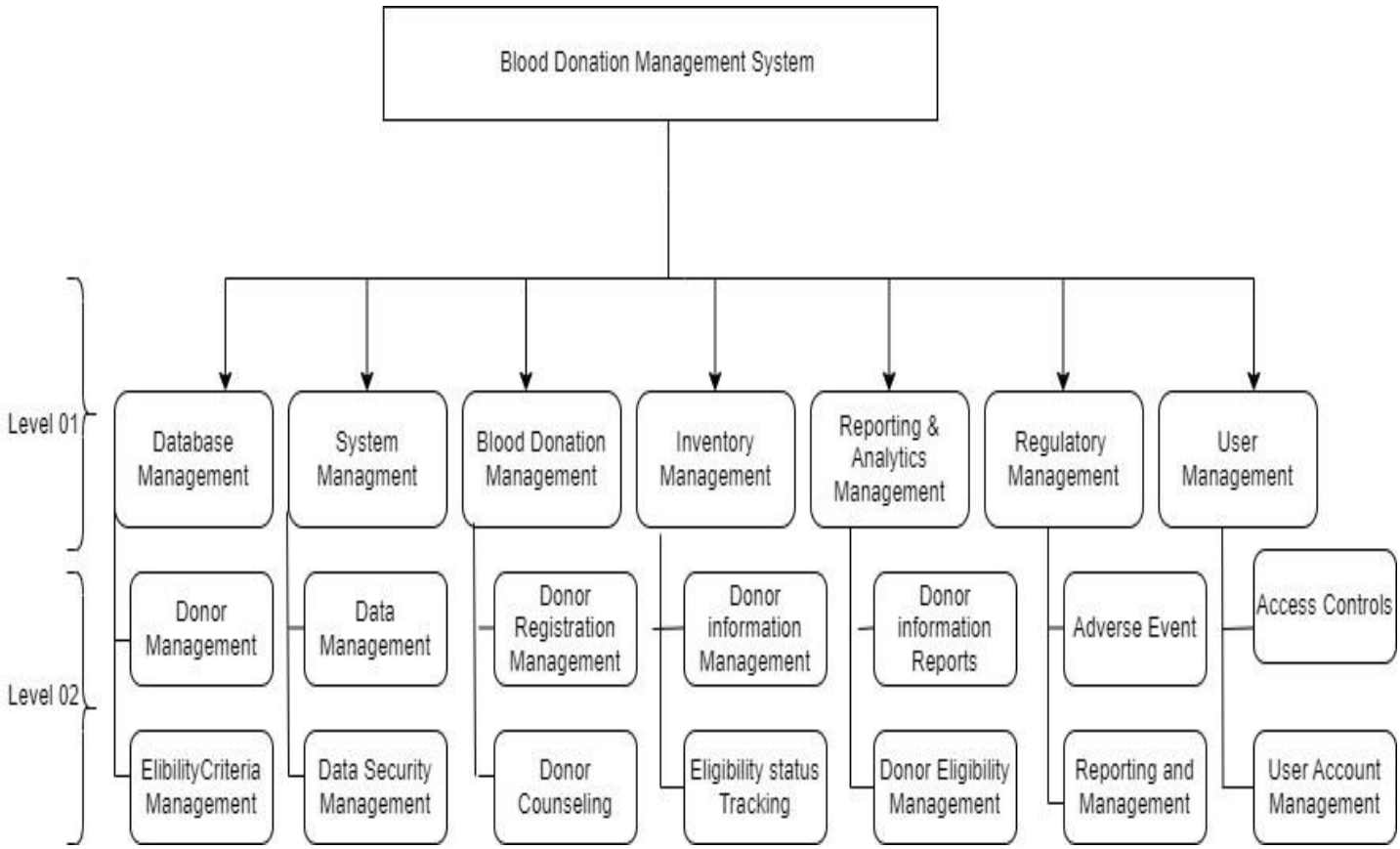
Activity Diagram




Receive Donor Request
Donor Verification
Donor eligibility
Condition
no
yes
Reject Donor Request
Send Rejection
Collect Info
Verification and info
Store Donor Info
Send Confirmation

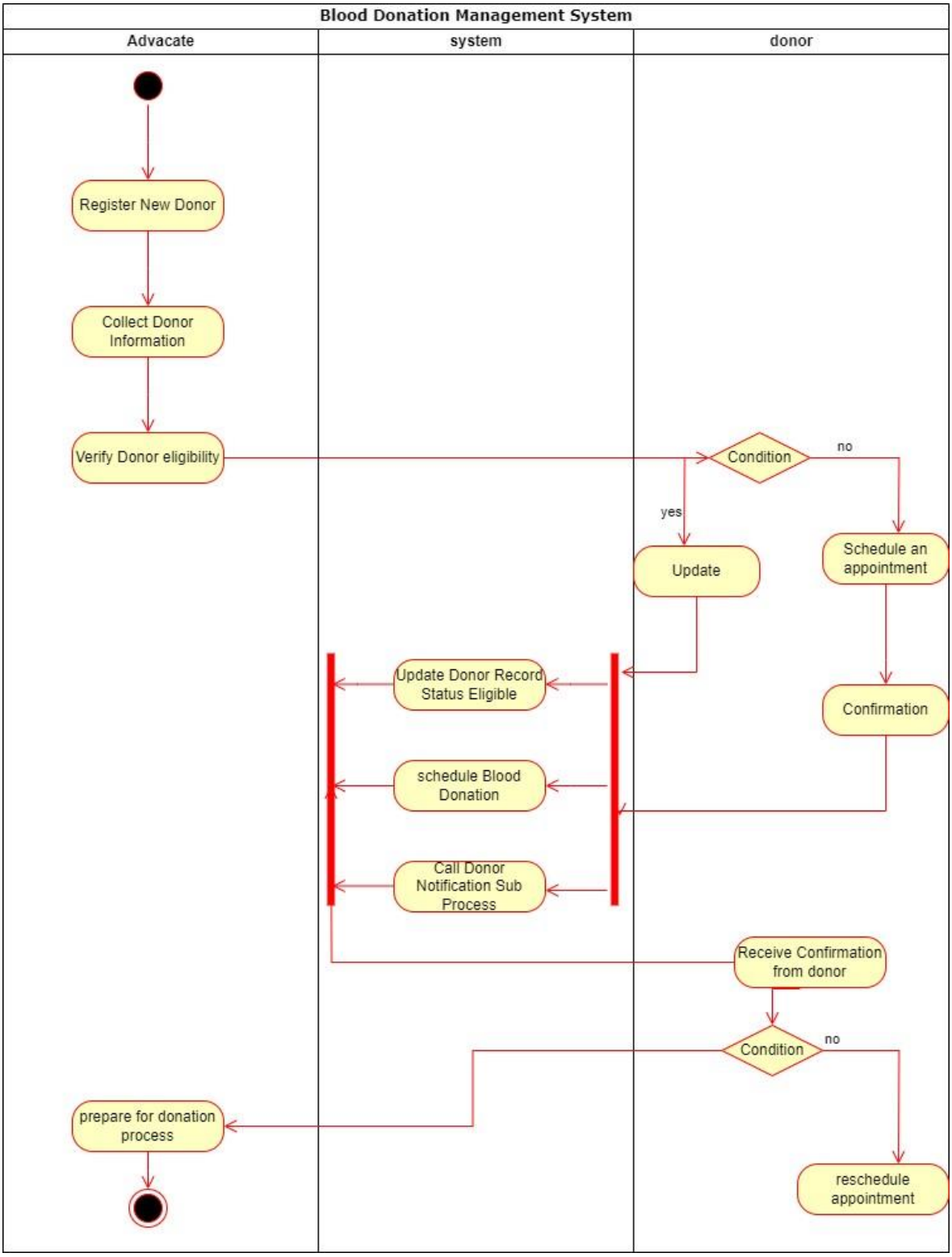
Part 2- (1)

Sub Systems



Part 2- (2)

Activity diagram with partitioning



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Student Details

Student Name	Student Registration Number	Date	Signature
NETHSARANI P.A.T	IT23388284	29/04/2024	

Part 1-(1)

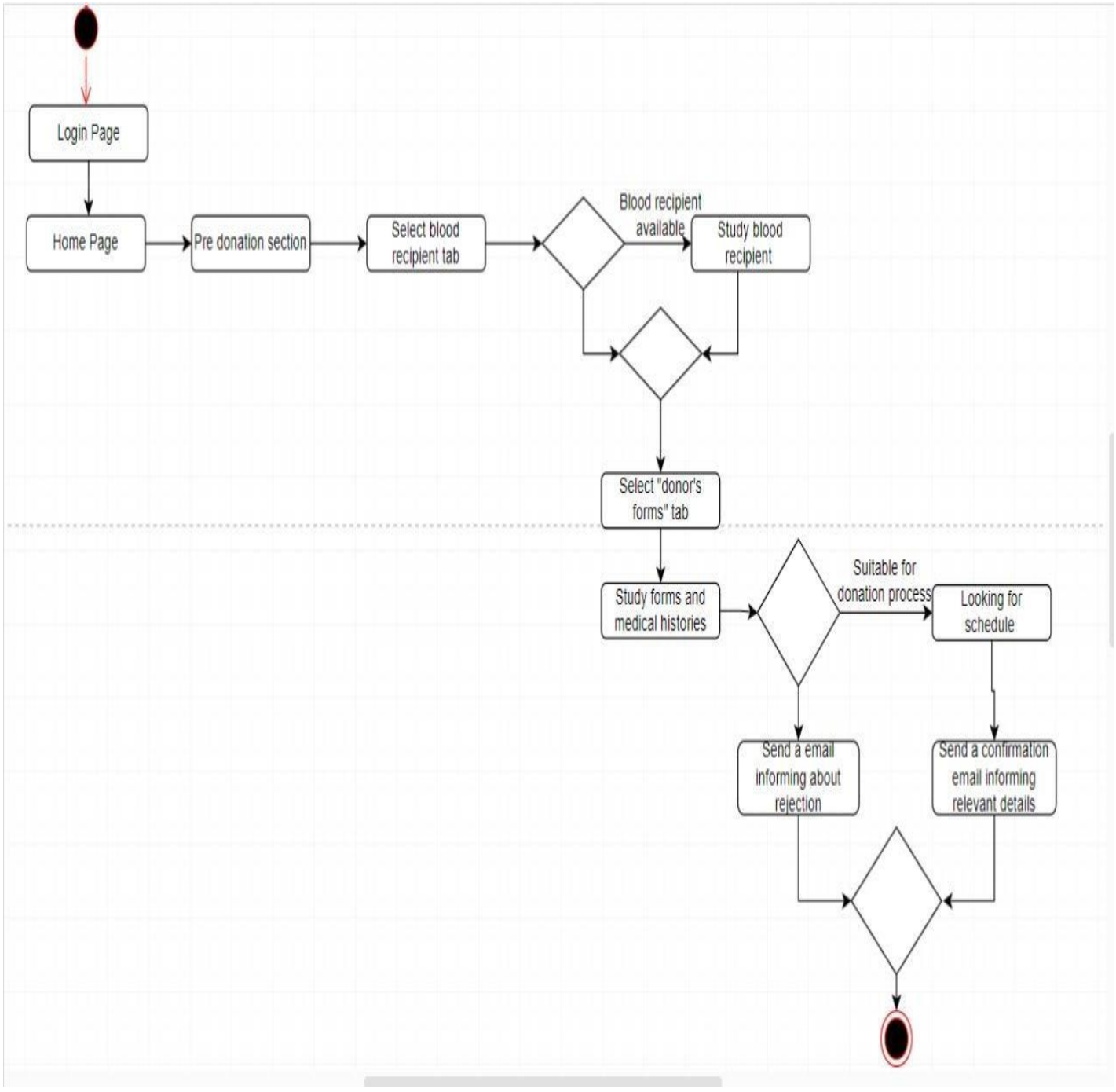
Use Case Scenario

Number	5	
Name	Understanding the requirements for blood donation and eligibility criteria for recipients	
Summary	To manage the donators information and eligibility to donate	
Priority		
Pre-conditions	Study the pre donation section for eligibility criteria documentation	
Post-conditions	Assessing and analyzing donor's information	
Primary Actor(s)	Health care professional	
Trigger	A potential blood donor and recipient approaches the health care professional or accesses the information through the blood donation website	
Main scenario	Step	Action
	1.	Log into the blood donation system
	2.	Select the pre donation section and study about blood recipients
	3.	Select the list of donor's forms
	4.	Screening donors and studying their reports
	5.	Analyzing data and assessing personal readiness
	6.	Scheduling an appointments and confirmation appointment

Extensions	step	Branching Action
	5a.	If not suitable for donation reject the form
	6a.	Send a confirmation email or rejection email

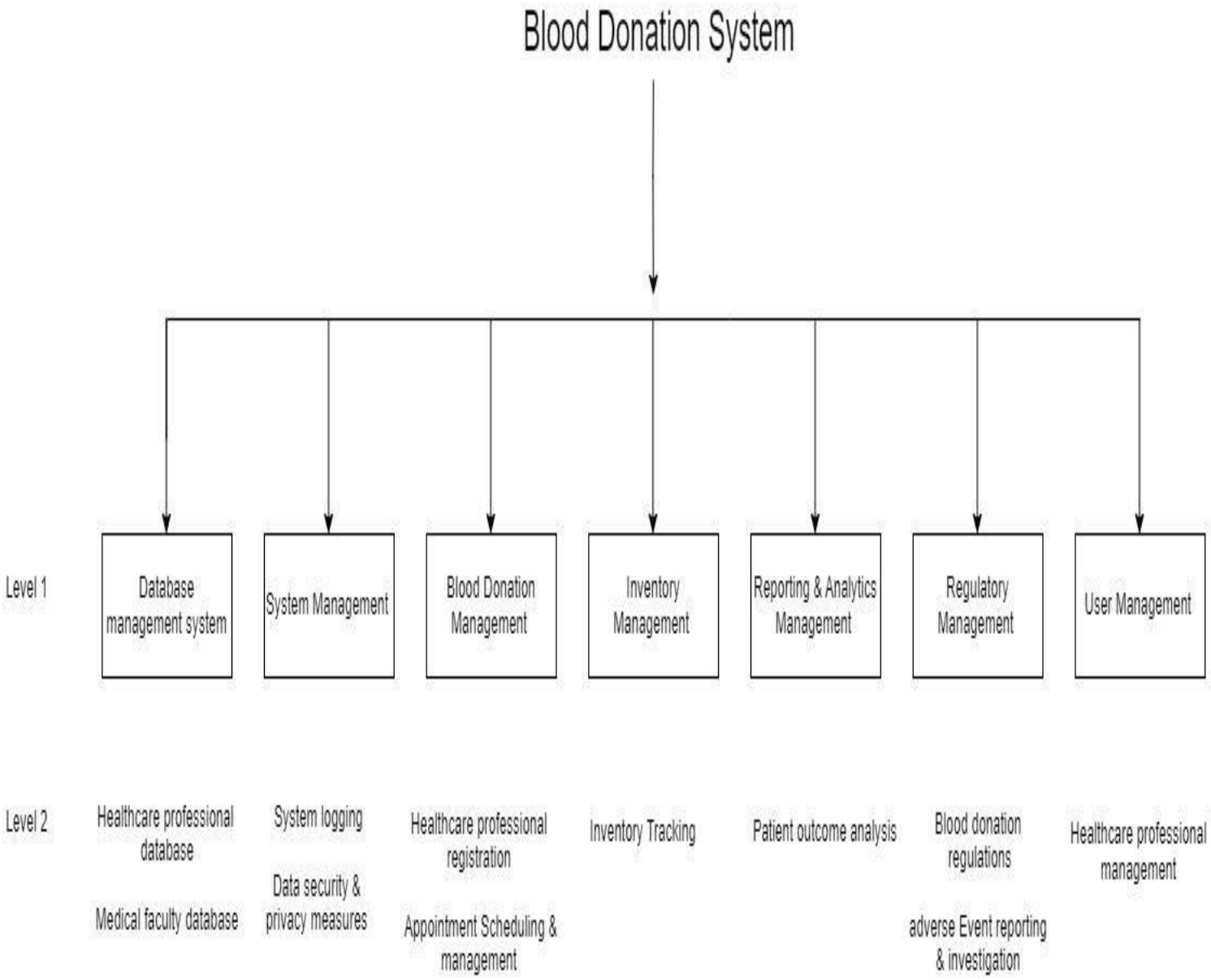
Part 1-(2)

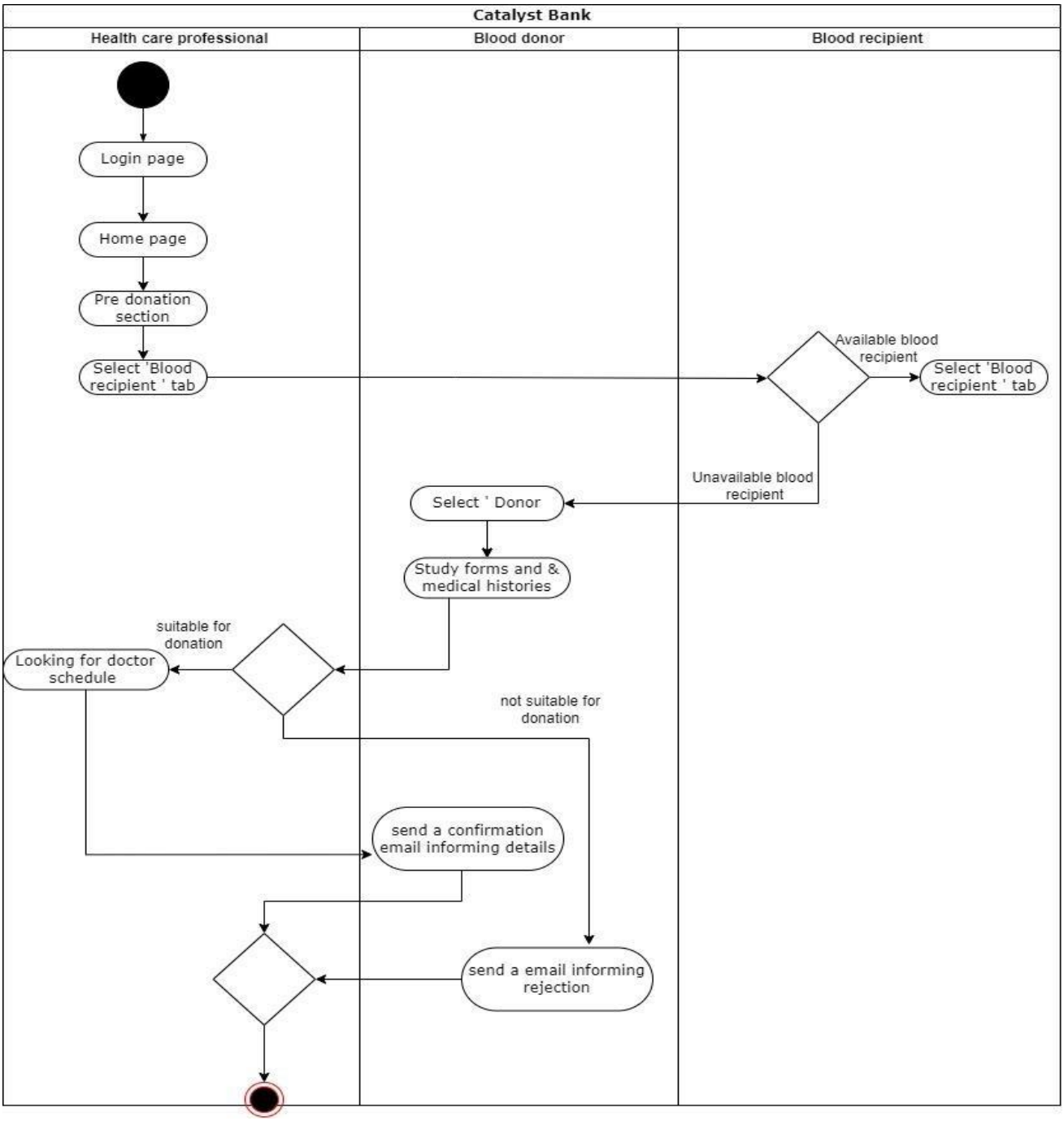
Activity Diagram



Part 2-(1)

Sub system.



Part 2-(2)

Activity diagram with partitioning