Software Development Plan

TITLE PAGE CONTENT

NAME OF SYSTEM: Luxor Blood Bank

DATE: Version

Presented To: Dr Mohamed Ramadan

Submitted By: Dr Mohamed Ramadan

REVISION HISTORY

Date	Author	Distributed to	Version	Description
24\05\2023	SW Team	Dr Mohamed Ramdan	Version 1.0.0	First version of Luxor blood bank

TABLE OF CONTENTS:

1. PRODUCT DESCRIPTION

Luxor blood bank is made for solving the problem of the lack of blood bags in hospitals and making the donation process easier for donors to find nearest hospital to donate in it.

It makes the hospital employees check their blood bank and know the quantity of each type of blood to know what is missing and know if they have a request from another hospital, it is available to help them or not.

Functions of the system:

1. Hospitals request blood bags.
2. Check the availability of blood.
3. Donation request.
4. Money /Blood donation.

2. TEAM DESCRIPTION

Hafsa Desouky / Shahd Mahmoud: Good at Backend development.

Rewan Essam / Aham Karam: Good at UI Designing and Frontend development

Sarah Sayed / Ali Mohamed: Good at Database designing and System Analysis.

3. SOFTWARE PROCESS MODEL DESCRIPTION

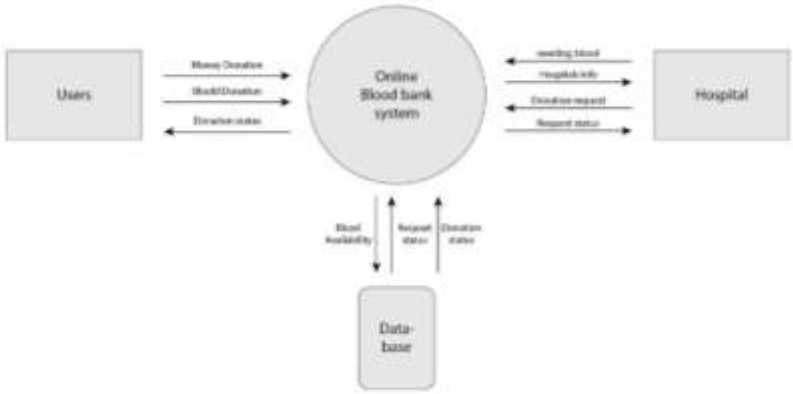
Agile: because we can edit it whenever we want to fix the issues that appeared whenever we are working (responding to change), and it helps us to ensure that teams complete projects on time.

4. PRODUCT DEFINITION

- Hospitals that need/have blood bags.

- Individuals that want to donate blood.

Context Diagram:



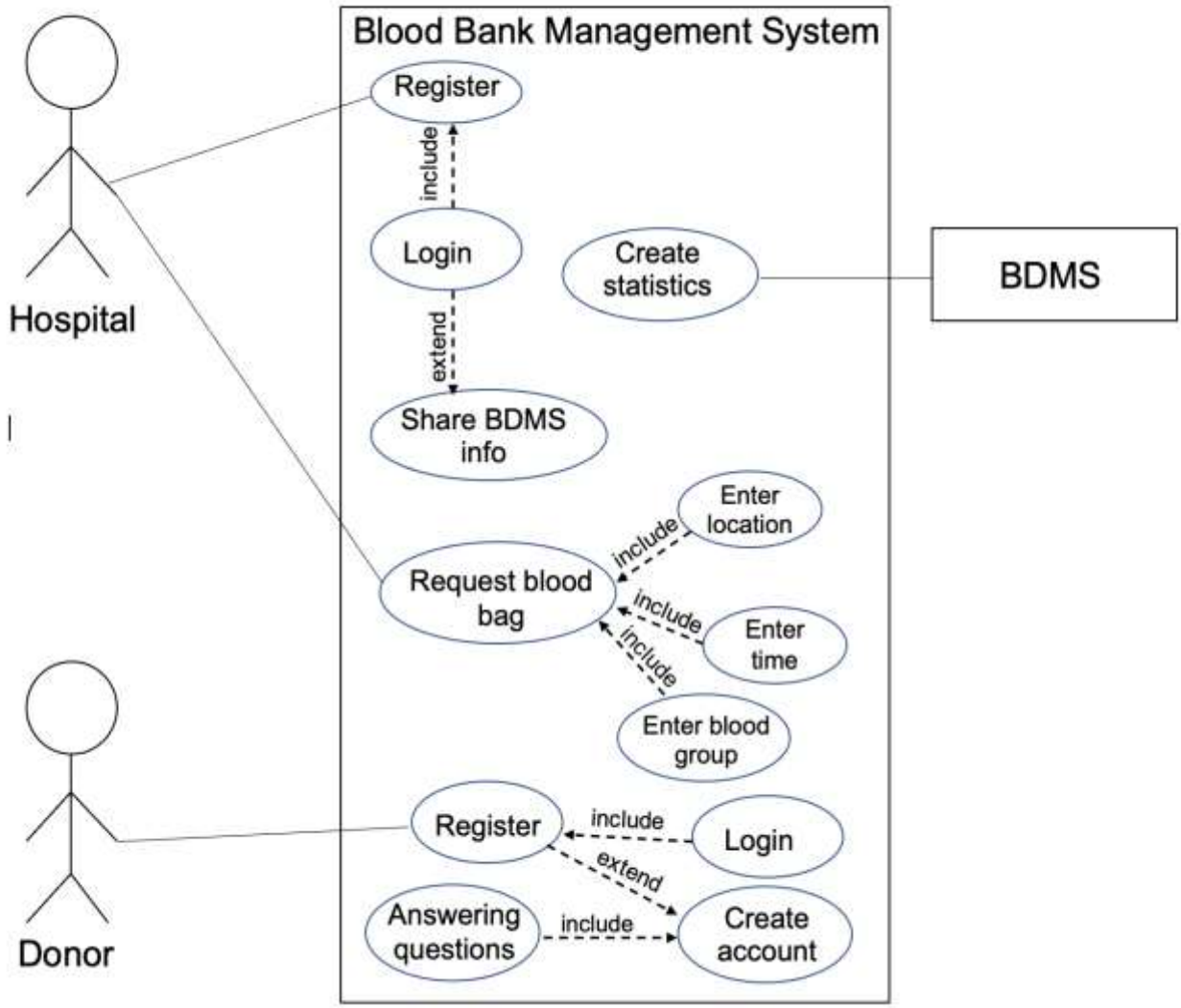
Personas

The system interacting with people like:

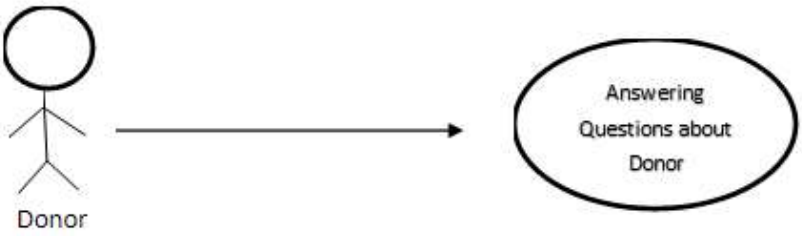
1. The hospital employee who sees the blood bags the hospital has and if he sees a lack in blood type, he can check it is availability in other nearby hospitals and request it.

2. The donor who wants to donate blood.

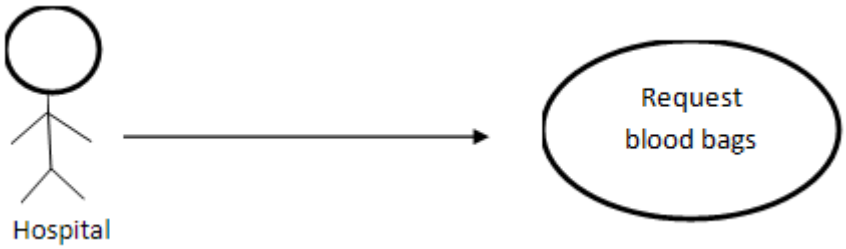
High Level Use Cases:



Use Case Descriptions:



Use Case Name	Answering Questions about Donor
Primary Actor	Donor
Goal	Determine the donor's health status and know if he can donate or not
Pre-condition	• The donor searched for a blood donation site in his city • On-site donor registration • Verify the donor's personal data and prove its validity
Post-condition	• Recording the donor data and his health condition and keeping it with us • Sending notifications to this donor in case of an emergency if his data is valid • Constantly checking the donor’s heath condition
Happy Bath	***Steps:*** 1. The donor registers on the site. 2. Verify the donor's personal data and prove its validity. 3. The donor answers the questions to find out if he is fit to donate or not. 4. The validity of the conditions that make the applicant eligible for donation (his weight - his age - the last time he donated blood). 5. Send notifications to the donor in case of an emergency or a shortage of one of the blood groups. 6. The donor is coming to complete the donation process.
Exceptions	***Steps:*** 3.Failure to meet the conditions that make the donor eligible for donation. 4.Notifications failed to reach donors.



Use Case Name	Request blood bags
Goal	provide the suitable blood bags in sufficient quantity
Primary Actor	Hospital
Pre-condition	• Hospital registration • Hospitals in the same regions has enough quantity to provide blood bags with a certain blood group or accept request • Hospitals updating the blood data every 12 hours in the dashboard
Post-condition	• Exchanging blood bags between hospitals • Hospitals have enough amounts of various kinds of blood groups according to statistics that system provides
Happy Bath	***Steps:*** 1. Hospital enters to the dashboard 2. Hospital checks the amounts of blood bags in other hospitals in the same region 3. Enter the location of hospital 4. Enter the amount of the blood 5. Select the blood group 6. Choose the time 7. Choose the hospital that has the appropriate amount and group of blood
Exceptions	• Blood does not exist in all hospitals: ***Steps:*** 7. Send a notification to the donors in the system 8. Send to donor the hospital location and ordered blood bag

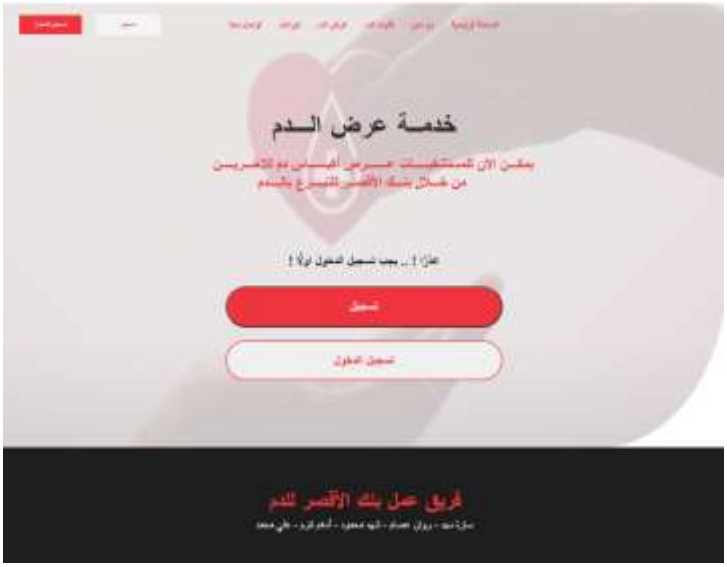
Use Case Name	Do Blood Statistics
Goal	Keep track of the available groups and their quantities and determine the ones needed.
Primary Actor	System Statistician
Pre-condition	• The hospital must be signed up on the system • The hospital's profile must be complete
Post-condition	• The hospitals' profiles are updated daily, and the previous procedures are repeated.
Happy Bath	***Steps:*** 1. We keep records of each blood group and its quantity in every hospital in our database. 2. We search for the most and least requested blood groups in every hospital. 3. We search for the most and least available blood groups in every hospital 4. Make a list of every hospital and its needs for blood groups and their quantities. 5. Check the blood groups that need more donors 6. We connect hospitals to trade blood groups so every hospital has all the types and of at least the minimum quantity.

Exceptions	• A hospital's profile is not complete
	  ○ The system notifies the hospital to complete its profile for more accurate information
	• There aren't enough blood bags for a specific blood group
	  ○ We search for the donors signed up on the system
	• A hospital needs a large amount of blood for an emergency
	  ○ We notify nearby hospitals and our donors.

Use Case Name	hospital blood bank sharing information
Goal	uploading the al information about the data of blood bank
Primary Actor	hospital
Pre-condition	• hospital gathering all data about blood types and their quantities • hospital registration
Post-condition	hospital's employee who has responsibilities uploading data of the blood bank
Happy Bath	***Steps:*** 1. hospital log in 2. upload the blood types it has 3. upload their quantities
Exceptions	Hospital cannot access the system

Use Case Name	Donor Registration
Primary Actor	Donor
Goal	Successful completion of the donor data registration process.
Pre-condition	• The donor search for a blood donation site in his city
Post-condition	• Recording the donor data and his health condition and keeping it with us
Happy Bath	***Steps:*** 1. The Donor search for a blood donation site in his city. 2. The Donor Enter our website. 3. Enter on Registration Button 4. Enter his/her Data (Name – Age – Phone Num - Blood Type – ETC...)
Exceptions	***Steps:*** 1.Failure to Enter Website. 2.Failure to Enter his/her Data

5. USER EXPERIENCE WIREFRAMES




تواصل معنا
الاسم الرباعي:
البريد الالكتروني:
الرسالة:


إنشاء حساب مؤسسة / مستشفى
فريق عمل بنك الأقصر للدم


انشاء حساب أفراد


تسجيل الدخول


اسم المتبرع:
البريد الالكتروني:
رقم الهاتف:
فصيلة الدم:
النوع:
السن:


اسم المستشفى:
فصائل الدم المتاحة
رقم الهاتف:
البريد الالكتروني:
العنوان:
A+
A-
B+
B-
AB-
AB+
O+
O-

6. PROJECT ORGANIZATION

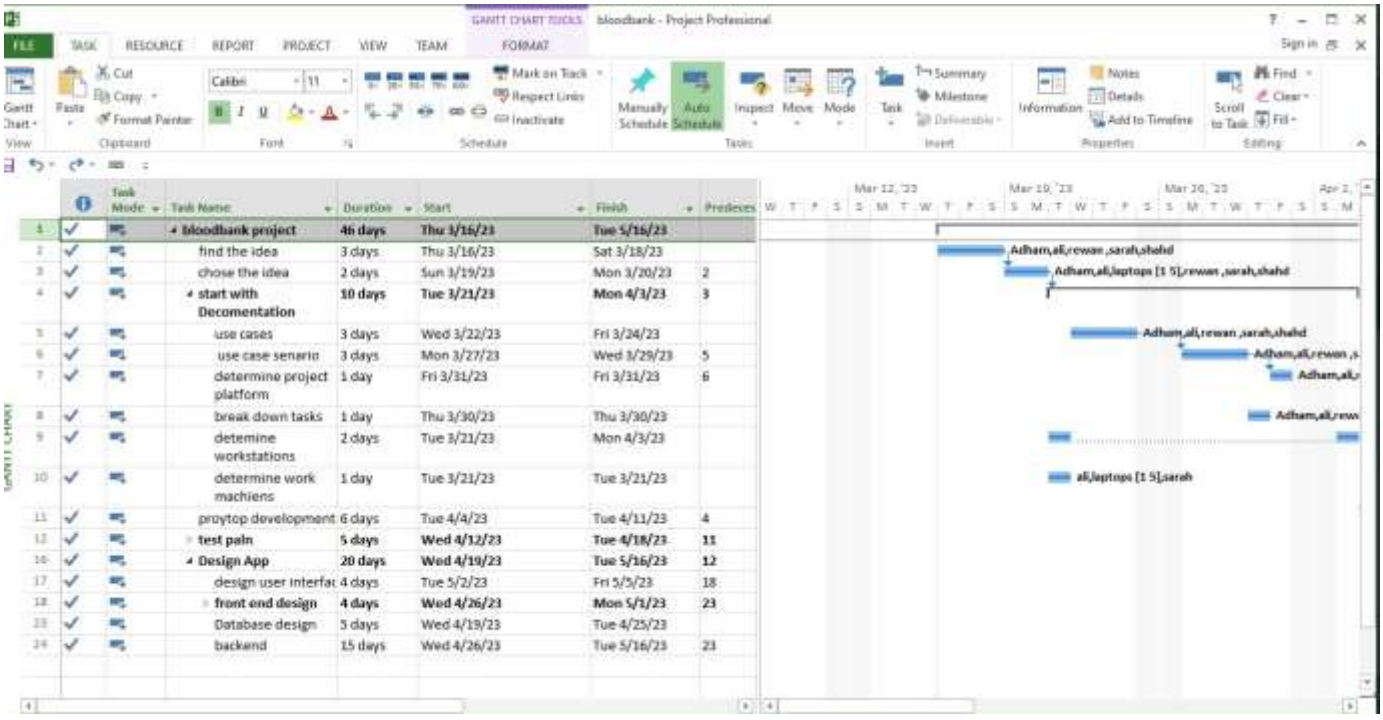
Breakdown of major tasks and schedule.

Matrix of Responsibilities

Defines the high level which team members are responsible for which tasks.

PERT / Gantt Chart

	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names	Add New Column
1	✓	**bloodbank project**	**46 days**	**Thu 3/16/23**	**Tue 5/16/23**			
2	✓	find the idea	3 days	Thu 3/16/23	Sat 3/18/23		Adham,ali,rewan ,s	
3	✓	chose the idea	2 days	Sun 3/19/23	Mon 3/20/23	2	Adham,ali,laptops	
4	✓	**start with Decomentation**	**10 days**	**Tue 3/21/23**	**Mon 4/3/23**	**3**		
5	✓	use cases	3 days	Wed 3/22/23	Fri 3/24/23		Adham,ali,rewan ,s	
6	✓	use case senario	3 days	Mon 3/27/23	Wed 3/29/23	5	Adham,ali,rewan ,s	
7	✓	determine project platform	1 day	Fri 3/31/23	Fri 3/31/23	6	Adham,ali,rewan , sarah,shahd	
8	✓	break down tasks	1 day	Thu 3/30/23	Thu 3/30/23		Adham,ali,rewan ,s	
9	✓	detemine workstations	2 days	Tue 3/21/23	Mon 4/3/23		Adham,ali, laptops [1 5],rewan	
10	✓	determine work machiens	1 day	Tue 3/21/23	Tue 3/21/23		ali,laptops [1 5], sarah	
11	✓	proytop development	6 days	Tue 4/4/23	Tue 4/11/23	4		
12	✓	**test paln**	**5 days**	**Wed 4/12/23**	**Tue 4/18/23**	**11**	**ali,laptops [1 5],sa**	
16	✓	**Design App**	**20 days**	**Wed 4/19/23**	**Tue 5/16/23**	**12**		
17	✓	design user interfac	4 days	Tue 5/2/23	Fri 5/5/23	18	Adham,laptops [1 5	
18	✓	**front end design**	**4 days**	**Wed 4/26/23**	**Mon 5/1/23**	**23**	**Adham,laptops [1 5**	
23	✓	Database design	5 days	Wed 4/19/23	Tue 4/25/23		laptops [1 5],sarah	
24	✓	backend	15 days	Wed 4/26/23	Tue 5/16/23	23	laptops [1 5],shahd	



7. VALIDATION PLAN

We test each function in the system and check if it meets our requirements or not if it is not, we recoded and try another solution to reach our goals, if it meets our requirements we go on to the next step and in the and last we test the system with all functions as a user or a hospital to if it works well as it supposed to work or not we applied about 10 cases as a donor or hospital employee and the results was impressive.

8. FEASIBILITY STUDY

Executive Summary:

The main goal of this project is to create a system that helps hospitals track and exchange blood supply with other hospitals in emergency situations. The target customers or beneficiaries of this project are donors and hospitals who need to manage their blood supply efficiently and effectively. The benefits of this project include saving time and lives, improving the quality and safety of blood transfusions, and increasing the awareness and participation of blood donors. The costs of this project include the network infrastructure, the interface design, and the database management system. The risks of this project include legal or ethical issues, cyberattacks or data breaches, and technical glitches or errors. The challenges of this project include user attraction and retention, regional differences and regulations, and market competition. The alternatives or competitors of this project include the traditional manual system, the existing online platforms or apps, and the emerging technologies or innovations.

The feasibility study concludes that this project is feasible and viable, as it has a clear and compelling goal, a large and growing market, a strong value proposition, and a reasonable cost-benefit analysis. However, the project also faces some significant risks and challenges that need to be addressed and mitigated. Therefore, the feasibility study recommends that the project should proceed with caution and careful planning, such as conducting market research, developing a prototype, testing and validating the system, securing legal and ethical compliance, protecting data security and privacy, enhancing user experience and satisfaction, and monitoring and evaluating the performance and impact of the system.

Project Goal:

The main goal of this project is to create a system that helps hospitals track and exchange blood supply with other hospitals in emergency situations. This system will enable hospitals to monitor their blood inventory in real time, request blood from other hospitals when needed, share blood with other hospitals when available, and match blood types and compatibility. This system will also allow donors to donate blood or money easily and conveniently and receive feedback and rewards for their contributions. This system will help to reduce the risk of blood shortages and wastage, improve the quality and safety of blood transfusions, save lives, and improve health outcomes for patients who need blood.

Target Customers or Beneficiaries:

The target customers or beneficiaries of this project are donors and hospitals who need to manage their blood supply efficiently and effectively. Donors are individuals who voluntarily donate blood or money to support the blood supply system. They can use this system to find nearby hospitals or blood banks that need their donations, schedule appointments, receive reminders, track their donations, get feedback on their impact, earn rewards or incentives, and join a community of blood donors. Hospitals are institutions that provide medical care to patients who need blood transfusions. They can use this system to track their blood inventory in real time, request blood from other hospitals when needed, share blood with other hospitals

when available, match blood types and compatibility, verify donor information, process payments or reimbursements, and report on their activities.

Benefits and Costs:

The benefits of this project include:

- Saving time and lives: This system will help to reduce the time and effort required to manage and request blood supply, as well as the waiting time for patients who need blood transfusions. This will result in faster and more efficient delivery of blood services and lower mortality and morbidity rates for patients who need blood.

- Improving quality and safety: This system will help to improve the quality and safety of blood transfusions by ensuring that the blood is fresh, compatible, tested, and traceable. This will reduce the risk of infections, complications, errors, or adverse reactions for patients who receive blood transfusions.

- Increasing awareness and participation: This system will help to increase the awareness and participation of blood donors by providing them with easy access to information on where and how to donate blood or money; feedback on their impact; rewards or incentives for their contributions; and a sense of community and social responsibility.

The costs of this project include:

- Network infrastructure: This system will require a reliable and secure network infrastructure that can support the data transmission and communication among the users and devices involved in the system.

- Interface design: This system will need a user-friendly and accessible interface design that can facilitate the interaction and engagement of the users with the system.

- Database management system: This system will involve a complex and robust database management system that can store, process, and analyze the large amount of data generated by the system.

Risks and Challenges:

The risks of this project include:

- Legal or ethical issues: This system might face legal or ethical issues regarding the collection and sharing of blood data, such as ownership, access, consent, or disclosure. This might result in legal disputes, complaints, or sanctions from users or stakeholders who are concerned about the privacy and rights of blood donors or recipients.

- Cyberattacks or data breaches: This system might be vulnerable to cyberattacks or data breaches that compromise the security and integrity of blood information, such as identity, type, quantity, or quality. This might result in harm or damage to users or stakeholders who rely on the safety and availability of blood transfusions.

- Technical glitches or errors: This system might encounter technical glitches or errors that affect the performance and reliability of the system, such as network failures, system crashes, data loss, or incorrect results. This might result in delays or disruptions in the delivery of blood services, as well as dissatisfaction or frustration among users.

The challenges of this project include:

- User attraction and retention: This system might have difficulty in attracting and retaining users, especially donors who might have low motivation or trust in the system. This might result in low user adoption, participation, or loyalty, and insufficient supply or demand for blood services.

- Regional differences and regulations: This system might have to deal with different regulations and standards across different regions or countries, such as legal frameworks, cultural norms, or user preferences. This might result in inconsistencies, conflicts, or barriers in implementing or using the system across different contexts.

- Market competition: This system might have to compete with other existing or emerging solutions that offer similar or better services, such as traditional manual systems, existing online platforms or apps, or new technologies or innovations. This might result in reduced market share, revenue, or impact for the system.

Alternatives or Competitors:

The alternatives or competitors of this project include:

- The traditional manual system of managing and requesting blood supply: This is the conventional paper-based or phone-based system of tracking and ordering blood inventory that many hospitals or blood banks still use today. This alternative is simple and familiar but also inefficient and unreliable.

- The existing online platforms or apps that provide blood donation or transfusion services: These are the current web-based platforms or apps that facilitate blood donation or transfusion activities by connecting donors and recipients or providing information on where and how to donate or receive blood. These competitors are popular and accessible but also limited and fragmented.

Conclusion:

The feasibility study concludes that this project is feasible and viable, as it has a clear and compelling goal, a large and growing market, a strong value proposition, and a reasonable cost-benefit analysis. However, the project also faces some significant risks and challenges that need to be addressed and mitigated. Therefore, the feasibility study recommends that the project should proceed with caution and careful planning, such as conducting market research, developing a prototype, testing, and validating the system, securing legal and ethical compliance, protecting data security and privacy, enhancing user experience and satisfaction, and monitoring and evaluating the performance and impact of the system.

9. CONFIGURATION AND VERSION CONTROL

We use Git tool for version control to manage the tasks and each member in the team develops a copy of the main project to save time and if errors come up, we handle it without editing in the main.

10. TOOLS

HTML, CSS, Bootstrap, MySQL, Vs Code, Figma.

11. ARCHITECTURE

It can be runed on a Laptop, PC and Mobile phone.