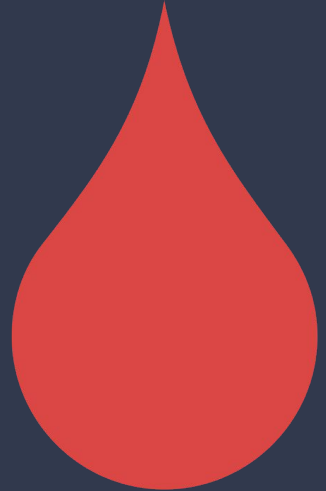# Blood Bank Management System

Group B:
Drithi Iyer, Jerome Doe, Linxiao Qu, Min Jae Park, Xinru Zhao

Business Environment

Necessity of Blood Donation

Data is from American Red Cross

1 donation can potentially **save up to 3 lives.**

Every **2 seconds** someone in the U.S. needs blood.

Less than **38 percent** of the population is eligible to give blood or platelets.

Blood and platelets **cannot** be manufactured; they can only come from volunteer donors.

Business Environment

SWOT Analysis

The Target of this platform:

❖ Make it more convenient for healthcare facilities to get blood
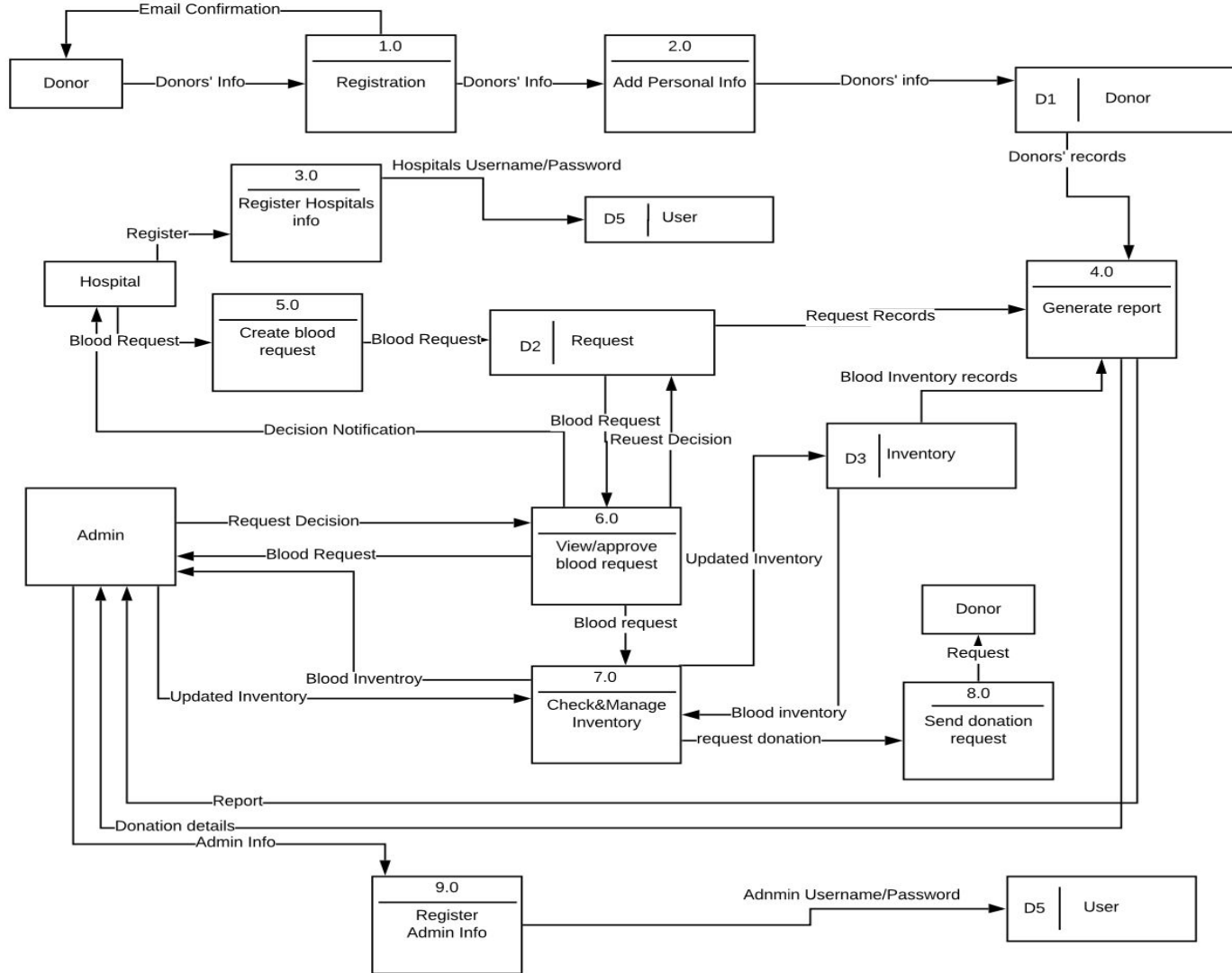
❖ Spread blood donation information to the public

Strengths	Weaknesses
· Automated system · Upgraded communication method · Speed & Safety	· Requires skilled staff with professional knowledge · Lack of understanding and awareness · Struggle to recruit repeat donors
Opportunities	Threats
· Increasing demand for service · Digitization of service · Easy inventory management · Increase use of new media	· New technology · Budget cuts

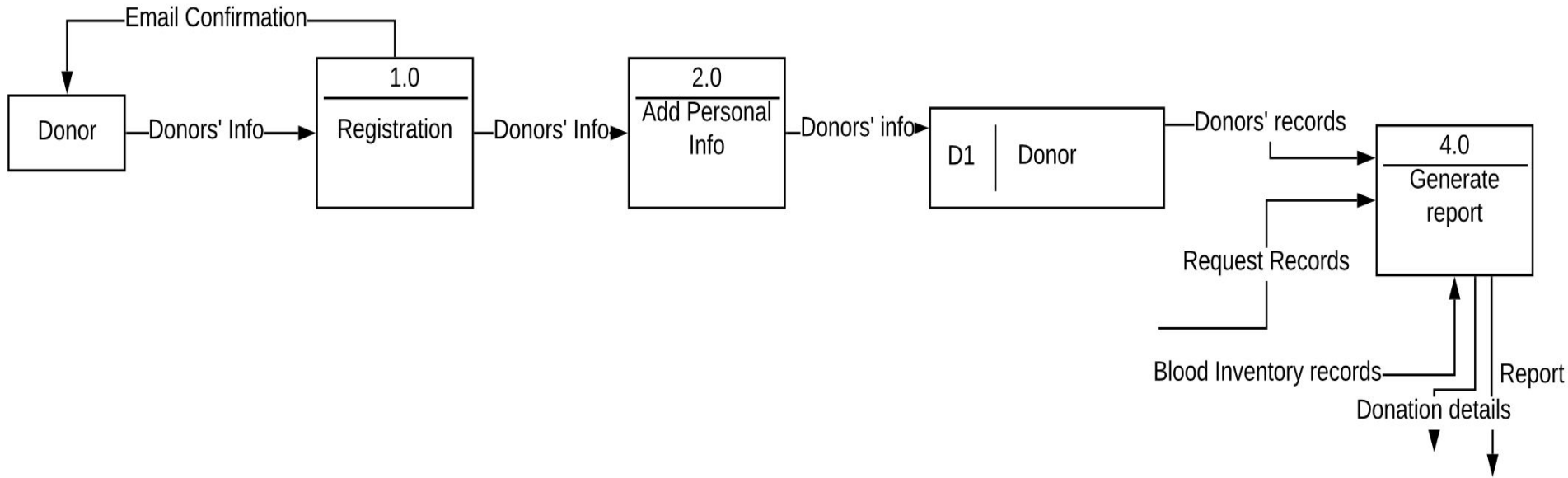# Problem Addressed

❖ Lack of public awareness in low-income countries

❖ Lack of appropriate regulation to ensure safe, equitable, and sustainable distribution of blood

❖ Significant concern with blood safety

❖ Need for a centralized system to increase transparency and accountability

❖ Need for adequate volume of blood supply

❖ Lack of funding per blood collection

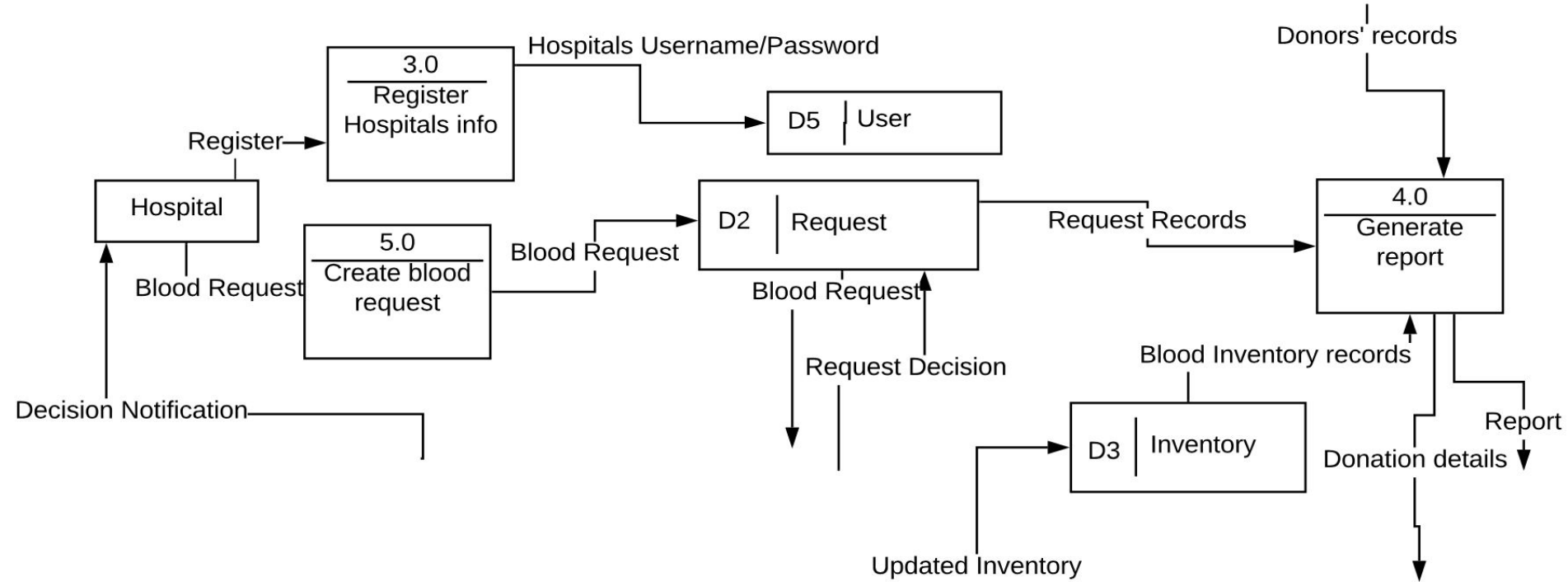# Business Goals & Objectives

❖ Develop a Blood Bank Management system to:

➢ Provide convenience, efficiency, and security

➢ Encourage engagement through organizing blood drives and advertising the importance of blood donation

➢ Improve the efficiency of blood stock management

➢ Provide safety and ensure quality in blood distribution

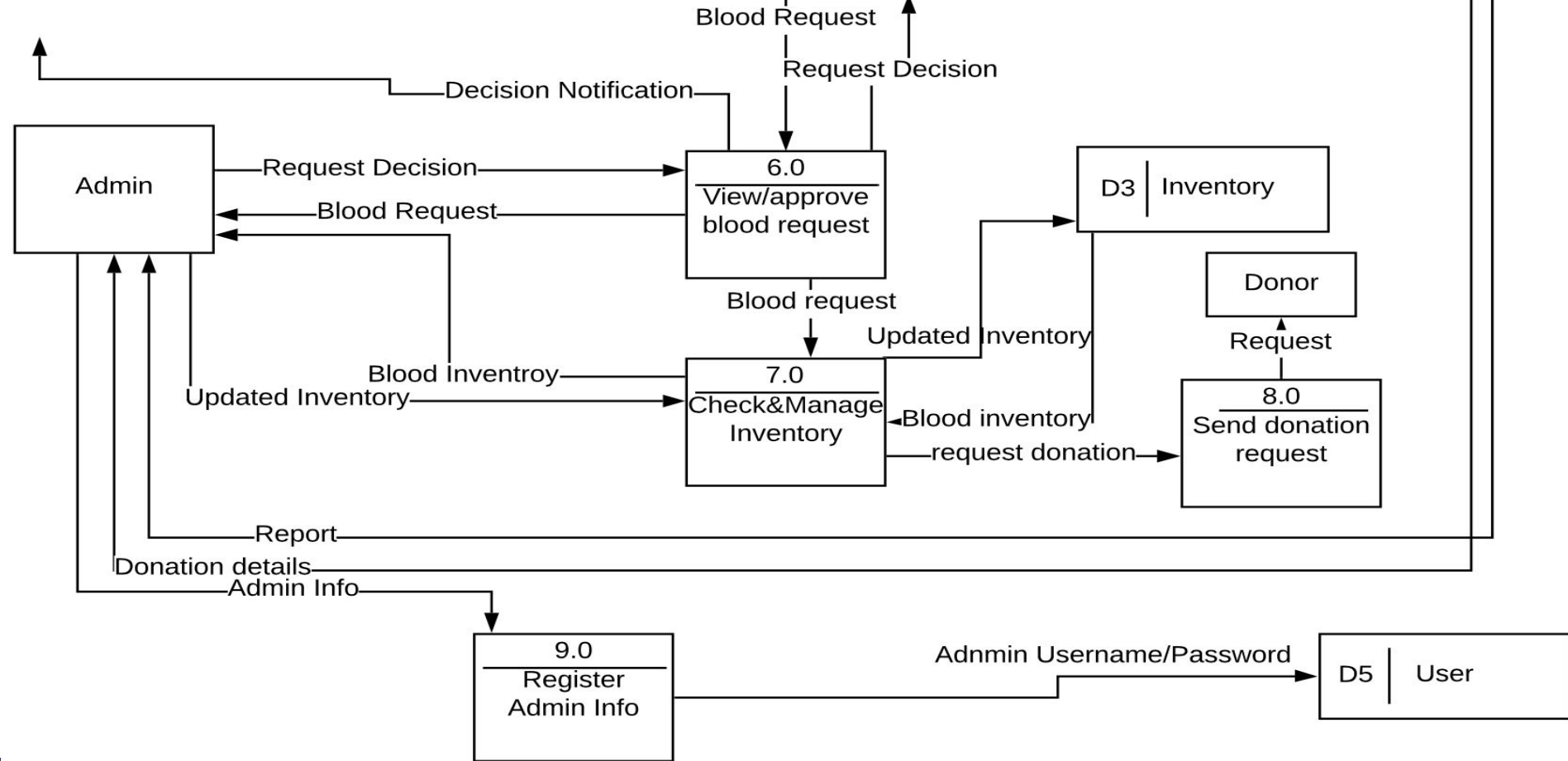➢ Maintain adequate volume of blood supply

Donor → Donors' Info → **1.0 Registration**
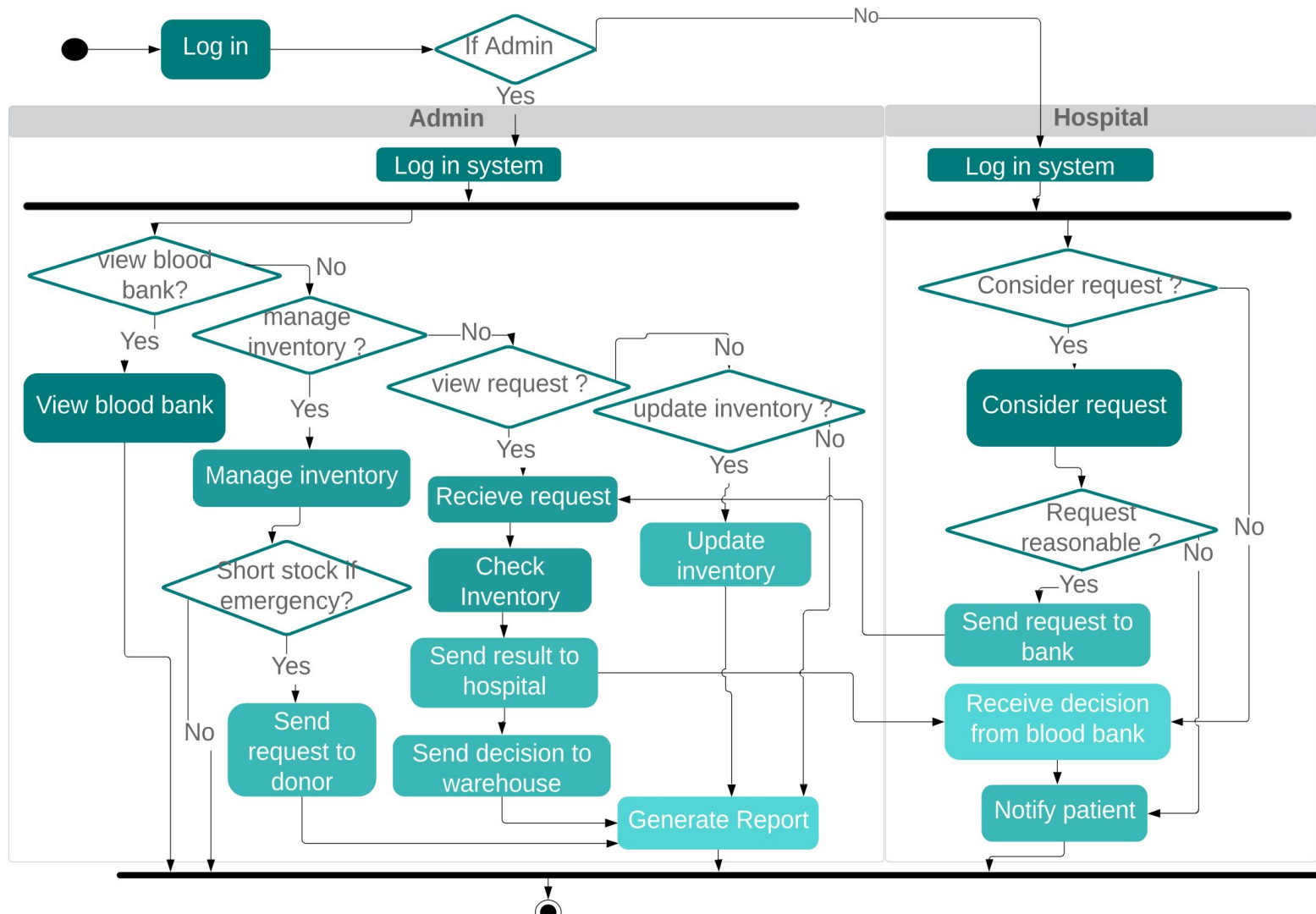
Email Confirmation → **Donor**

1.0 Registration → Donors' Info → **2.0 Add Personal Info** → Donors' info → **D1 | Donor**

3.0 Register Hospitals info → Hospitals Username/Password → **D5 | User**

Hospital → Register → **3.0 Register Hospitals info**

D1 | Donor → Donors' records → **4.0 Generate report**

Hospital → Blood Request → **5.0 Create blood request** → Blood Request → **D2 | Request**

D2 | Request → Request Records → **4.0 Generate report**

5.0 Create blood request — Decision Notification →

D2 | Request → Blood Request / Reuest Decision → **6.0 View/approve blood request**

D3 | Inventory → Blood Inventory records → **4.0 Generate report**

Admin → Request Decision → **6.0 View/approve blood request**

6.0 View/approve blood request → Blood Request → **Admin**

6.0 View/approve blood request → Blood request → **7.0 Check&Manage Inventory**

7.0 Check&Manage Inventory → Updated Inventory → **D3 | Inventory**

Admin → Blood Inventroy → **7.0 Check&Manage Inventory**

Admin → Updated Inventory → **7.0 Check&Manage Inventory**

Donor → Request → **8.0 Send donation request**

8.0 Send donation request → Blood inventory → **7.0 Check&Manage Inventory**

7.0 Check&Manage Inventory → request donation → **8.0 Send donation request**

Report → **Admin**

Donation details

Admin → Admin Info → **9.0 Register Admin Info** → Adnmin Username/Password → **D5 | User**

Data Flow Diagram – Level 0

3.0 Register Hospitals info

5.0 Create blood request

Hospital

Register

Blood Request

Decision Notification

Hospitals Username/Password

D5 | User

Blood Request

D2 | Request

Blood Request

Request Decision

Request Records

Donors' records

4.0 Generate report

Blood Inventory records

D3 | Inventory

Updated Inventory

Report

Donation details

Data Flow Diagram – Level 0

Data Flow Diagram – Level 0

Activity Diagram

Product Backlog

ID	As a/an...	I want to be able to...	So that...	Priority	Status	Sprint
1	Administrator	See a snapshot of blood inventory	I can prioritize appropriate blood group(s) at donations	High	In progress	3
2	Administrator	See pending blood request(s)	I can reply appropriately (accept/reject)	High	Done	2
3	Administrator	Run various reports	I can better manage the blood bank	High	In progress	2
4	Administrator	See all donors in my area	I can better organize blood drive and reach out appropriately	High	Done	1
5	Administrator	Contact registered donors as need	I can address emergency or other urgent situations	High	In progress	2
6	Donor	Create an account	I can register as a donor	High	Done	1
7	Donor	Manage my email preferences	I'm not overwhelmed by emails	Medium	Done	1
8	Hospital Admin	Create an account	I can register as a requestor	High	Done	2
9	Hospital Admin	Request blood from the blood bank	I can take care of patients' needs	High	Done	2
10	Hospital Admin	Check requests sent to blood banks	I am aware of the status	High	Done	3

Database Management System

ID	As a/an...	Objective	So that...	Priority	Status	Sprint
11	Database	Effectively/Efficiently store data	Data is organized and easily retrieved	High	Done	3
12	Database	Secure data	Assets(s) are protected	High	In progress	2

Burndown Chart

Sprint 1- Burndown Chart

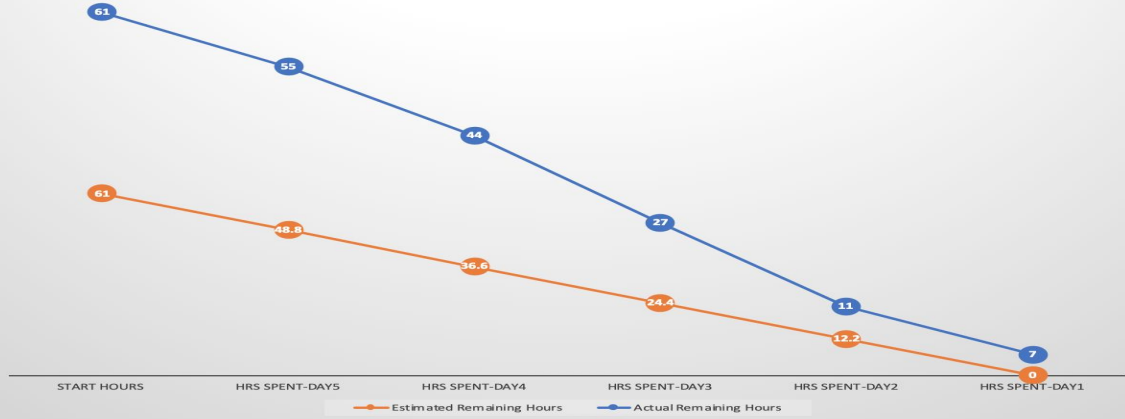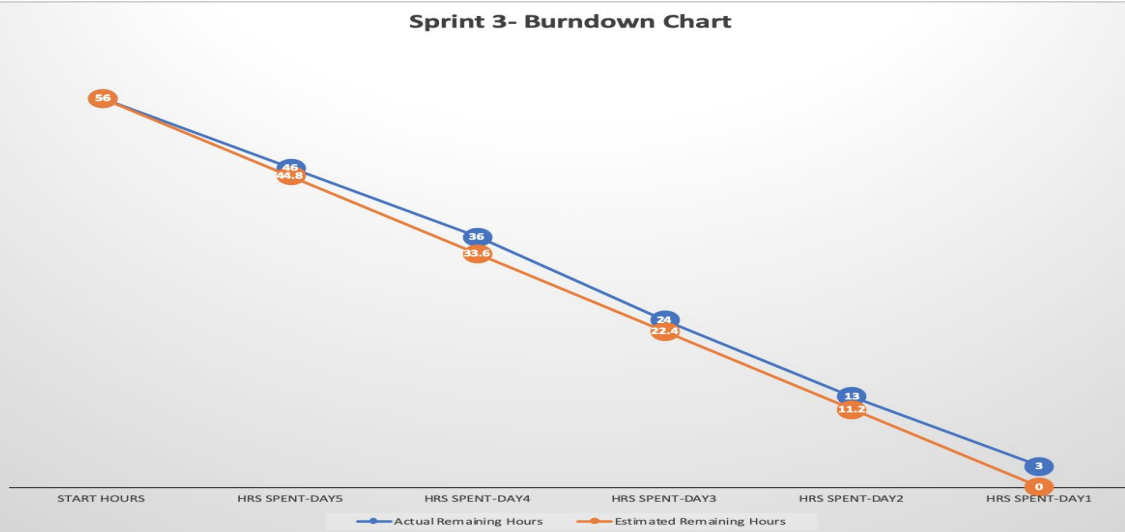# Burndown Chart Cont'd

Sprint 2- Burndown Chart

Sprint 3- Burndown Chart

Prototype Demo

Questions?