Blood Bank Management System

Group-1

Introduction

The Blood Bank Management System is a comprehensive software solution designed to streamline the process of blood donation, request, and management. This system is aimed at connecting donors, patients, and blood bank administrators to ensure efficient blood supply management while saving lives.

Objective:

The primary objective of this project is to create a user-friendly platform that facilitates the donation of blood, allows users to request blood when needed, and enables blood bank administrators to efficiently manage donor appointments and patient requests.

Benefits:

- **Efficiency:** Streamlines the blood donation process, reducing manual paperwork.
- **Timeliness:** Enables quick responses to blood requests, potentially saving lives.
- **Transparency**: Provides transparency in blood availability.
- **Data Analysis:** Allows administrators to make data-driven decisions for resource allocation.

Key Features:

- **Donor Registration:** Donors can register to donate blood, providing essential information such as name, contact details, and blood type.
- **Blood Collection:** Trained administrators collect blood from registered donors, ensuring proper safety measures and documentation.
- **Blood Availability Check**: Administrators check the availability of the requested blood type when a patient submits a request.
- **Request Acceptance:** If the requested blood type is available, administrators accept the patient's request.
- **Patient Profile:** Patients can access a secure profile where they can view information about accepted requests.
- **Blood Bank Administration:** Patients with accepted requests can visit the blood bank administration to receive the reserved blood.
- **Reservation Update:** After the blood is taken, administrators update the patient's profile to indicate that blood has been reserved and the transaction is complete.

Existing System:

The problem at hand is the inefficiency and lack of transparency in the blood donation and reservation process. Donors, patients, and administrators face challenges in managing the workflow, checking blood availability, and updating patient profiles.

- Mostly manual records are maintained.
- It takes a lot of time for getting exact address or information of donor/blood bank is a huge difficult and time seeking.
- The growth in number of recipients of blood now-a-days.
- The boom in number of accidents now-a-days is increased.

Proposed System:

The proposed solution is the development and implementation of a comprehensive Blood Donation and Reservation System, which aims to address these issues and streamline the entire process:
Implement an online platform where donors can register and schedule appointments. This reduces wait times and ensures a steady supply of blood.
Develop user-friendly patient profiles that store relevant information, including accepted requests and donor profiles. This simplifies tracking and management.
Enable patients with accepted requests to easily access the blood bank administration, ensuring a smooth and organized process for blood reservation and retrieval.

- The human beings in want of blood can look for the donors through giving their blood group and registering.

- The person’s time and difficulty is reduced a lot which resides inside the present system.

- Easy and Helpful.

- The humans aren't restricted to acquire or offer services in the website, is simplest; is serviced 24/7.

Functional Requirements:

The contents of the "Blood Bank Management System" are:

1. Administrator – Add/View/Search information related to blood, donor and patient.
2. Donor–View and update details.
3. Patient – View details.

Interface Requirements

The Blood Bank Management System is been developed as a Web Application using HTML/JSP screens.

Non-functional Requirements

- The application should be intuitive to use and easy-to-maintain
- Designer/Programmer need to consider suitable conditions/constraints and assumptions.
- The application should be able to handle simultaneous requests from multiple clients
- Upon installation, the administrator, donor and patient are expected to have User IDs and Passwords
- The system may force the administrator/donor / patient to change their passwords to a non-default one, upon initial login.

Software Environment:

- Windows Operating System
- Server – Apache Tomcat 9 or higher
- Database – MYSQL
- JRE 1.9 or higher
- Eclipse IDE

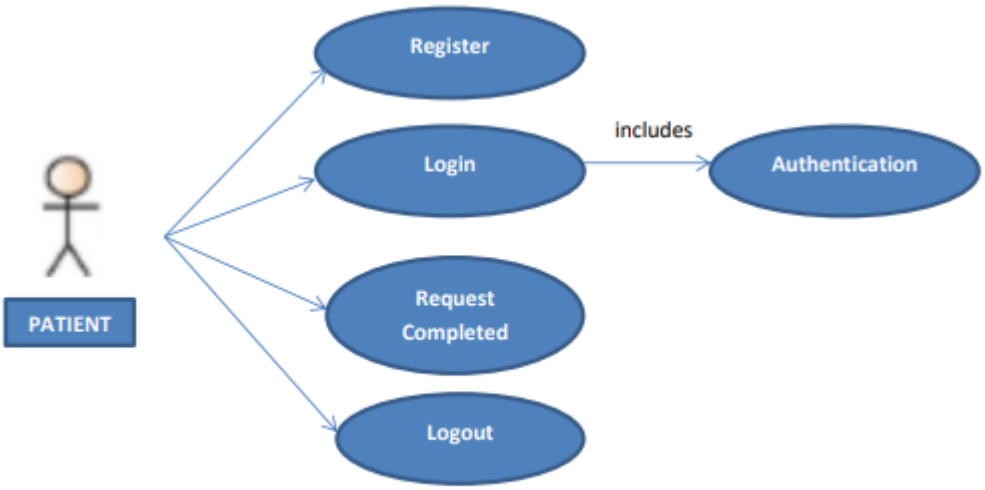
Functionalities:

- User Registration and Profiles:
    - Donors can register and create profiles with their personal and medical information.
    - Users (patients or their representatives) can also register.
- Donor Management:
    - Donors can view and update their profiles.
    - Schedule blood donation appointments and view their donation history.
- Blood Bank Administration Management:
    - Users can request blood by providing blood type and personal details like gender, mobile number.
    - Blood bank administrators can review and approve/reject requests.

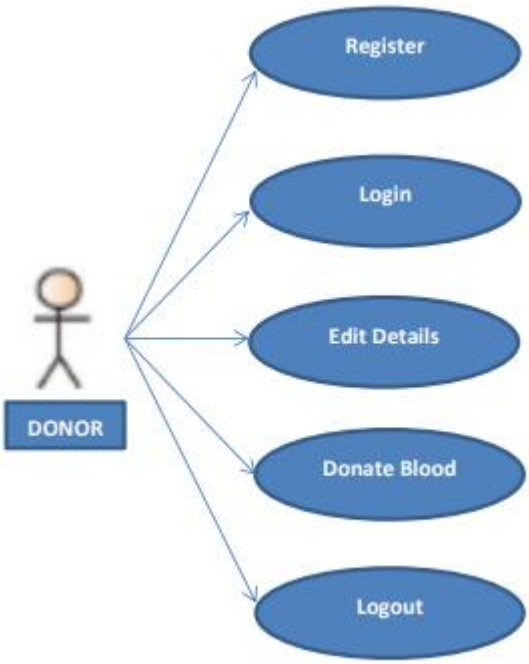
UML DIAGRAMS:

Use Case Diagram:

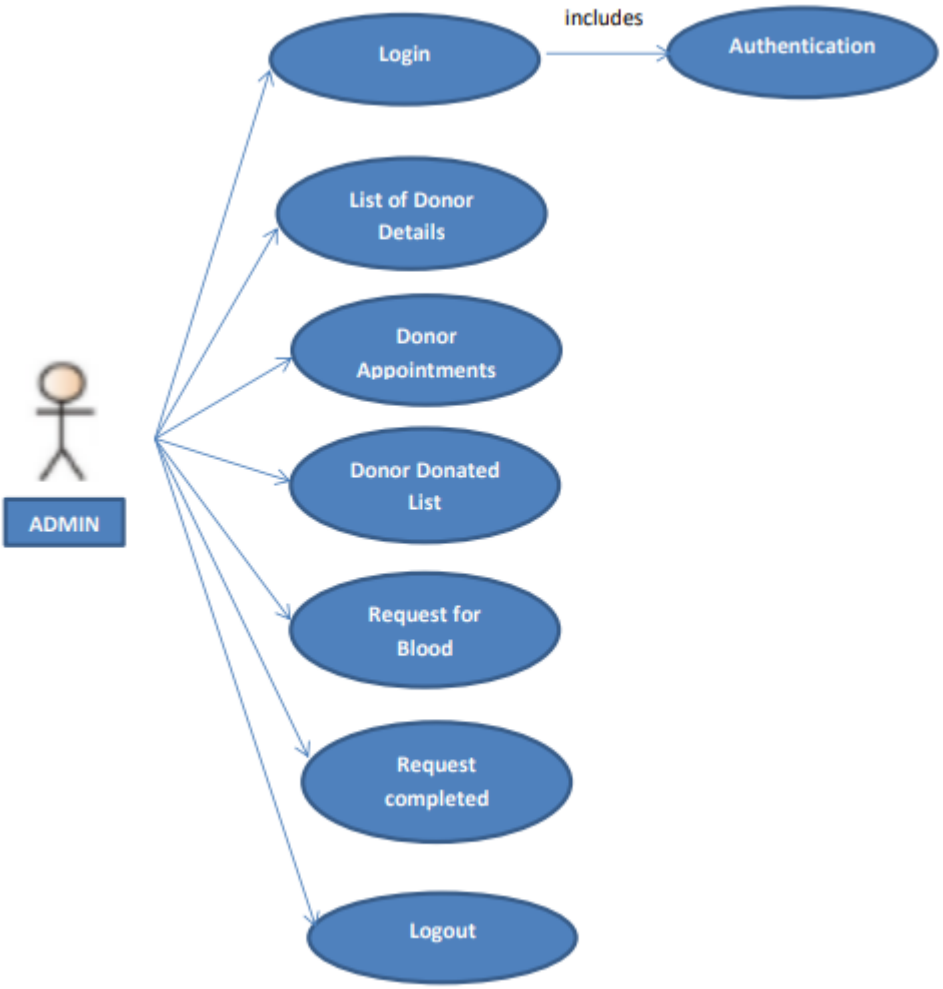
Patient:



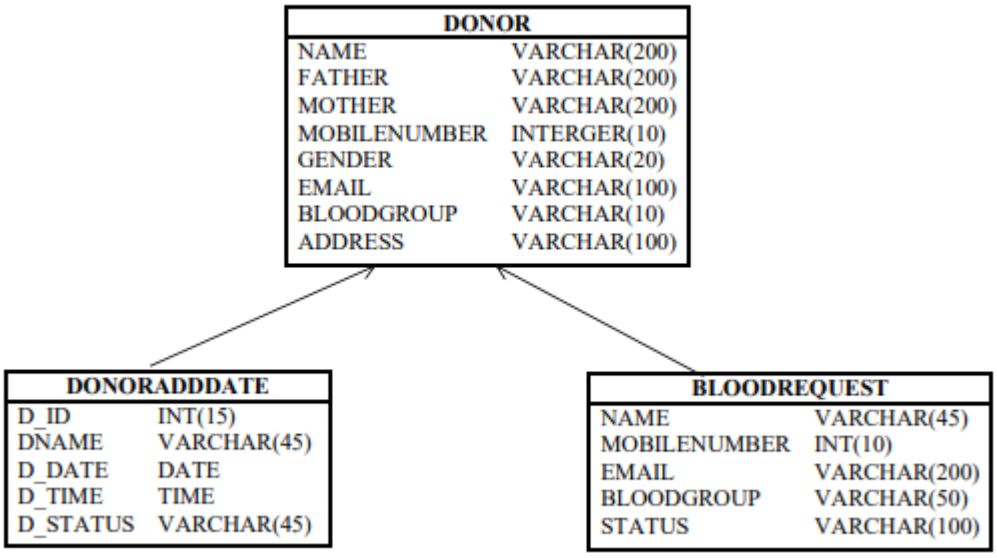
Donor:



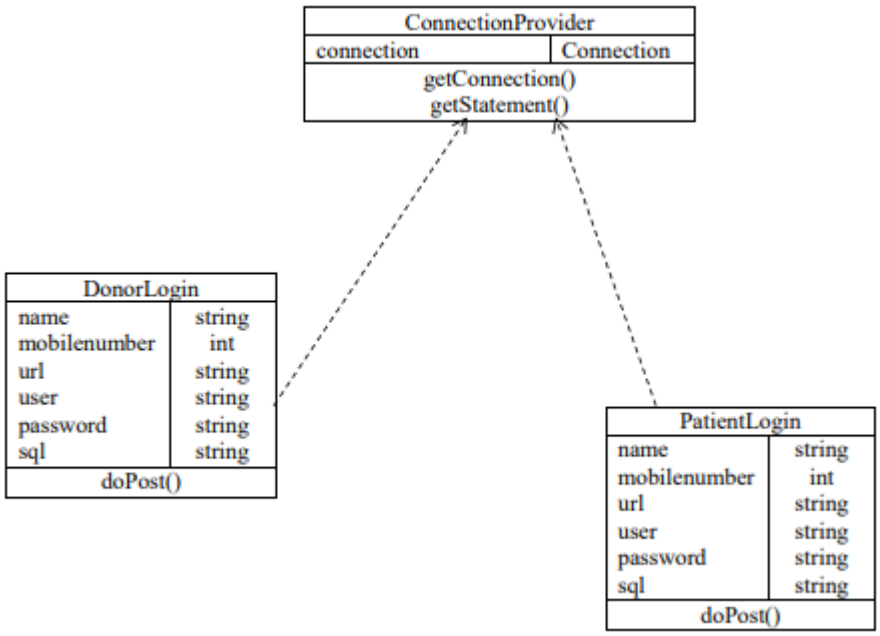
Admin:


includes
Login
Authentication
List of Donor Details
Donor Appointments
Donor Donated List
Request for Blood
Request completed
Logout
ADMIN

E-R DIAGRAM:

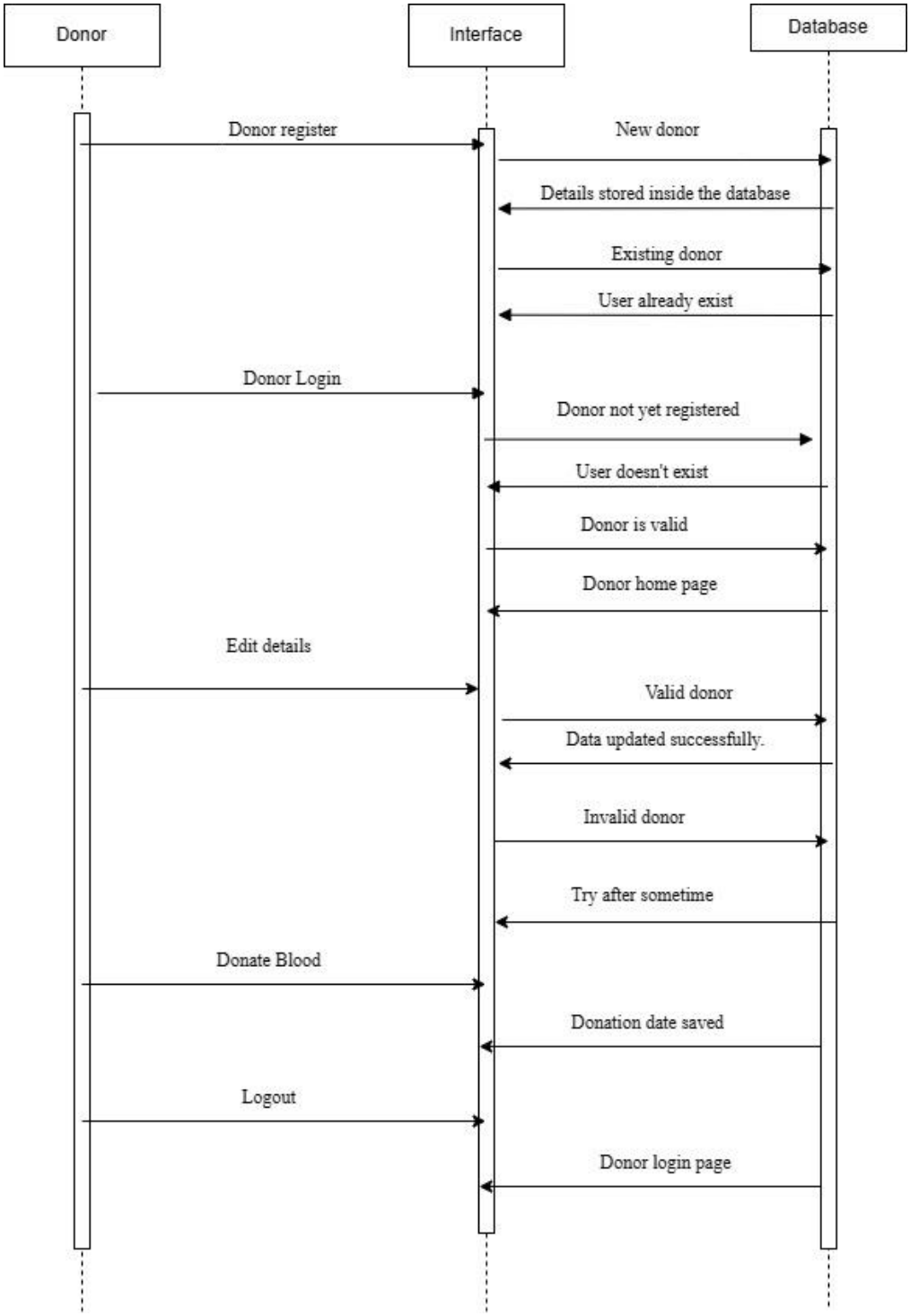


CLASS DIAGRAM:

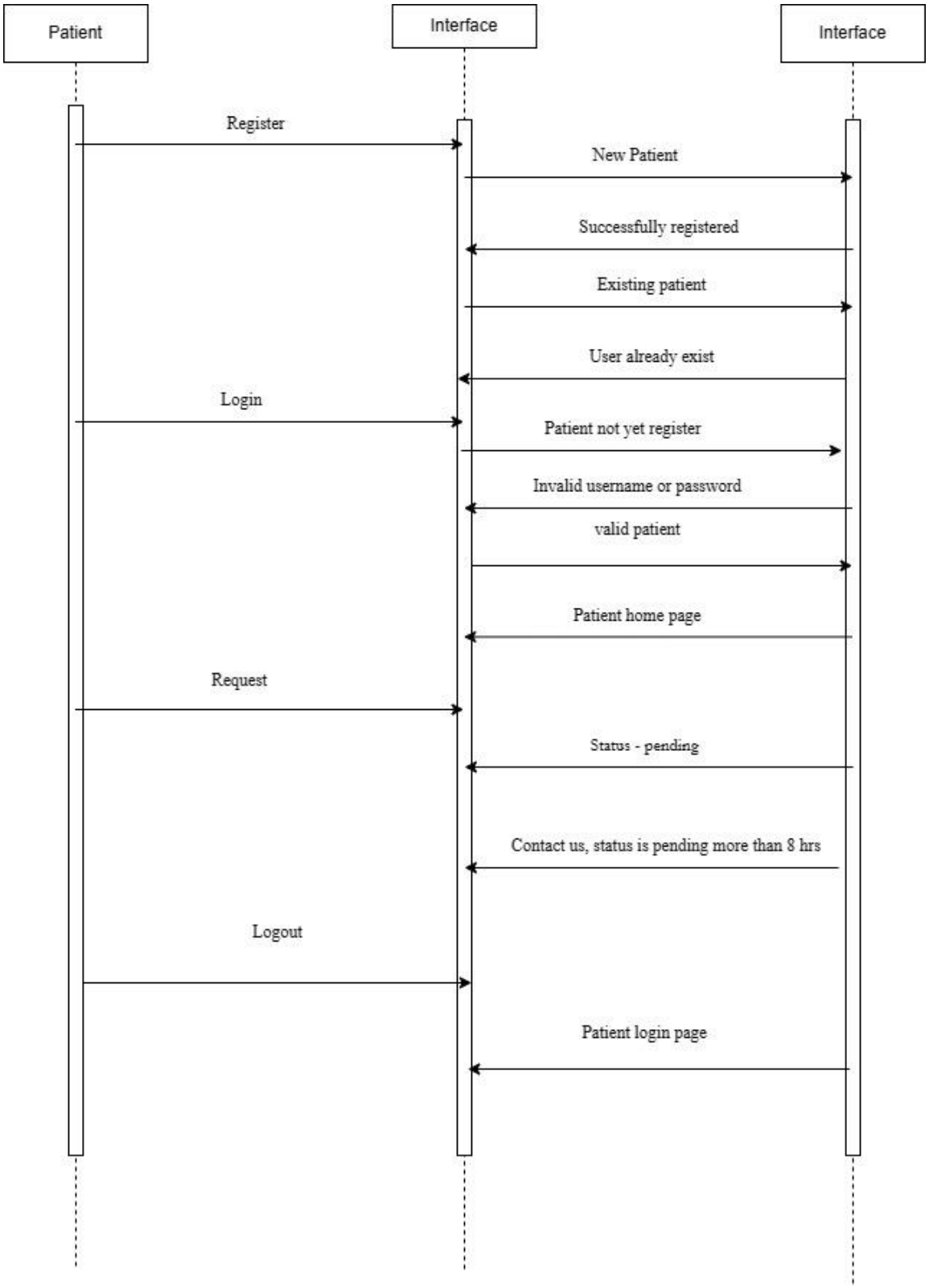


SEQUENCE DIAGRAM:

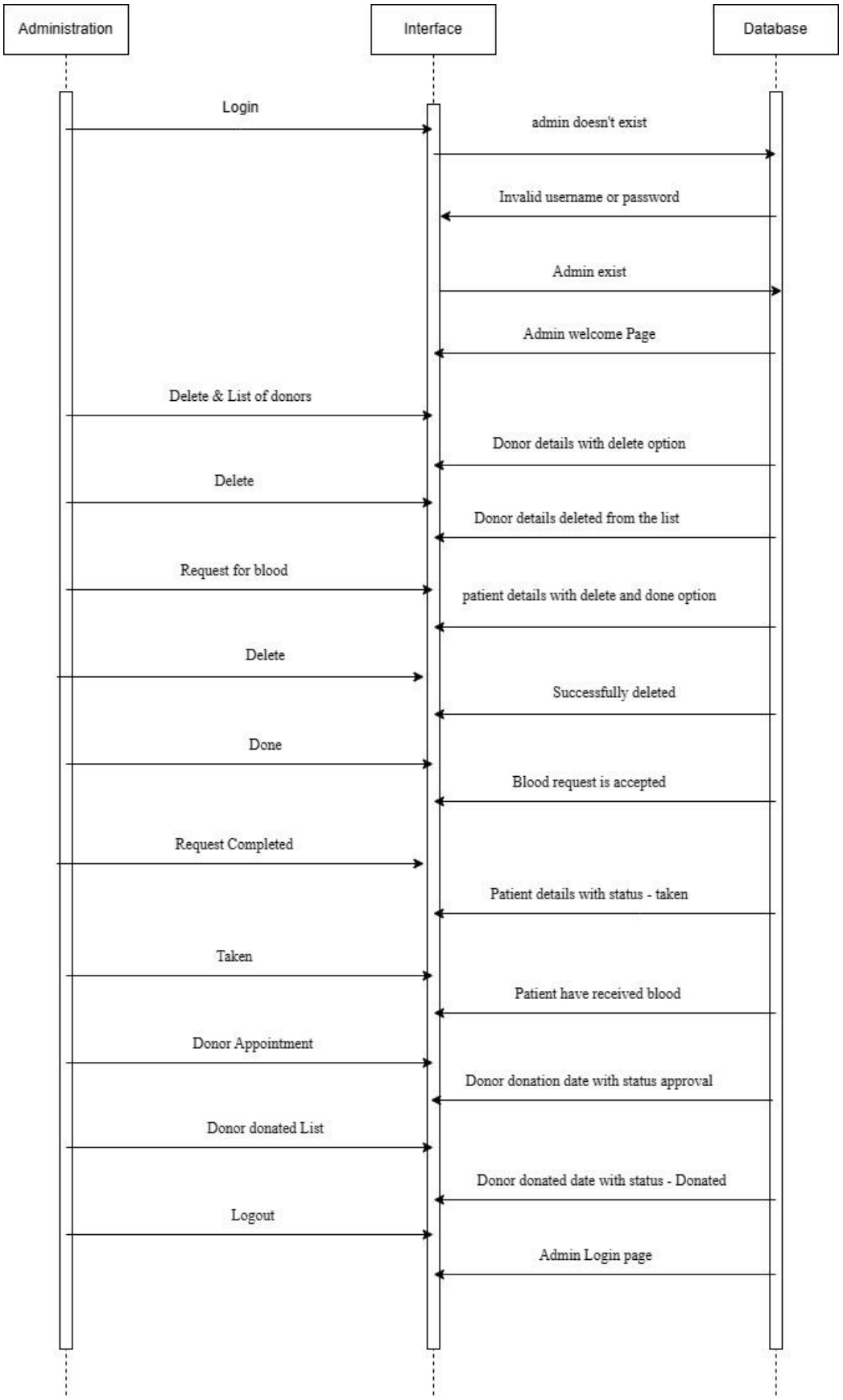
Donor:



Patient:


Patient
Interface
Interface
Register
New Patient
Successfully registered
Existing patient
User already exist
Login
Patient not yet register
Invalid username or password
valid patient
Patient home page
Request
Status - pending
Contact us, status is pending more than 8 hrs
Logout
Patient login page

Admin:


Administration
Interface
Database
Login
admin doesn't exist
Invalid username or password
Admin exist
Admin welcome Page
Delete & List of donors
Donor details with delete option
Delete
Donor details deleted from the list
Request for blood
patient details with delete and done option
Delete
Successfully deleted
Done
Blood request is accepted
Request Completed
Patient details with status - taken
Taken
Patient have received blood
Donor Appointment
Donor donation date with status approval
Donor donated List
Donor donated date with status - Donated
Logout
Admin Login page