Software Requirements and Design Document

for

DONORLINK

Prepared by

Abdul Rafay (21i-2582)
Ahmed Rafiq (21i-0607)

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1. Introduction

1.1 Purpose

The software requirements specified in this document refer to DonorLink, a java application designed to revolutionize the blood donation process. DonorLink serves as a comprehensive platform with the primary goal of enhancing and simplifying the blood donation experience for both donors and blood recipients.

1.2 Product Scope

DonorLink is designed to streamline and enhance the blood donation process. Its primary purpose is to connect blood donors, recipients, and blood donation organizations in a user-friendly and efficient manner. The app aims to promote blood donation, improve accessibility to donation events and facilities, and ensure a seamless experience for both donors and recipients.

Key objectives and goals of the blood donation app include:

1. **User Engagement:** Encouraging users to actively participate in blood donation events, schedule appointments, and stay informed about relevant activities.
2. **Efficient Communication:** Facilitating effective communication between blood donation organizations and users through timely notifications, including emergency blood requests and upcoming events.
3. **Donor Management:** Providing a platform for users to create and manage donor profiles, track donation history, and receive recognition for their contributions.
4. **Education and Awareness:** Delivering educational content to raise awareness about the importance of blood donation, dispel myths, and encourage a broader understanding of the donation process.
5. **Feedback and Improvement:** Collecting feedback and ratings from donors and recipients to continually enhance the blood donation experience and improve the services provided by blood donation organizations.

The software aligns with the corporate goals or business strategies by promoting community engagement, fostering a culture of blood donation, and ultimately contributing to the overall well-being of society. It serves as a technological solution to address challenges in the blood donation process and aligns with the broader mission of promoting public health and saving lives through accessible and efficient blood donation practices.

1.3 Title

DonorLink: Bridging Lives through Seamless Blood Donation Connectivity

1.4 Objectives

- **Promote Blood Donation:**
  - Increase awareness and participation in blood donation activities.
  - Encourage a positive and altruistic attitude toward blood donation within the community.
- **Enhance User Experience:**
  - Provide a user-friendly interface for seamless registration, appointment scheduling, and interaction with blood donation events.
- **Optimize Donor Management:**
  - Enable users to create and manage donor profiles, promoting a sense of recognition and accomplishment for regular donors.
- **Educate and Awareness:**
  - Deliver informative content to educate users about the importance of blood donation and dispel common myths.
- **Emergency Response:**
  - Enable swift and effective responses to emergency blood requests, connecting donors to urgent needs in real-time.
- **Feedback and Improvement:**
  - Collect valuable feedback and ratings from users to continually improve the blood donation experience and enhance services provided by organizations.
- **Contribute to Public Health:**
  - Align with broader public health goals by promoting a culture of regular blood donation and ensuring a stable and accessible blood supply.
- **Community Building:**
  - Build a supportive and engaged community of blood donors, recipients, and organizations, fostering a sense of unity and shared purpose.

1.5 Problem Statement

DonorLink addresses a critical problem in the current blood donation process, focusing on improving accessibility, communication, and engagement within the blood donation community. The existing challenges include the lack of a centralized platform for donors, recipients, and donation organizations to efficiently connect and coordinate. Manual processes for donor registration, appointment scheduling, and emergency responses often lead to delays and inefficiencies.

Feasibility is evident in the increasing reliance on mobile applications for various aspects of life. Leveraging mobile technology to streamline blood donation processes aligns with the current digital trends. The prevalence of smartphones and the potential for widespread adoption of the app contribute to the feasibility of the project. Moreover, the project addresses a socially significant issue, making it likely to gain support and participation from individuals and organizations involved in blood donation initiatives.

By providing a technological solution that integrates various facets of the blood donation ecosystem, DonorLink aims to overcome these challenges, making the donation process more efficient, engaging, and responsive to urgent needs. The app's feasibility lies not only in its technological viability but also in its potential to positively impact public health by encouraging and facilitating regular blood donations.

2. Overall Description

2.1 Product Perspective

DonorLink is a new, independent product designed to address the specific needs and challenges within the domain of blood donation. It is not a replacement for existing systems but rather an innovative solution to enhance and modernize the blood donation process. The app is envisioned as an independent platform that integrates seamlessly with existing blood donation organizations and facilities.

In the broader context, DonorLink serves as a critical component within the blood donation ecosystem. It interfaces with external systems such as notification services, location services, and databases to ensure efficient communication, user engagement, and accurate information retrieval. The app is designed to complement and enhance the functionality of blood donation organizations by providing a centralized and user-friendly interface for donors and recipients.

2.2 Product Functions

Following are the major functions of DonorLink:

- **User Registration and Login:**
  - Enable users to register for the app, providing essential information.
  - Facilitate secure login processes for personalized access.
- **Blood Donation Events:**
  - Inform users about upcoming blood donation events.
  - Allow users to view event details and register for specific events.
- **Blood Requests:**
  - Enable hospitals or individuals to submit blood requests.
  - Notify nearby potential donors about urgent blood needs.
- **Donor Locator:**
  - Assist users in finding nearby blood donation facilities.
  - Provide details and directions to selected facilities.
- **Appointment Scheduling:**
  - Allow users to schedule appointments for blood donations.
  - Update donor and facility schedules accordingly.
- **Health Screening and Eligibility Check:**
  - Conduct health screenings based on user-provided information.
  - Determine and display the user's eligibility for blood donation.
- **Donor Profiles:**
  - Allow users to create and manage donor profiles.
  - Track donation history and provide recognition for regular donors.
- **Education and Awareness:**
  - Deliver educational content on the importance of blood donation.
  - Promote awareness campaigns within the app.
- **Feedback and Ratings:**
  - Collect feedback and ratings from donors and recipients.
  - Provide tools for organizations to analyze feedback for improvements.

2.3 List of Use Cases

- Use case 1: Registration/Login
- Use case 2: Blood Donation Events

- Use case 3: Blood Requests
- Use case 4: Donor Locater
- Use case 5: Appointment Scheduling
- Use case 6: Health Screening and Eligibility Check
- Use case 7: Donor Profiles
- Use case 8: Notification System
- Use case 9: Emergency Blood Requests
- Use case 10: Education and Awareness
- Use case 11: Feedbacks and Ratings

2.4 Extended Use Cases

Use Case 1: Registration/Login

a. Use Case Name: User Registration and Login Process

b. Scope of the System Under Design: The system is designed to facilitate user registration and login for a blood donation app.

c. Level: Primary use case at a high level.

d. Primary Actor: User

e. Stakeholders and Interests:

- User: Interested in a seamless and secure registration and login process to access blood donation features.
- App Administrators: Interested in accurate user data collection for communication and coordination of blood donation events.

f. Preconditions:

- The user has downloaded and installed the blood donation app.
- The user has a device with an internet connection.

- No previous account is associated with the user's details (for registration).

g. Postconditions:

- The user has a registered account with the blood donation app.
- For login, the user gains access to personalized features like donor history, event notifications, and more.

h. Main Success Scenario:

Actor Action	System Responsibility
User opens the app and selects registration.	Display a user-friendly registration interface.
User inputs essential information (name, email, etc.).	Validate entered information for accuracy and completeness.
Display a confirmation message to welcome the user.	Confirm successful registration and provide a welcome message.
User enters credentials (email/username, password).	Verify entered credentials against stored user data.
System grants access to personalized features.	Enable access to user-specific functionalities in the app.

i. Extensions:

- If the registration fails due to invalid information, the app guides the user to correct the errors.
- In case of forgotten passwords, the system allows the user to reset their password through a secure process.
- Additional security measures, such as two-factor authentication, can be implemented for enhanced user account protection.

Use Case 2: Blood Donation Events

a. Use Case Name: Informing Users about Blood Donation Events

b. Scope of the System Under Design: The system is designed to notify users about upcoming blood donation events and allow them to register for specific events.

c. Level: Primary use case at a high level.

d. Primary Actor: Potential blood donors

e. Stakeholders and Interests:

- Users: Interested in receiving information about blood donation events and registering for participation.
- Organizers: Interested in efficiently communicating event details and managing participant registrations.

f. Preconditions:

- The user has downloaded and installed the blood donation app.
- The user has opted to receive notifications.

g. Postconditions:

- The user is informed about upcoming blood donation events.
- The user has the option to register for specific events.

h. Main Success Scenario:

Actor Action	System Responsibility
User opens the app and selects the "Events" section.	Display a list of upcoming blood donation events with details (location, date, time).
User selects a specific event to view details.	Display detailed information about the selected event.
User decides to participate and clicks on the "Register" button.	Register the user for the selected event.

Actor Action	System Responsibility
System confirms the registration and provides event details.	Send a confirmation notification to the user and update the event participant list.

i. Extensions:

- If the user decides not to register, provide options to remind them later or dismiss the notification.
- If the event is full, notify the user and suggest alternative events.

Use Case 3: Blood Requests

a. Use Case Name: Blood Request Submission and Processing

b. Scope of the System Under Design: The system enables hospitals or individuals to request blood when needed, specifying blood type and quantity required.

c. Level: Primary use case at a high level.

d. Primary Actor: Hospitals or individuals in need of blood

e. Stakeholders and Interests:

- Users in need of blood: Interested in submitting requests for blood.
- Blood donation organizations: Interested in efficiently managing and fulfilling blood requests.

f. Preconditions:

- The user has access to the blood donation app.
- The user has a verified account.

g. Postconditions:

- The blood request is submitted and visible to potential donors.
- Donors can respond to the request, and the requestor is notified.

h. Main Success Scenario:

Actor Action	System Responsibility
User opens the app and selects "Request Blood."	Display a form for the user to fill in details (blood type, quantity, urgency).
User submits the blood request form.	Validate the information and store the request in the system.
System notifies nearby potential donors about the blood request.	Send notifications to eligible donors based on their location and blood type.
Donors respond to the request, and the system updates the status.	Notify the requestor of donor responses and update the request status accordingly.

i. Extensions:

- If the request is urgent, prioritize notifications to donors.
- If there are no immediate donor responses, continue notifying potential donors at intervals.

Use Case 4: Donor Locator

a. Use Case Name: Locating Nearby Blood Donation Facilities

b. Scope of the System Under Design: The system assists users in finding nearby blood donation centers, hospitals, or mobile blood donation units based on their location.

c. Level: Primary use case at a high level.

d. Primary Actor: Blood donors or individuals seeking donation facilities

e. Stakeholders and Interests:

- Users: Interested in easily locating and accessing blood donation facilities.
- Blood donation organizations: Interested in directing potential donors to their facilities.

f. Preconditions:

- The user has downloaded and installed the blood donation app.
- The user has enabled location services on their device.

g. Postconditions:

- The user is provided with a list of nearby blood donation facilities.
- The user can view details and directions to the selected facility.

h. Main Success Scenario:

Actor Action	System Responsibility
User opens the app and selects the "Locate" feature.	Access the device's location services to determine the user's current location.
Display a list of nearby blood donation centers, hospitals, or mobile units.	Retrieve and present a list of facilities in proximity to the user.
User selects a specific facility for more details.	Display detailed information about the selected facility (address, contact information, hours of operation).
User clicks on "Get Directions."	Provide navigation instructions to guide the user to the selected facility.

i. Extensions:

- If the user prefers a specific type of facility (e.g., mobile blood donation units), allow them to filter the results.
- If the location services are disabled, prompt the user to enable them for accurate results.

Use Case 5: Appointment Scheduling

a. Use Case Name: Scheduling Blood Donation Appointments

b. Scope of the System Under Design: The system allows users to schedule appointments for blood donations at their convenience, reducing wait times.

c. Level: Primary use case at a high level.

d. Primary Actor: Blood donors

e. Stakeholders and Interests:

- Users: Interested in scheduling blood donation appointments to manage their time effectively.
- Blood donation organizations: Interested in optimizing donor flow and reducing wait times.

f. Preconditions:

- The user has downloaded and installed the blood donation app.
- The user has a registered account on the app.

g. Postconditions:

- The user has a confirmed appointment for blood donation.
- The system updates donor and facility schedules accordingly.

h. Main Success Scenario:

Actor Action	System Responsibility
User opens the app and selects the "Schedule Appointment" option.	Display a calendar or date picker for the user to choose an available slot.
User selects a date and time for the appointment.	Check the availability of the selected slot and confirm the appointment.
System sends a confirmation to the user with appointment details.	Send a confirmation message with the appointment date, time, and location.
Update the donor's profile and facility schedule.	Ensure the appointment information is stored and synchronized with both the user's profile and the facility's schedule.

i. Extensions:

- If the selected slot is unavailable, provide alternative time slots for the user to choose from.
- Allow users to reschedule or cancel appointments with appropriate notifications and reminders.
- Implement notifications to remind users of upcoming appointments.

Use Case 6: Health Screening and Eligibility Check

a. Use Case Name: Conducting Health Screening and Eligibility Check

b. Scope of the System Under Design: The system provides information on donor eligibility criteria and conducts health screenings to ensure donors meet necessary requirements.

c. Level: Primary use case at a high level.

d. Primary Actor: Blood donors

e. Stakeholders and Interests:

- Users: Interested in understanding and meeting eligibility criteria for blood donation.
- Health professionals: Interested in ensuring donor health and eligibility.

f. Preconditions:

- The user has downloaded and installed the blood donation app.
- The user has a registered account on the app.

g. Postconditions:

- The user receives information on their eligibility for blood donation.
- The system records and updates the user's eligibility status.

h. Main Success Scenario:

Actor Action	System Responsibility
User opens the app and selects the "Health Screening" option.	Present clear information on donor eligibility criteria, including health requirements.
User answers health-related questions or provides necessary information.	Validate the provided information against donor eligibility criteria.
System conducts a health screening based on the provided information.	Determine the user's eligibility for blood donation based on health screening results.
Display the eligibility status to the user.	Inform the user whether they are eligible or ineligible for blood donation and provide relevant information.

i. Extensions:

- If the user is ineligible, provide guidance on specific health concerns and encourage them to consult with a healthcare professional.
- If the health screening indicates potential issues, prompt the user to seek further medical advice before proceeding with blood donation.

Use Case 7: Donor Profiles

a. Use Case Name: Creating and Managing Donor Profiles

b. Scope of the System Under Design: The system allows donors to create and manage profiles, track donation history, and receive badges or rewards for regular donations.

c. Level: Primary use case at a high level.

d. Primary Actor: Blood donors

e. Stakeholders and Interests:

- Users: Interested in creating and managing personal profiles, tracking donation history, and earning recognition for regular donations.
- Blood donation organizations: Interested in maintaining accurate donor profiles for communication and recognition purposes.

f. Preconditions:

- The user has downloaded and installed the blood donation app.
- The user has a registered account on the app.
-

g. Postconditions:

- The user has a complete and updated donor profile.
- The system records and updates the user's donation history.
- Badges or rewards are assigned to the user based on their donation frequency.

h. Main Success Scenario:

Actor Action	System Responsibility
User opens the app and selects the "Profile" section.	Display a user-friendly interface for creating and managing donor profiles.
User provides and updates personal information (name, contact details).	Validate and store the provided information in the user's profile.
User views and tracks their donation history.	Retrieve and display the user's donation history in an organized format.
System awards badges or rewards based on donation frequency.	Implement a recognition system that awards badges or rewards for regular and milestone donations.

i. Extensions:

- If the user wants to edit their profile, provide an option to do so with appropriate validations.
- Implement notifications to congratulate users on achieving donation milestones.
- Allow users to share their badges or achievements on social media to encourage others to donate.

Use Case 8: Notification System

a. Use Case Name: Sending Timely Notifications

b. Scope of the System Under Design: The system sends timely notifications to users about upcoming appointments, blood donation events, and critical updates.

c. Level: Primary use case at a high level.

d. Primary Actor: Blood donors and blood donation organizations

e. Stakeholders and Interests:

- Users: Interested in receiving timely notifications to stay informed about appointments, events, and updates.
- Blood donation organizations: Interested in efficiently communicating with donors and providing critical updates.

f. Preconditions:

- The user has downloaded and installed the blood donation app.
- The user has opted to receive notifications.
- Blood donation organizations have critical updates or upcoming events to communicate.

g. Postconditions:

- The user receives timely notifications about relevant events and updates.
- Blood donation organizations successfully disseminate important information.

h. Main Success Scenario:

Actor Action	System Responsibility
Blood donation organization schedules an event or has critical updates.	Store and manage event and update information in the system.
System identifies users affected by the event or update.	Analyze user profiles and determine the relevant audience for notifications.

Actor Action	System Responsibility
System sends notifications to users at appropriate times.	Utilize push notifications or in-app messages to inform users about upcoming appointments, events, or updates.
Users receive and view notifications.	Ensure that notifications are delivered and displayed on the user's device.

i. Extensions:

- If the user misses a notification, provide an option to view it later in the app.
- Allow users to customize notification preferences (e.g., frequency, types of notifications).
- Implement a system to handle emergency notifications effectively.

Use Case 9: Emergency Blood Requests

a. Use Case Name: Handling Emergency Blood Requests

b. Scope of the System Under Design: The system enables urgent requests for blood donations during emergencies, reaching out to nearby donors for immediate assistance.

c. Level: Primary use case at a high level.

d. Primary Actor: Blood donation organizations and users in need of urgent blood

e. Stakeholders and Interests:

- Users in need of blood: Interested in quickly receiving urgent blood donations during emergencies.
- Blood donation organizations: Interested in efficiently communicating urgent requests and mobilizing nearby donors.

f. Preconditions:

- The user has downloaded and installed the blood donation app.
- The user has opted to receive emergency notifications.
- Blood donation organizations have an urgent need for blood.

g. Postconditions:

- Users in need receive urgent blood donations.
- The blood donation organization successfully communicates and manages emergency requests.

h. Main Success Scenario:

Actor Action	System Responsibility
Blood donation organization identifies an urgent need for blood.	Mark the request as urgent and provide relevant details (blood type, quantity, location).
System identifies nearby donors based on location and blood type.	Analyze user profiles and identify potential donors within proximity to the emergency.
System sends emergency notifications to potential donors.	Utilize push notifications to inform nearby users about the urgent blood request.
Users receive notifications and respond to the emergency request.	Provide a simple and quick response mechanism for users to express their willingness to donate immediately.

i. Extensions:

- If a donor responds positively, guide them to the location where their donation is urgently needed.
- Implement a time-sensitive system to ensure rapid responses during emergencies.
- Notify users about the resolution of the emergency (e.g., sufficient blood donations received).

Use Case 10: Education and Awareness

a. Use Case Name: Delivering Educational Content and Promoting Awareness

b. Scope of the System Under Design: The system provides educational content on the importance of blood donation, its impact, and dispels myths. It also facilitates the promotion of awareness campaigns.

c. Level: Primary use case at a high level.

d. Primary Actor: Blood donation organizations and users interested in learning about blood donation

e. Stakeholders and Interests:

- Users: Interested in accessing educational content to understand the importance of blood donation and dispel myths.
- Blood donation organizations: Interested in disseminating accurate information to increase awareness and encourage blood donation.

f. Preconditions:

- The user has downloaded and installed the blood donation app.
- Blood donation organizations have educational content and awareness campaigns to share.

g. Postconditions:

- Users have access to informative content promoting the importance of blood donation.
- Blood donation organizations successfully communicate and promote awareness campaigns.

h. Main Success Scenario:

Actor Action	System Responsibility
Blood donation organization creates educational content.	Provide a platform for creating and uploading educational materials.
Users access the "Education" section in the app.	Present a curated list of educational content, including articles, videos, and infographics.
Users engage with the educational content.	Track user engagement and gather feedback on the effectiveness of the content.
Blood donation organization launches an awareness campaign.	Utilize the app to promote and disseminate information about the awareness campaign.

i. Extensions:

- Implement a feedback system to understand user preferences and improve the relevance of educational content.
- Allow users to share educational content on social media to amplify awareness.
- Track the success of awareness campaigns through user participation metrics.

Use Case 11: Feedback and Ratings

a. Use Case Name: Collecting Feedback and Ratings

b. Scope of the System Under Design: The system collects feedback from donors and recipients to continually improve the blood donation process and services.

c. Level: Primary use case at a high level.

d. Primary Actor: Blood donors and blood recipients

e. Stakeholders and Interests:

- Users: Interested in providing feedback to improve the blood donation experience.
- Blood donation organizations: Interested in receiving feedback to enhance their services.

f. Preconditions:

- The user has downloaded and installed the blood donation app.
- The user has completed a donation or received blood services.

g. Postconditions:

- Feedback and ratings are collected from donors and recipients.
- Blood donation organizations receive valuable insights for process improvement.

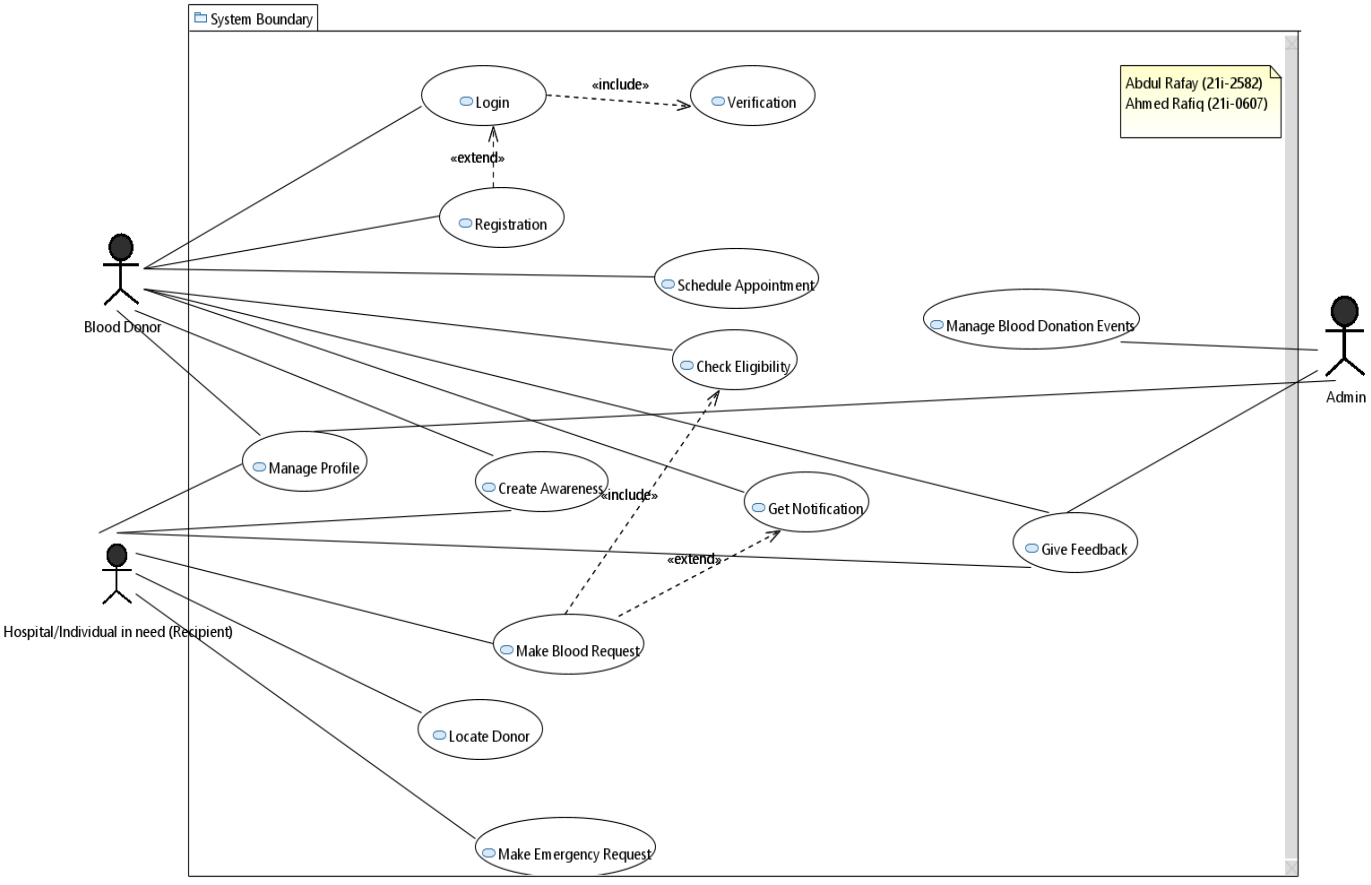
h. Main Success Scenario:

Actor Action	System Responsibility
User completes a blood donation or receives blood services.	Prompt the user to provide feedback and a rating on their experience.
User provides feedback and rates the service.	Collect the user's input on various aspects of the blood donation process.
System records and stores the feedback.	Store the feedback in a database for analysis and reporting.
Blood donation organization reviews and analyzes feedback.	Provide tools for organizations to analyze feedback and identify areas for improvement.

i. Extensions:

- Implement a structured feedback form covering aspects such as staff behavior, facility cleanliness, and overall experience.
- Encourage users to provide specific comments to gain deeper insights.
- Periodically share aggregated feedback insights with users to demonstrate the impact of their input on improvements.

2.5 Use Case Diagram



3. Other Nonfunctional Requirements

3.1 Performance Requirements

- **Responsiveness:**
  - The app should provide a responsive user interface, ensuring users experience minimal delays during interactions.
- **Scalability:**
  - The app should be scalable to accommodate potential growth in the user base, ensuring consistent performance during periods of increased usage.
- **Efficient Appointment Scheduling:**
  - The appointment scheduling feature should efficiently provide users with available time slots, reducing wait times.
- **Efficient Feedback Submission:**
  - The process of submitting feedback should be quick and seamless, encouraging user participation in providing valuable insights.

3.2 Safety Requirements

- **Secure Authentication:**
  - The app must implement secure authentication mechanisms to prevent unauthorized access to user accounts, ensuring that only legitimate users can interact with sensitive features.
- **Emergency Blood Requests Authentication:**
  - Authentication mechanisms for emergency blood requests must be robust to prevent misuse and ensure that only authorized entities can trigger urgent notifications to potential donors.
- **Health Screening Recommendations:**
  - The app should provide clear and responsible recommendations regarding health screening results, directing users to seek professional medical advice if needed.
- **Appropriate Educational Content:**
  - Educational content should adhere to ethical standards, avoiding content that could potentially cause harm or misinformation. Content should be accurate, clear, and supportive of public health.
- **Regular Security Audits:**
  - The app's security features and protocols should undergo regular audits to identify and address potential vulnerabilities, enhancing overall safety and data protection.

3.3 Security Requirements

- **User Authentication:**
  - Users must undergo secure authentication processes to access the app, ensuring that only authorized individuals can interact with sensitive functionalities.
- **Secure Storage:**
  - User data, including personal information and health details, must be securely stored, following industry best practices for data security.
- **Privacy Settings:**
  - Users should have control over their privacy settings, allowing them to manage the visibility of their profiles and personal information to other users.
- **Regular Security Audits:**
  - Conduct regular security audits to identify and address potential vulnerabilities, ensuring the ongoing security of the app and its infrastructure.
- **Incident Response Plan:**
  - Develop and maintain an incident response plan to address security incidents promptly, minimizing the impact on users and the integrity of the app.

3.4 Software Quality Attributes

- **Usability:**
  - **Requirement:** The app interface should be user friendly and easy to navigate.
  - **Reason:** A user-friendly interface is essential for encouraging user engagement and participation in blood donation activities.
- **Interoperability:**
  - **Requirement:** The app should be compatible with most of commonly used desktop devices.
  - **Reason:** Interoperability ensures a broader reach and accessibility for users across different devices.
- **Scalability:**
  - **Requirement:** The app should handle an increase in concurrent users without significant performance degradation.
  - **Reason:** Scalability is crucial to accommodate potential growth in the user base without compromising performance.
- **Flexibility:**
  - **Requirement:** The app should support updates or feature additions without disrupting existing user experiences.
  - **Reason:** Flexibility enables the continuous improvement of the app without causing inconvenience to users.

3.5 Business Rules

- **User Registration and Login:**
  - Only users with a registered account can access personalized features like donor history and event notifications.
  - User credentials (email/username, password) must be verified before granting access.
- **Blood Donation Events:**
  - Users can register for specific events, but if the event is full, alternatives will be suggested.
- **Blood Requests:**
  - Only users with accounts can submit blood requests.
  - Admin will be notified of requests.
- **Appointment Scheduling:**
  - Users can only schedule appointments if they have an account.
- **Eligibility Check:**
  - Only users with accounts can undergo eligibility check.
  - Eligibility check is needed for blood donation.
- **Donor Profiles:**
  - Users need a account to create and manage donor profiles.
  - Users can also view their history if they have a account
- **Education and Awareness:**
  - Blood donation organizations can use the app to launch and promote awareness campaigns.
- **Feedback and Ratings:**
  - Users can provide feedback after completing a donation or receiving blood services.
  - Admins will review and analyze feedback for process improvement.

3.6 Operating Environment

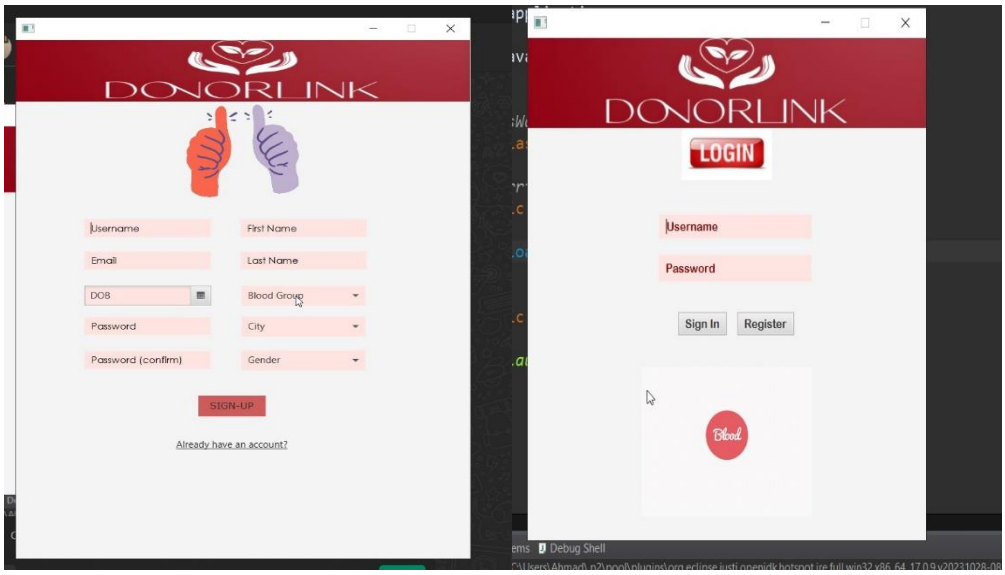
- **Hardware Platform:**
  - The app is intended to operate on PCs and laptops.
- **Operating System:**
  - The app is compatible with windows operating systems.
- **Software Components:**
  - The app interacts with external servers for data storage, retrieval, and communication.
- **Database:**

- The app relies on a secure and scalable database for storing user profiles, donation history, and other relevant information.
- The database is part of the overall system architecture and ensures data integrity and accessibility.

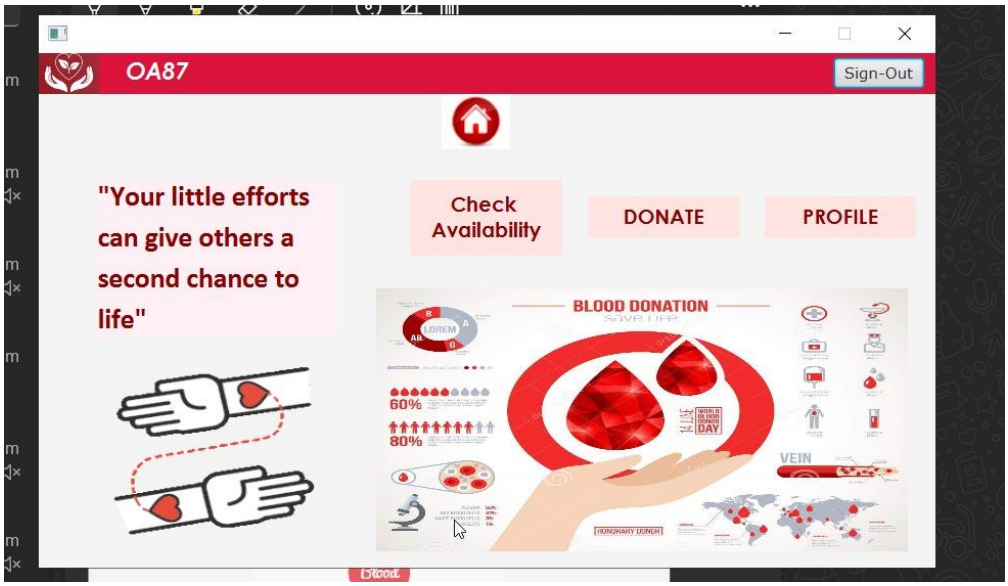
- **Security Features:**
  - The app incorporates security features to protect user data, including secure storage practices.
  - It may utilize secure authentication mechanisms for user access.

3.7 User Interfaces

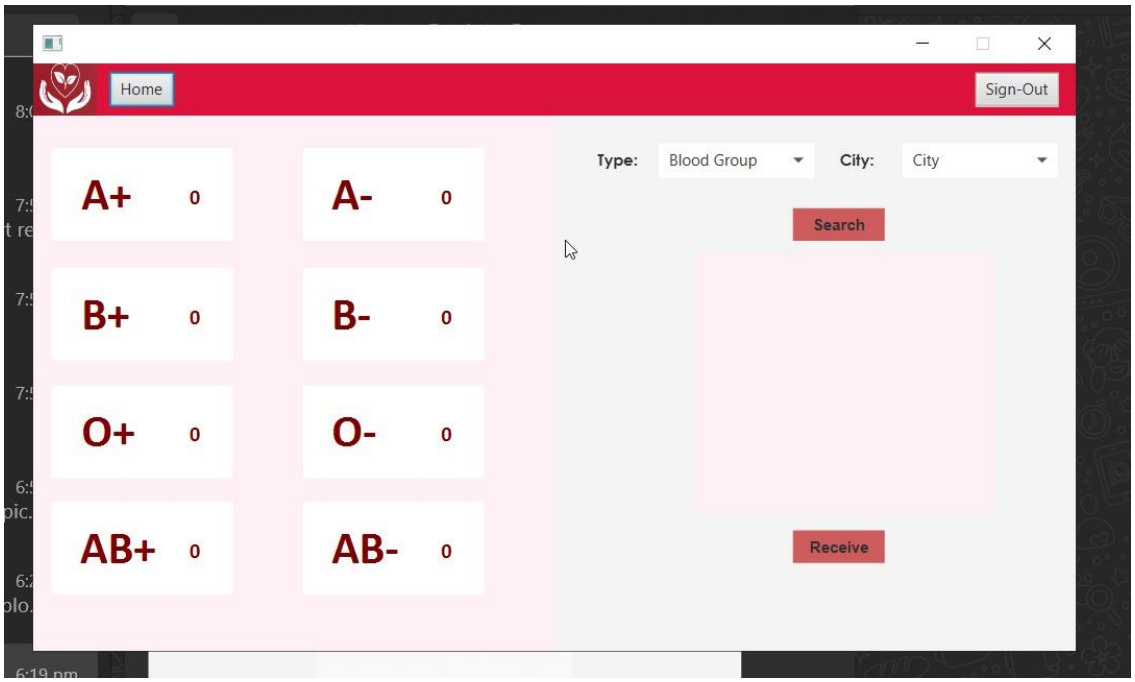
- **Registration/Login Interface:**
  - **Description:** Users access the registration/login interface upon launching the app for the first time.
  - **Elements:** Input fields for essential information (name, email, etc.), confirmation messages, and a secure login interface.



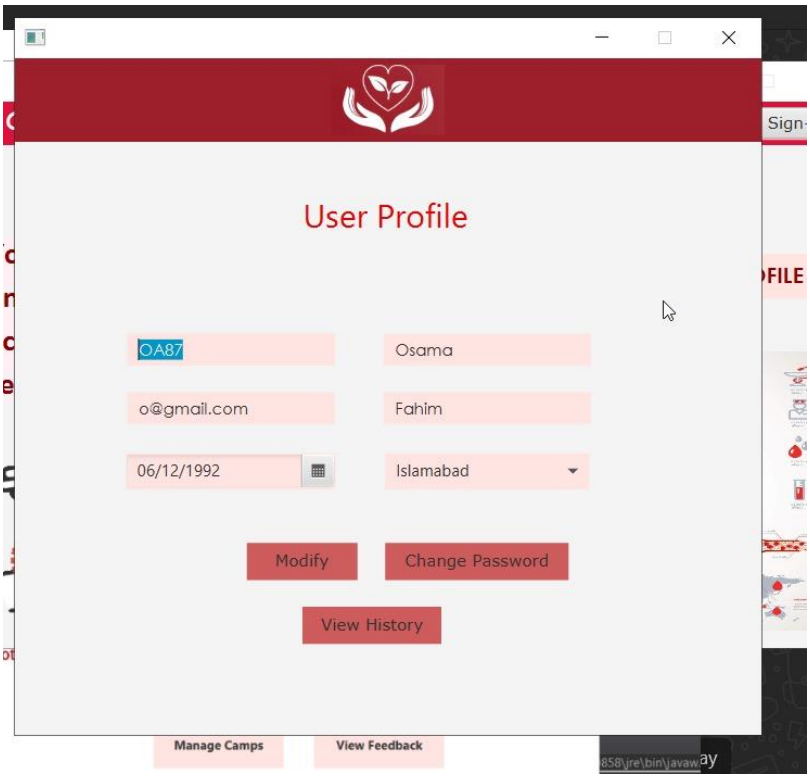
- **Home Screen:**
  - **Description:** The main screen where users land after login, providing an overview of key app features.
  - **Elements:** Personalized features such as check availability, blood donation, and user profile.



- **Appointment Scheduling Interface:**
  - **Description:** Users can schedule appointments for blood donation at their convenience.
  - **Elements:** Calendar or date picker, other information and confirmation messages.



- **User Profiles Interface:**
  - **Description:** Allows users to create and manage their donor profiles, track donation history, and other features.
  - **Elements:** Profile information, donation history, and change password.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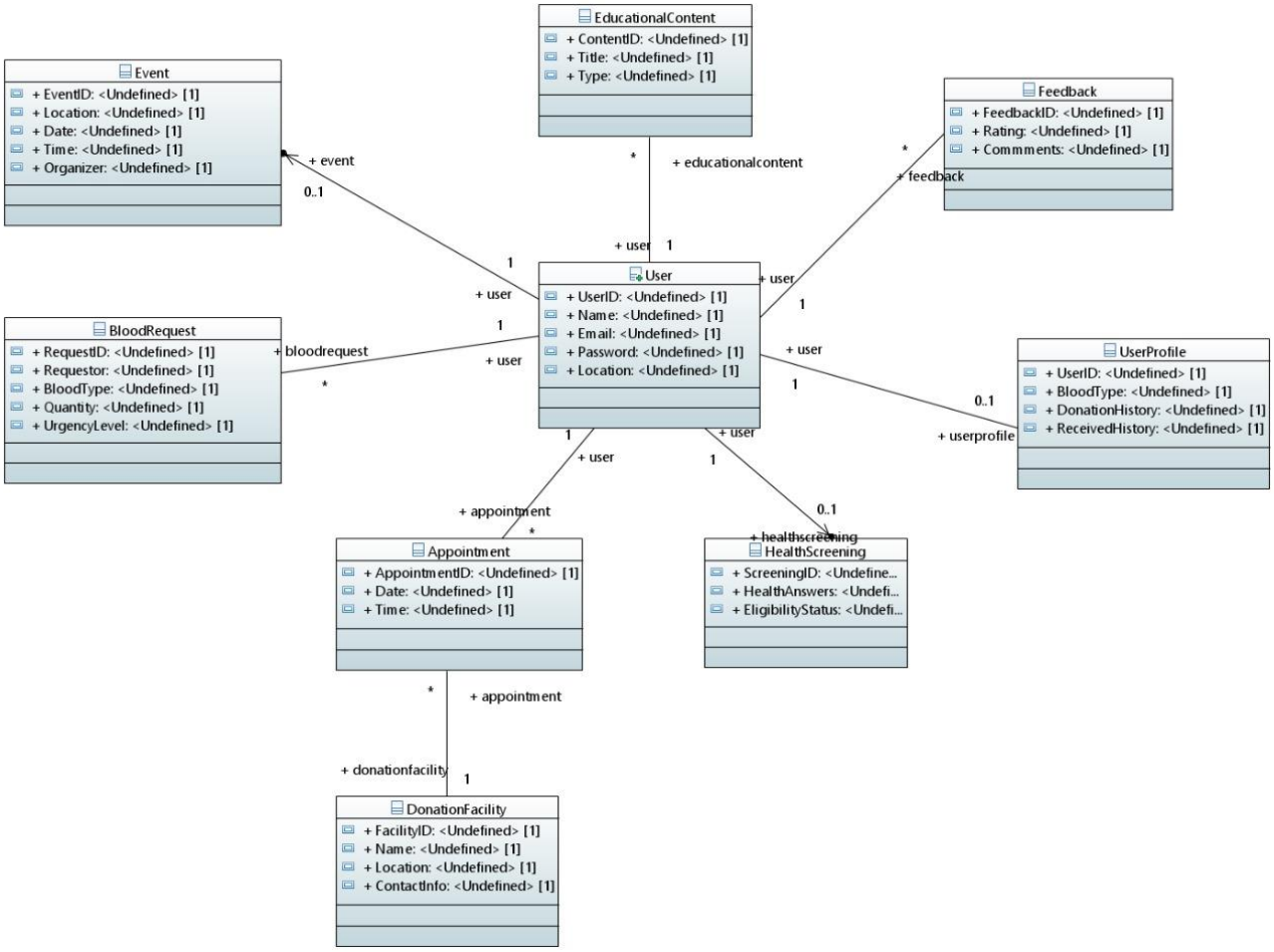
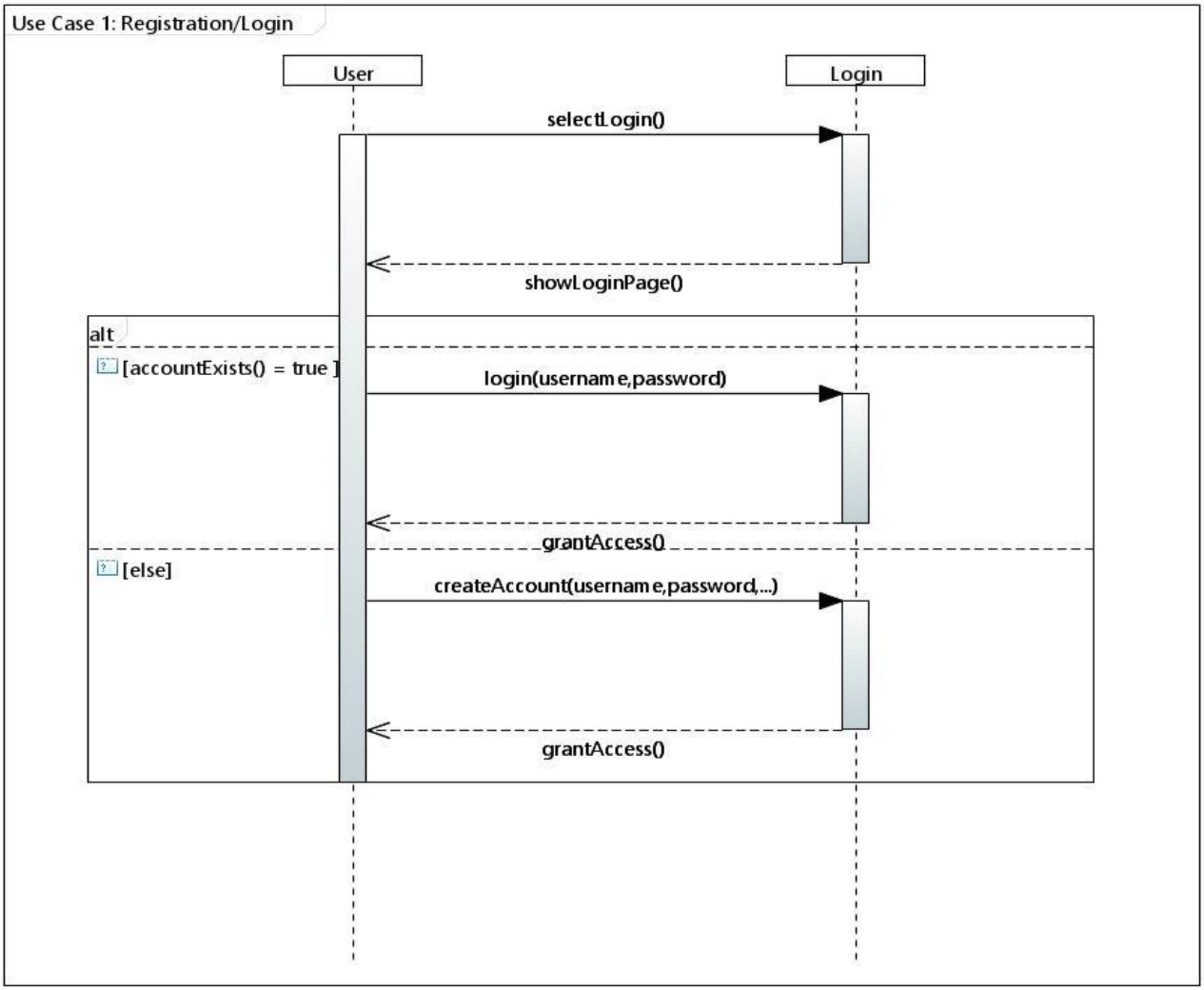
Fahim
06/12/1992
Islamabad
Modify
Change Password
View History
Manage Camps
View Feedback

4. Domain Model

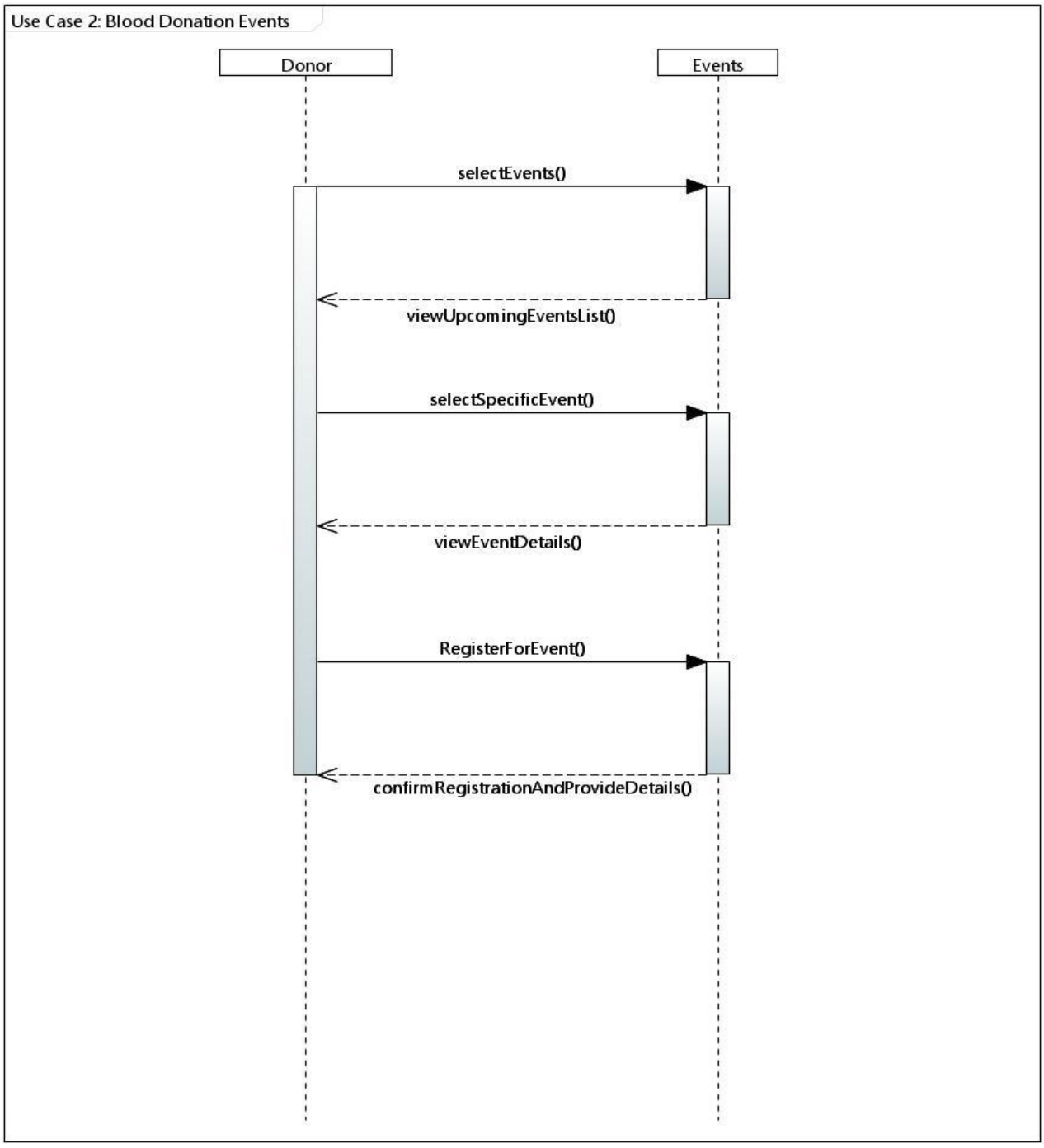


5. System Sequence Diagram

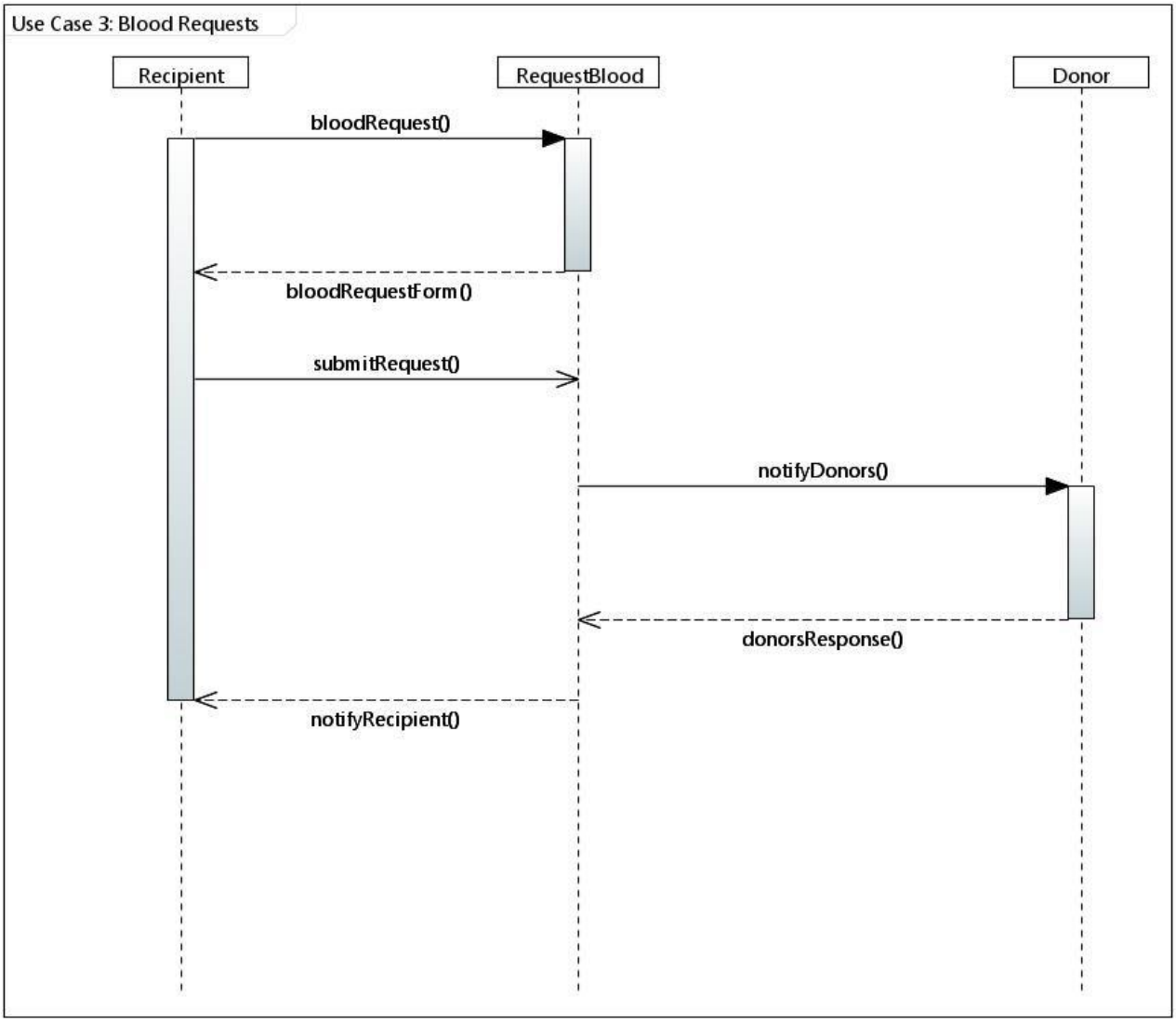
SSD 1: Registration/Login



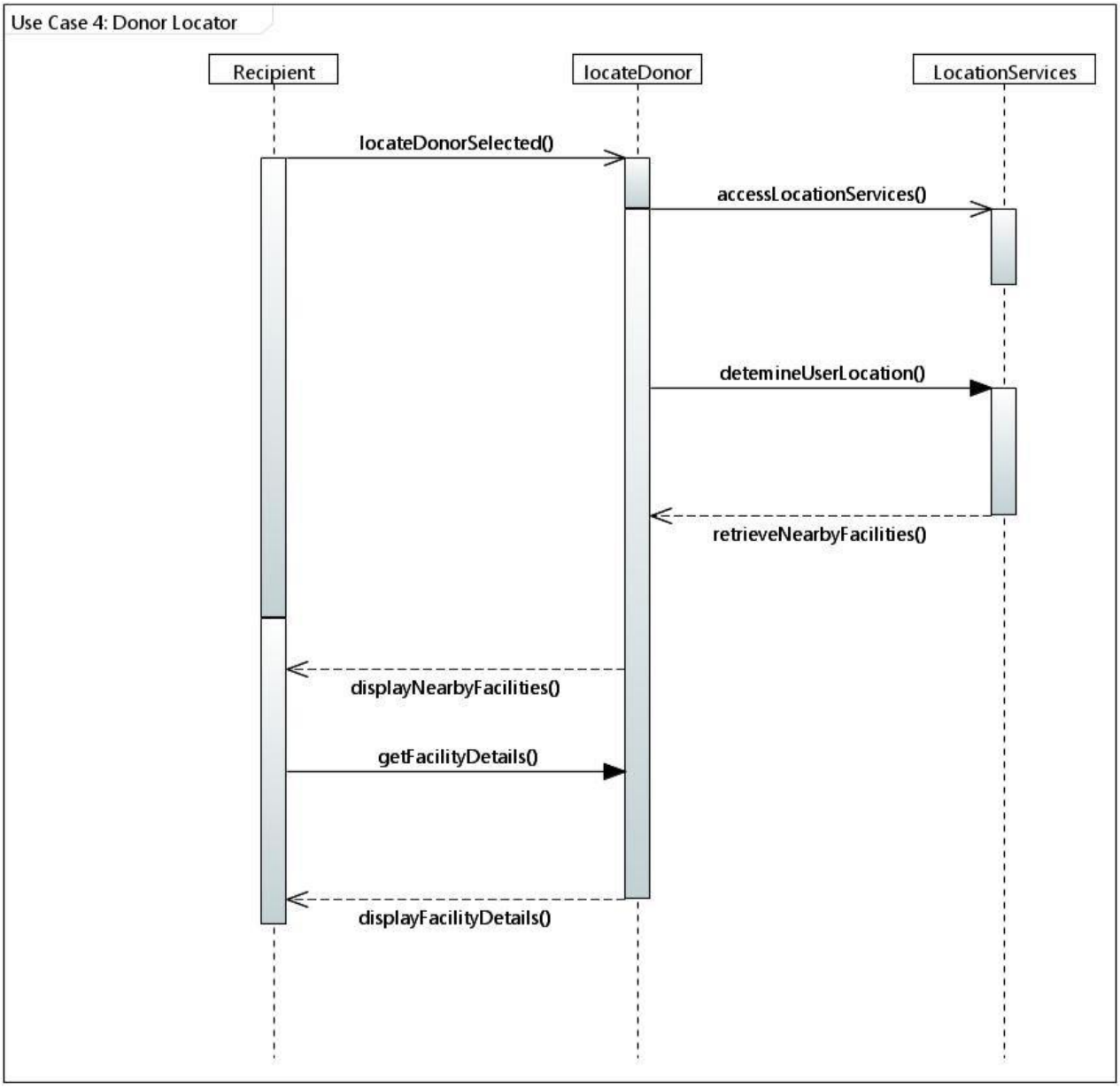
SSD 2: Blood Donation Events



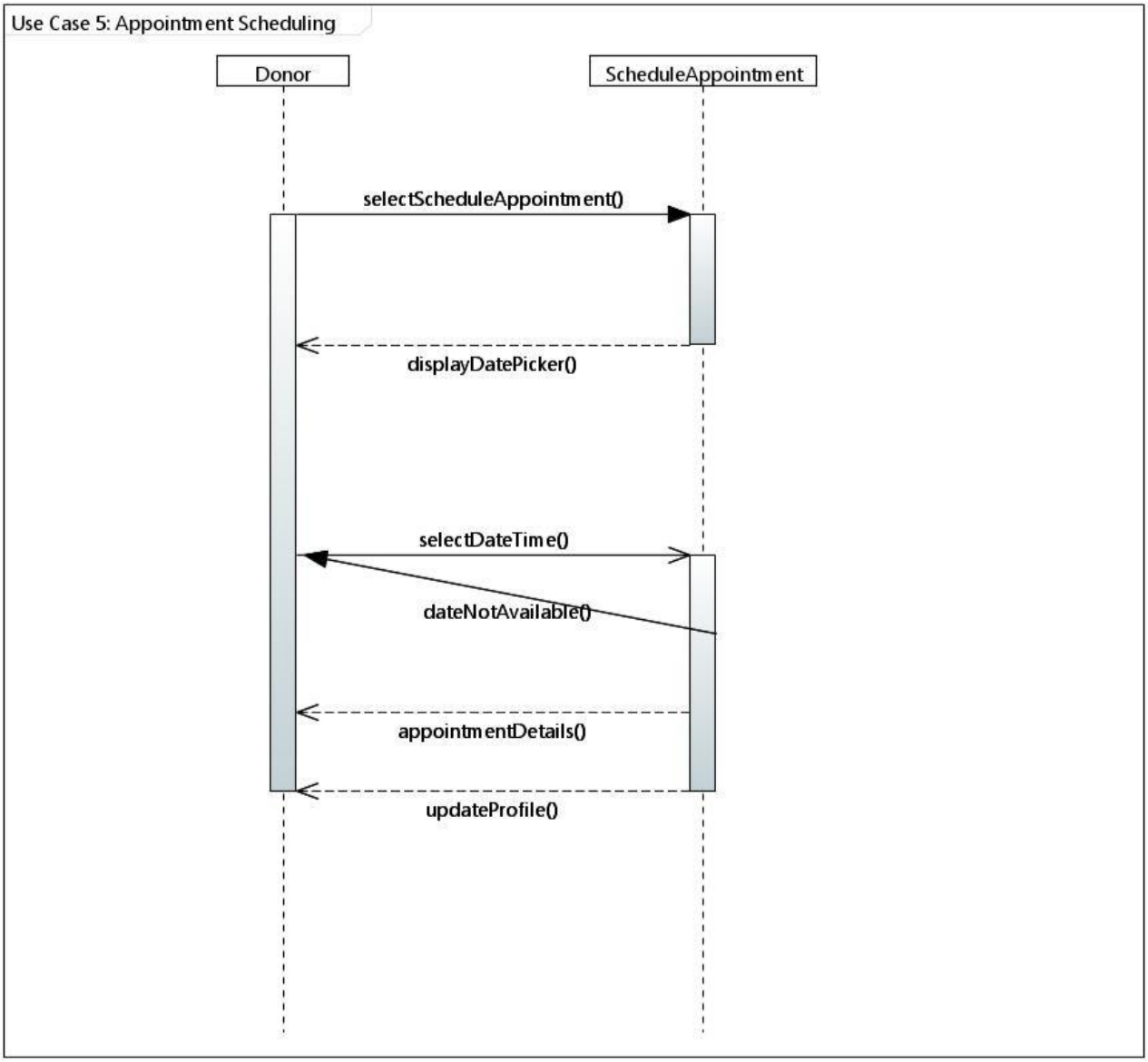
SSD 3: Blood Requests



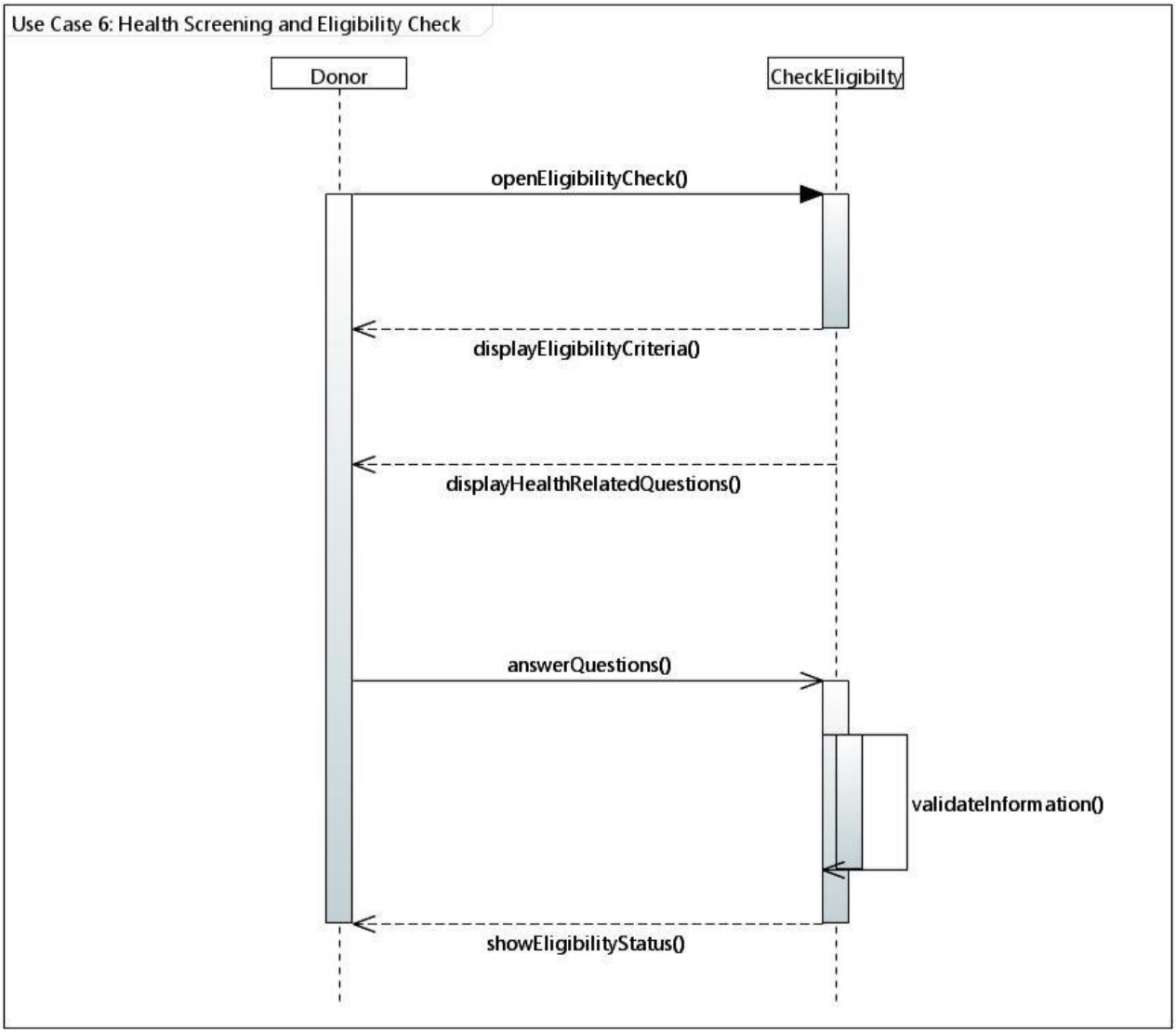
SSD 4: Donor Locater



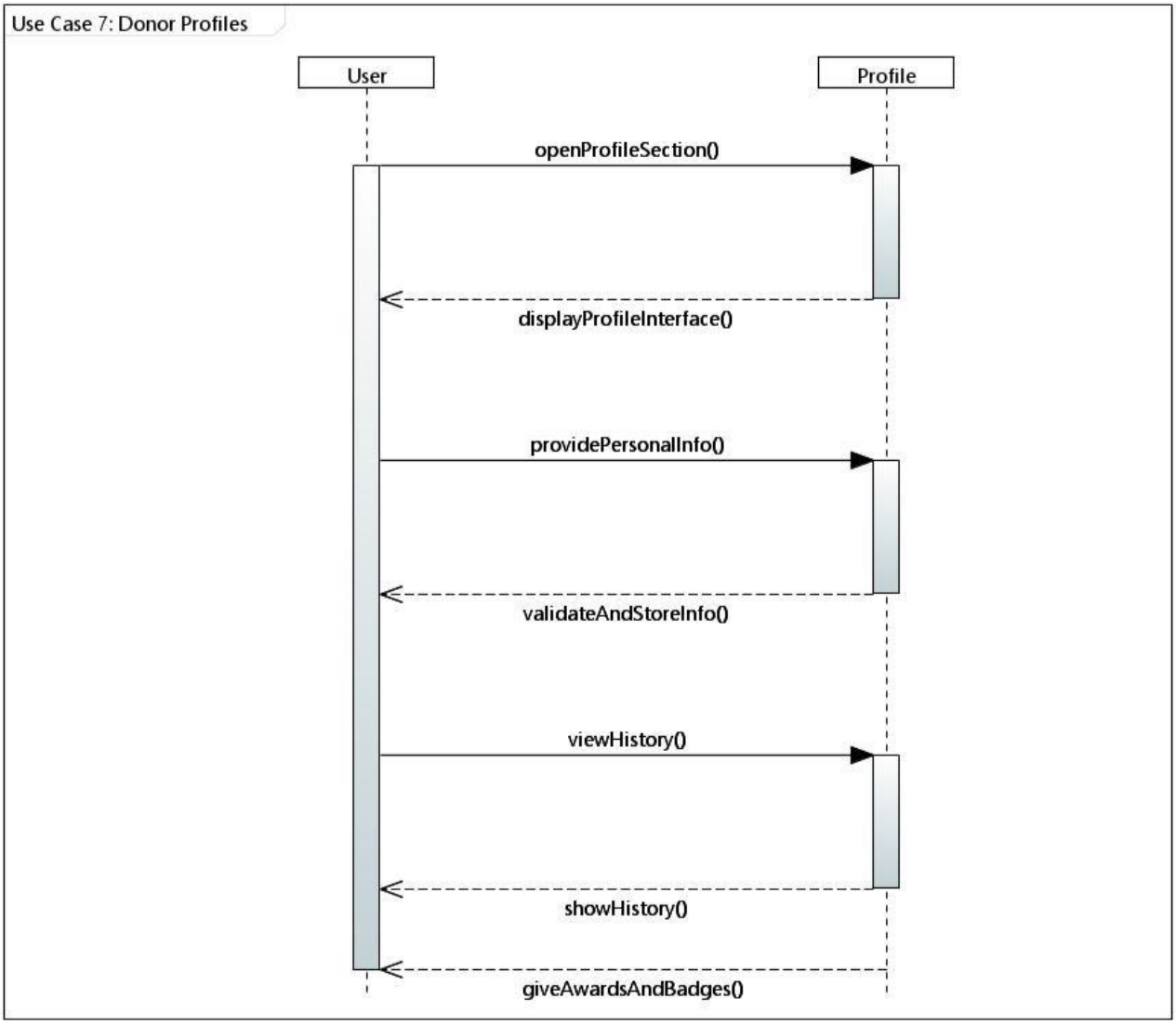
SSD 5: Appointment Scheduling



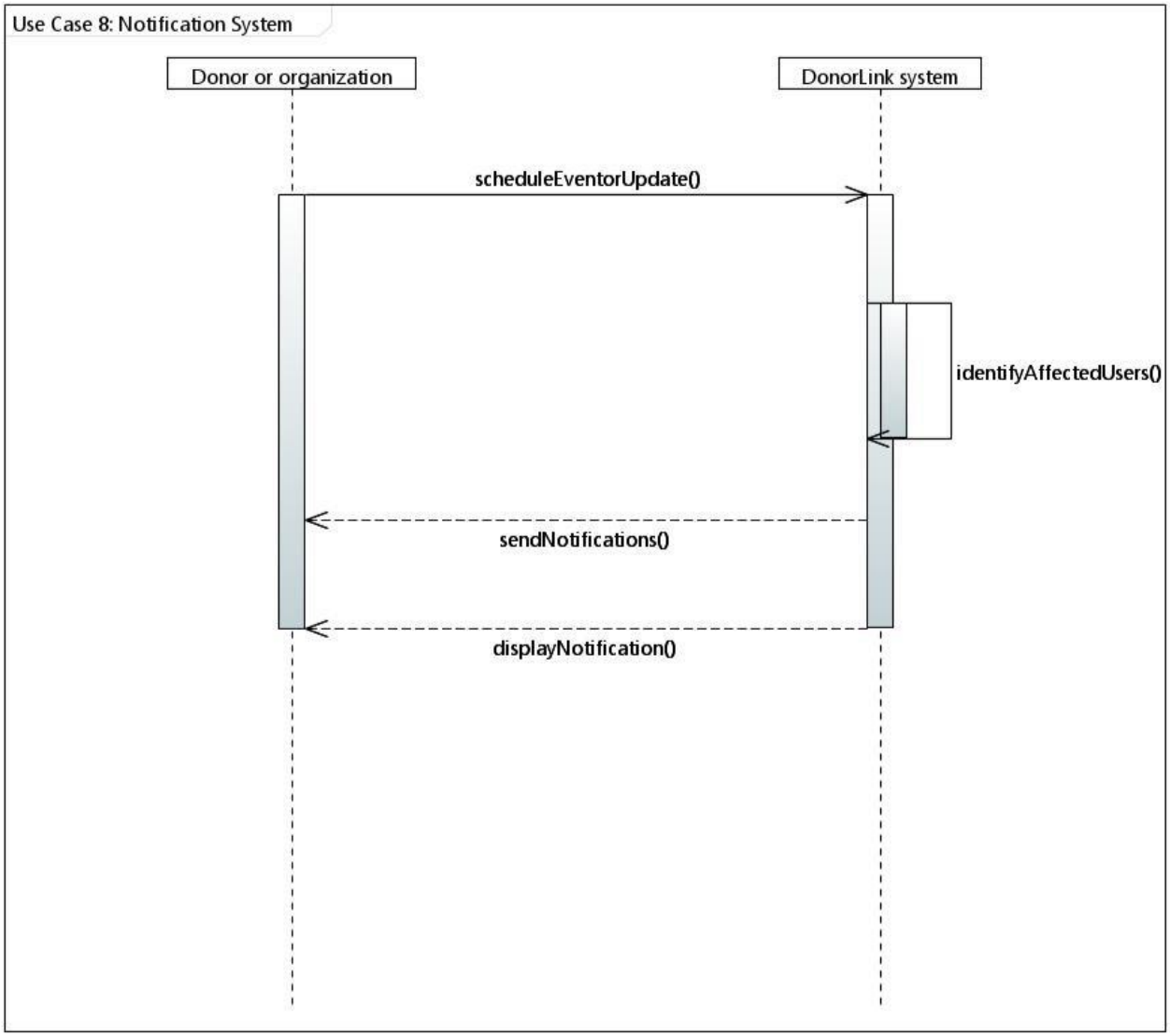
SSD 6: Health Screening and Eligibility Check



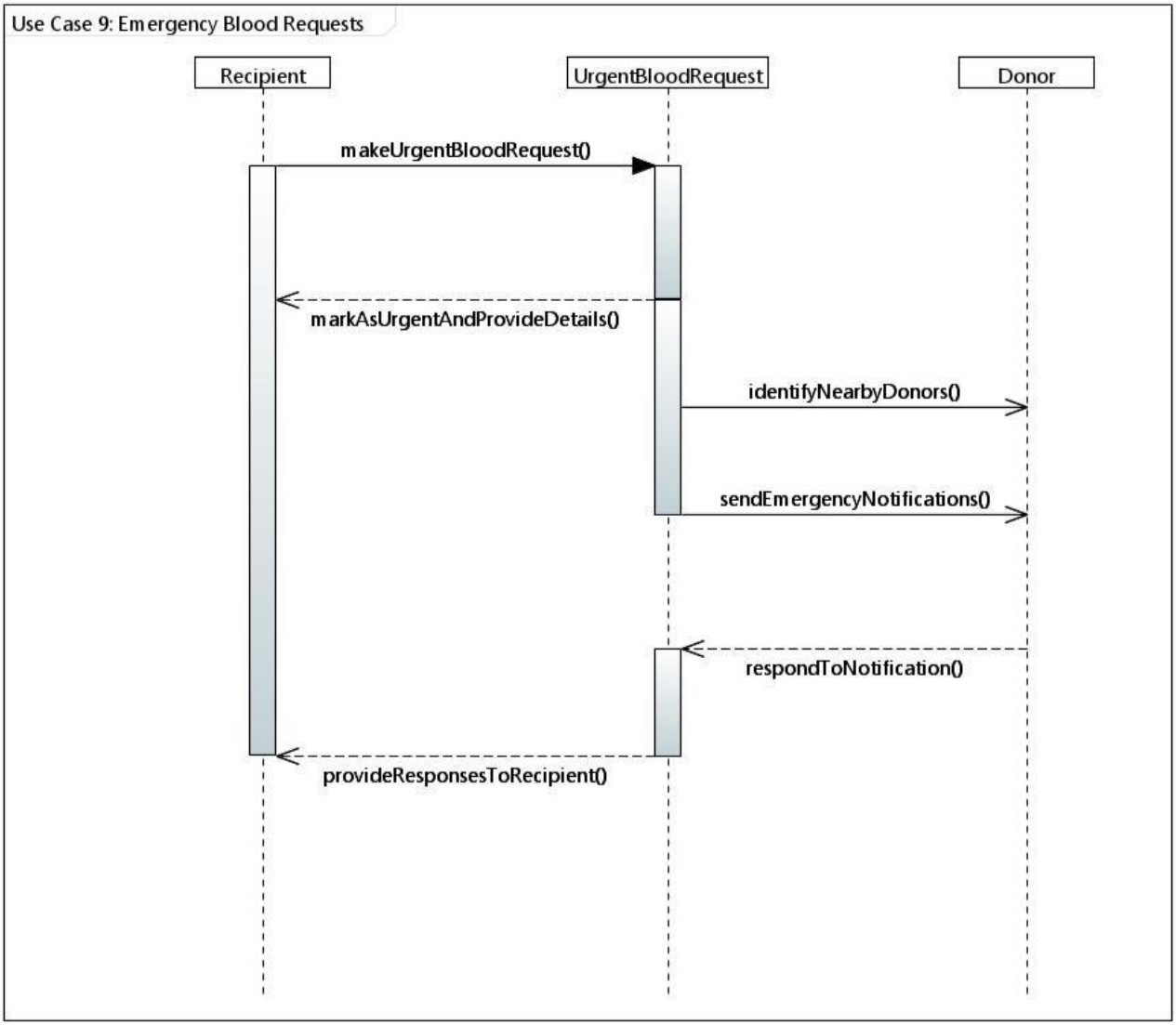
SSD 7: Donor Profiles



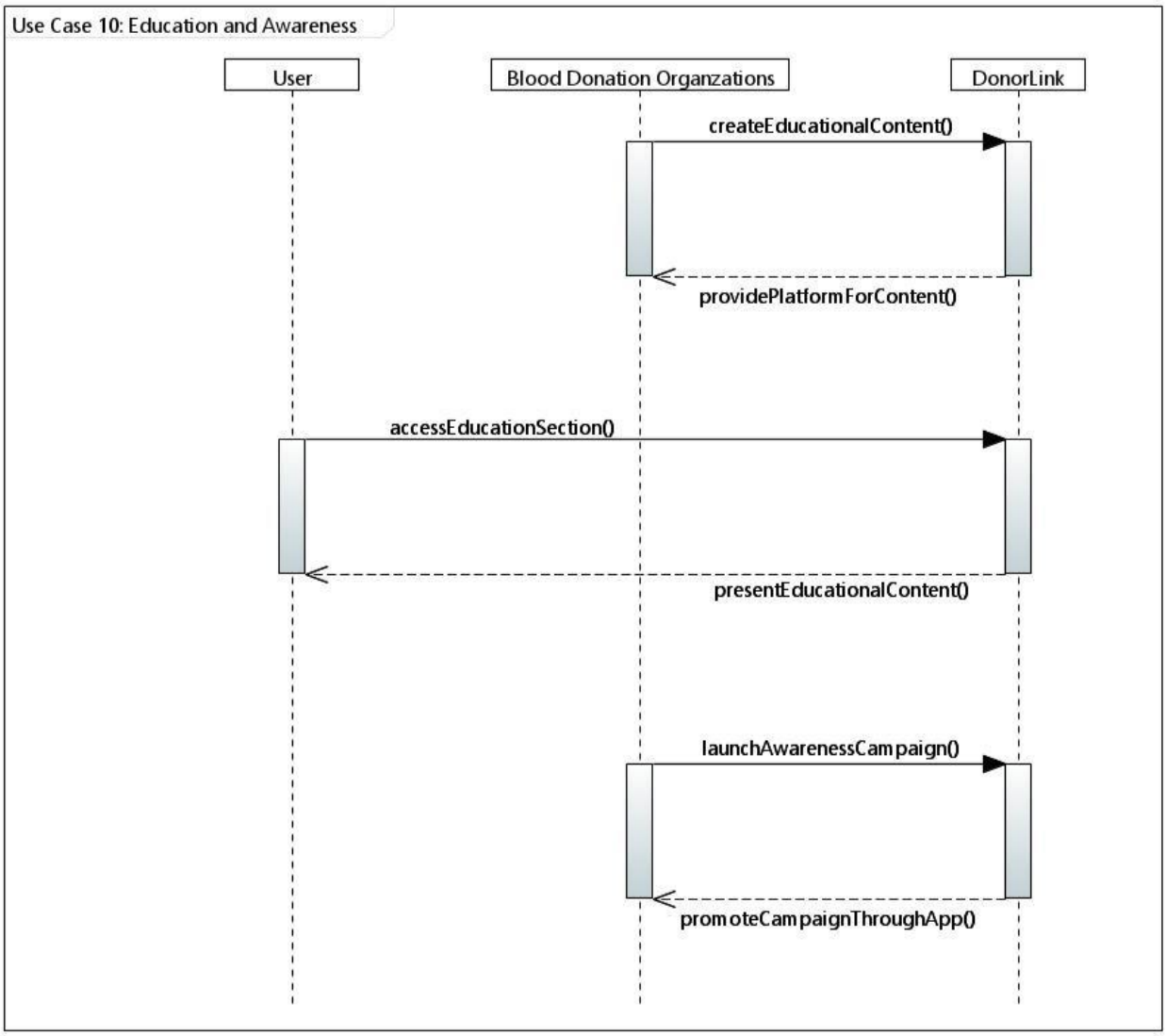
SSD 8: Notification System



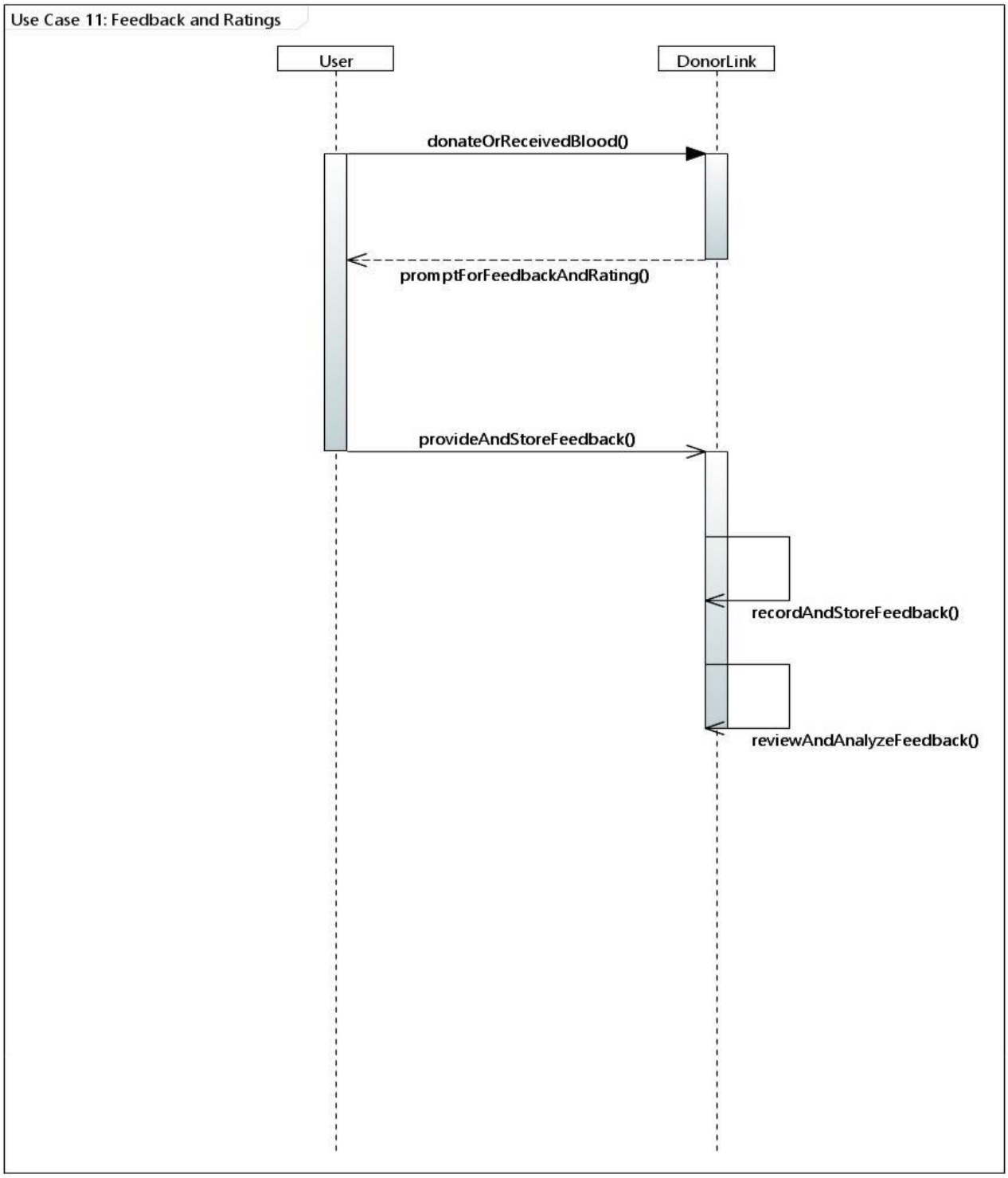
SSD 9: Emergency Blood Requests



SSD 10: Education and Awareness

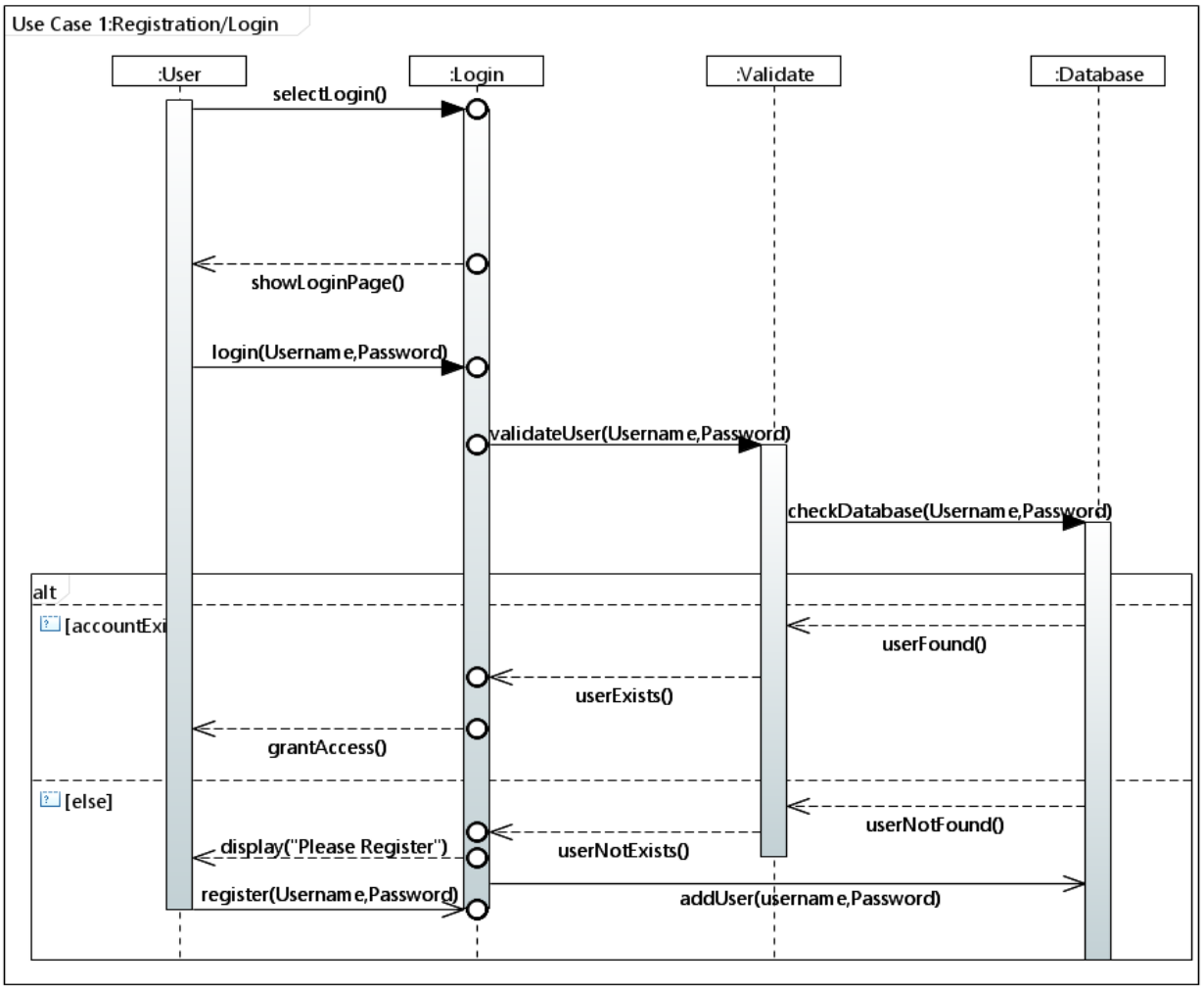


SSD 11: Feedbacks and Ratings

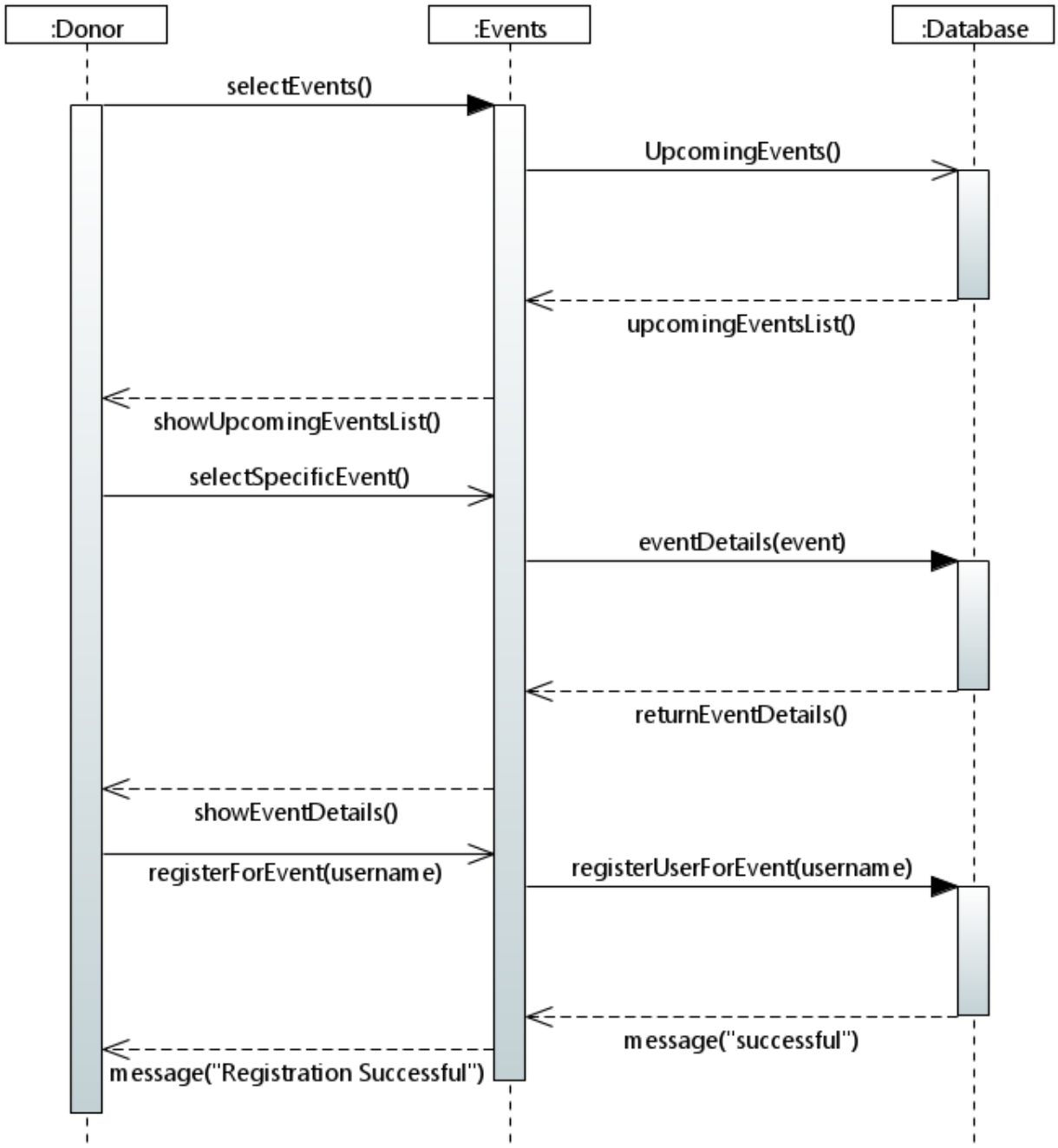


6. Sequence Diagram

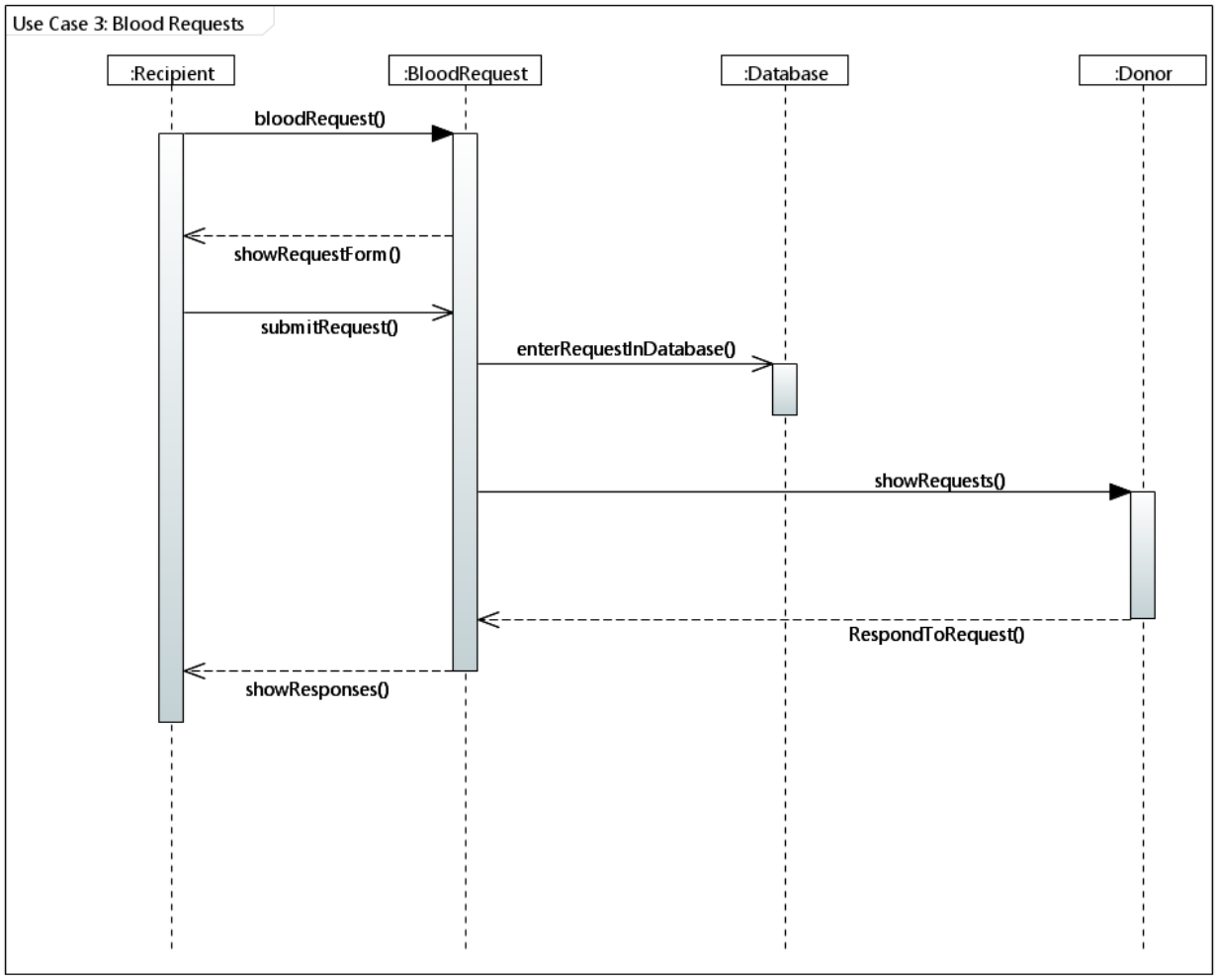
Registration/Login



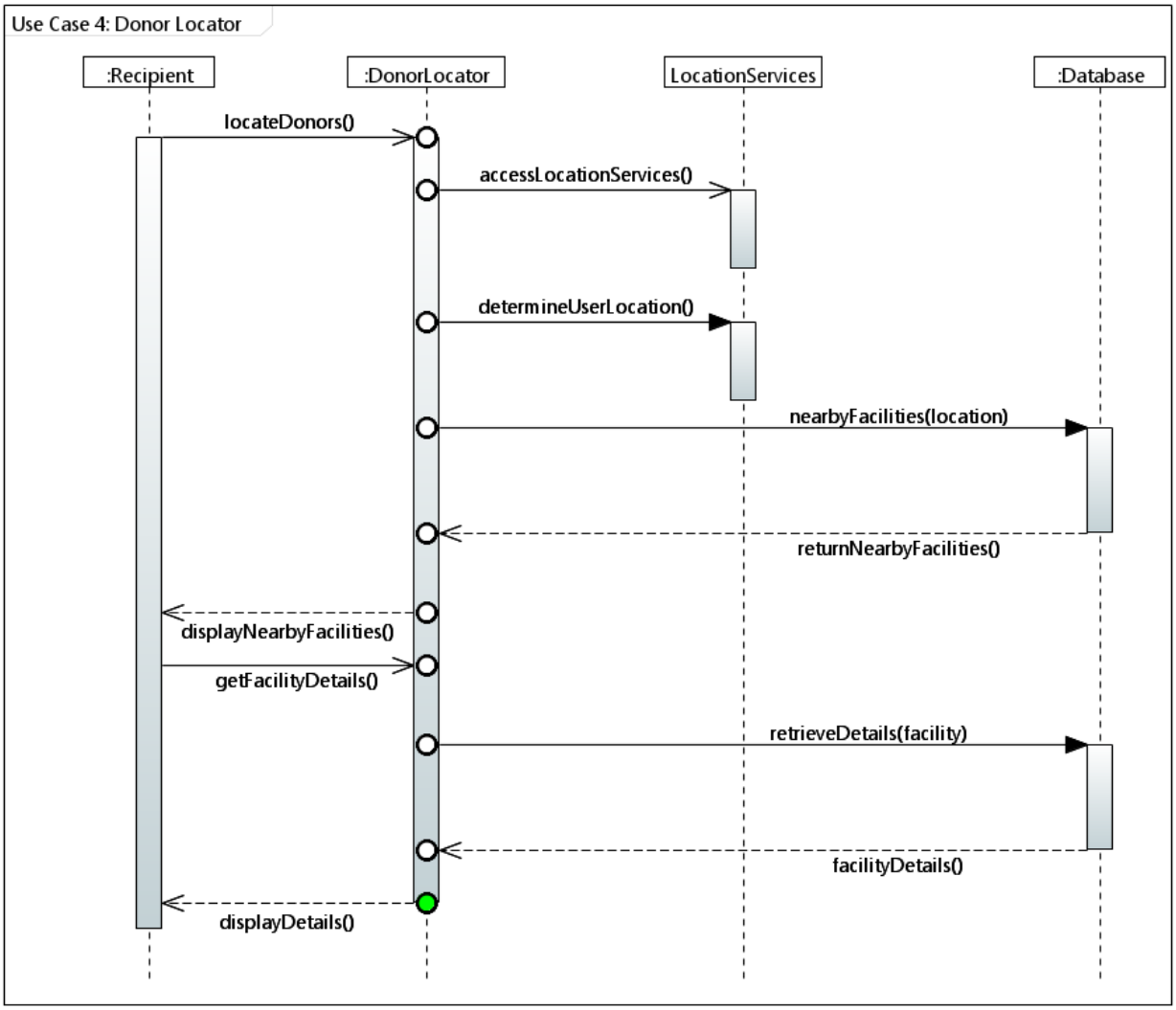
Blood Donation Events



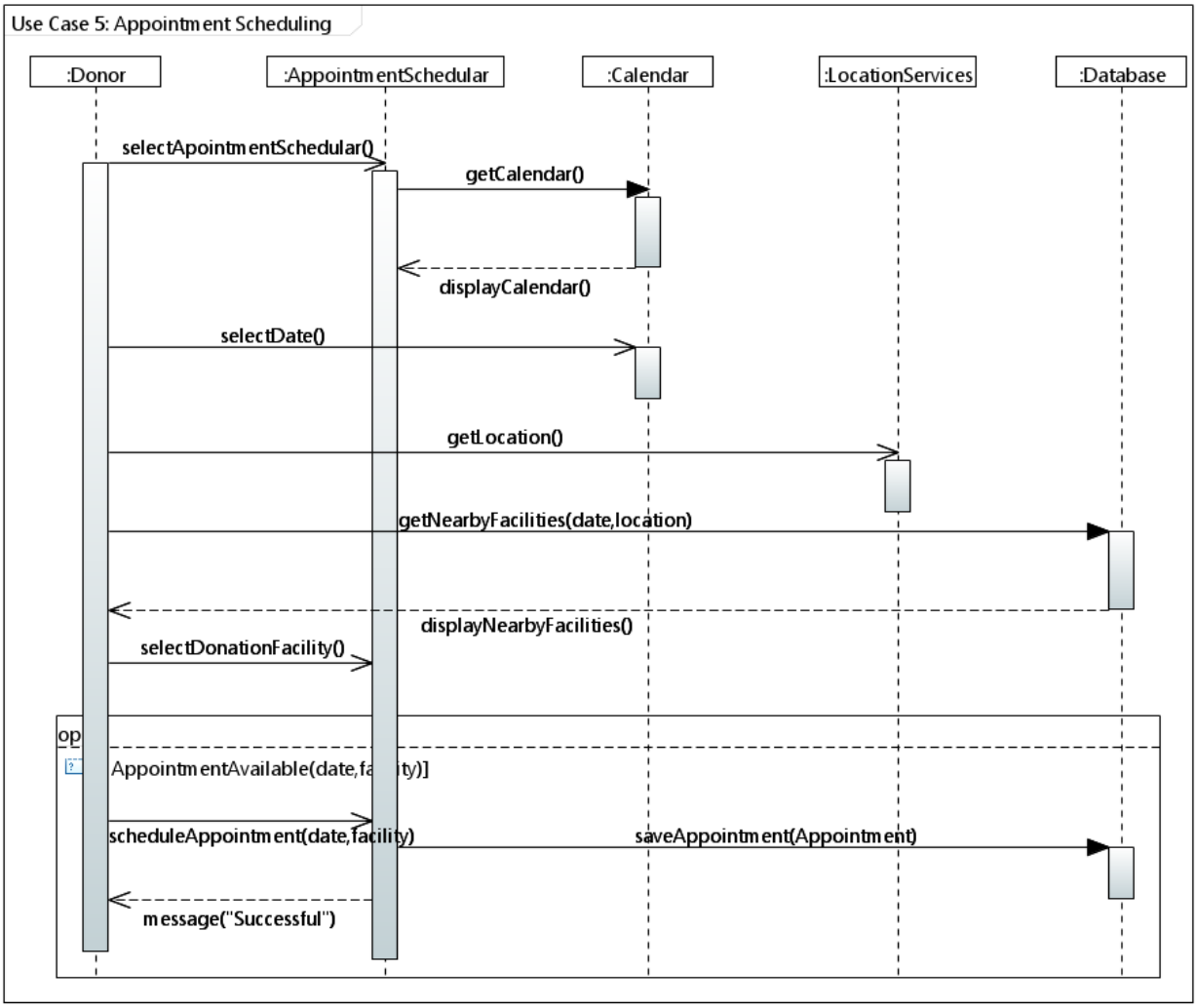
Blood Requests



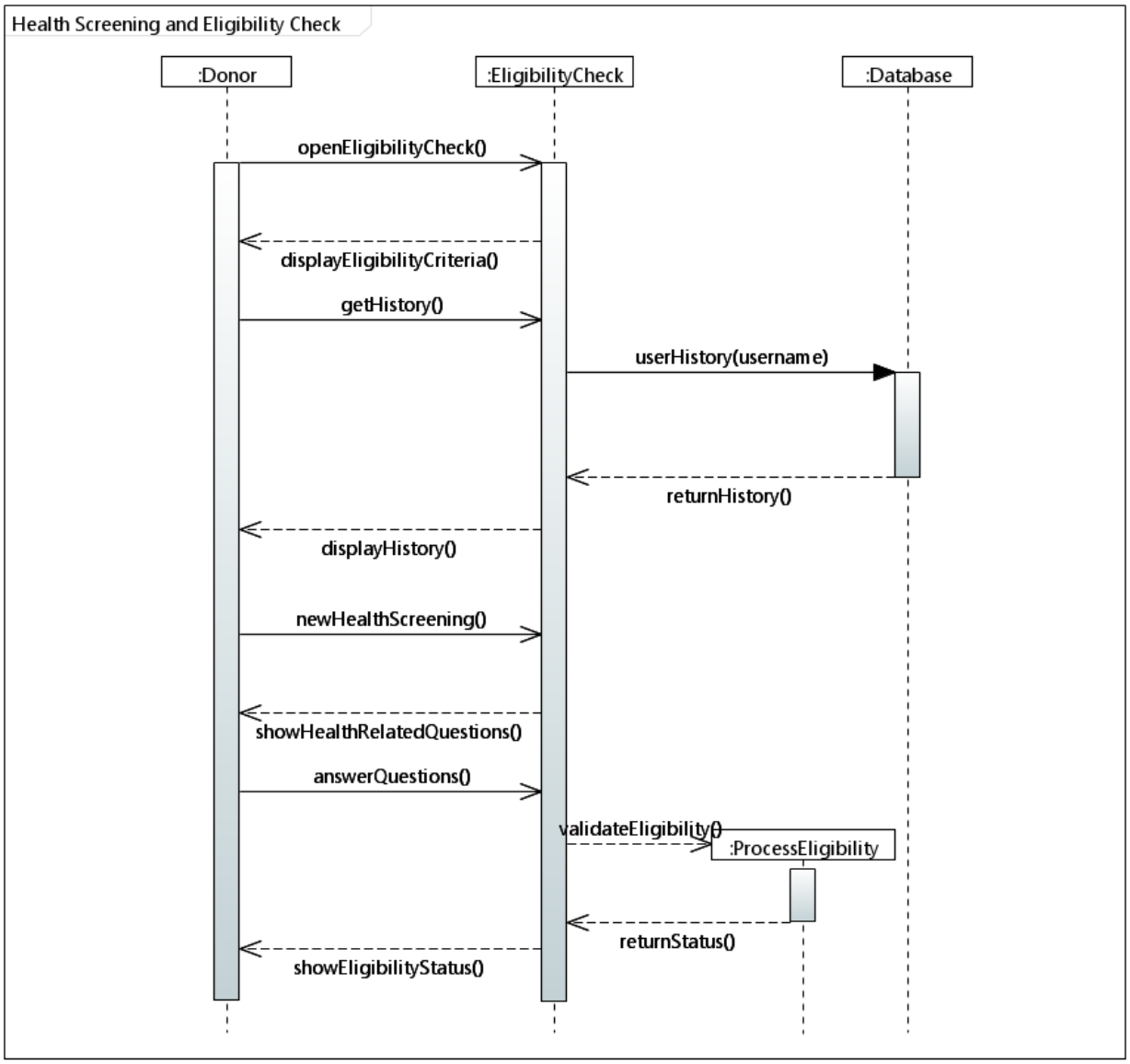
Donor Locator



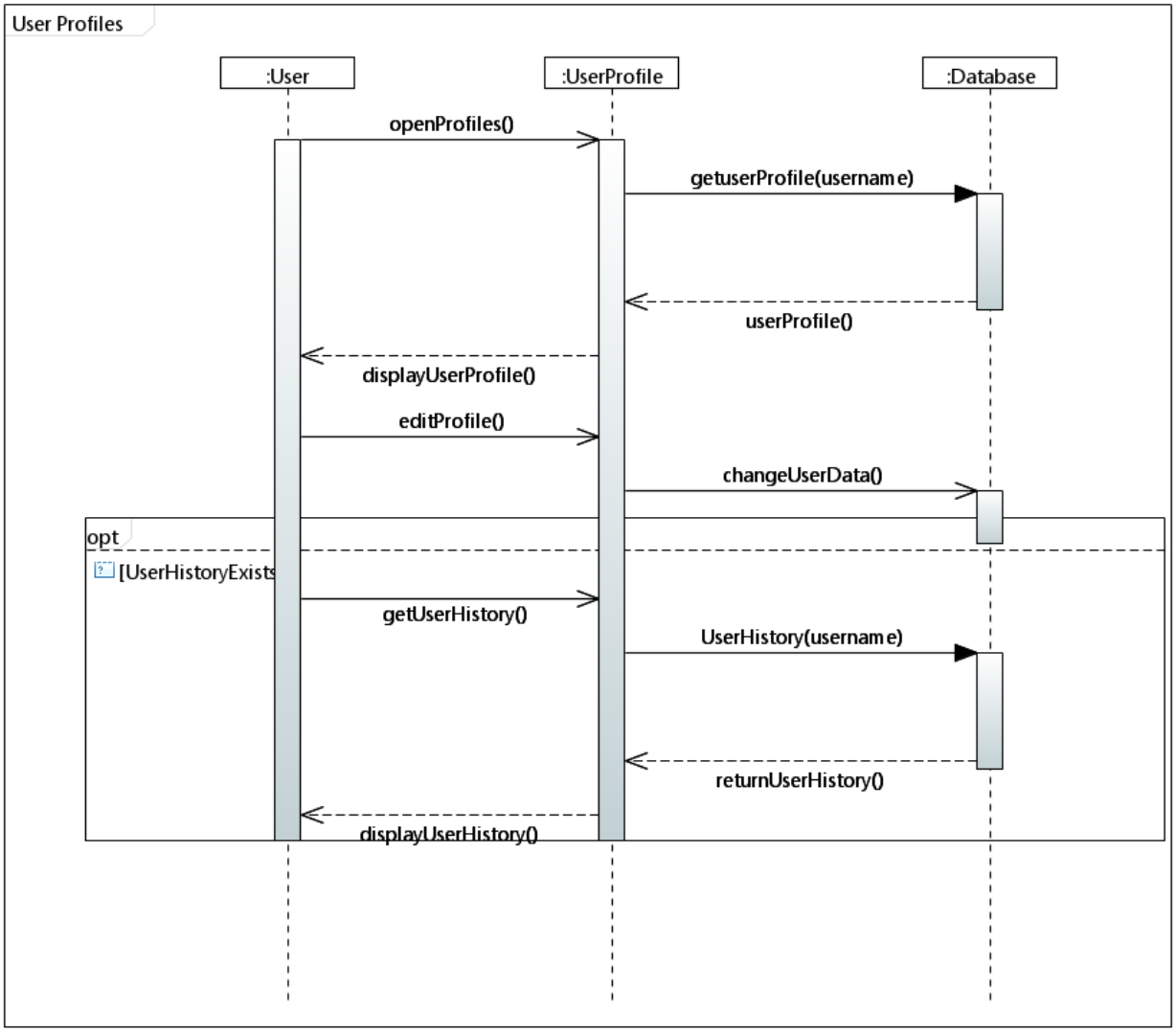
Appointment Scheduling



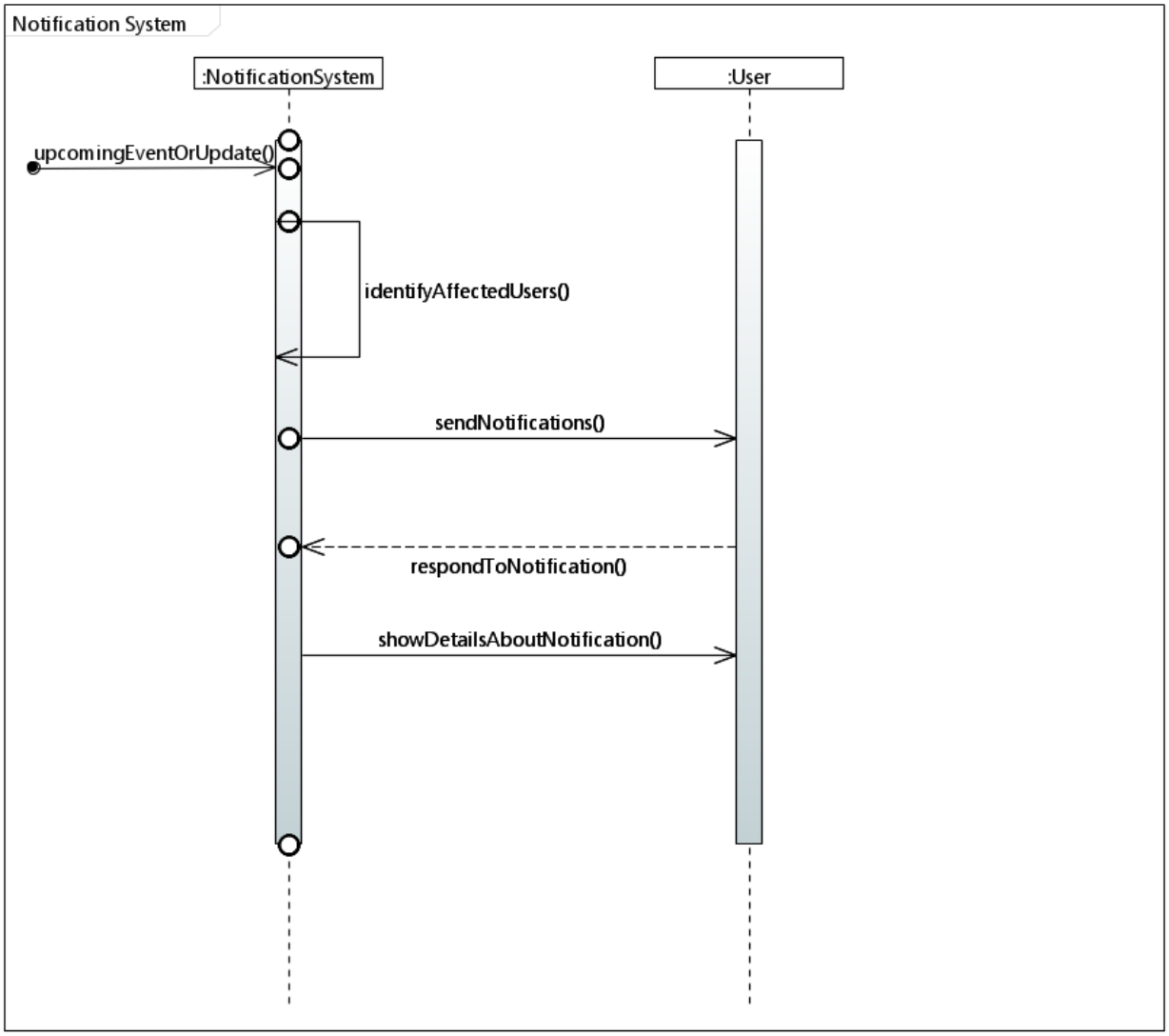
Health Screening and Eligibility Check



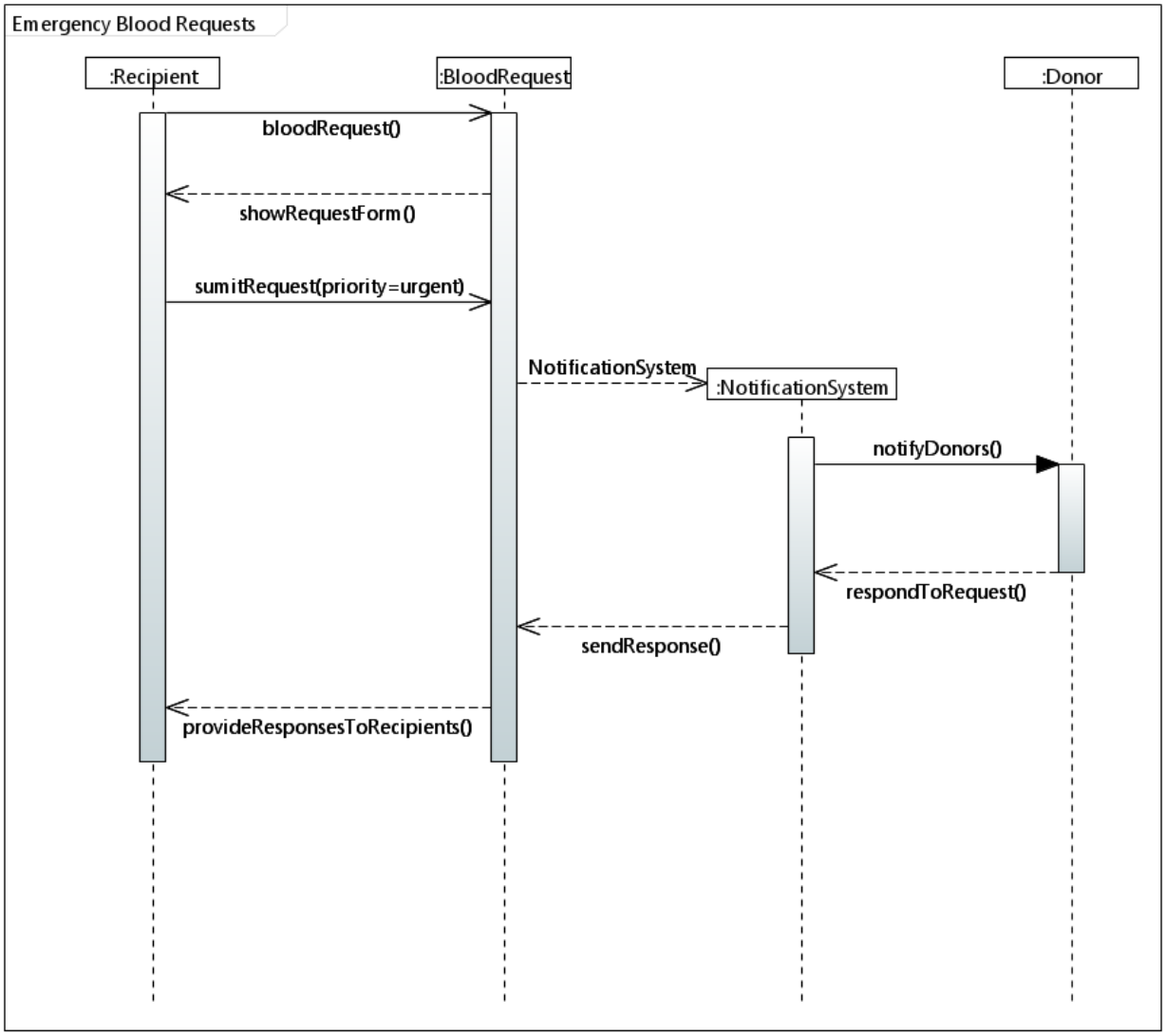
Donor Profiles



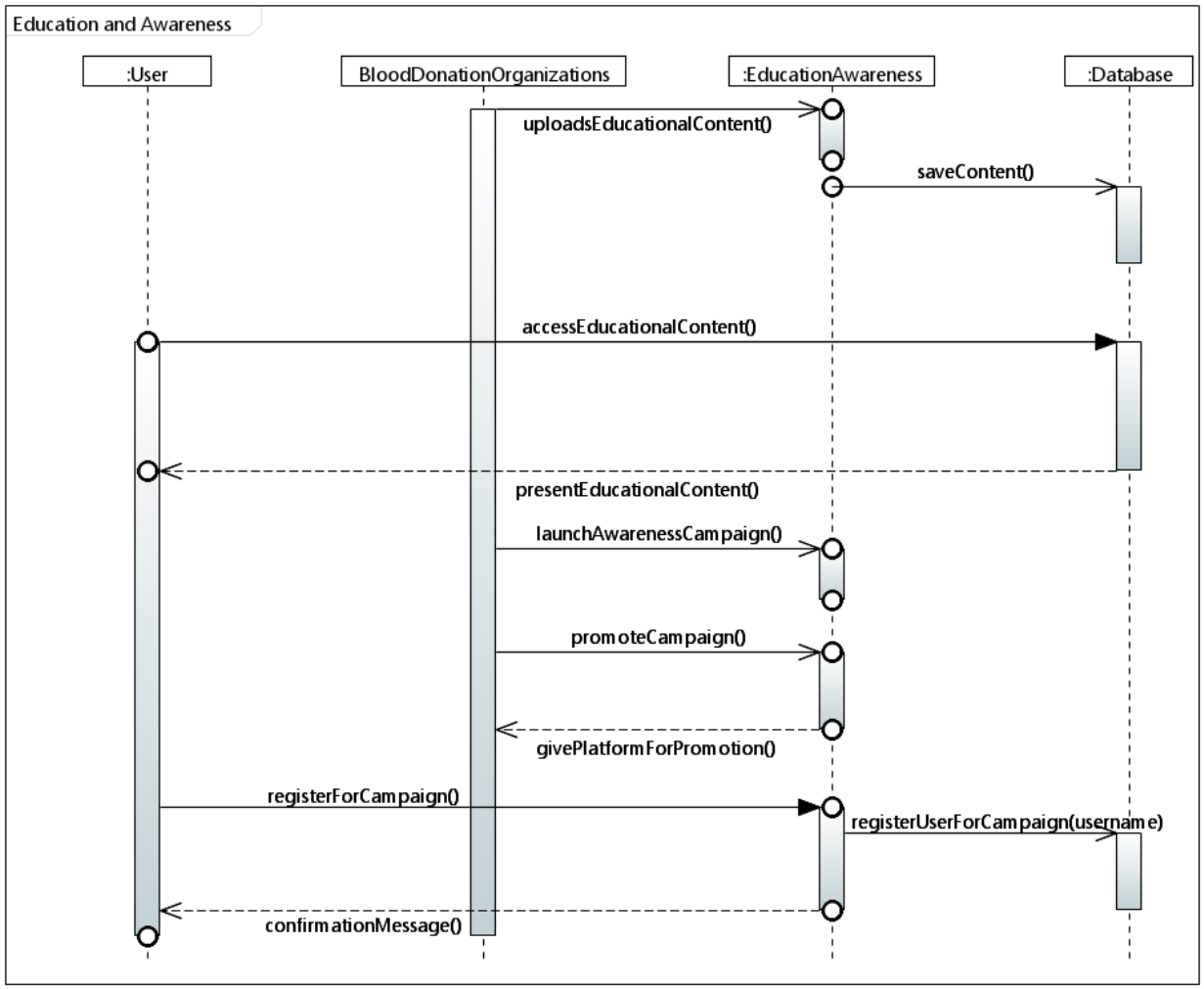
Notification System



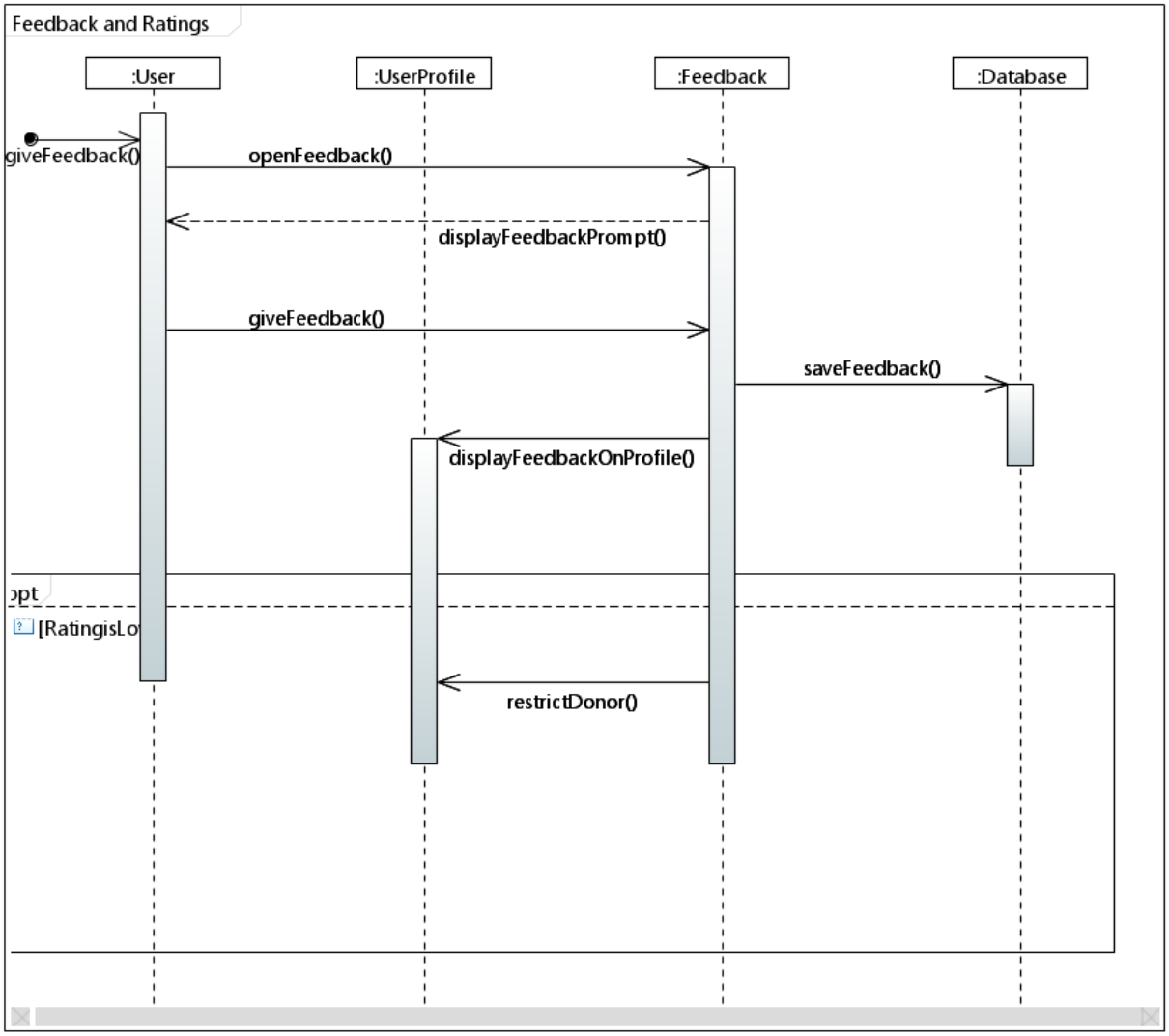
Emergency Blood Requests



Education and Awareness



Feedback and Ratings



7. Class Diagram