

Milestone 3 Report

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Functional Requirements:

User Chatting

Function	Users who requested blood bags should be able to chat with people who accepted their request and willing to donate blood.
Description	Given 2 registered users, one has requested blood and the other has accepted the request, they should be able to chat with each other to communicate.
Inputs	User IDs and the referred post ID.
Source	Data are embedded in the frontend which has been fetched from database through backend.
Outputs	Messages between the recipient and the donor.
Action	<ul style="list-style-type: none">• Start a chat session.• Send a message.• Receive a message.• Receive notification when app is closed, and a new message arrives.• End a chat session.
Requirements	<ul style="list-style-type: none">• A post which was made by requester and been accepted by donor.• A WebSocket connection between each user and the backend to communicate messages through.• Notifications permission to send chat notifications.

Notification System

Function	Send a notification with specific body to a specific user.
Description	<ul style="list-style-type: none">• Given two users one creates post to ask for blood and other one who is match criteria to donate to first one so the first one sends notification to another user• Send notification to another user who receive message• Send notification when first user accept the request of other user
Inputs	<ul style="list-style-type: none">• The message body or notification title and body• Login session from fire base token
Source	<ul style="list-style-type: none">• User who post and user match criteria• Post• The user who have message
Outputs	The notification body and fire base message
Action	<ul style="list-style-type: none">• Take token of user need to be notify from db session• Setup message object if it notification for new post send data message else send notification to fire base message cloud• Take notification in front end check if message have data if have data check the distance and if it less than threshold push notification
Requirements	<ul style="list-style-type: none">• Login session token• A post user has some user match criteria• A post which was made by requester and been accepted by donor.• Message and user who receive it

Institution Statistics

Function	Calculate and generate statistics for a certain institution.
Description	<ul style="list-style-type: none">• It shows some statistics about the institution such as:<ul style="list-style-type: none">○ Available blood bags of each type within the institution○ Number of blood bags of each type requested in each post related to the institution○ Number of blood bags of each type donated to the institution within last month○ Total number of blood bags of each type<ul style="list-style-type: none">➤ Donated to the institution➤ Purchased from the institution➤ Transferred from one person to another at the institutionAll within last month.
Inputs	Institution email got from the institution token acquired on log-in
Source	Institution stats. Screen at the frontend
Outputs	<ul style="list-style-type: none">• 3 charts as follows:<ol style="list-style-type: none">1) A Doughnut chart showing Number of blood bags of each type requested in each post related to the institution2) A Bar chart showing Available blood bags of each type within the institution3) A Multi-Bar chart showing:<ul style="list-style-type: none">➤ Number of blood bags of each type donated to the institution within last month➤ Total number of blood bags overall transactions
Action	<ul style="list-style-type: none">• Querying the DB to collect the up-to-date statistics from the appropriate tables• Showing the collected data in appropriate diagrams
Requirements	<ul style="list-style-type: none">• Showing some statistics about the institution as mentioned in the description. The main reasons are:

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- Keeping the available number of bags of each type at the institution
 - Knowing which type is more requested in posts related to the institution
 - Knowing the type that occurs the most at transactions
- Such info. may help the institution:
- Anticipate the need to organize events
 - Which blood type that has shortage
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Posts in Institution

Function	Institutions should be able to view active posts relating to them.
Description	Given a registered institution and a set of posts relating to the same institution, the institution should be able to view these posts in Homepage tab. If a click was made on any post tile, a redirection happens to a new screen containing the requester National ID already filled, and a space to enter the donor National ID.
Inputs	<ul style="list-style-type: none">• Institution ID• Posts in DB• Donor National ID
Outputs	List of posts relating to the institution.
Action	<ul style="list-style-type: none">• View related posts in homepage.• Approve user-to-user transaction.

Events for Users

Function	Users should be able to view relevant events.
Description	As a registered user, when he opens the events tab, he should be able to view all nearby events (up to a specified threshold distance). He should view all relevant information about the event, and directions to event location.
Inputs	<ul style="list-style-type: none">• Events information in database. Including: (Event Title, Event Location as text, Event Location as coordinates, Event Start Date and Time, Event End Date and Time)• Predefined threshold by the user.• Current location of the user.
Outputs	List of events ordered by distance (from nearest to farthest), containing all the relevant information.
Action	<ul style="list-style-type: none">• View all nearby events.• View details of a specific event.• Get directions to event location.
Requirements	Location permission from the user (to be used in threshold calculations and sort by distance).

Account Settings

Function	Users should be able to update their information and change relevant settings.
Description	Users should be able to change their hasDiseases status and threshold value.
Inputs	New values replacing old settings.
Destination	Database is updated with new values.
Action	<ul style="list-style-type: none">• Change hasDiseases status for user.• Change threshold for user.
Requirements	The user/institution should be signed in to change his settings.

Reset Password

Function	A user or institution should be able to change their password.
Description	Given a registered user or institution, the actor should insert his registered email to request changing his password. An email is sent with 4-digit code valid for 30 minutes to his email address. Then, he should enter his code in the app with the new password. If the code doesn't arrive, the actor can request resending a new code after 90 seconds.
Inputs	<ul style="list-style-type: none">• User/Institution email address.• Verification code sent in email.• New password.
Destination	<ul style="list-style-type: none">• Verification code table in DB.• Email Service to send email.
Action	<ul style="list-style-type: none">• Request change password (sends an email with code)• Change password with sent code.
Side Effects	<ul style="list-style-type: none">• It should be checked whether the email belongs to a registered user/institution or not.• It should be checked whether the code is expired or not.• If a code resent is done, the old code should be dropped.

Non-Functional Requirements:

Usability:

- Achieved through using widgets and icons used in most of our daily-life applications. Also, through showing feedbacks to every action taken (toasts..)
- For institution side, the application should be easy to use, taking minimal effort to confirm a transaction, with maximum of 3 taps (in addition to National ID entry).

Diagrams and UMLs

Schema of Login session

<u>User Email</u>	Token
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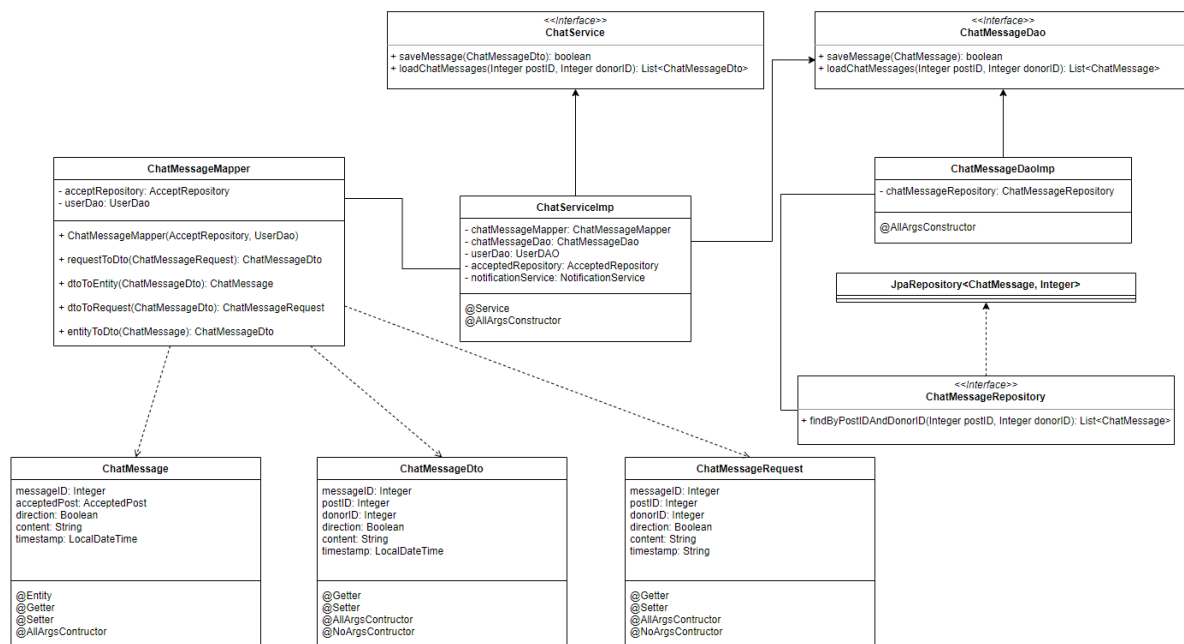
Schema of Notification History

<u>Post id</u>	<u>User Id</u>
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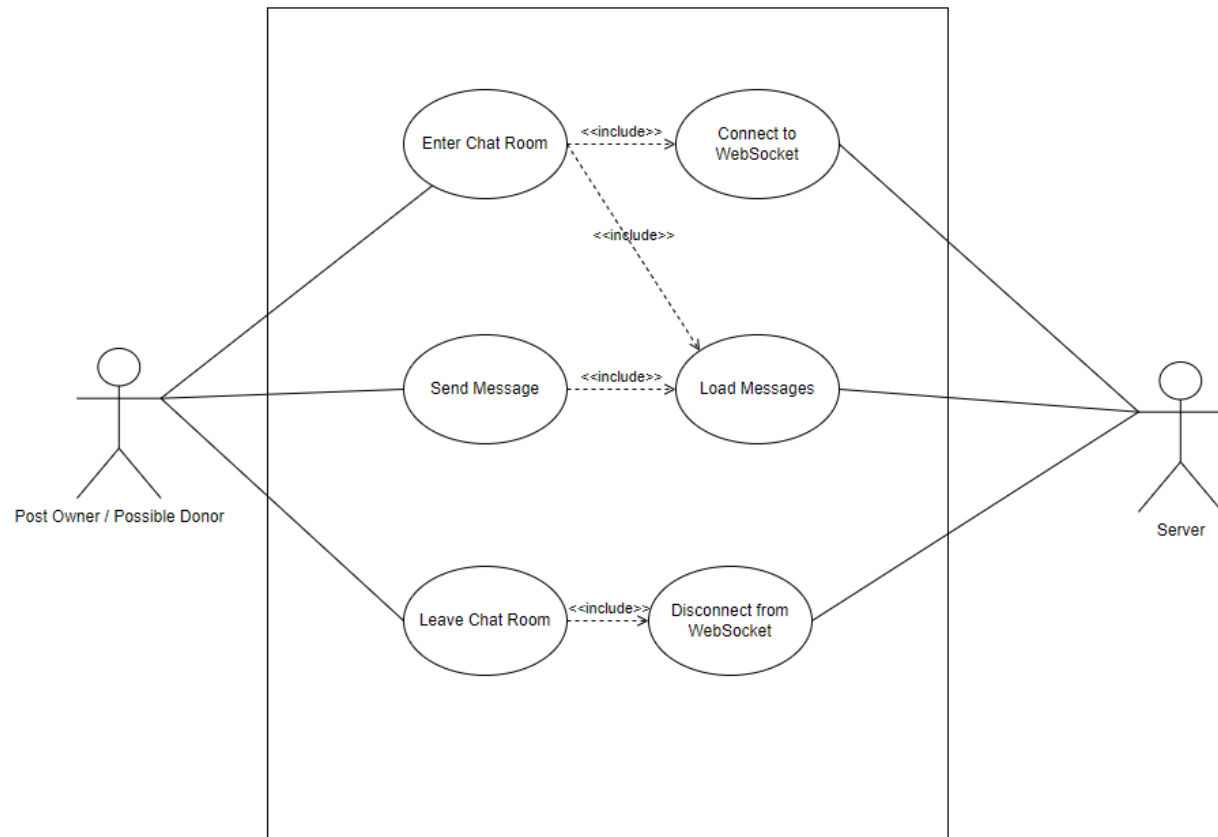
Schema of Forget Password

<u>Email</u>	Code	Request DateTime
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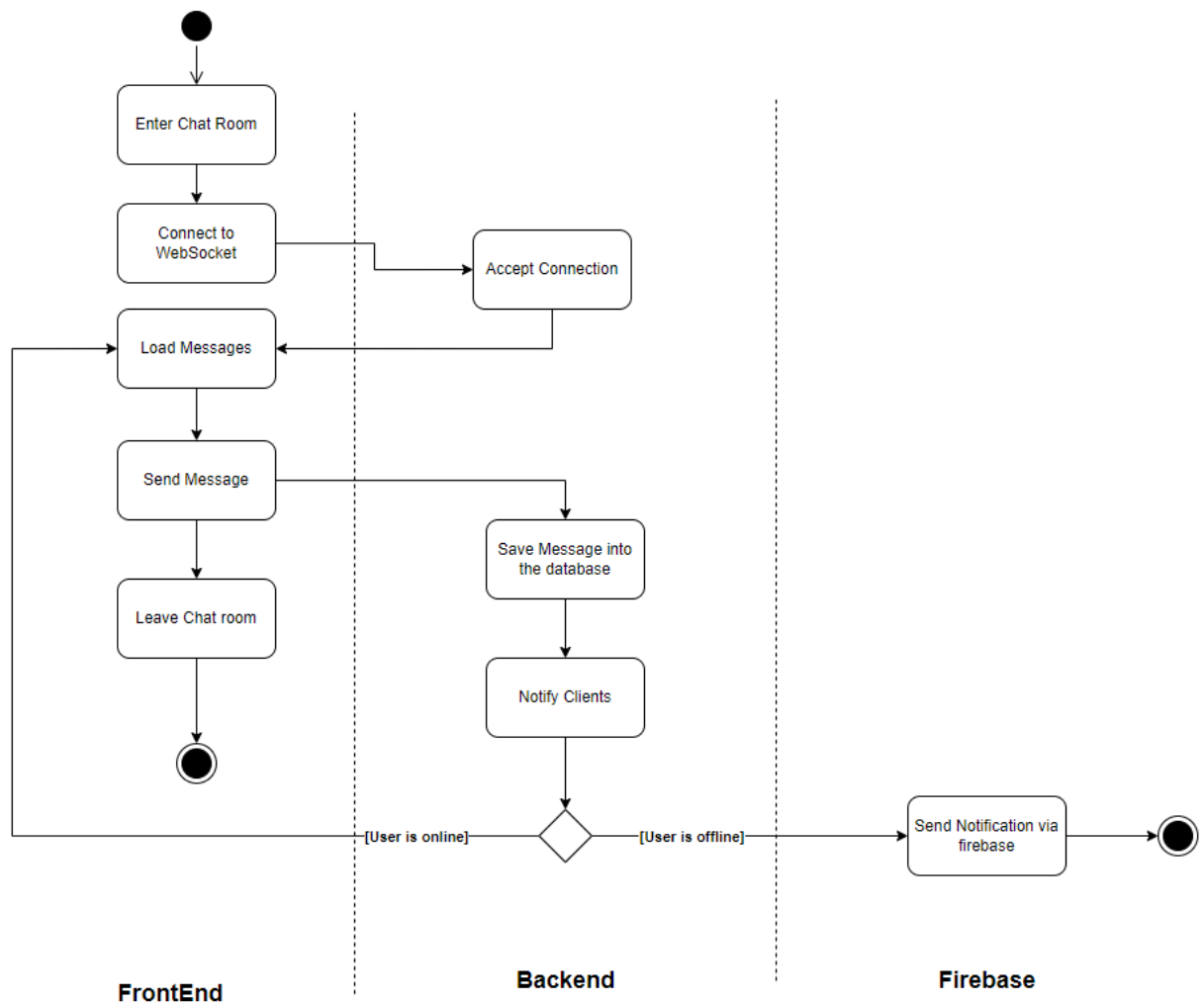
Updated Chatting Class Diagram



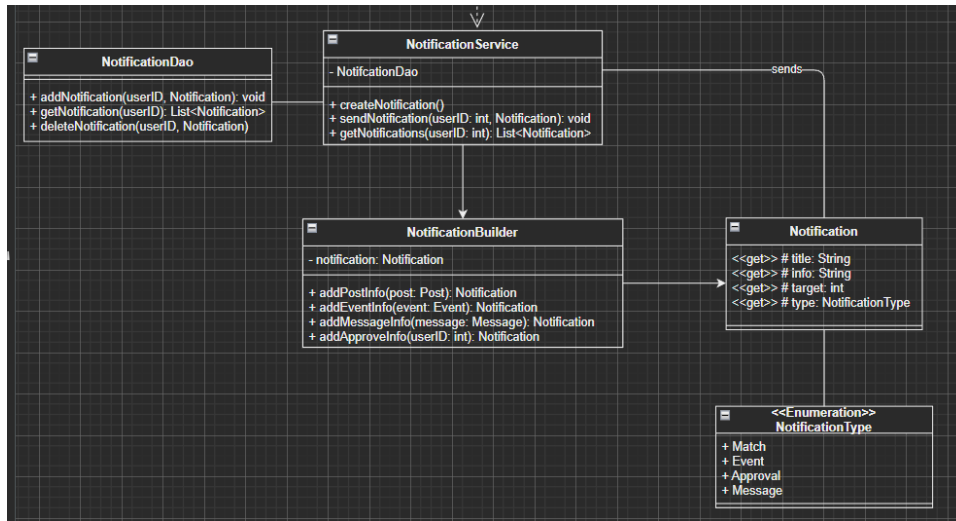
Chat Use case diagrams



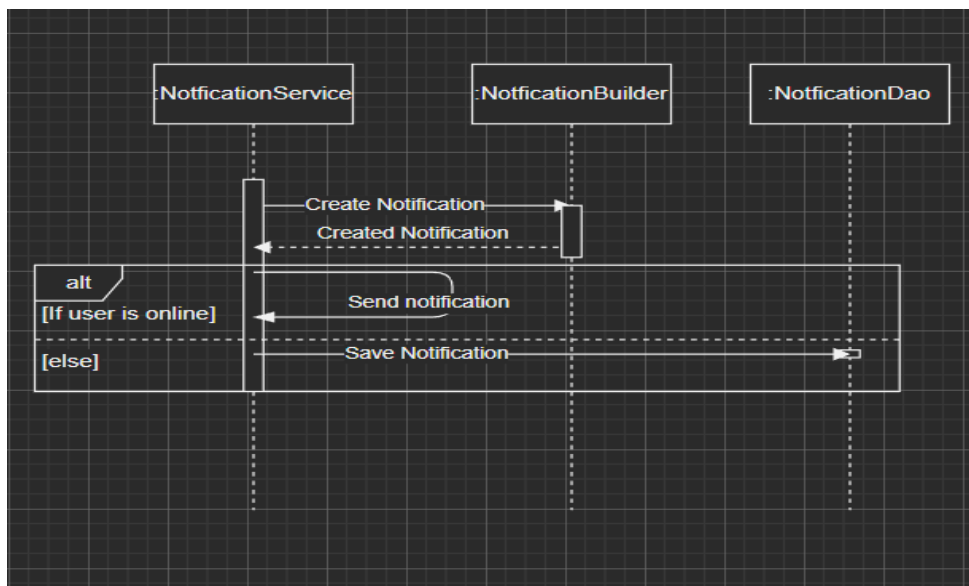
Chat Activity Diagram



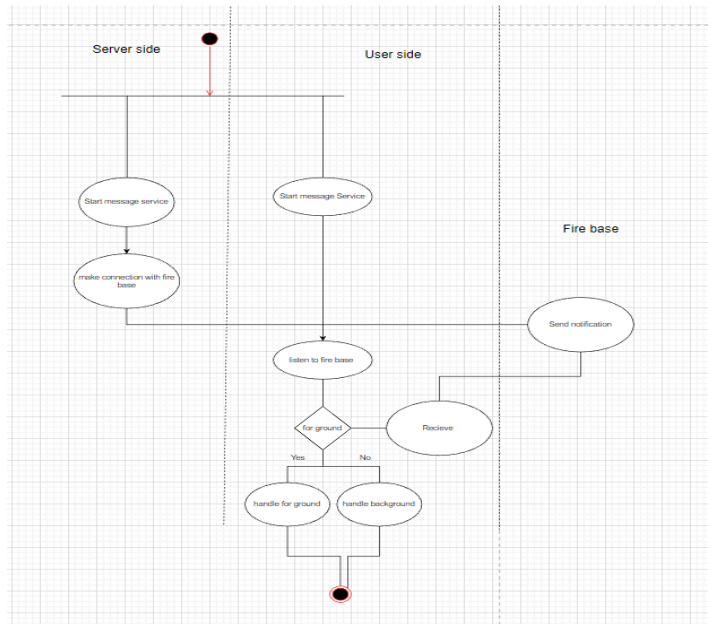
Updated Notification Class Diagram



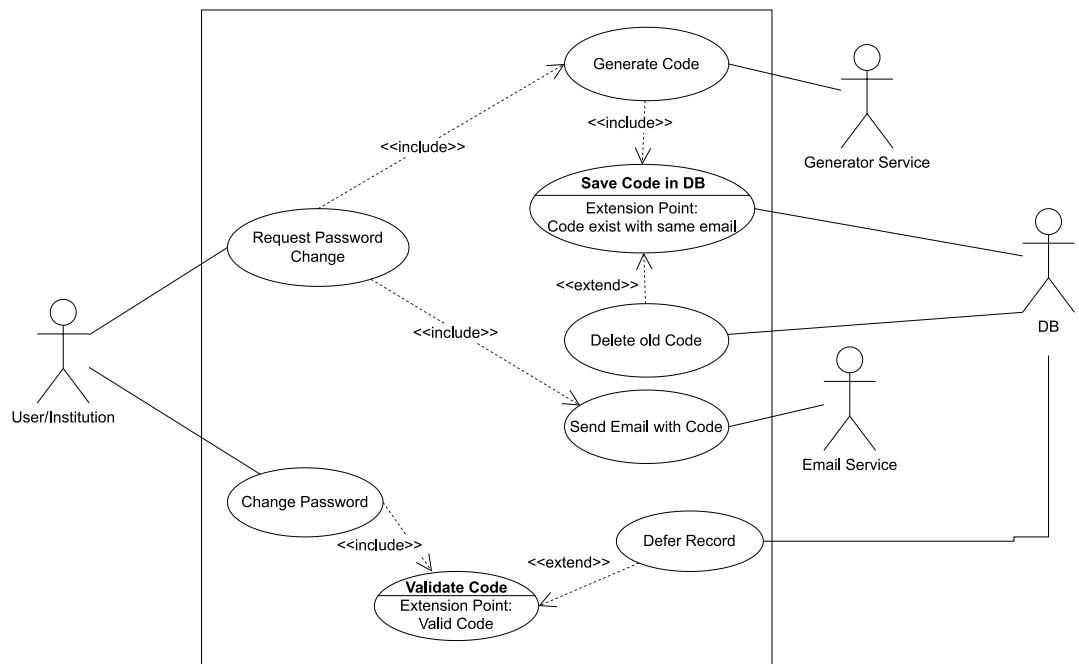
Notification Sequence diagram



Activity diagram



Forget Password Usecase Diagram



Reset Password
Activity Diagram

