
Design Document

for

MindHive

Version 1.0

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Date: 15/02/2022

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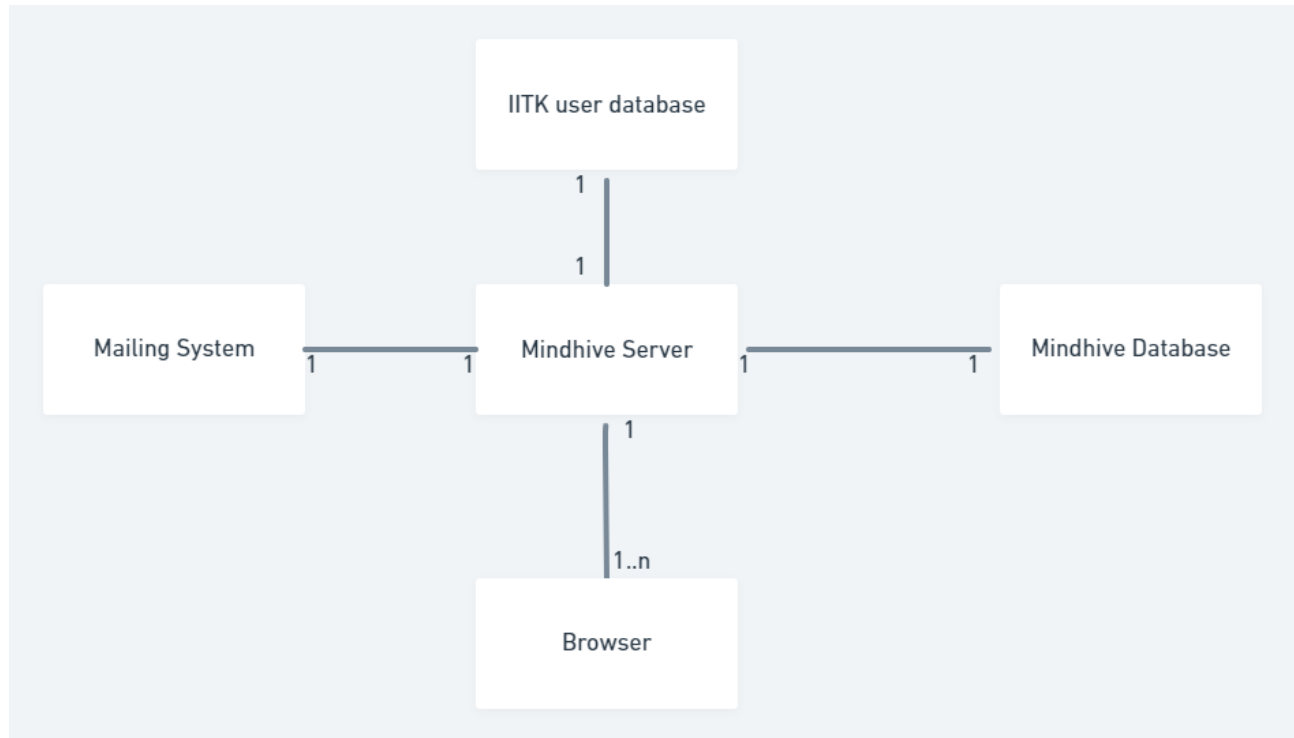
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Revisions

Version	Primary Author(s)	Description of Version	Date Completed
v1.0	All group members	First version of the requirement document	14/02/2022

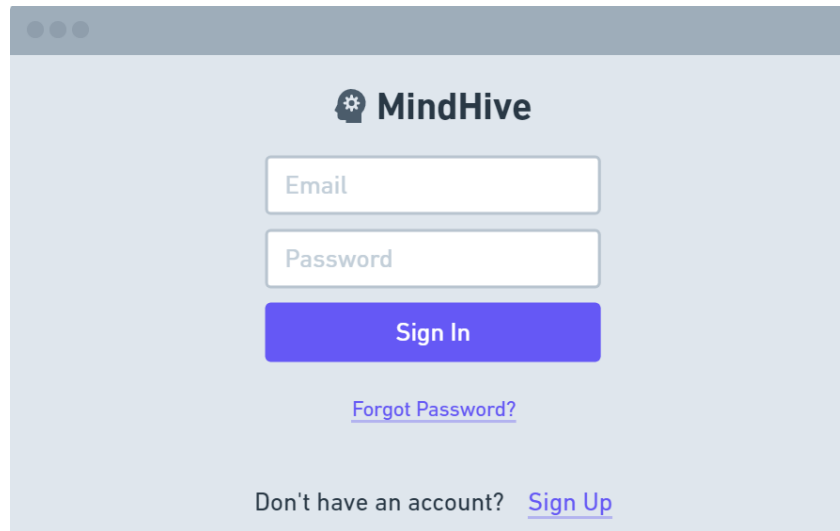
1 Context Design

1.1 Context Model



1.2 Human Interface Design

a) Sign In Page



The Sign In page features the MindHive logo at the top center. Below it are two input fields: 'Email' and 'Password'. A prominent blue 'Sign In' button is positioned below the password field. A link for 'Forgot Password?' is located below the 'Sign In' button. At the bottom, a message 'Don't have an account?' is followed by a 'Sign Up' link.

MindHive

Email

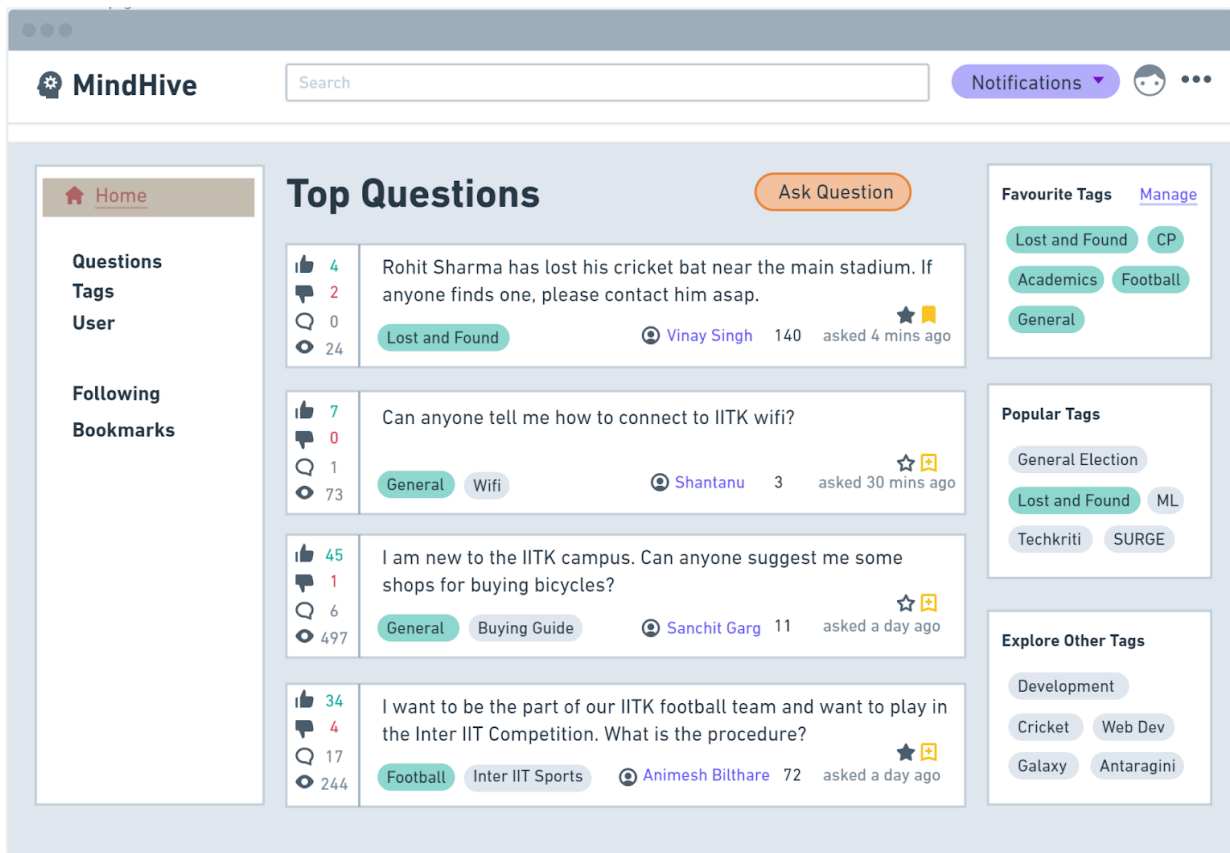
Password

Sign In

[Forgot Password?](#)

Don't have an account? [Sign Up](#)

b) HomePage



The Home page layout includes a top navigation bar with the MindHive logo, a search bar, a notifications dropdown, and a user profile icon. The main content area is divided into three columns. The left column contains a sidebar with links to Home, Questions, Tags, User, Following, and Bookmarks. The middle column, titled 'Top Questions', displays a list of questions with their respective details. The right column contains two tag management sections: 'Favourite Tags' and 'Popular Tags', both with a 'Manage' link. Below these is an 'Explore Other Tags' section.

MindHive Search Notifications User

Home Questions Tags User Following Bookmarks

Top Questions Ask Question

Question 1: Rohit Sharma has lost his cricket bat near the main stadium. If anyone finds one, please contact him asap. **Lost and Found** Vinay Singh 140 asked 4 mins ago

Question 2: Can anyone tell me how to connect to IITK wifi? **General** Wifi Shantanu 3 asked 30 mins ago

Question 3: I am new to the IITK campus. Can anyone suggest me some shops for buying bicycles? **General** Buying Guide Sanchit Garg 11 asked a day ago

Question 4: I want to be the part of our IITK football team and want to play in the Inter IIT Competition. What is the procedure? **Football** Inter IIT Sports Animesh Bilthare 72 asked a day ago

Favourite Tags Manage

Lost and Found CP Academics Football General

Popular Tags

General Election Lost and Found ML Techkriti SURGE

Explore Other Tags

Development Cricket Web Dev Galaxy Antaragini

c) View Question Page

The screenshot displays the MindHive web application interface for viewing a question. The layout includes a top navigation bar, a left sidebar, a main content area, and a right sidebar.

Top Navigation Bar: Features the MindHive logo, a search bar, a notifications dropdown, and a user profile icon.

Left Sidebar: Contains navigation links: Home, Questions (highlighted), Tags, User, Following, and Bookmarks.

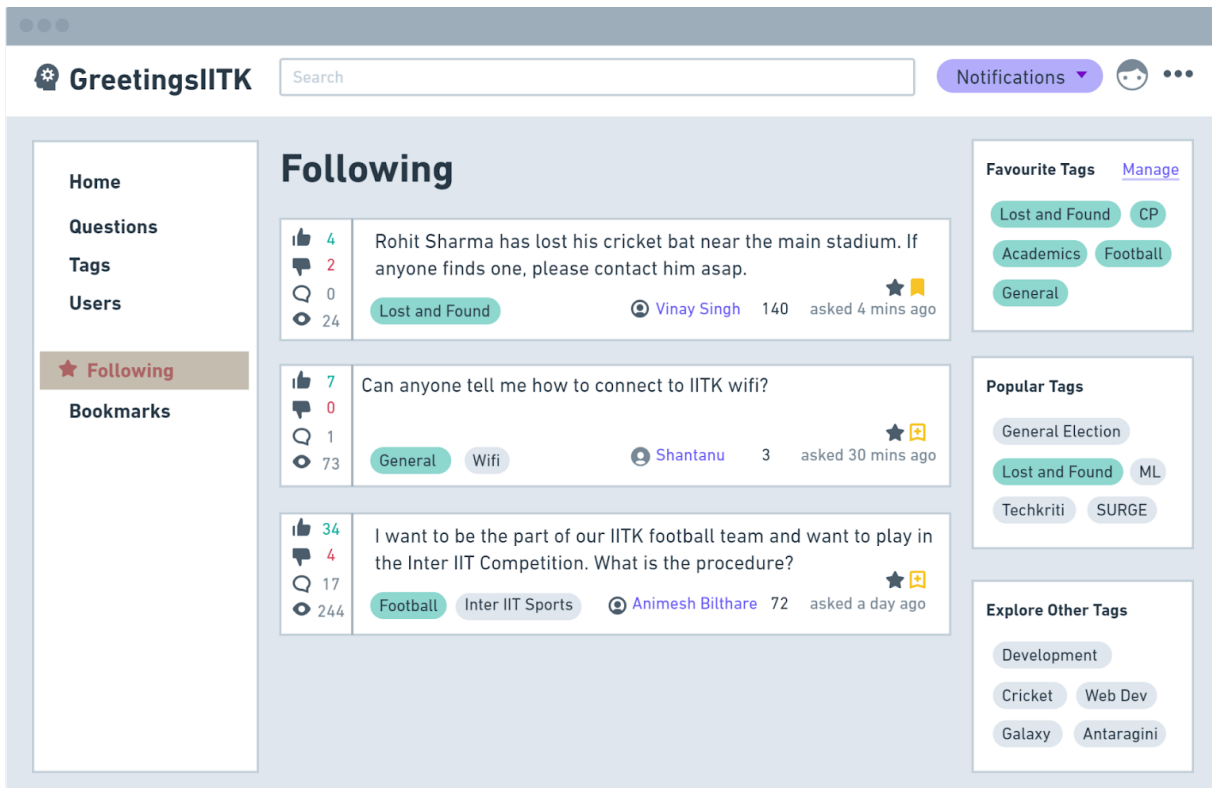
Main Content Area:

- Question Title:** "Can anyone tell me how to connect to IITK wifi?"
- Metadata:** Asked 30 mins ago, Active 5 mins ago, Viewed 73 times, by Anshul Tiwari.
- Question Text:** "I can see the iitk-sec network when I turn on the wifi, but i have no idea what to put in the username and password field. I tried using CC id and password but it didn't work. Can anyone tell me how to configure it?"
- Answer Section:** Titled "1 Answer", with tabs for Active, Oldest, and Votes. The answer text reads: "Go to the website <https://wifilogin.iitk.ac.in>, and create a password for Single Sign-On Wi-Fi access. You will have click on New User and then enter your CC ID and Password."
- Answer Interaction:** Shows 2 likes, 1 dislike, and 1 comment. A "Report" button is available. The answer is by "anonymous" and was posted 5 mins ago. A comment from "Anshul Tiwari" says "Thank you very much for answering." and was posted 1 min ago. There is an "Add a comment" link.
- Your Answer Section:** Includes a rich text editor with formatting tools (bold, italic, underline, list, link, image, video, code), a "Post Answer" button, and an "Answer as anonymous" checkbox.

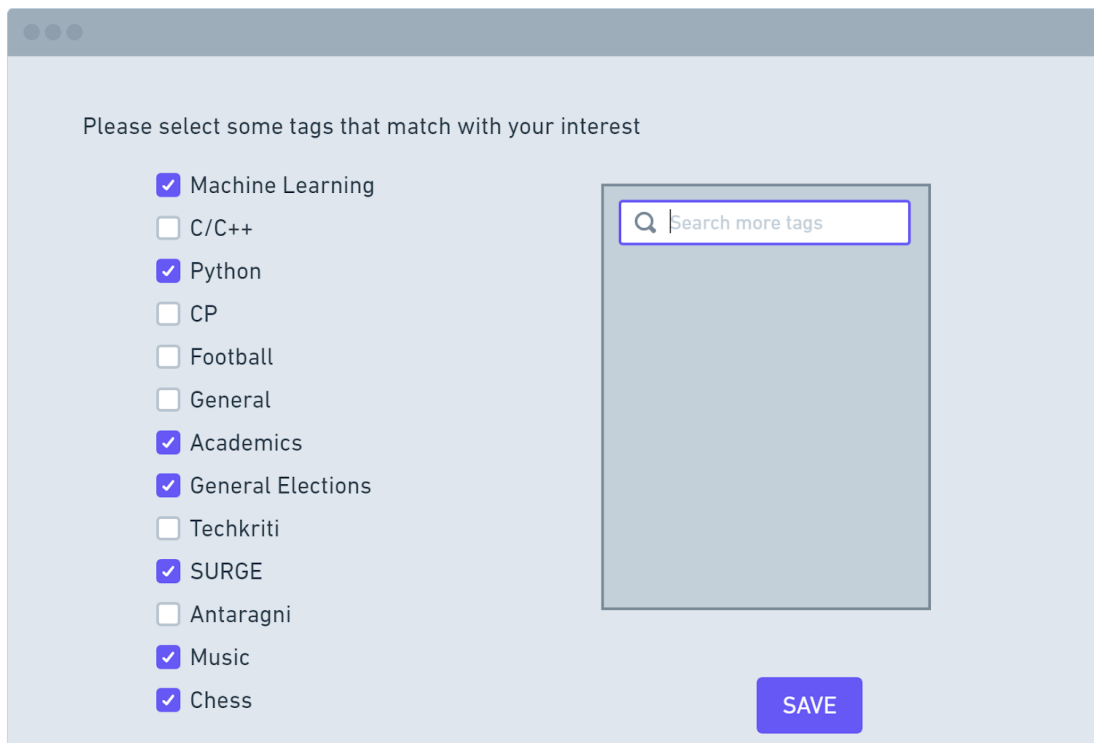
Right Sidebar:

- Tags:** General (selected), Wifi.
- Follow:** A star icon and a "Follow" button.
- Related Questions:** A list of suggested questions: "How to configure IITK VPN from outside campus?", "How fast is iitk-sec (Highspeed-5G)? Is it as fast as LAN?", and "Where can I find my IP-Address for using LAN?".

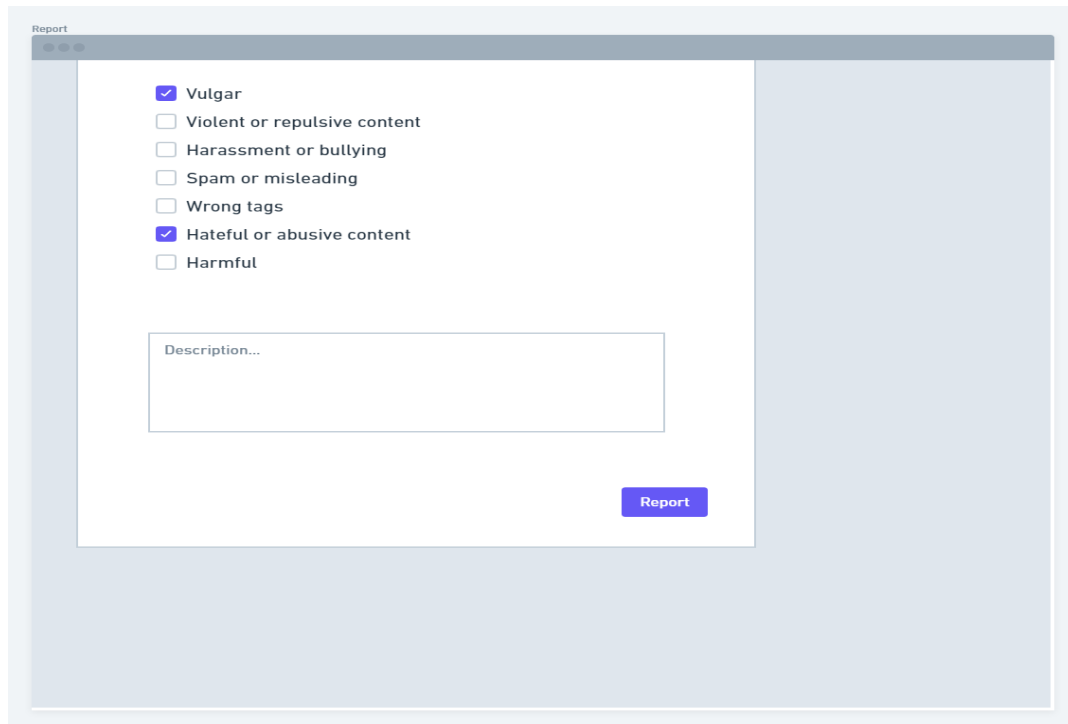
f) Following Questions Page (similar to Bookmarks page)



g) Favorite Tags Selection Page after first login



h) Report Page



The Report form interface is displayed within a window titled "Report". It features a list of checkboxes for selecting reasons for reporting content. The selected options are "Vulgar" and "Hateful or abusive content". Below the checkboxes is a text area labeled "Description...". A blue "Report" button is located at the bottom right of the form.

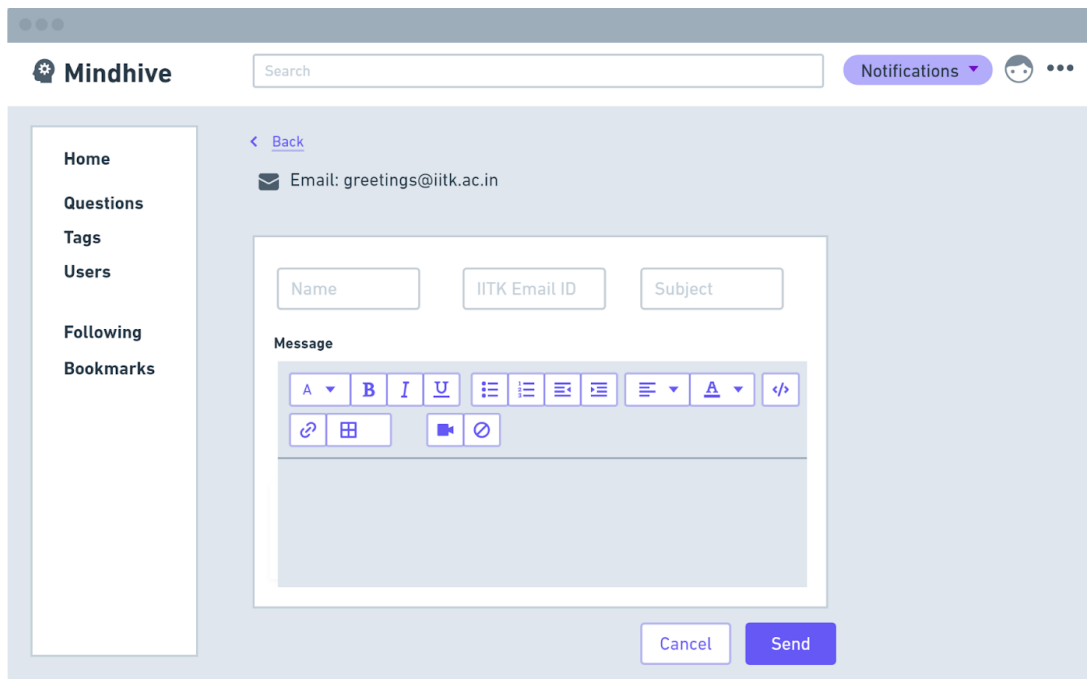
Report

- ☒ Vulgar
- ☐ Violent or repulsive content
- ☐ Harassment or bullying
- ☐ Spam or misleading
- ☐ Wrong tags
- ☒ Hateful or abusive content
- ☐ Harmful

Description...

Report

i) Help/Feedback Page



The Help/Feedback page interface is displayed within a window. It features a sidebar with navigation links: Home, Questions, Tags, Users, Following, and Bookmarks. The main content area includes a "Back" link, an email address "Email: greetings@iitk.ac.in", and a form for sending feedback. The form has fields for Name, IITK Email ID, and Subject, followed by a rich text editor with various formatting options (bold, italic, underline, link, unlink, list, ordered list, table, video, image) and a large text area for the message. At the bottom are "Cancel" and "Send" buttons.

Mindhive Search Notifications

[Back](#)

Email: greetings@iitk.ac.in

Name IITK Email ID Subject

Message

A B I U List Ordered List Table Video Image

Cancel Send

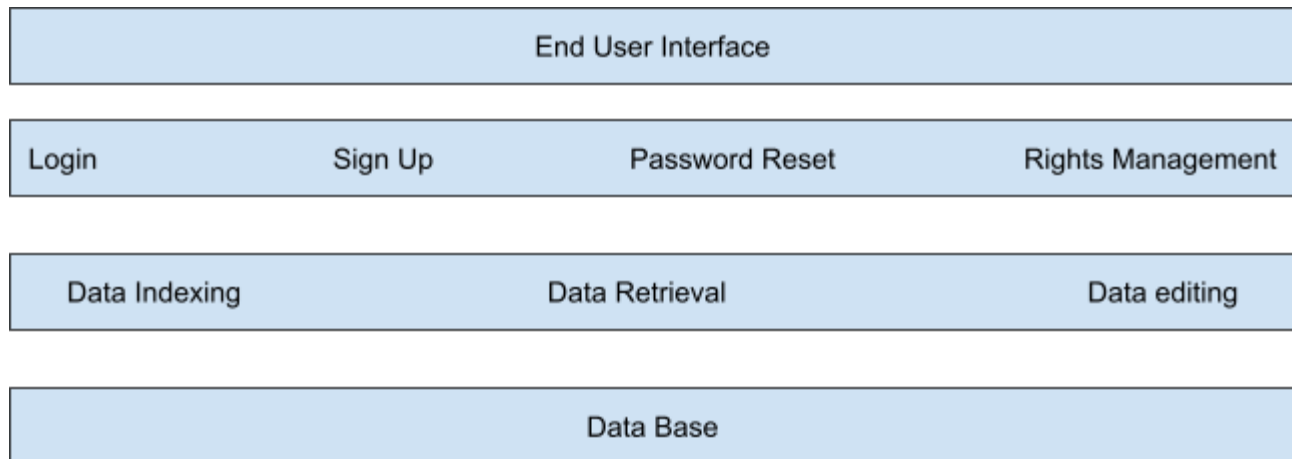
2 Architecture Design

Our software is a social platform hence security becomes one of the most crucial parts. We have to assure that there is restricted access to the application at each level. Hence we intend to opt a layered architecture pattern for the overall design.

There are four major levels in our layered architecture. Each level will interact only with its neighbouring level and can't directly interact with other levels.

The layers are as follows:

- i) Interface layer
- ii) Authentication layer
- iii) Data Management level
- iii) Database

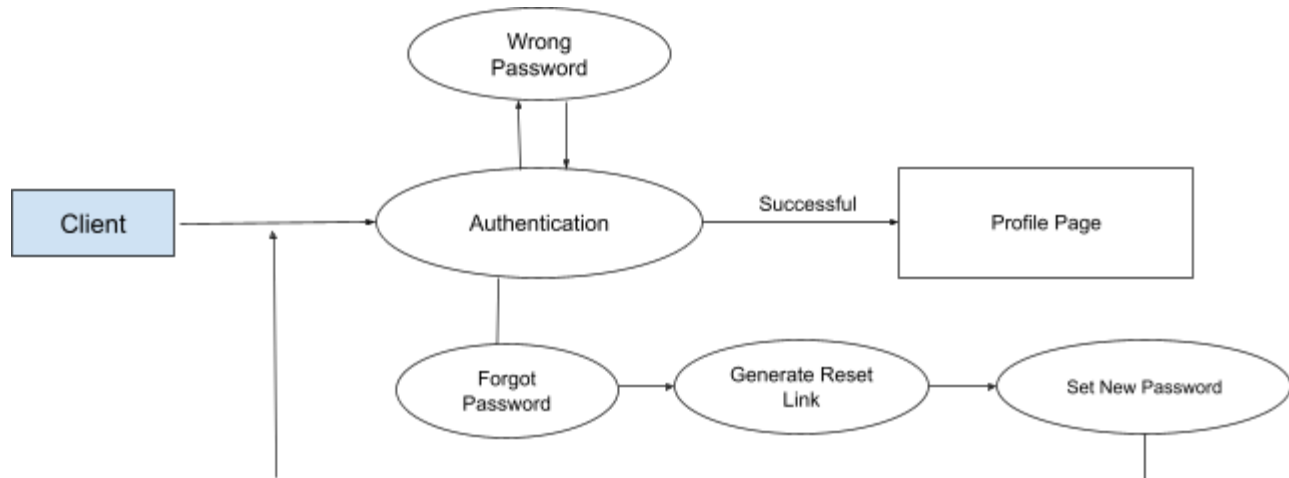


Layered Architecture for the software

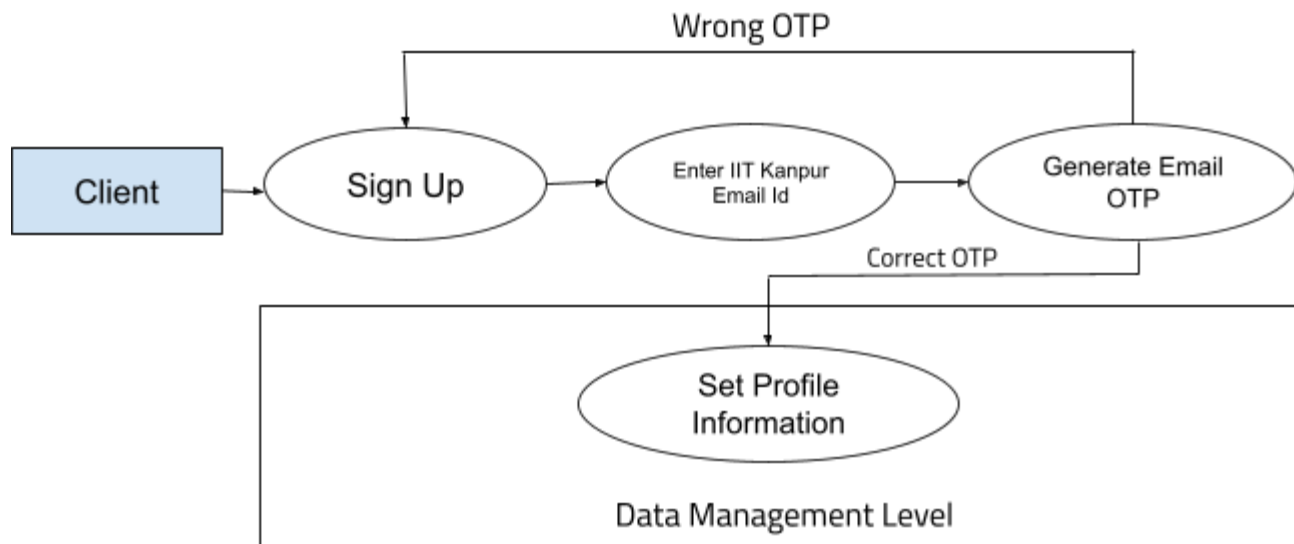
Each of the layers mentioned above is fairly complicated within itself. Therefore, at each level of layered architecture, we will use a pipe and filter architecture for the processing and management of system data.

2.1 Authentication layer

i) Pipe filter architecture for Login and Password Reset

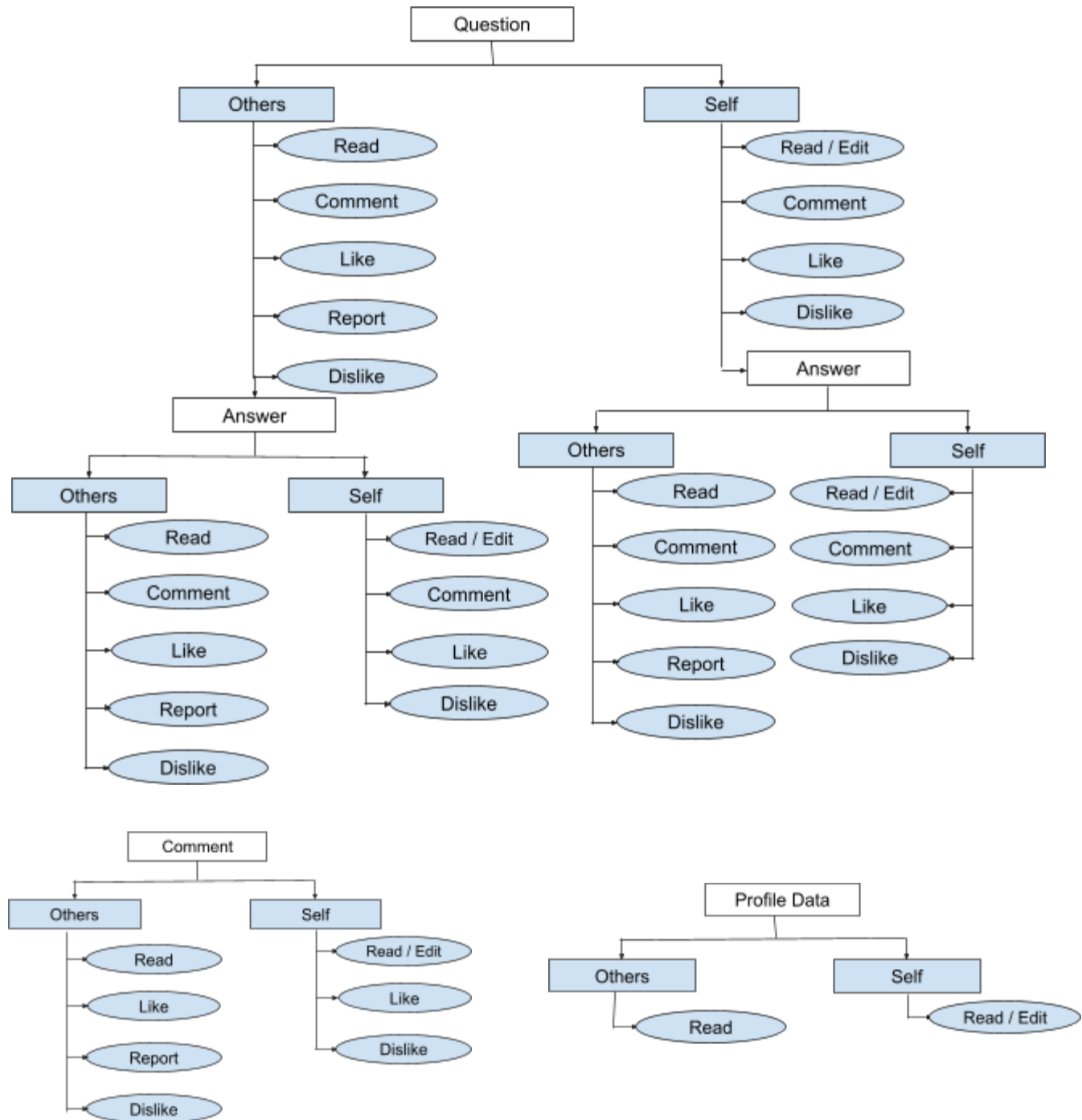


ii) Pipe filter architecture for Sign Up



2.2 Data Management Level

i) Pipe and filter architecture for Flow of System Data

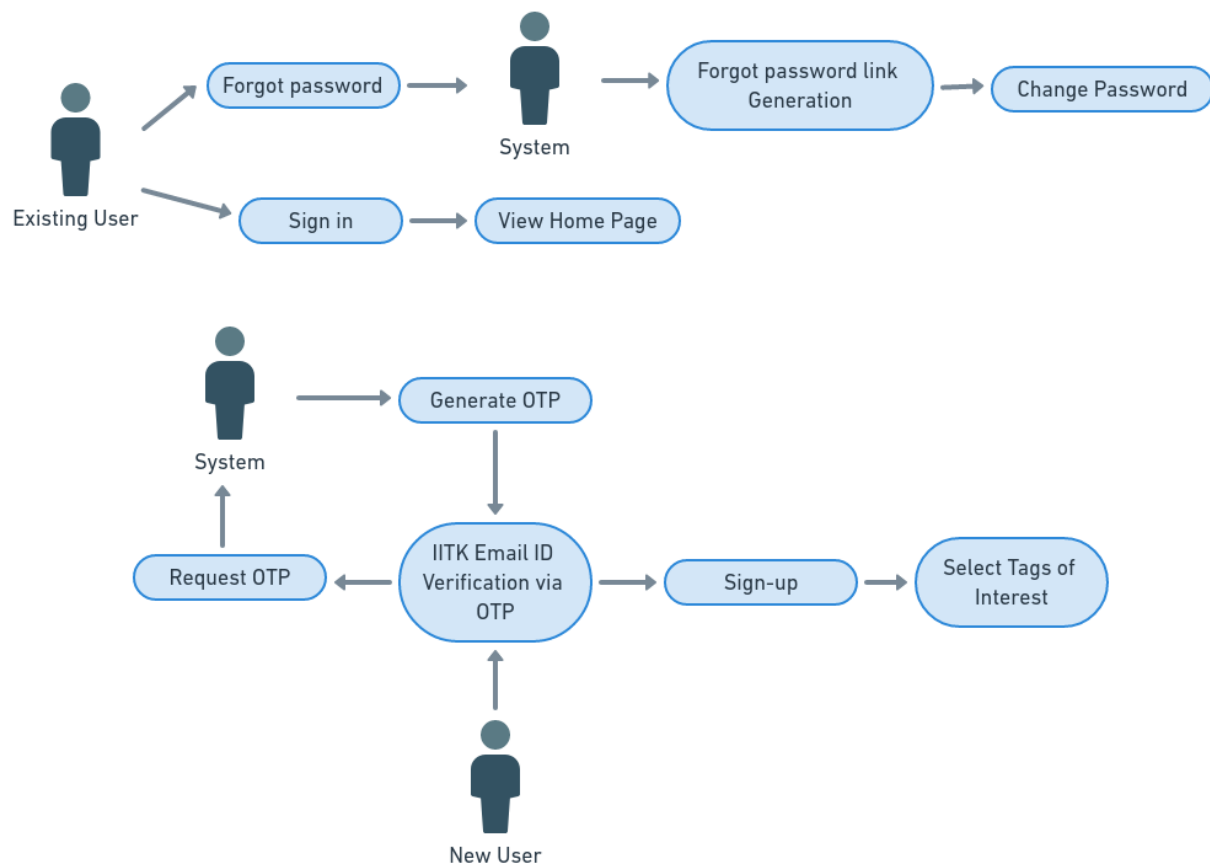


Note - Self is the user (so it refers to Questions/answers asked/answered by the user) and others are other people's account.

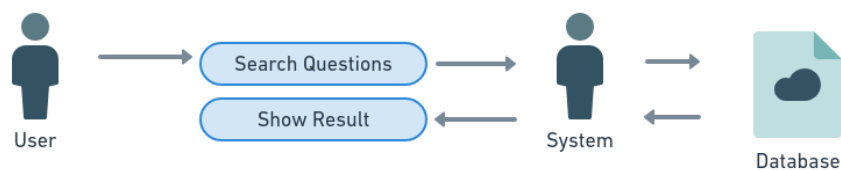
3 Object Oriented Design

3.1 Use Case Diagrams

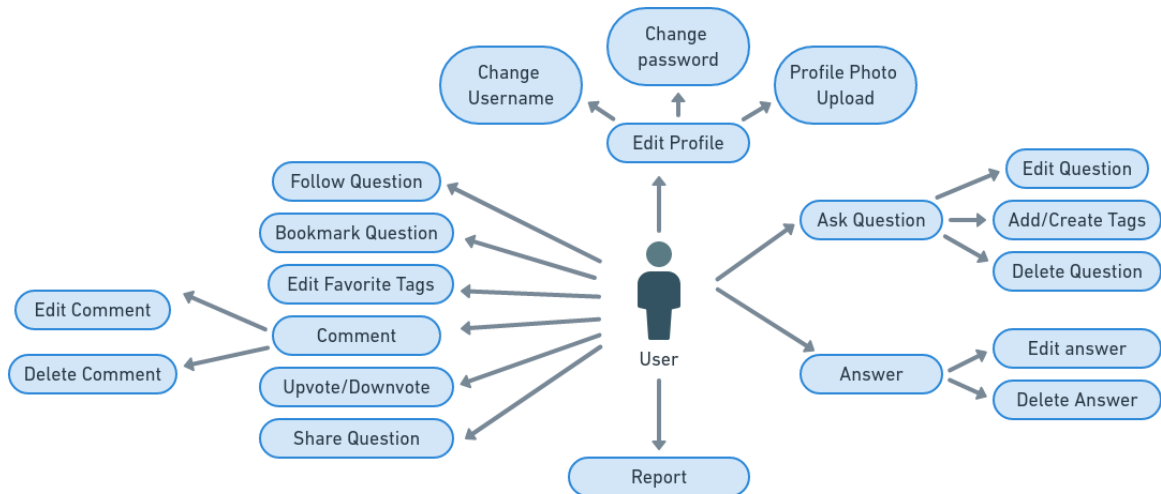
3.1.1 Use Case #1 (UC-1 Authentication)



3.1.2 Use Case #2 (UC-2 Search)



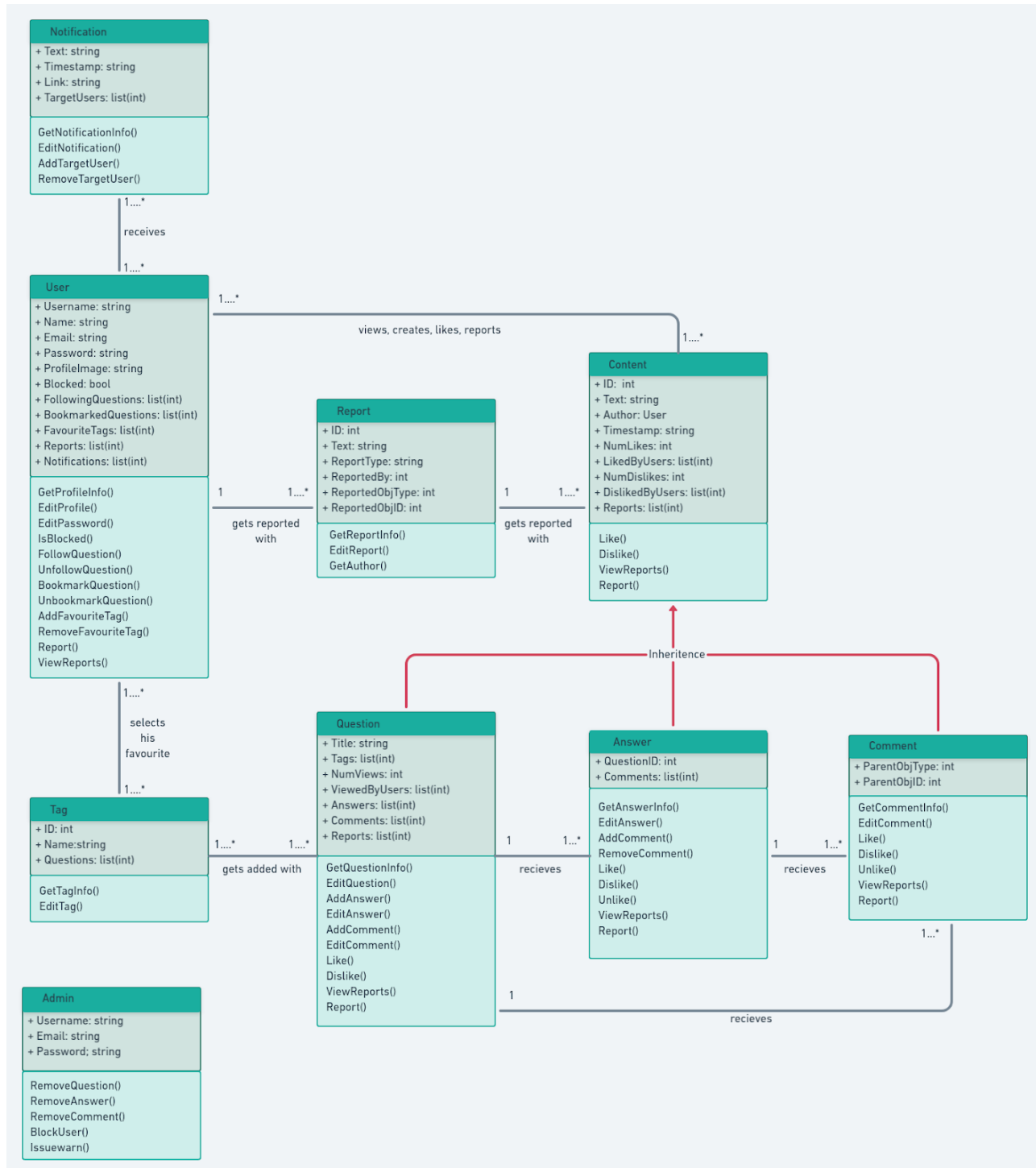
3.2.3 Use Case #3 (UC-3 Forum)



3.3.4 Use Case #4 (UC-4 Administrator)

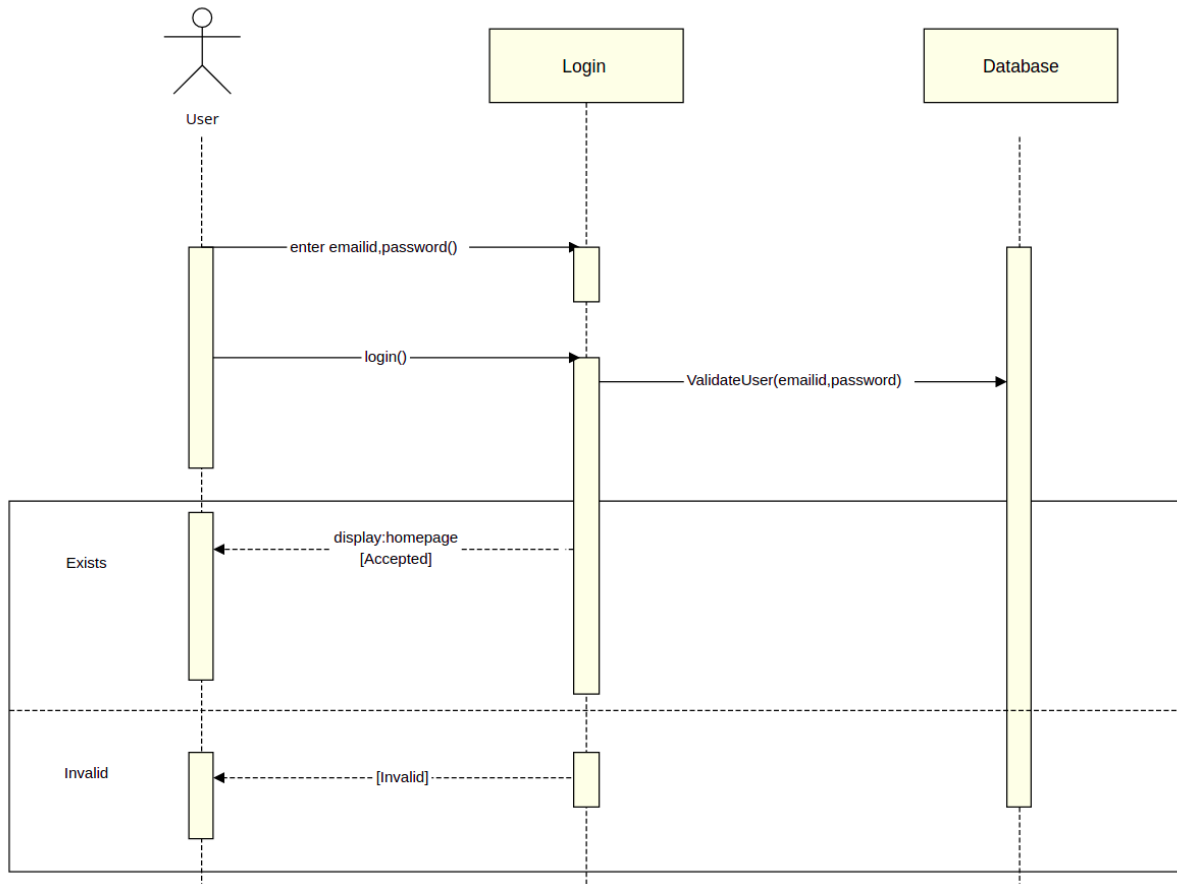


3.2 Class Diagrams

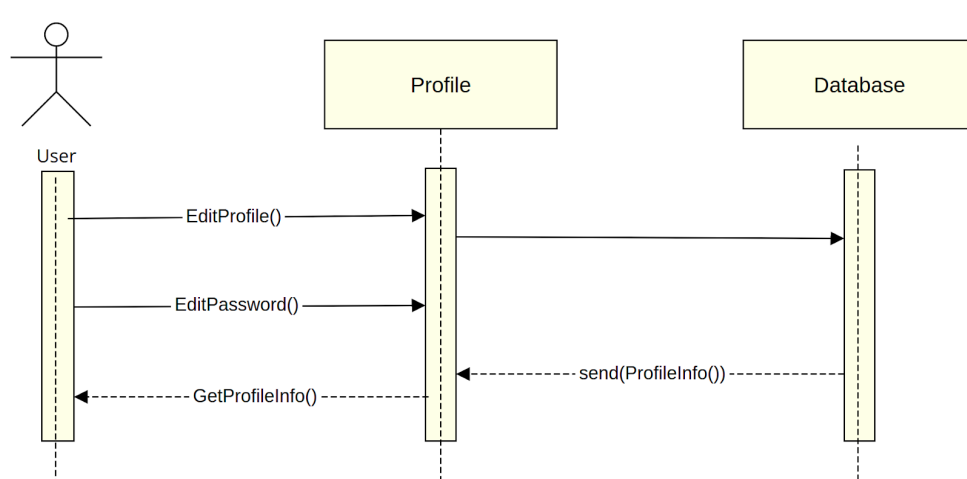


3.3 Sequence Diagrams

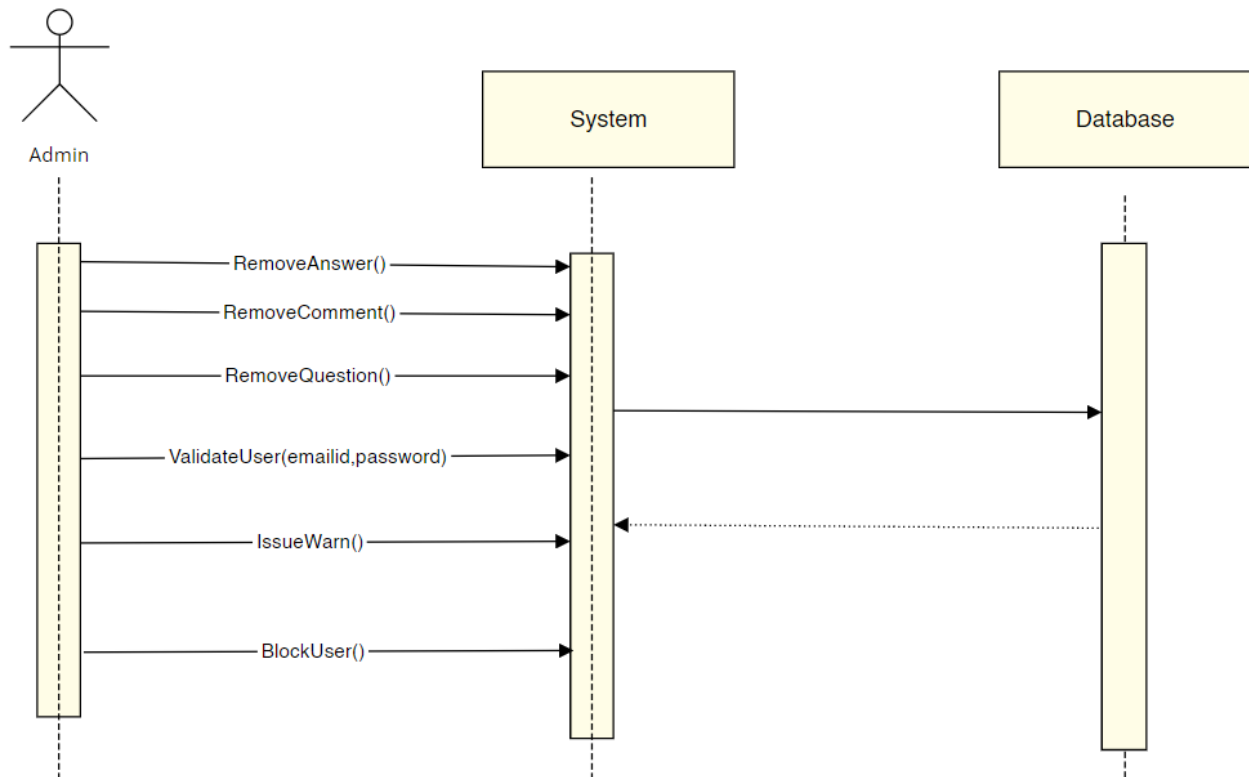
3.3.1 Authentication



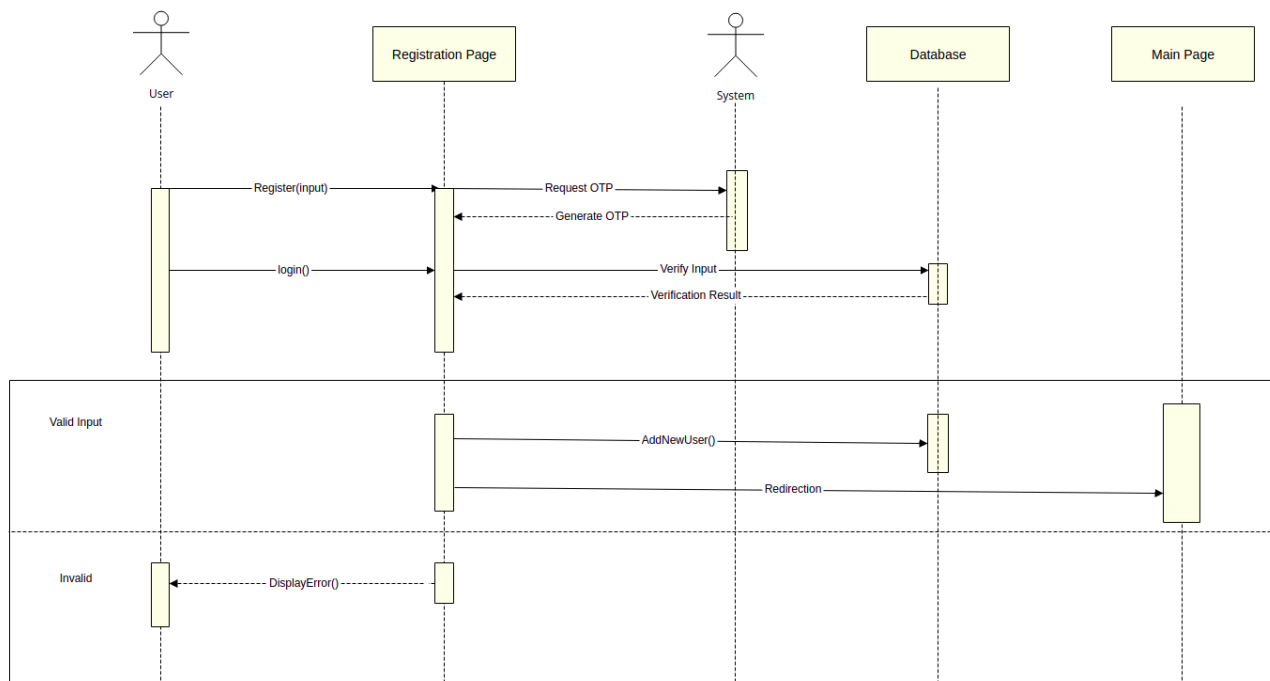
3.3.2 Edit Profile



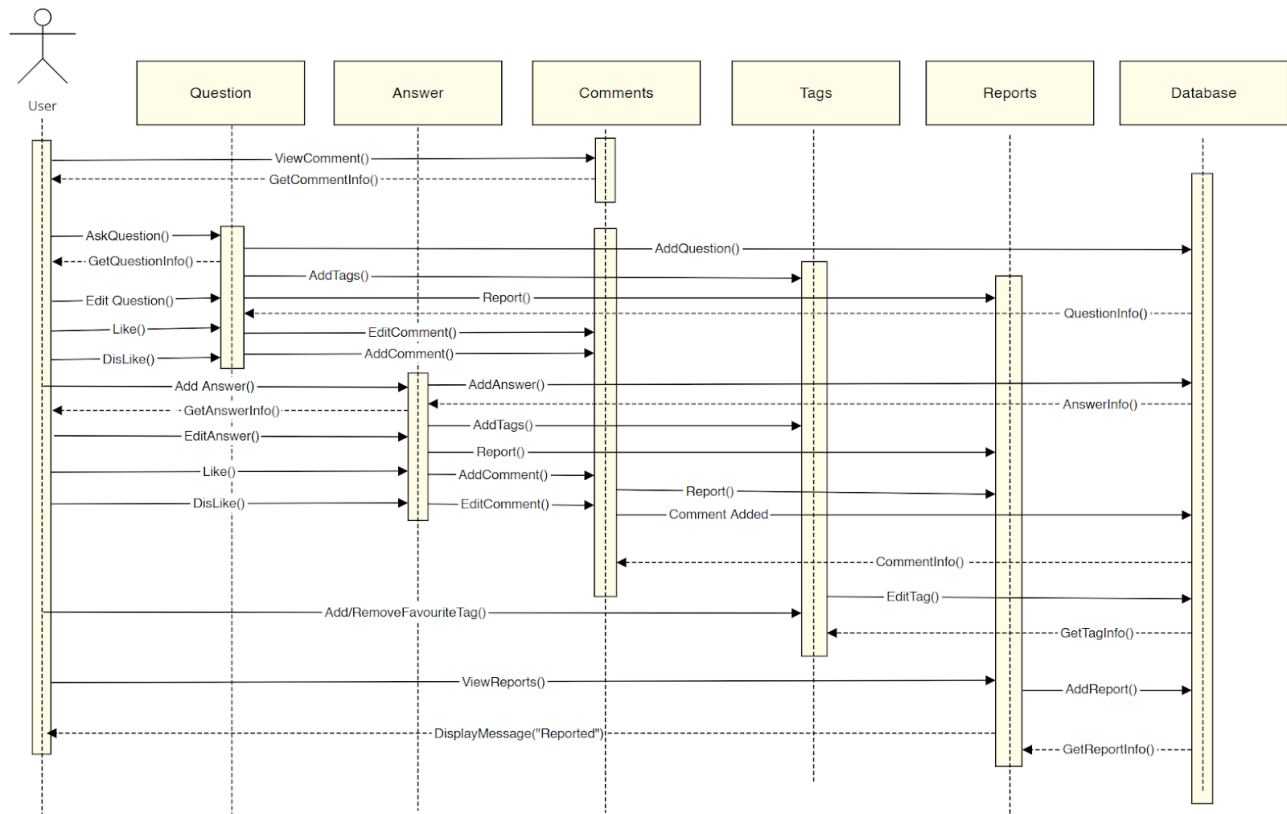
3.3.3 System-Admin Interaction



3.3.4 User Registration

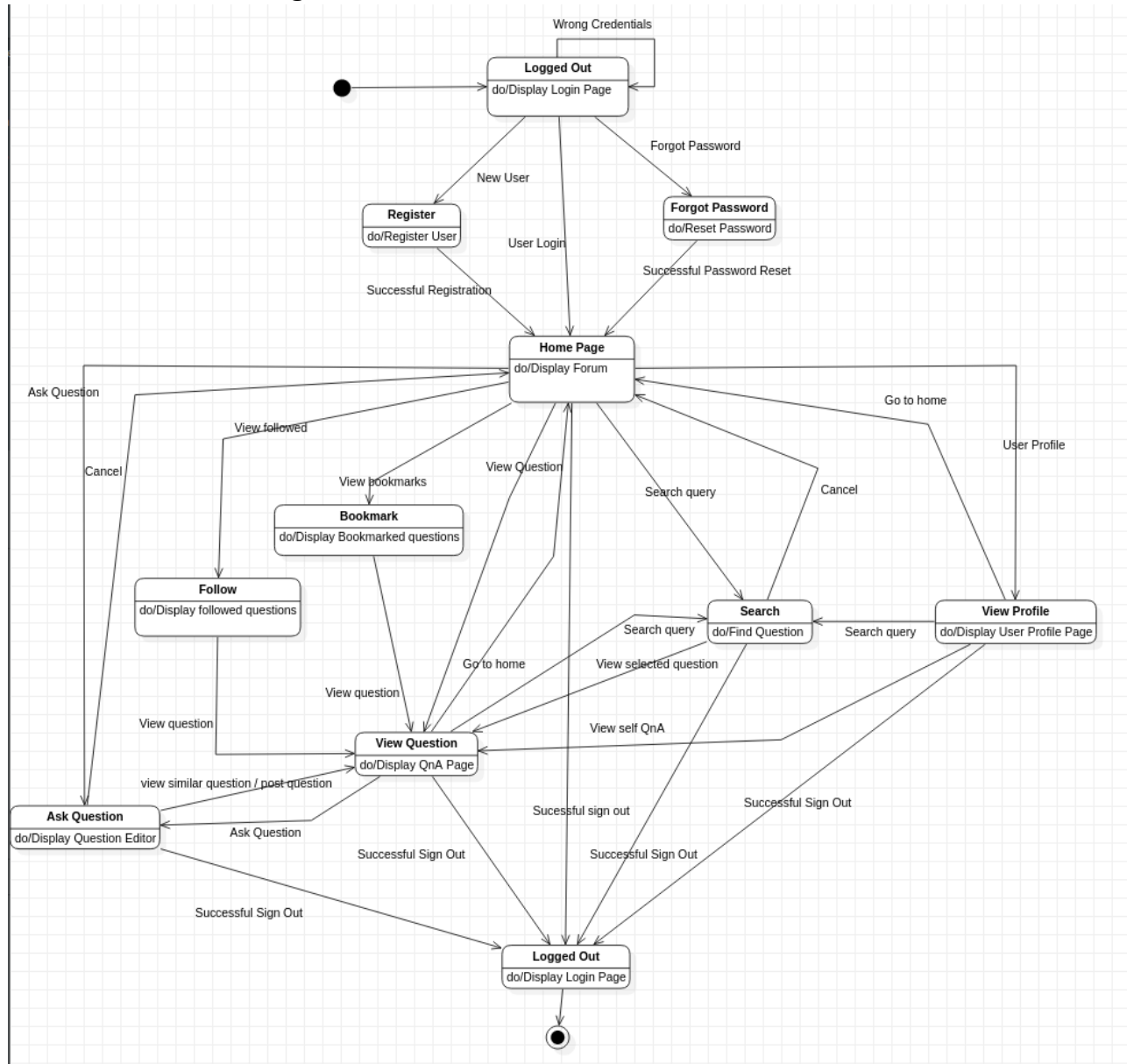


3.3.5 User-System Interaction



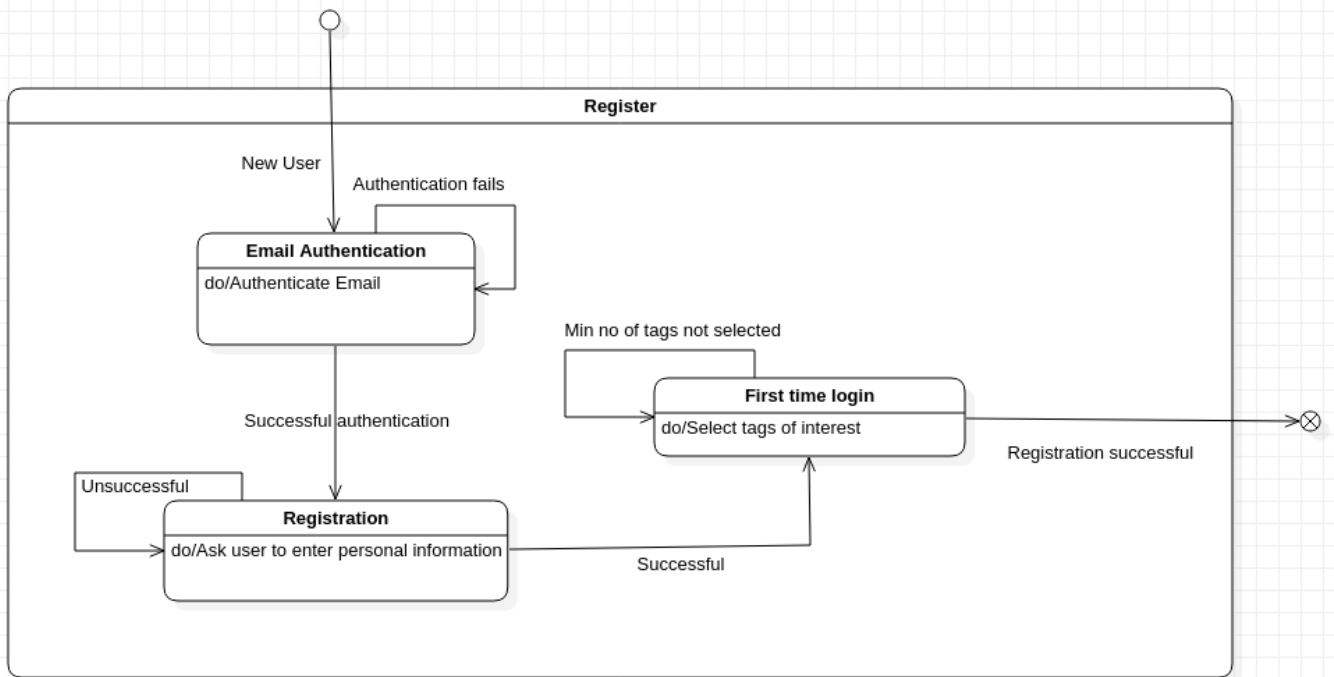
3.4 State Diagrams

Overall State Diagram

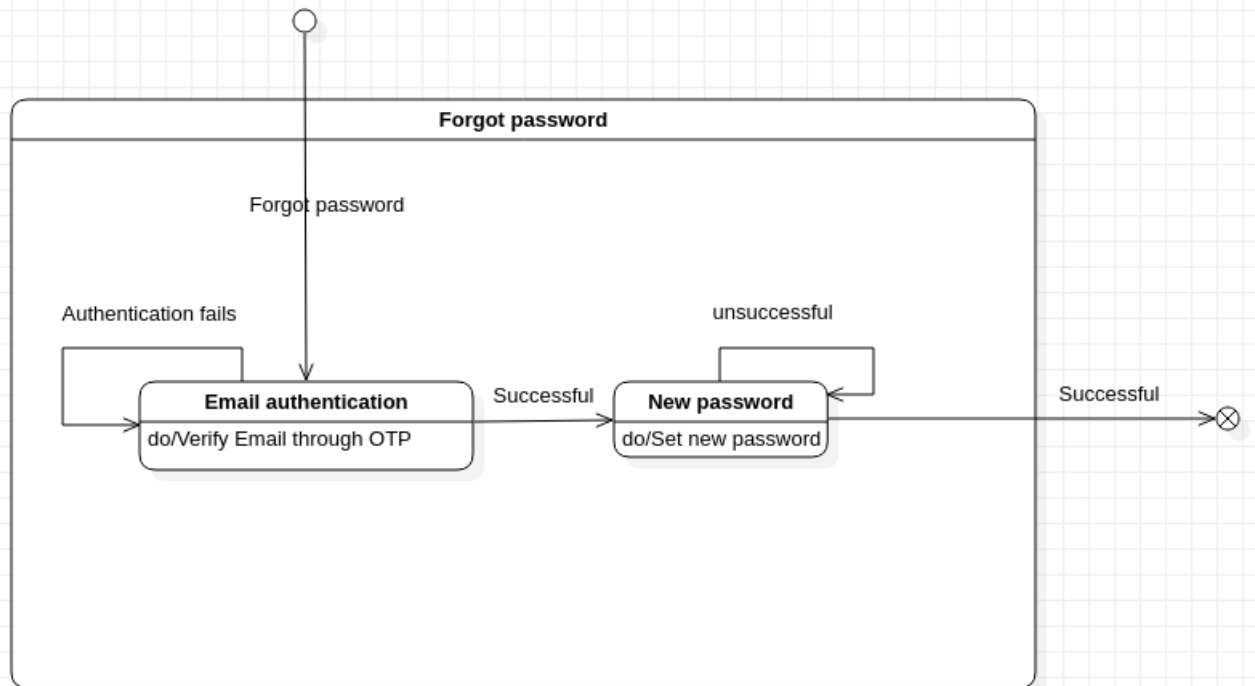


Note:- Here we have stated two Logged out states to simplify the state diagram.

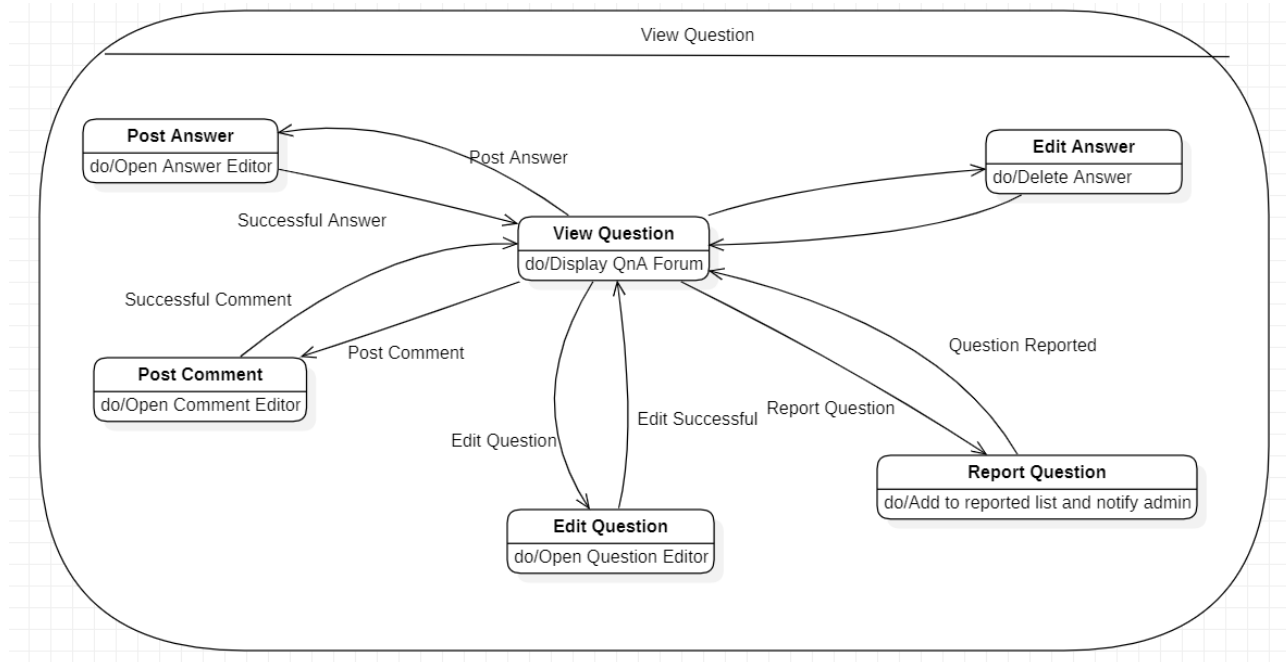
Registration



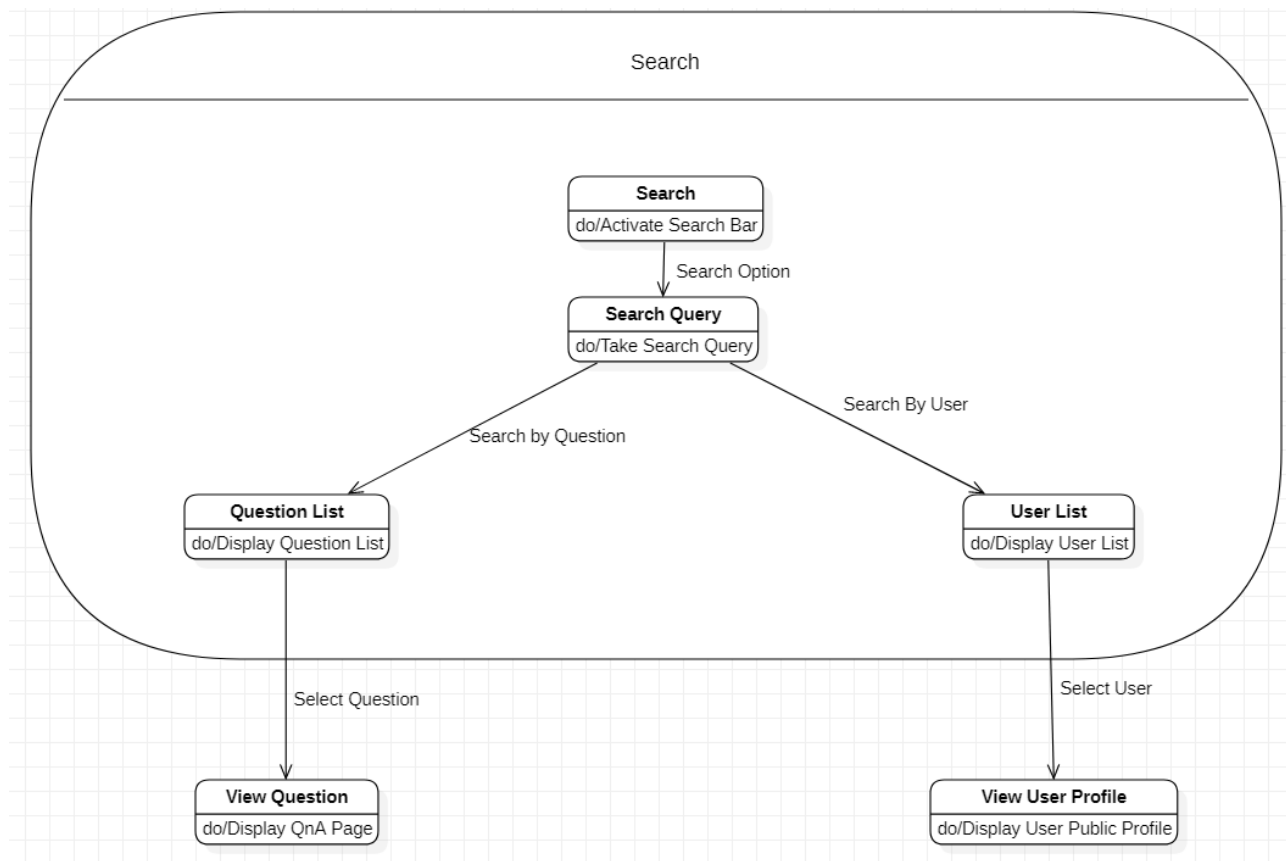
Forgot Password



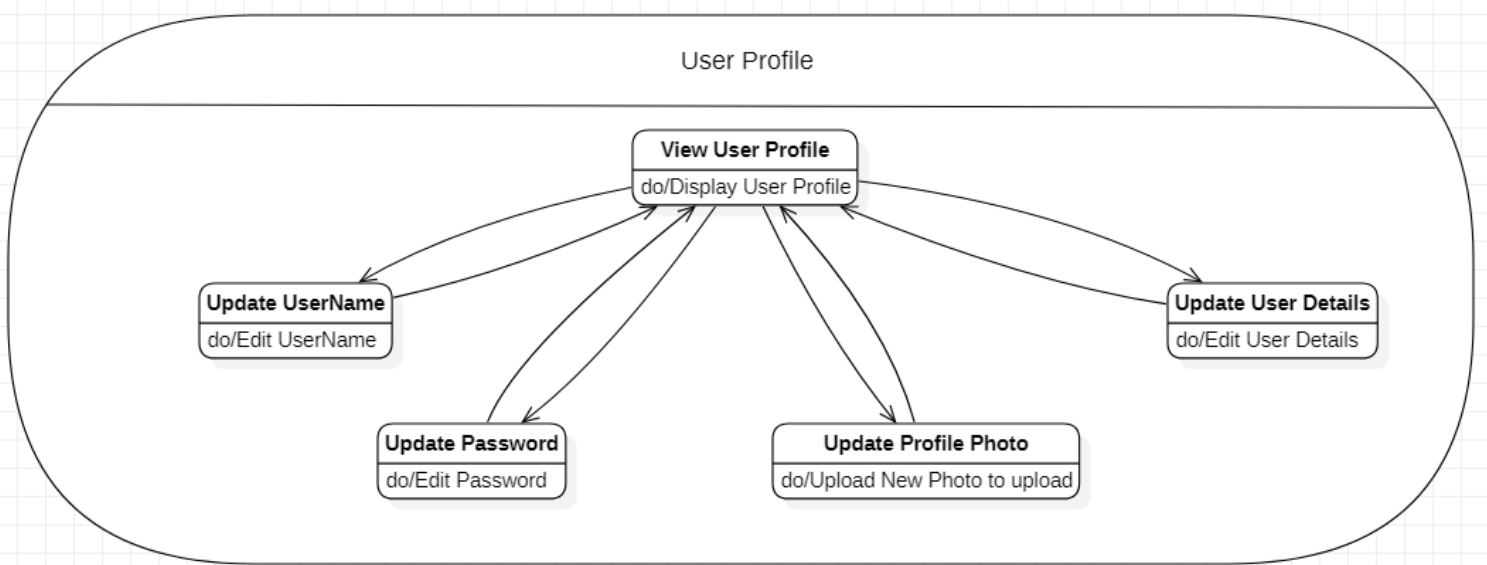
View Question



Search

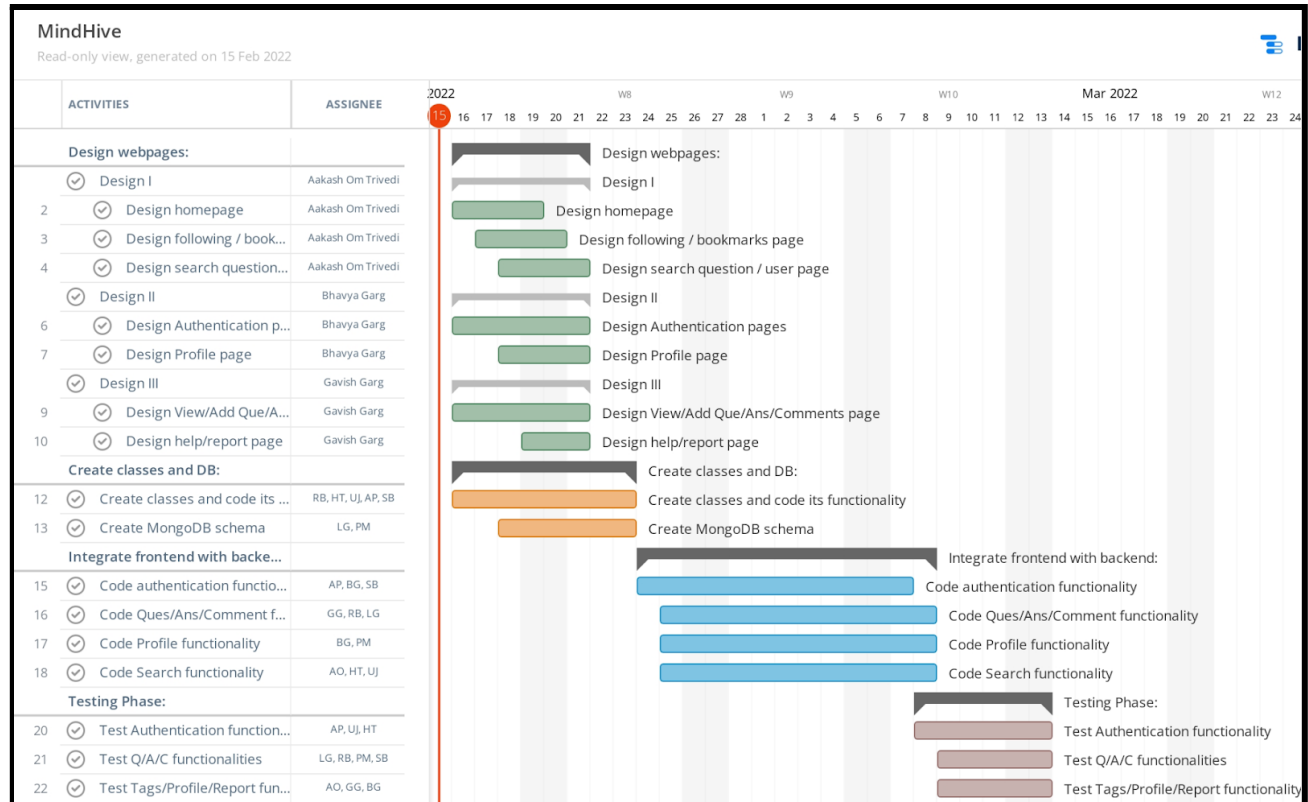


User Profile



4 Project Plan

Gantt Chart



Initials:

RB - Rishav Bikarwar
 AP - Adi Pratap Singh
 BG - Bhavya Garg
 GG - Gavish Garg
 LG - L Gokulnath
 UJ - Ujwal Jyot Panda
 HT - Harsh Trivedi
 AO - Aakash Om Trivedi
 SB - Sahil Bansal
 PM - Parth Maniar

Appendix A - Group Log

MEET DATE	TOPIC DISCUSSED	DURATION
5 January 2022	We discussed the topic that we can choose and about the things that we have to learn in the process.	90 minutes
11 January 2022	We finalized 2 topics and then discussed pros and cons of both, and made our final project choices.	120 minutes
14 January 2022	We started working on the features of the project and everyone gave their ideas.	120 minutes
14 January 2022	We had a meeting with the professor to ask some doubts.	60 minutes
21 January 2022	We made the UI of our product roughly so that it is easy to see what we have to make and what are the features.	120 minutes
23 January 2022	It was our first meeting with our TA so we asked some doubts in SRS and also he gave some valuable tips.	90 minutes
25 January 2022	We divided the team for different parts of the SRS and have several meetings within groups	90 minutes
26 January 2022	Meet to combine the work of different persons and cleared each other doubts	180 minutes
27 January 2022	Meet with TA to clear the doubts in SRS.	30 minutes

30 January 2022	Final meet before SRS submission	60 minutes
3 February 2022	Go through the template to get a basic understanding	60 minutes
8 February 2022	Made the work distribution plan for the all diagram	90 minutes
13 February 2022	Meet with TA to clear our doubts	60 minutes
14 February 2022	Meet to make the plan for the implementation	90 minutes
15 February 2022	Final meet before design submission	60 minutes