

Software Requirement Specification

Course: Information System Design and Analysis

Course Code: CSE347

Section: 1

Submitted To -

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Section 1

Introduction

The name of our app is 'ZarCode'. It is a tech interview preparation app and a forum for Bangladeshi current and aspiring software engineers. Here Engineers can post about their interview experiences, have tech discussions, and prepare for their technical interviews. Our app is exceptional because there is no other tech interview preparation app for candidates who want to get into the tech companies of Bangladesh.

Problem Definition:

There is no all-in-one platform in Bangladesh where aspiring software engineers can get to know about the interview process of different tech companies of Bangladesh.

So, we are trying to solve this problem by making an app where candidates of Bangladesh can share their interview experiences and ask about any interview related queries so that they can get prepared to get into tech companies in Bangladesh. We are trying to reduce the gap between candidates and interview procedures and experiences of tech companies.

Motivation:

Since there is no central platform in Bangladesh where candidates can prepare for their interviews for tech companies so we were motivated by this situation to create an app where all aspiring candidates from all over Bangladesh can get to know about the interview process, ask about their queries and get prepared for their technical interviews.

Challenges:

Building such an app comes with both project and product related challenges.

Project Challenges

1. Our project has a set deadline. So, to complete the project in that deadline while learning new skills constantly and applying them is a challenge.
2. As this is a team-based project, communication and managing the team is another challenge.
3. There are several risks associated with any project such as – technology change, unwanted errors etc. So, risk management is also a challenge.

4. After completing the project and deploying it, convincing people to use the website and gaining their trust will also be a challenge.

Product Challenges

1. Building this kind of project requires a sufficient amount of technological skill and acquiring the skill and applying them to a real-world problem like this requires time and effort. And this is the first challenge for us.
2. We are building this product to be a secure and efficient platform and to achieve that is also a challenge.

Section 2

Non-Functional Requirements

Security Requirements

1. User Registration with Email activation and strong password requirement.
2. Login system with JWT authentication.
3. A user cannot access any URL of the website without logging in.
4. A user cannot post anything without logging in.
5. A user cannot edit or delete another person's post or comment.

Product Requirements

1. The product should have a category-based search option so that users can search by post title, text, or author to find their relevant posts and/or questions.
2. The product should have post filtering so that users can easily see the type of posts they want to see and avoid distractions.
3. The product should be able to handle a reasonable number of user base.
4. The product should have an easy to understand and intuitive UI.

Efficiency Requirements

1. The website should load up faster for a good user experience.

Section 3

Functional Requirements

Sign up and Login:

After a user sign into our app with required information, an account will be created for the user. The account will have these information about the user –

- Username
- Password (Hashed)
- The user's email address

After the account has been created, an email will be sent to the user for activating their account. After the user has clicked on the link in the email, their account will be activated. After that, they can log in to their account using their username and password.

User Profile:

After logging in the user can create their profile.

The profile will have -

- Name
- An Image of the user
- A cover photo
- Where the user works
- Where the user lives

The user can also update their profile anytime they want.

The profile page will also contain the user's previous posts and a option to create new post from the profile page.

Posting and Commenting:

In our app, a user can post about their interview experiences, queries about interviews, memes, and general discussions. We divide the postings into three categories. The categories are -

- Interview Experiences - Users can post about their interview experiences with the name of the company that they interviewed at. Here they will describe their interview experience, the procedure of interview at that company, the interview timeline, the types of questions asked in the interview.
- Queries about Interviews - Users can post in our app if they have any questions or queries about the interview procedure of a specific company. They might want suggestions about their preparation or ask any specific questions.
- Memes and General Discussion - In this category users can have general discussions and fun about software engineering and interview processes in general.

Users can comment under any of the posts and interact with each other.

Users can also edit their posts and comments. They can also attach images with their posts or comments if they want.

We have also implemented a like/upvote/bump system for every post and comments in our app. The bump is a representation of the popularity of the post.

Section 4

Technologies

Programming Language: Python, JavaScript

Database: SQLite3

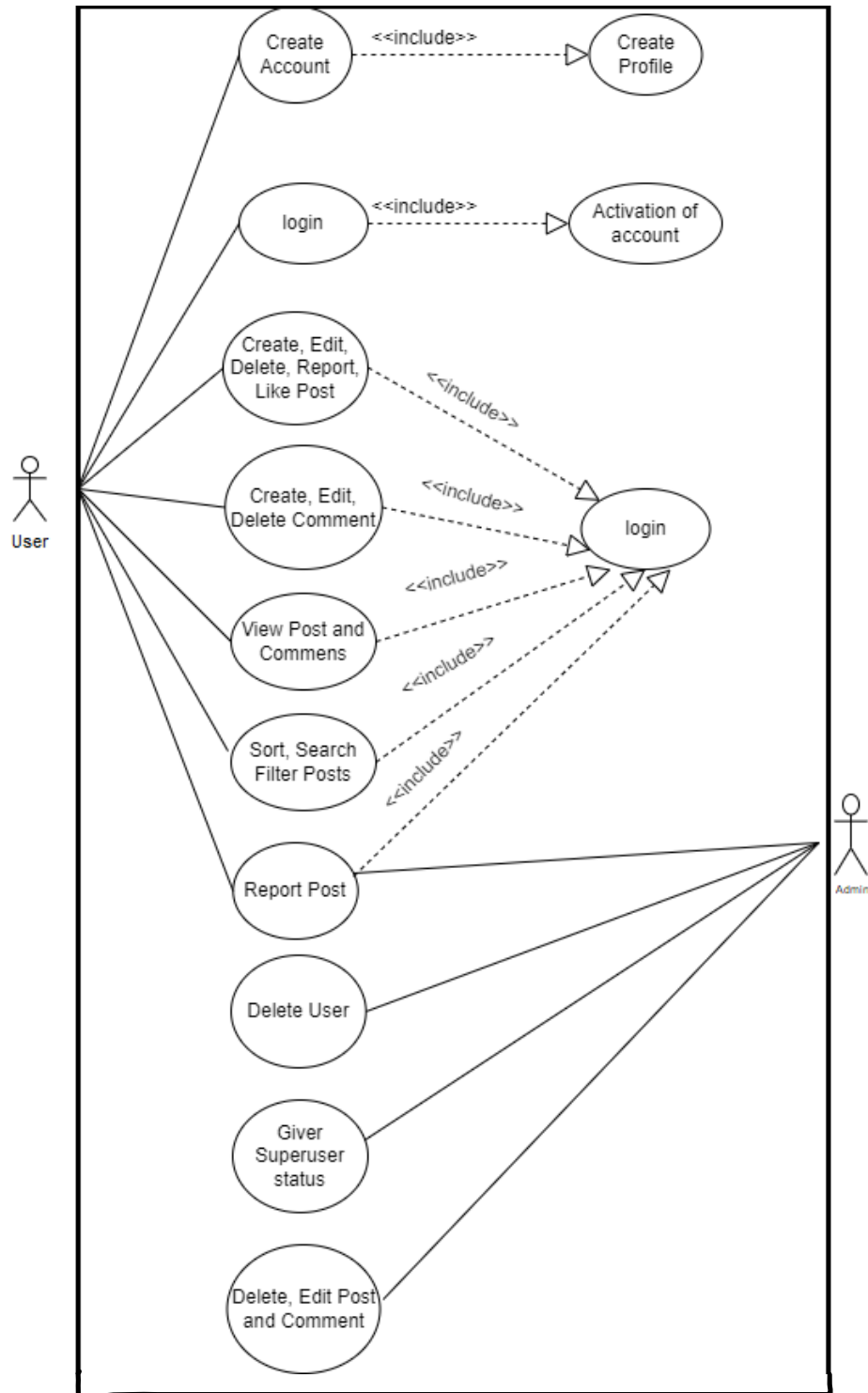
Framework: Django, ReactJS

Web Design: Html, CSS, Bootstrap

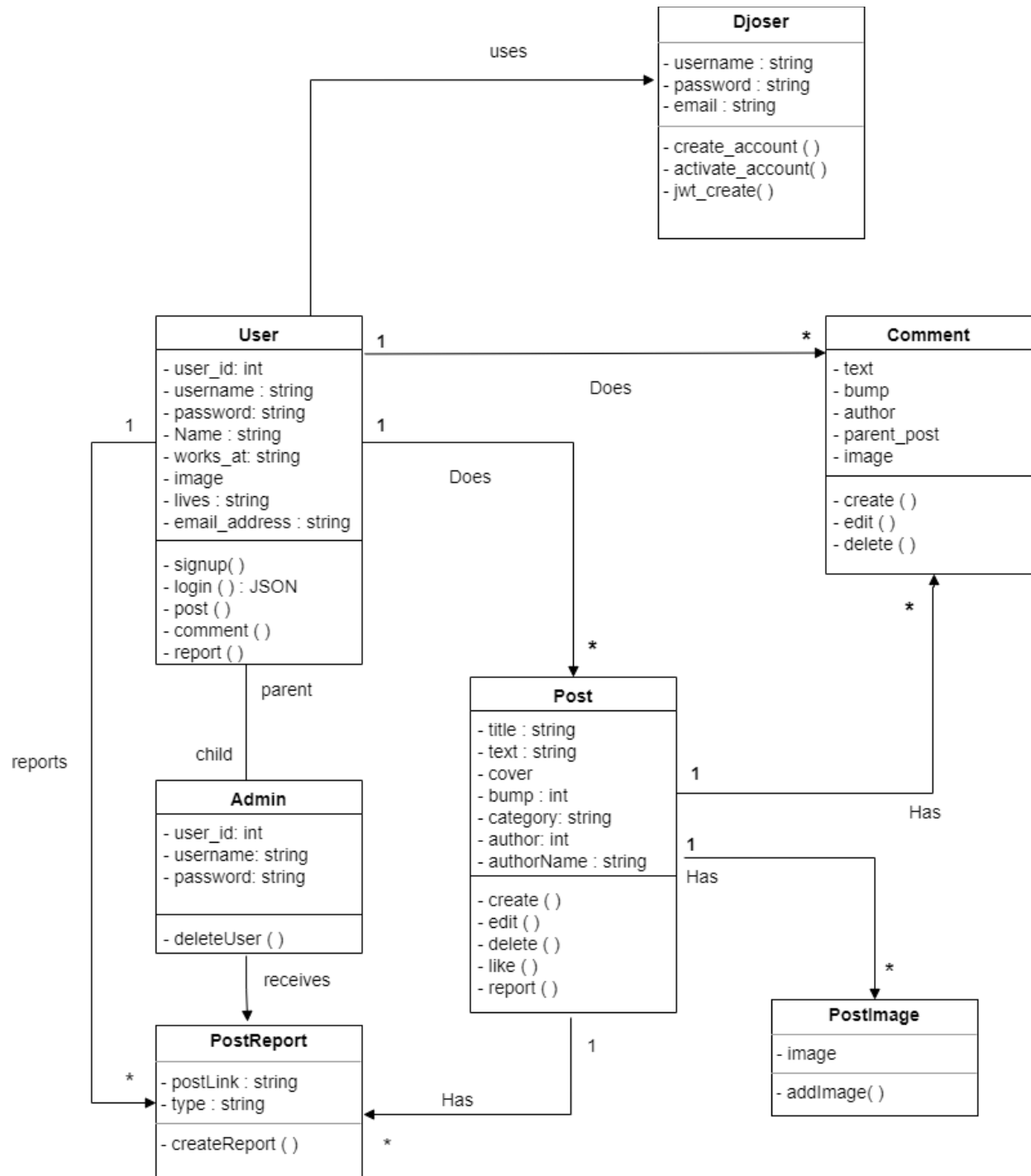
API: Django REST Framework

Design Diagram

Use case Diagram

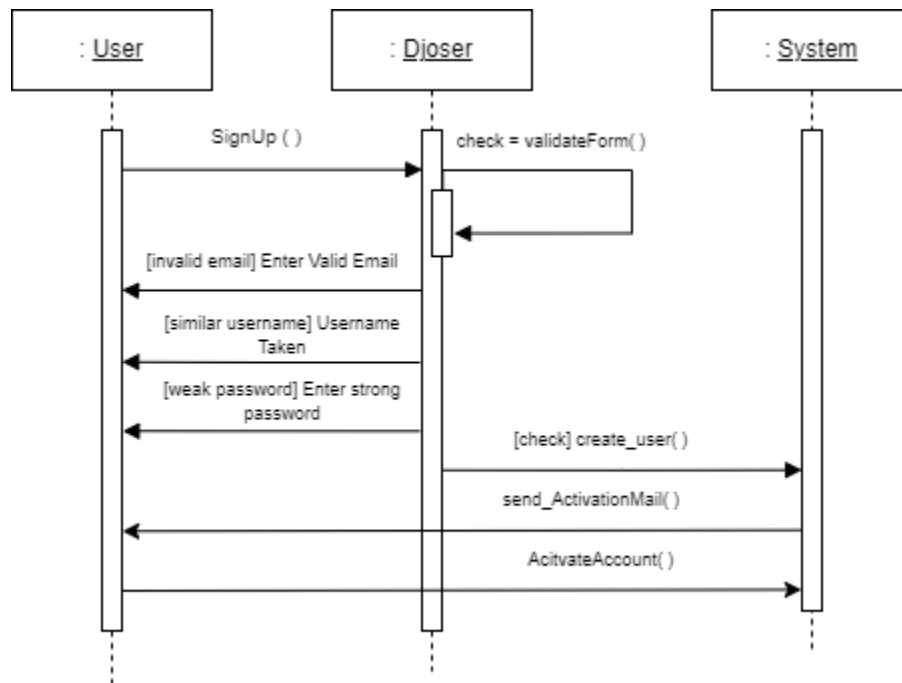


Class Diagram

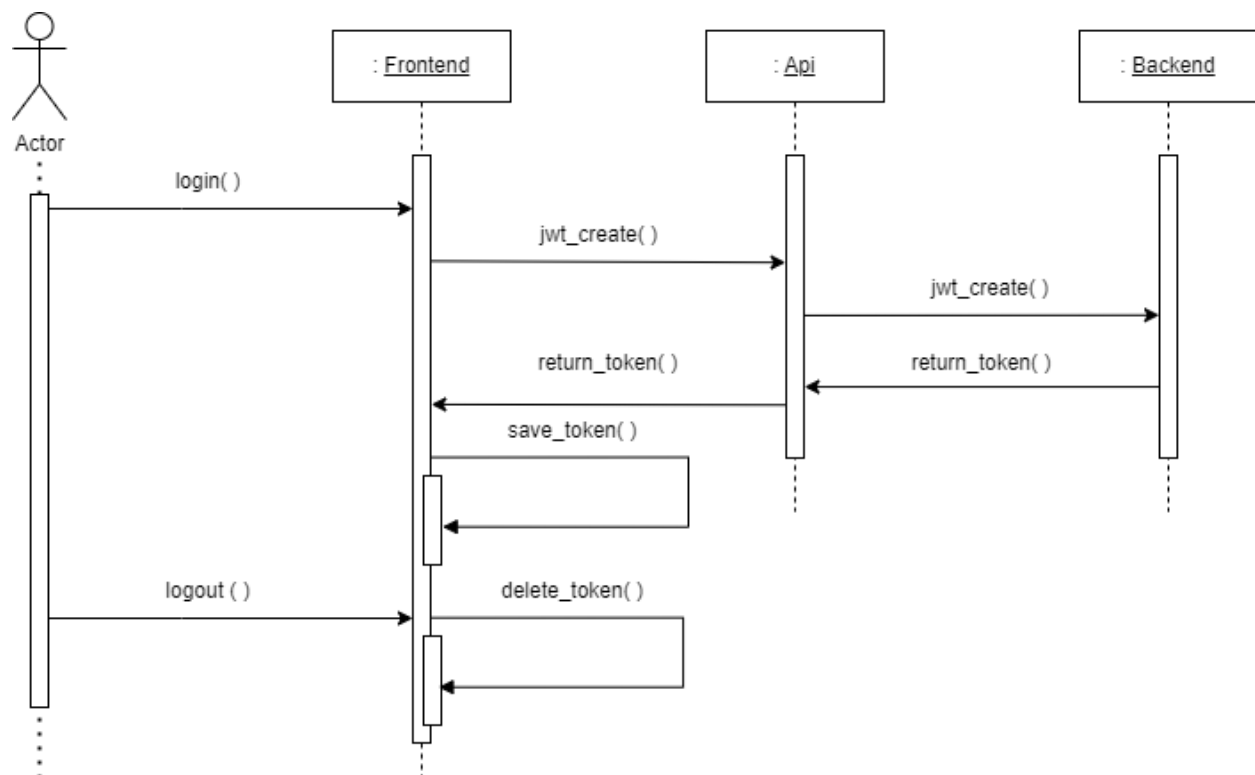


Sequence Diagram

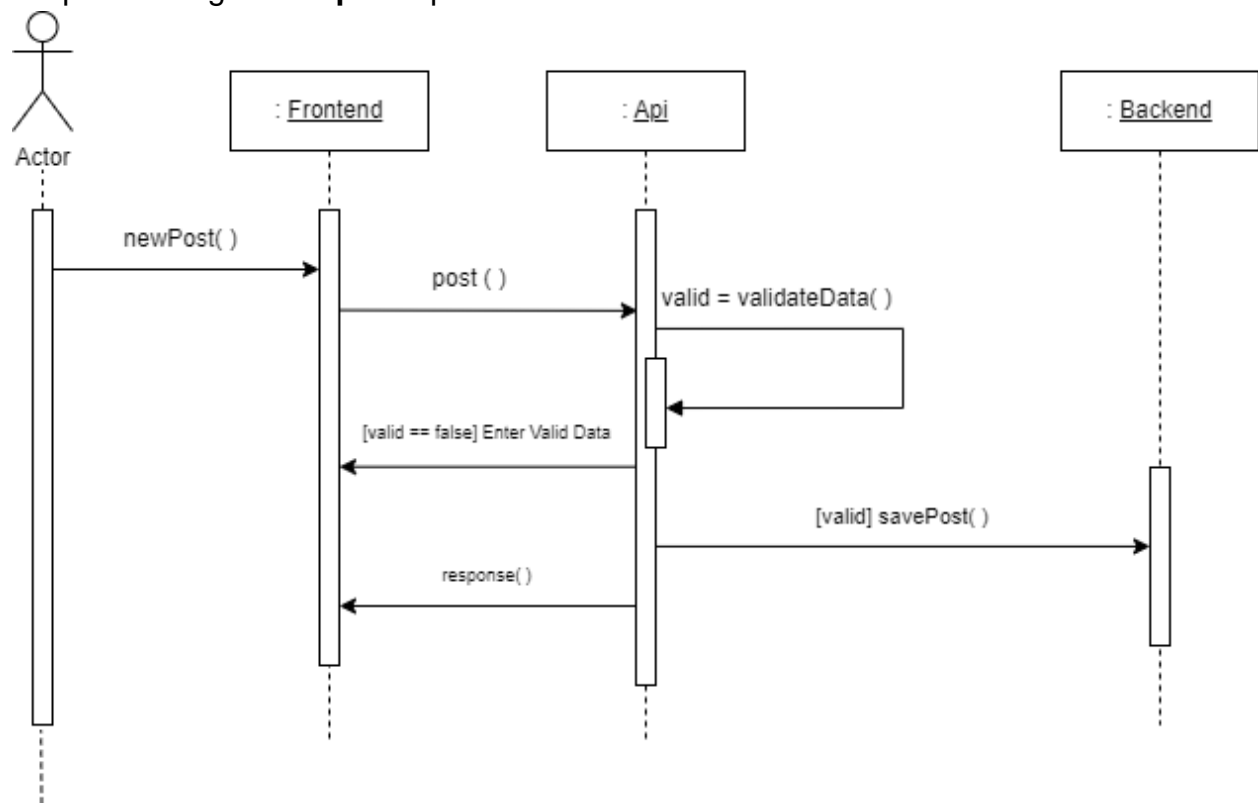
Sequence diagram for **sign up** operation –



Sequence diagram for **Login** operation –



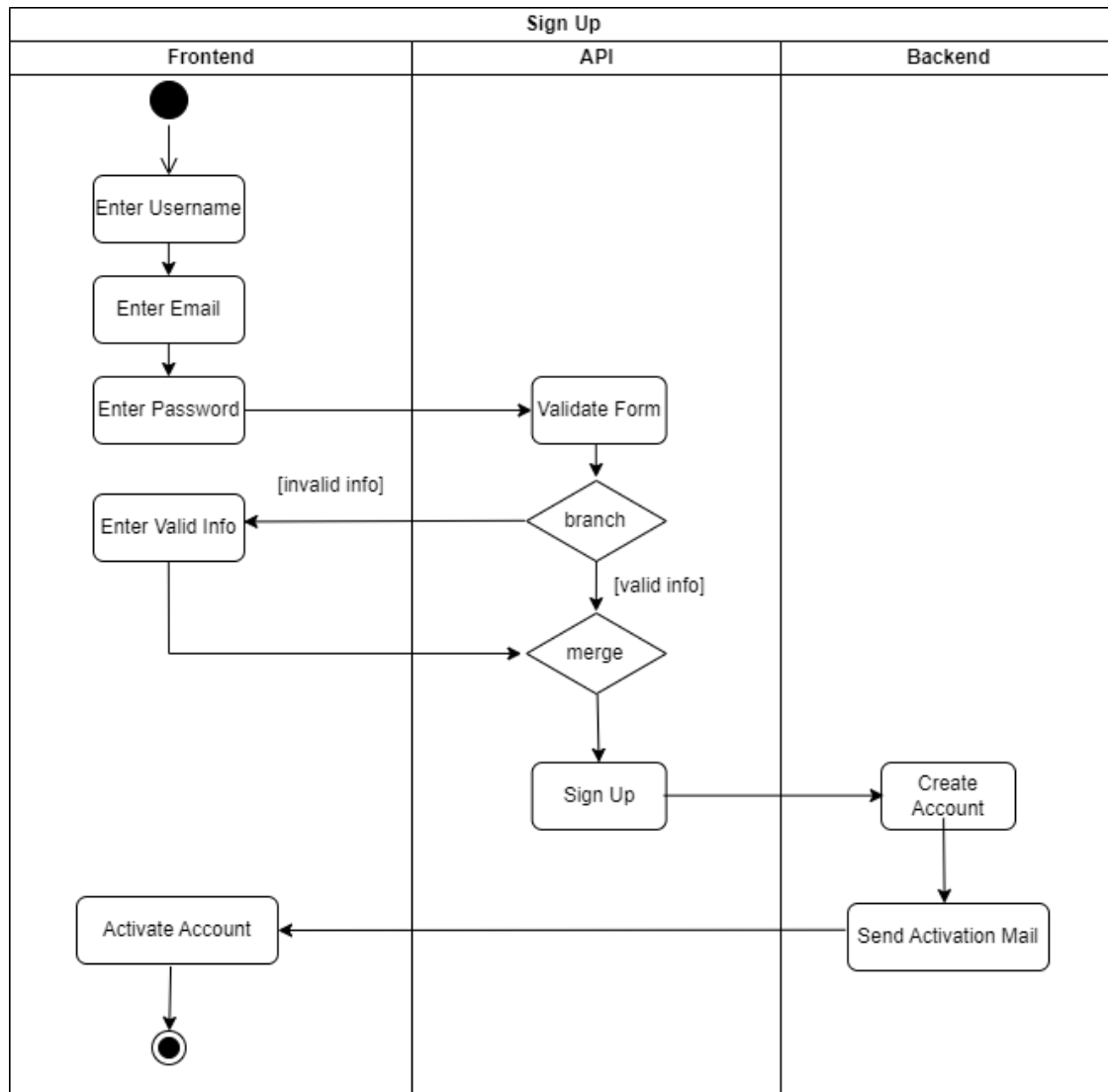
Sequence diagram for **post** operation



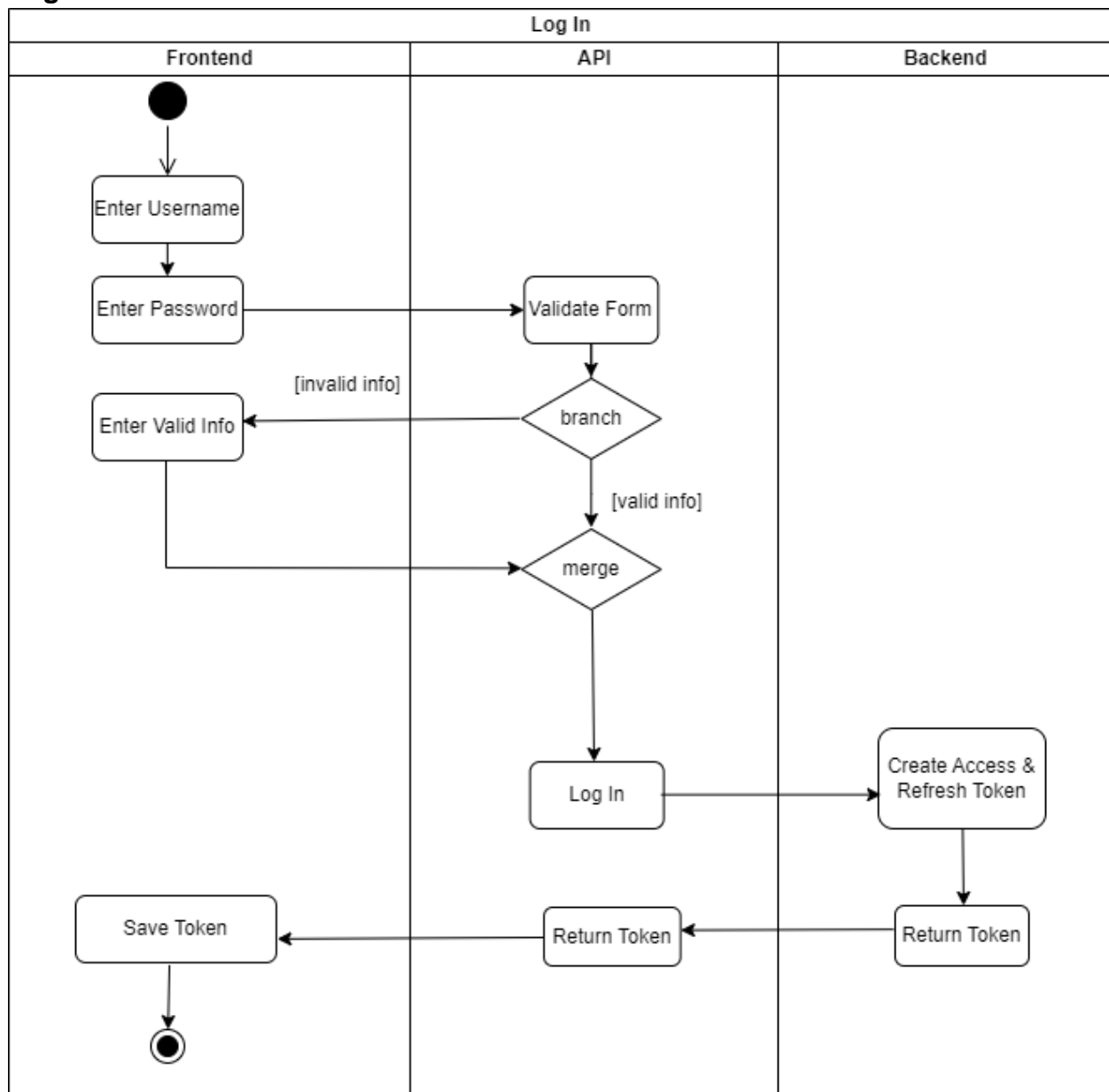
There are other operations in our app that can be shown through sequence diagrams like this but here we are presenting just a few.

Activity Diagram

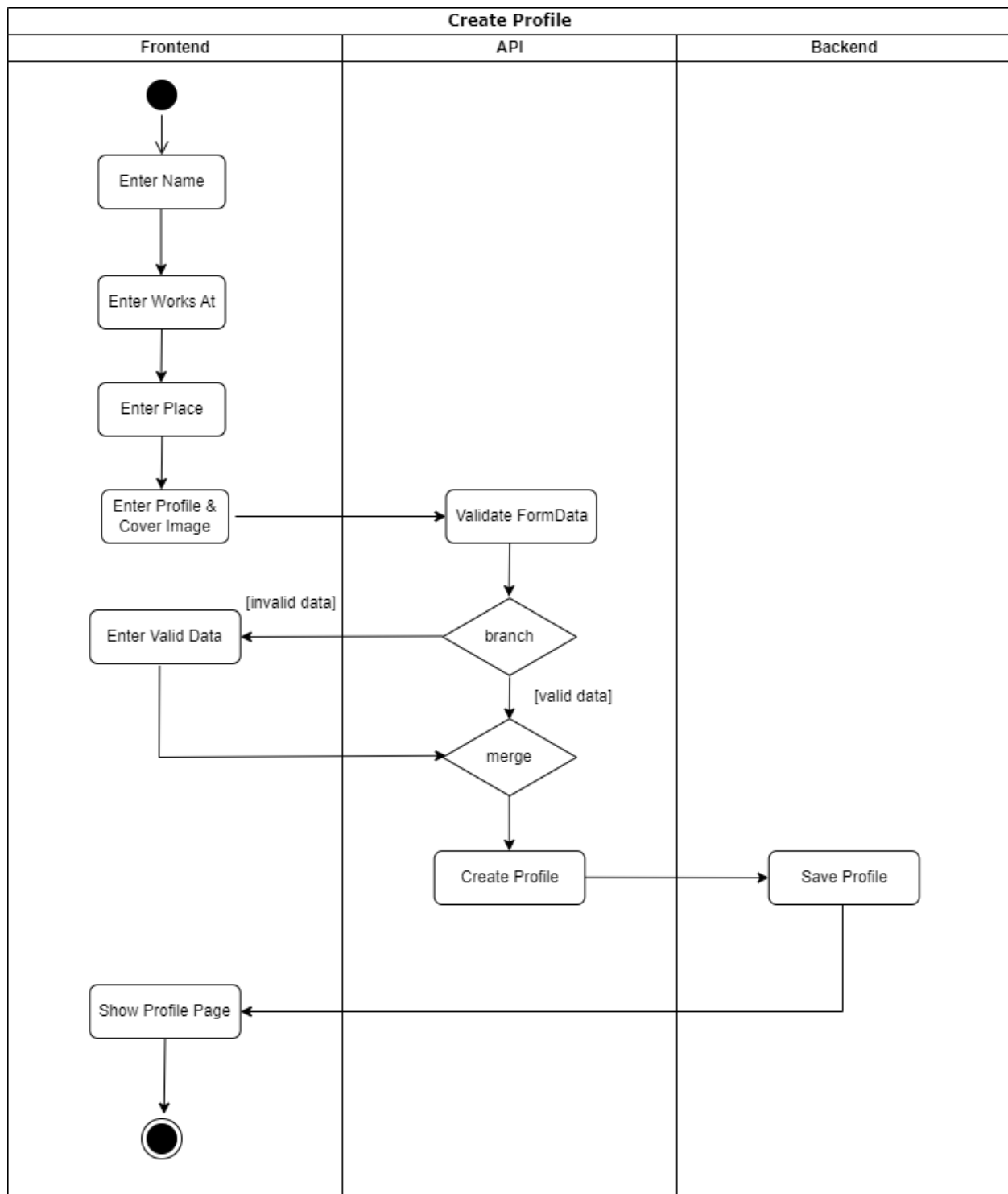
Sign Up –



Log In –

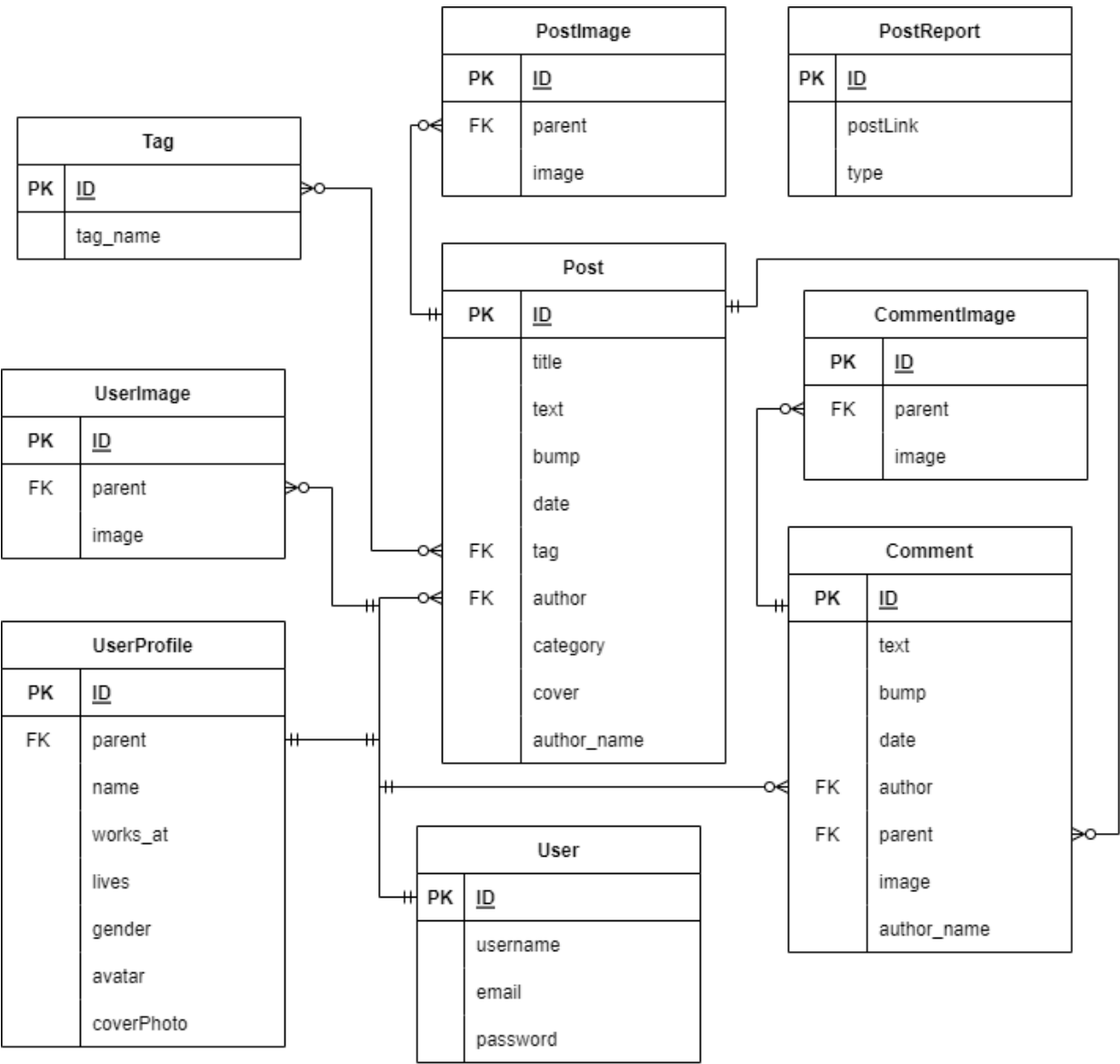


Profile Creation –



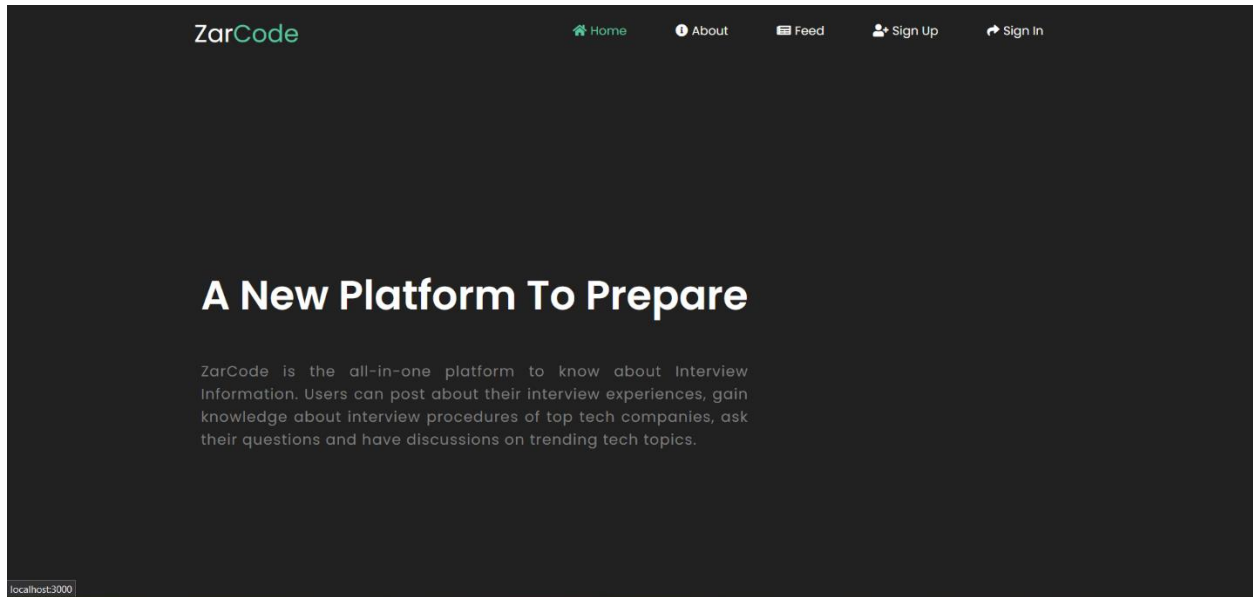
There can be more activity diagrams drawn from our project. But here we are just showing some of them.

ER Diagram

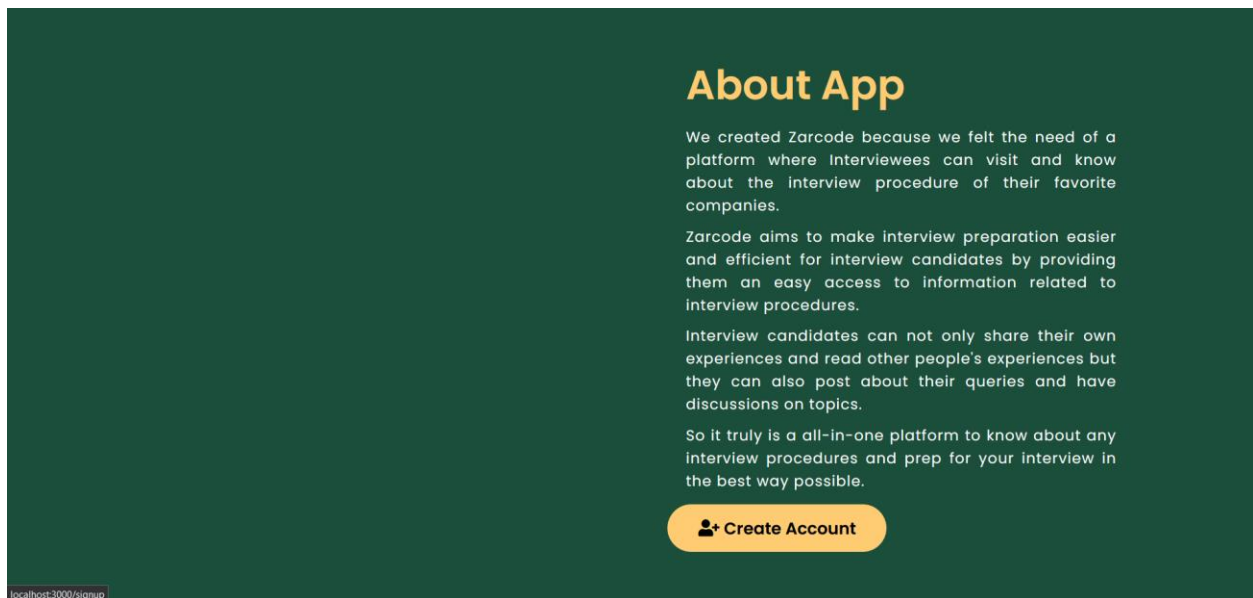


User Interface:

Home Page



About Page



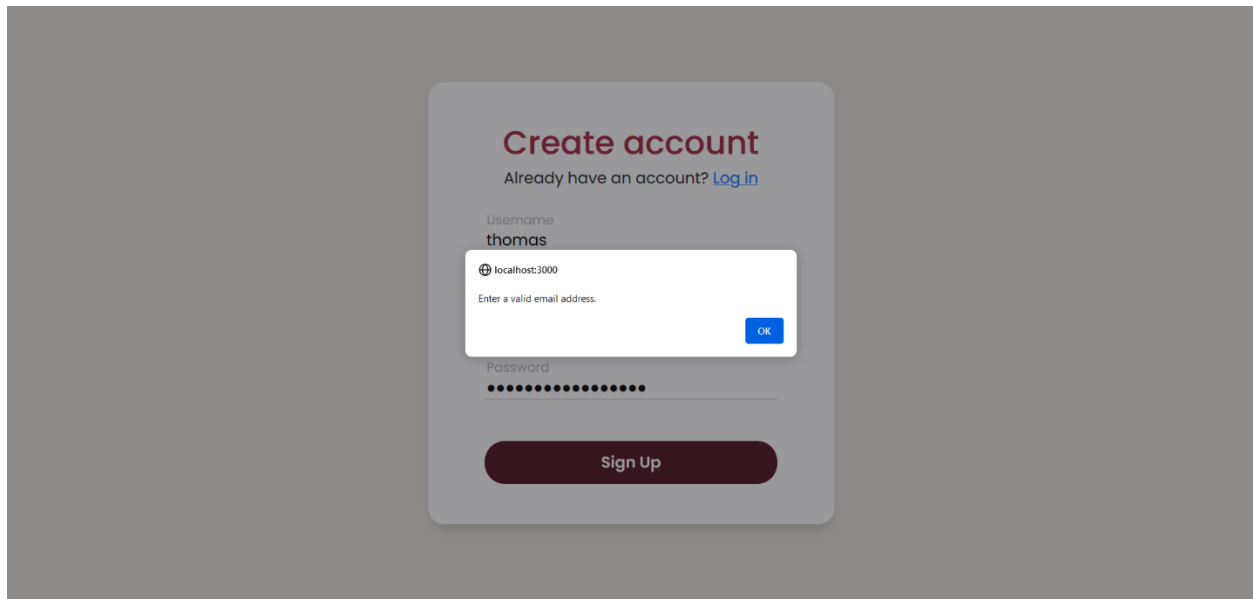
Sign Up Page

Form Validation in sign up page –

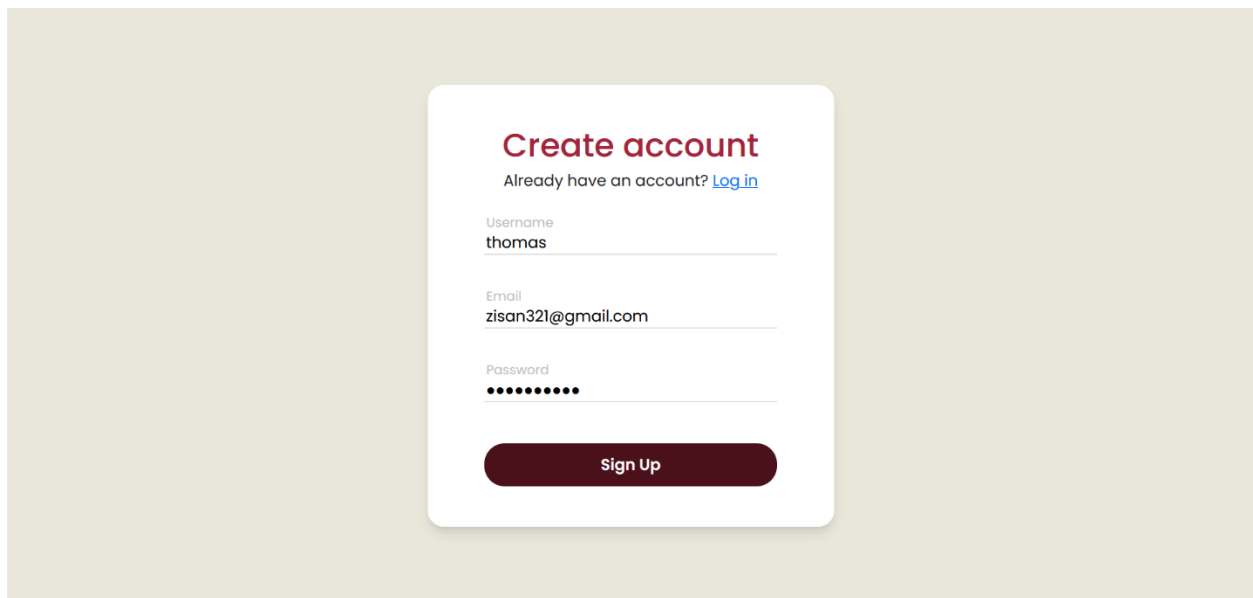
The image displays two screenshots of a 'Create account' form, illustrating different validation scenarios. Both screenshots show a form with a title 'Create account', a link 'Already have an account? [Log in](#)', and fields for 'Username' and 'Password'. A 'Sign Up' button is at the bottom.

Top Screenshot: The 'Username' field contains the text 'zisan'. A white error box is displayed, showing the browser's default message: 'localhost:3000' and 'A user with that username already exists.' with an 'OK' button.

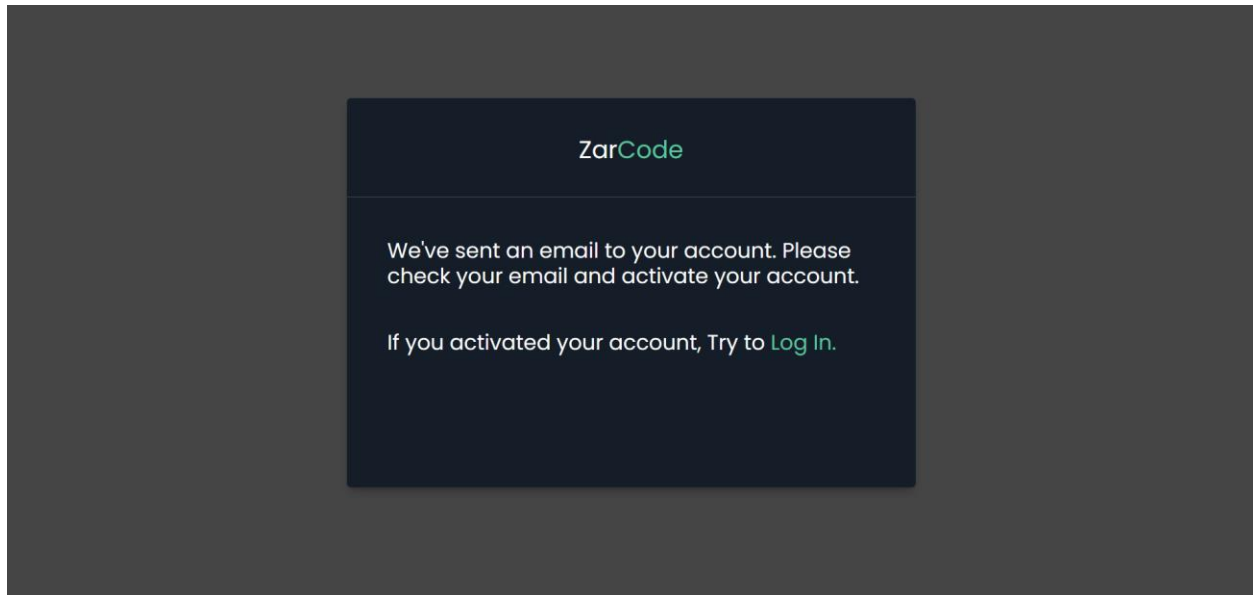
Bottom Screenshot: The 'Username' field contains the text 'zisan'. The 'Password' field contains eight dots. A white error box is displayed, showing the browser's default message: 'localhost:3000' and 'The password is too similar to the username. This password is too short. It must contain at least 8 characters. This password is too common.' with an 'OK' button.



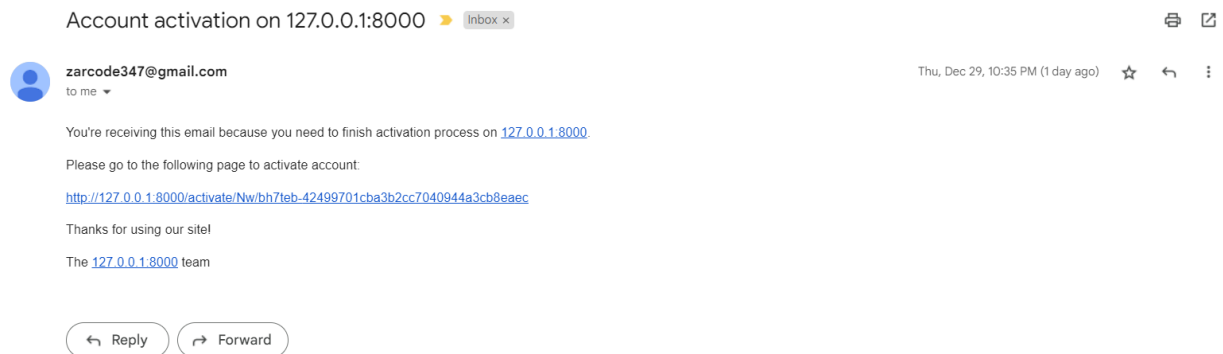
Sign up page after entering correct information –



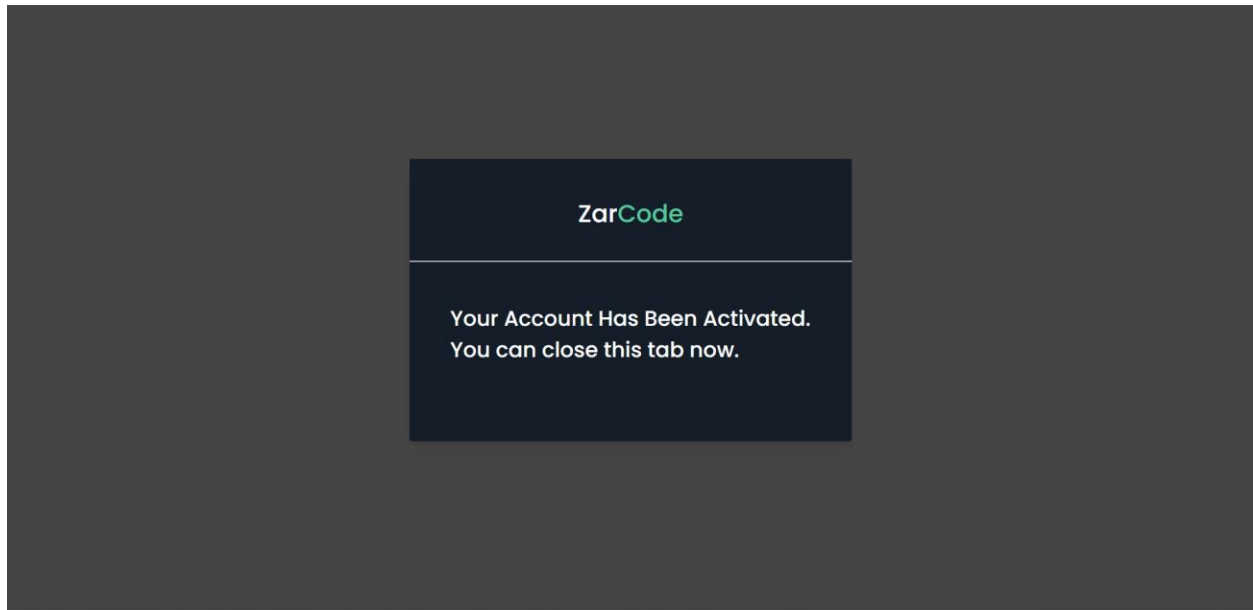
Activation Message Page



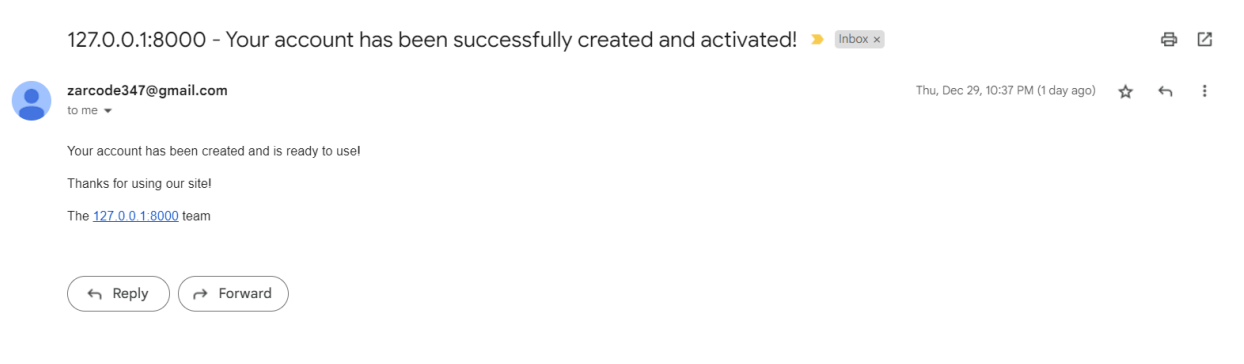
Activation Email



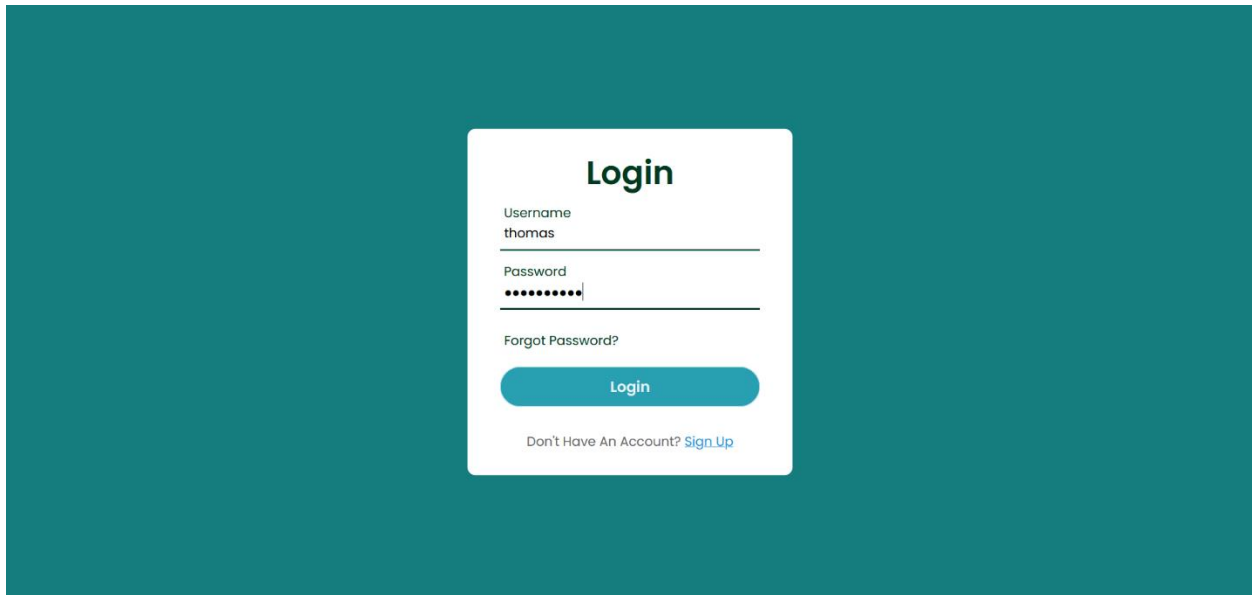
Activation Page



Activation Confirm Email



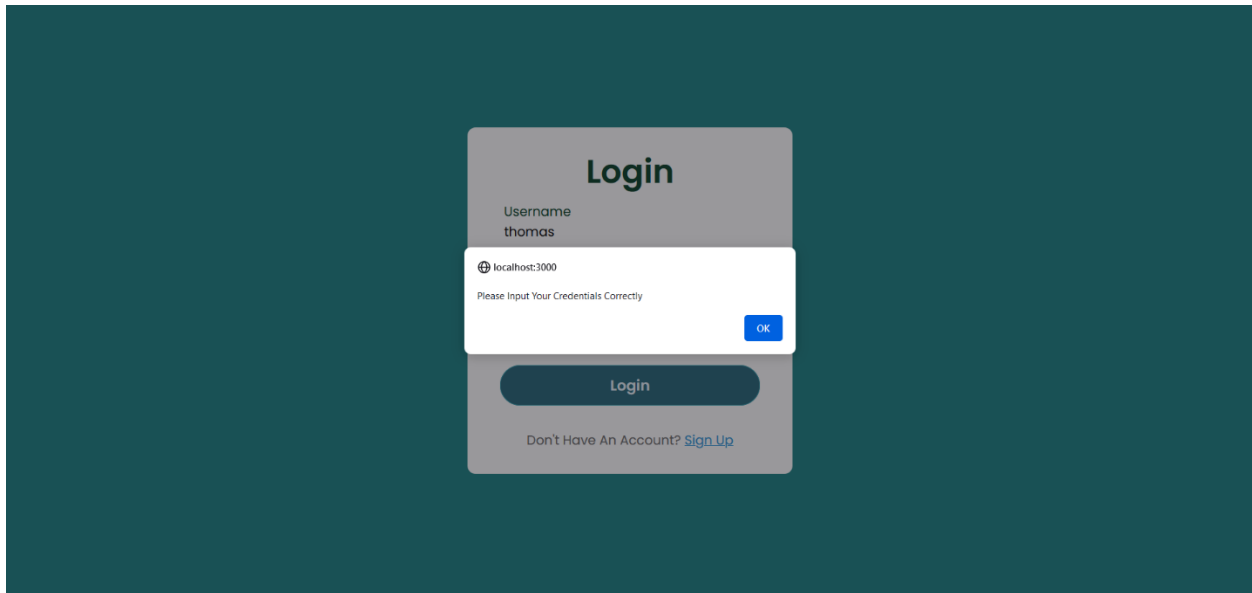
Login Page



A login form centered on a teal background. The form is white with rounded corners and contains the following elements:

- Login**: A large, bold title at the top of the form.
- Username**: A label above a text input field containing the text "thomas".
- Password**: A label above a password input field filled with ten dots.
- Forgot Password?**: A text link below the password field.
- Login**: A teal-colored button with rounded corners.
- Don't Have An Account? [Sign Up](#)**: A text link at the bottom of the form.

Login Page Form Validation



The same login form as above, but with a validation error displayed. The form is now on a dark teal background. A white error message box is overlaid on the form, containing the following text:

- localhost:3000**: A small icon followed by the text "localhost:3000".
- Please Input Your Credentials Correctly**: The main error message.
- OK**: A small blue button with the text "OK".

The login form elements are dimmed behind the error message. The "Login" button is now dark teal, and the "Sign Up" link is also dark teal.

Initial Profile Page

ZarCode

[Home](#)[About](#)[Feed](#)[Category](#)[Sort by](#)

thomas

[Log Out](#)

cover

@thomas

Create Profile

About

Works at

From

2020-1-60-103@std.ewubd.edu

Create new post

Enter Title

Enter Text

Image

Browse...

 No file selected.

Category

Questions

Post

Create Profile

Create Profile

Thomas Jhonson

Microsoft

Dhaka, Bangladesh

Gender :

Male

Upload Profile Picture:

Browse...

 profile photo.jpg

Upload Cover Photo:

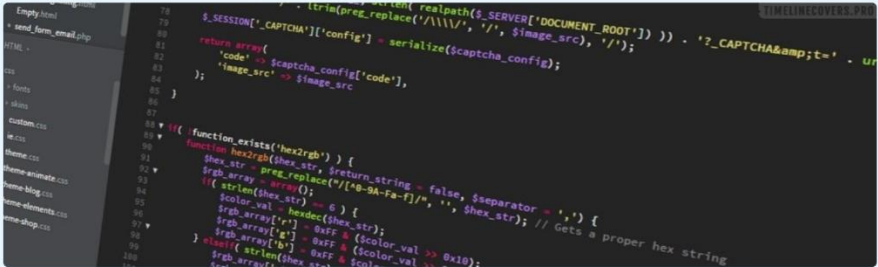
Browse...


 cvr photo.jpg

Create Profile

Profile Page after Creation

ZarCode[Home](#)[About](#)[Feed](#)[Category ▾](#)[Sort by ▾](#)[thomas](#)[Log Out](#)

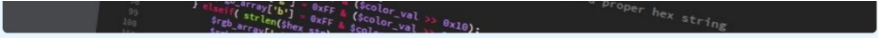



**Thomas Jhonson**
@thomas [Update Profile](#)

About
Works at Microsoft
From Dhaka, Bangladesh

Create new post

Create New Post option from Profile Page



**Thomas Jhonson**
@thomas [Update Profile](#)

About
Works at Microsoft
From Dhaka, Bangladesh
Male
2020-1-60-103@std.ewubd.edu

Create new post

Image No file selected.
Category
[Post](#)

Edit Profile

Edit Profile

Change Profile Picture:

Browse...

No file selected.

Change Cover Photo:

Browse...

No file selected.

Edit Profile

Post Feed with Search option

ZarCode

[Home](#)[About](#)[Feed](#)[Category](#)[Sort by](#)

thomas

[Log Out](#)

Create new post

Image

Browse...

No file selected.

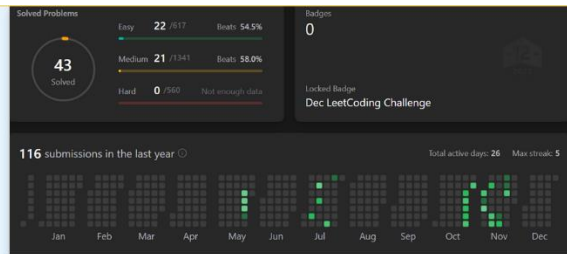
Category

Questions

Post

```
class Solution {  
public:
```

Post Page with Pagination Enabled



Today I Had An Interview At "Company X"

EXPERIENCES

Posted On - 2022-12-25T08:42:22.229711Z

Posted By - [rifa](#)

Likes - 2

[Read more](#) →

[Next](#) »



My Interview Experience At "Company Y"

EXPERIENCES

Posted On - 2022-12-25T09:09:21.791167Z


Posted By - [zisan](#)

Likes - 1

[Read more](#) →

« [Previous](#) [Next](#) »

Creating a new post from profile page



Thomas Jhonson

@thomas

Update Profile

About

Works at Facebook

From LA, USA

Male

2020-1-60-103@std.ewubd.edu

Create new post

This is a simple challenge to help you practice.

Python is an interpreted, dynamic programming language that allows us to execute statements individually and see their results. In other words, you don't have to write and compile an entire program to see the results of your code like you would in some other languages like C++ and Java.

Image

Browse...

post top.png

Category

Questions

Post

Editing the Post

Edit Post

This is a simple challenge to help you practice.

Python is an interpreted, dynamic programming language that allows us to execute statements individually and see their results. In other words, you don't have to write and compile an entire program to see the results of your code like you would in some other languages like C++ and Java.

Image

Browse...

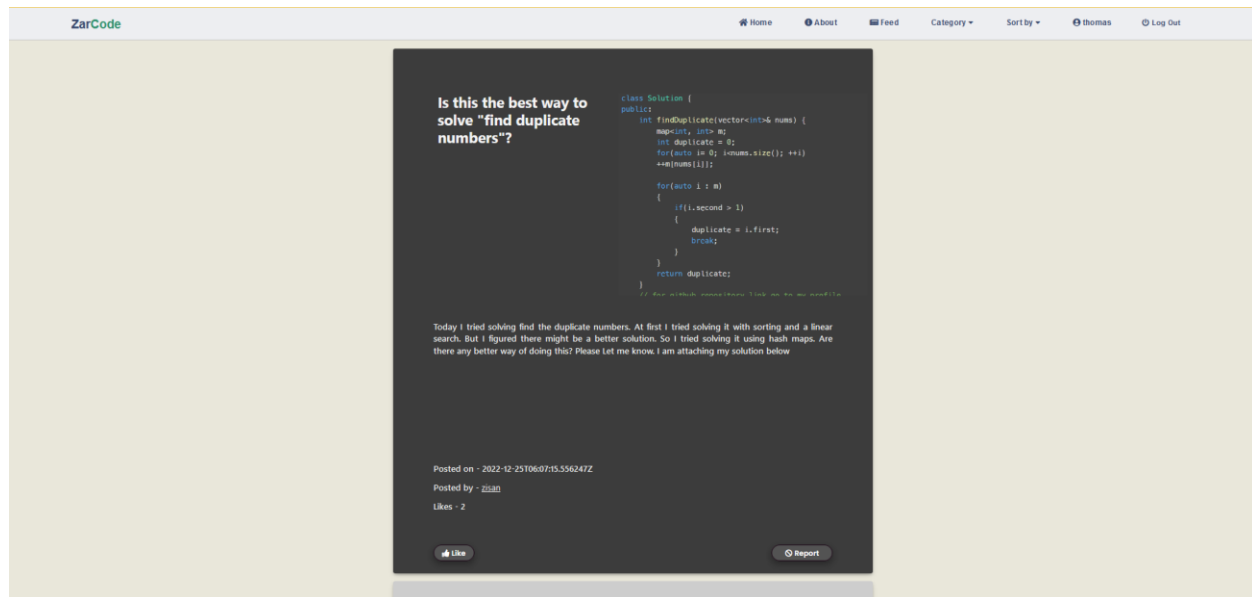
No file selected.

Category

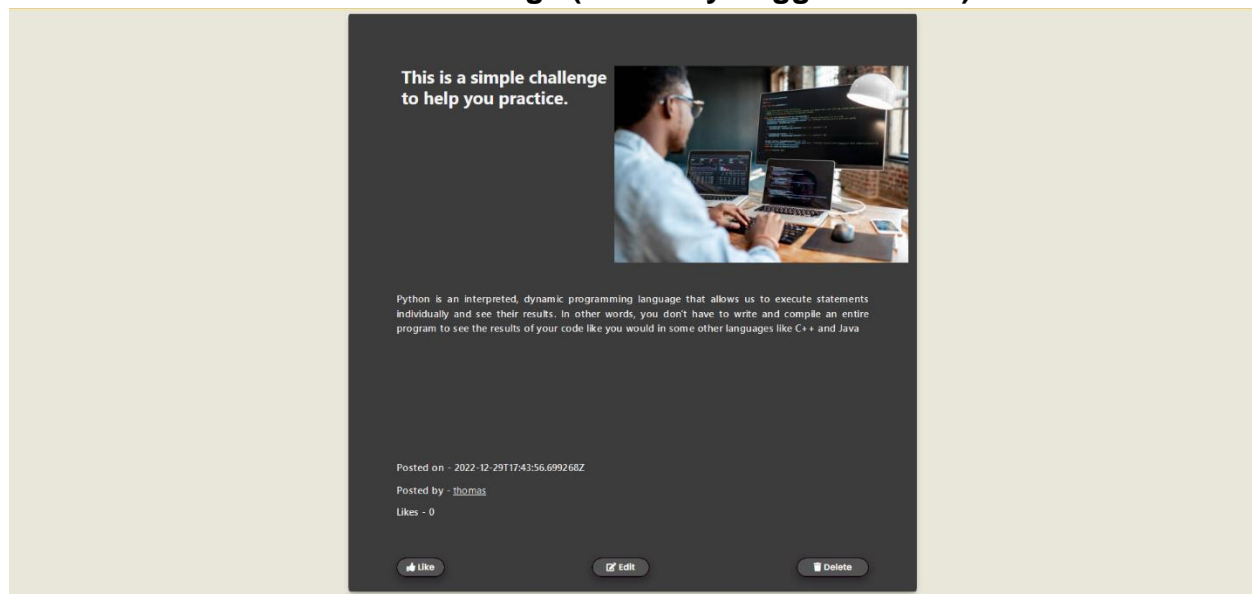
Questions

Edit

Post Details Page (Not currently logged in users post)



Post Details Page (Currently Logged In user)



If the author of the post and currently logged in user is not the same, then only the **Like** and **Report** button will appear.

But if they are the same person then the **edit** and **delete** button will also appear.

Add More Images (with Sample Image)

This option will only appear if the author of the post and the currently logged in user is the same.

Like

Edit

Delete


Add more images

Browse...

No file selected.

Upload Image

More Images



Add Comment with Sample Comment with Image

Post Comment

Comment:

This is very informative, thank you.

Comment image:

Browse...

cmnt photo.jpg

Comment

Comments

yes, you can use fast and slow pointers to solve this problem.

- rifa

```
1 class Solution:
2     def findDuplicate(self, nums: List[int]) -> int:
3         slow, fast = 0, 0
4         while True:
5             slow = nums[slow]
6             fast = nums[nums[fast]]
7             if slow == fast:
8                 break
9         slow1 = 0
10        while True:
11            slow = nums[slow]
12            slow1 = nums[slow1]
13            if slow == slow1:
14                break
15        return slow
```

Edit

Delete

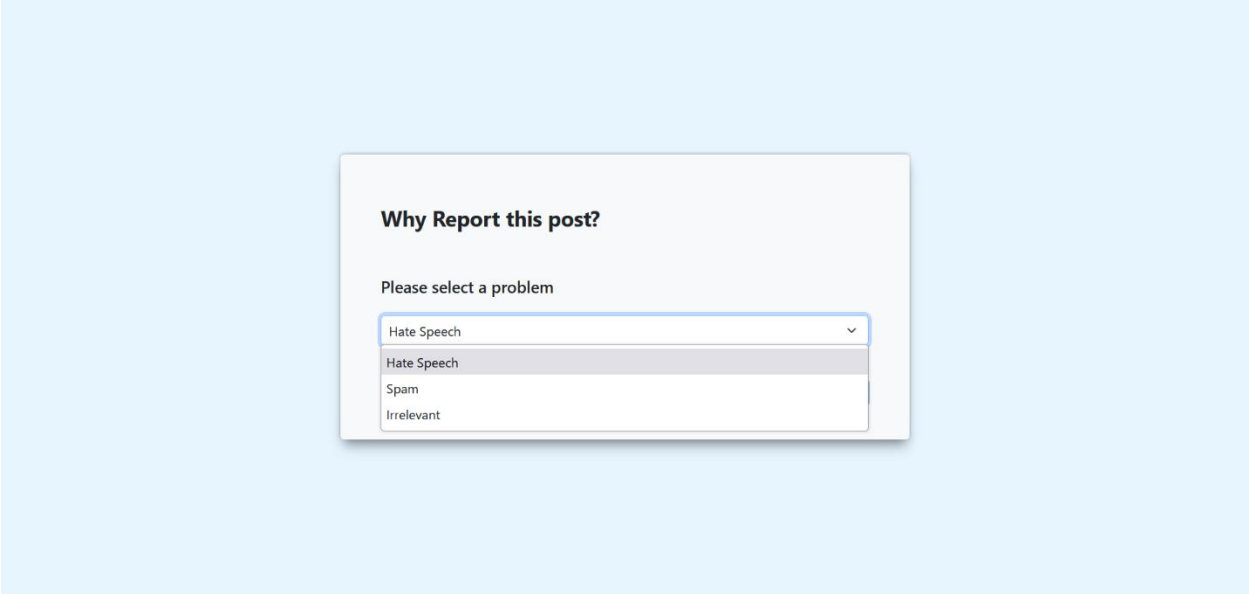
Post Report

Why Report this post?

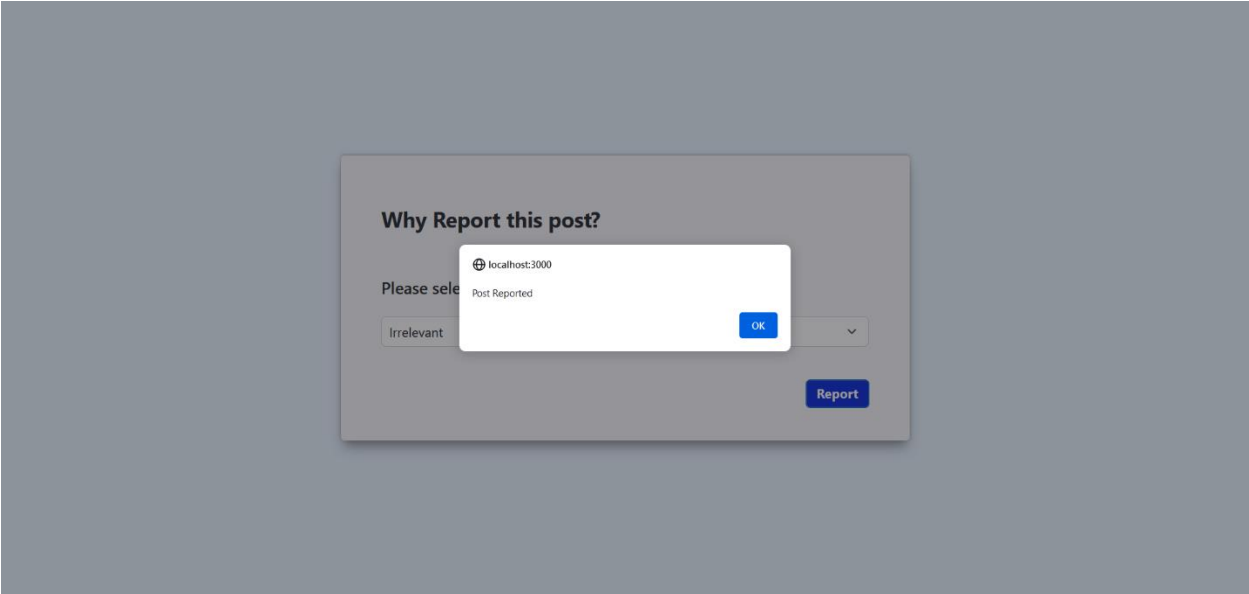
Please select a problem

Hate Speech

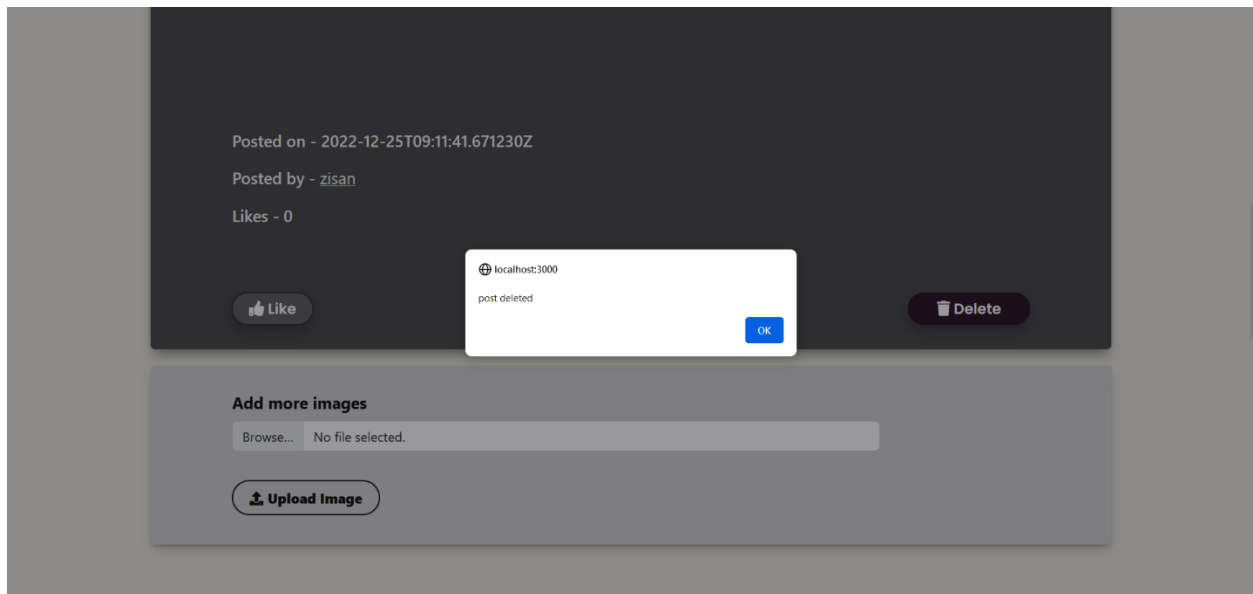
Report



Post Reported Confirmation Alert



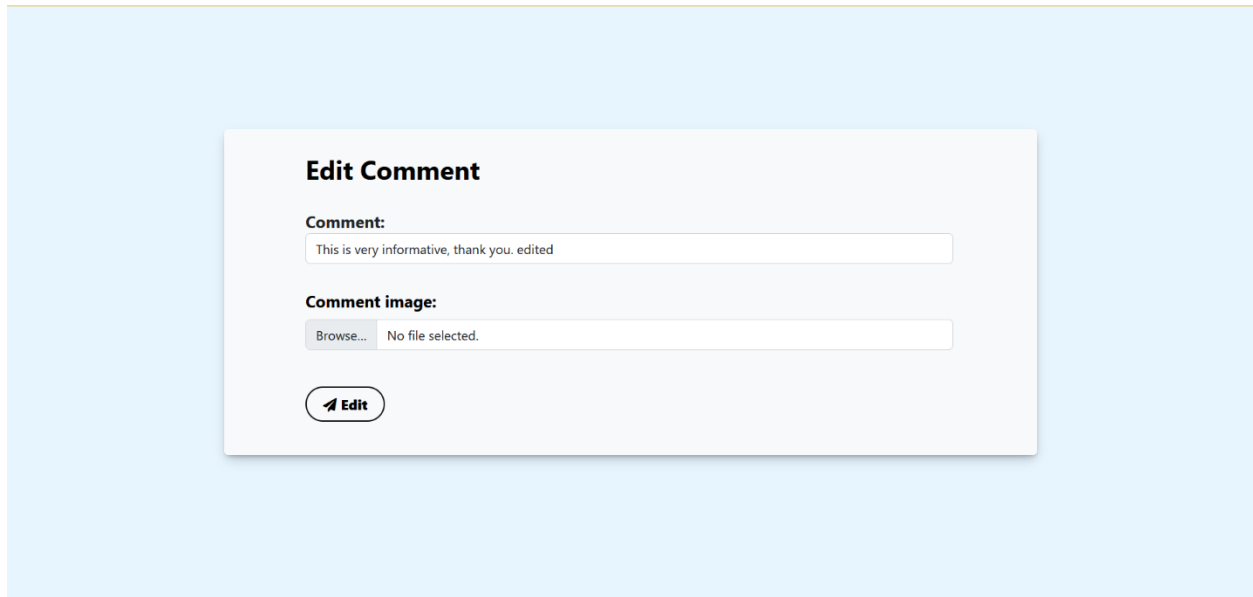
Post Deletion Confirmation Alert



Comment With Edit and Delete Button



Comment Edit Page



The screenshot displays a web interface for editing a comment. It features a light blue background with a central white card. The card is titled "Edit Comment" in bold. Below the title, there are two sections: "Comment:" and "Comment image:". The "Comment:" section has a text input field containing the text "This is very informative, thank you. edited". The "Comment image:" section has a file upload area with a "Browse..." button and the text "No file selected.". At the bottom of the card, there is a rounded button with a pencil icon and the text "Edit".


Edit Comment

Comment:

This is very informative, thank you. edited

Comment image:

Browse... No file selected.

 Edit

Conclusion –

We hope that our app can lessen the gap between interviewees and their dream job. Through this app, we hope to make interview procedure information available to everyone so that everyone gets an equal chance to crack the interview.