

ECHO

CS253 Project Presentation

BitByBit

GitHub:- <https://github.com/aryank2240/CS253-BitByBit-Project>

INTRODUCTION

The product, Echo aims to provide a platform for all those in campus who are interested to either write or read. Whether you are interested in sharing your thoughts about something new you learnt, raise your voice against some injustice or may be just want to ask general questions to the community or just simply want to read other's writing, this platform is for you.

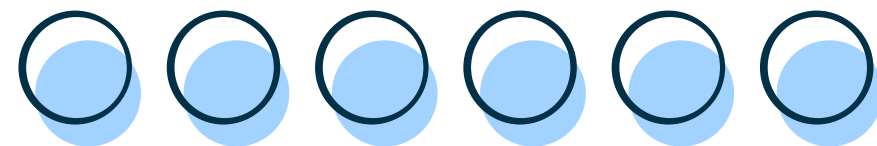
WHY ECHO?

Have you ever felt the need to share your thoughts to the campus and wanted to know what others think about that or maybe wanted to ask a question to the whole community or wanted to read yours peers' writing? Yes! Well, Echo gets you covered.

Intended Audience

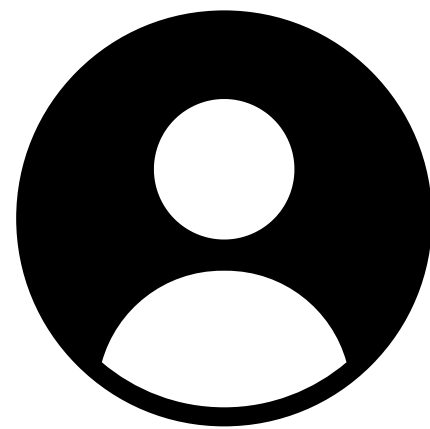
Currently, the platform is open only for the IITK community. Users can be either a writer or a reader.

***NOW LETS TALK ABOUT
WHAT OUR SOFTWARE
CAN DO?***

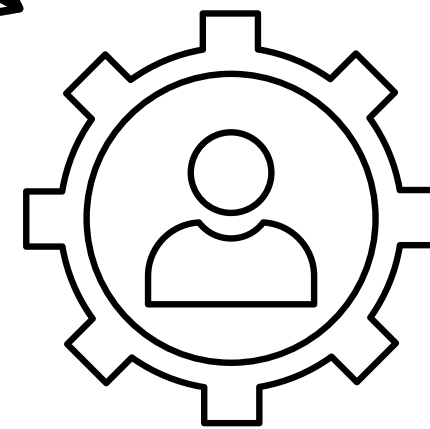


Accessing the software

as



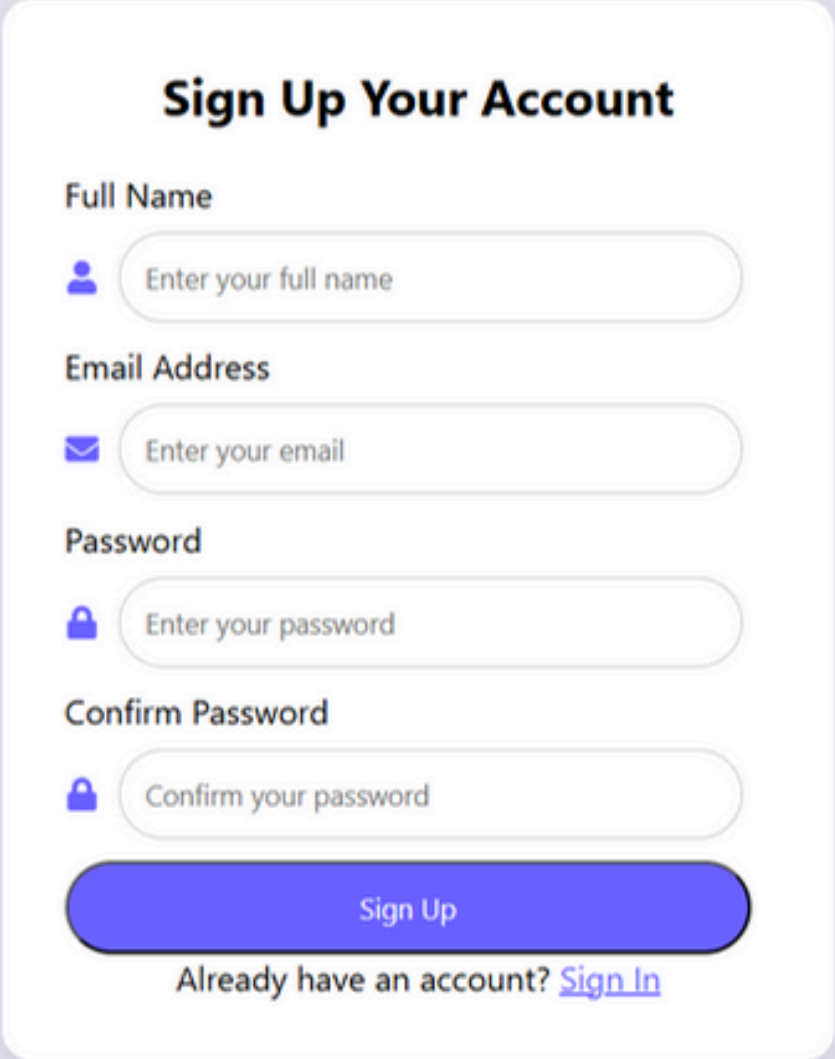
User



Admin

Accessing the software as a User.

- **CREATE ACCOUNT:** As a user you can create a verified account and use it to access the website.



The image shows a 'Sign Up Your Account' form centered on a light purple background. The form is a white card with rounded corners. It contains five input fields, each with a blue icon on the left: a person icon for 'Full Name', an envelope icon for 'Email Address', a lock icon for 'Password', and another lock icon for 'Confirm Password'. Each field has placeholder text: 'Enter your full name', 'Enter your email', 'Enter your password', and 'Confirm your password'. Below the fields is a large blue 'Sign Up' button. At the bottom of the card, there is a link that says 'Already have an account? [Sign In](#)'.

Sign Up Your Account

Full Name
Enter your full name

Email Address
Enter your email

Password
Enter your password

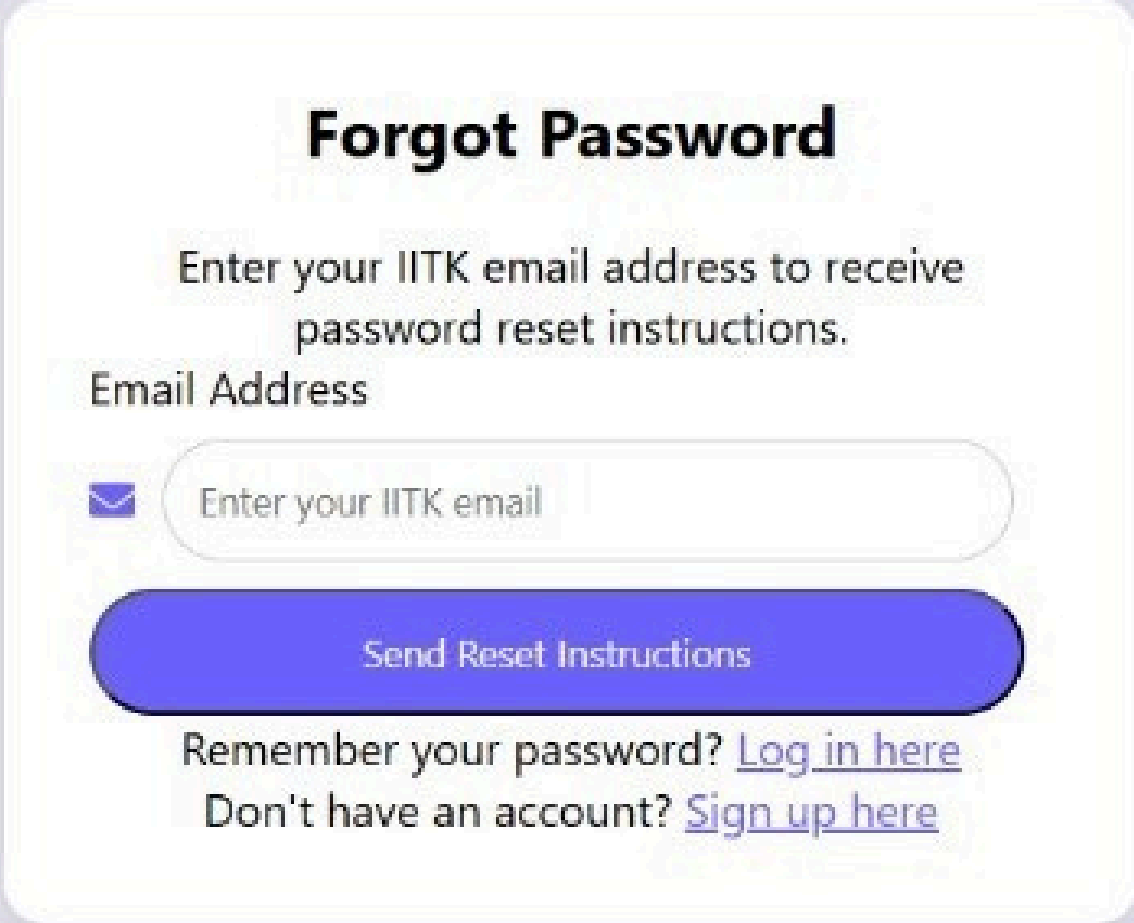
Confirm Password
Confirm your password

Sign Up

Already have an account? [Sign In](#)

Accessing the software as a User.

- **PASSWORD RECOVERY:** If the user forgets his/her password then he/she can easily recover the password using the forgot password option.




The image shows a 'Forgot Password' form centered on a light purple background. The form is a white rounded rectangle with a subtle drop shadow. It contains the title 'Forgot Password', a prompt to enter an IITK email address, an email input field with an envelope icon, a blue 'Send Reset Instructions' button, and two links: 'Log in here' and 'Sign up here'.

Forgot Password

Enter your IITK email address to receive password reset instructions.

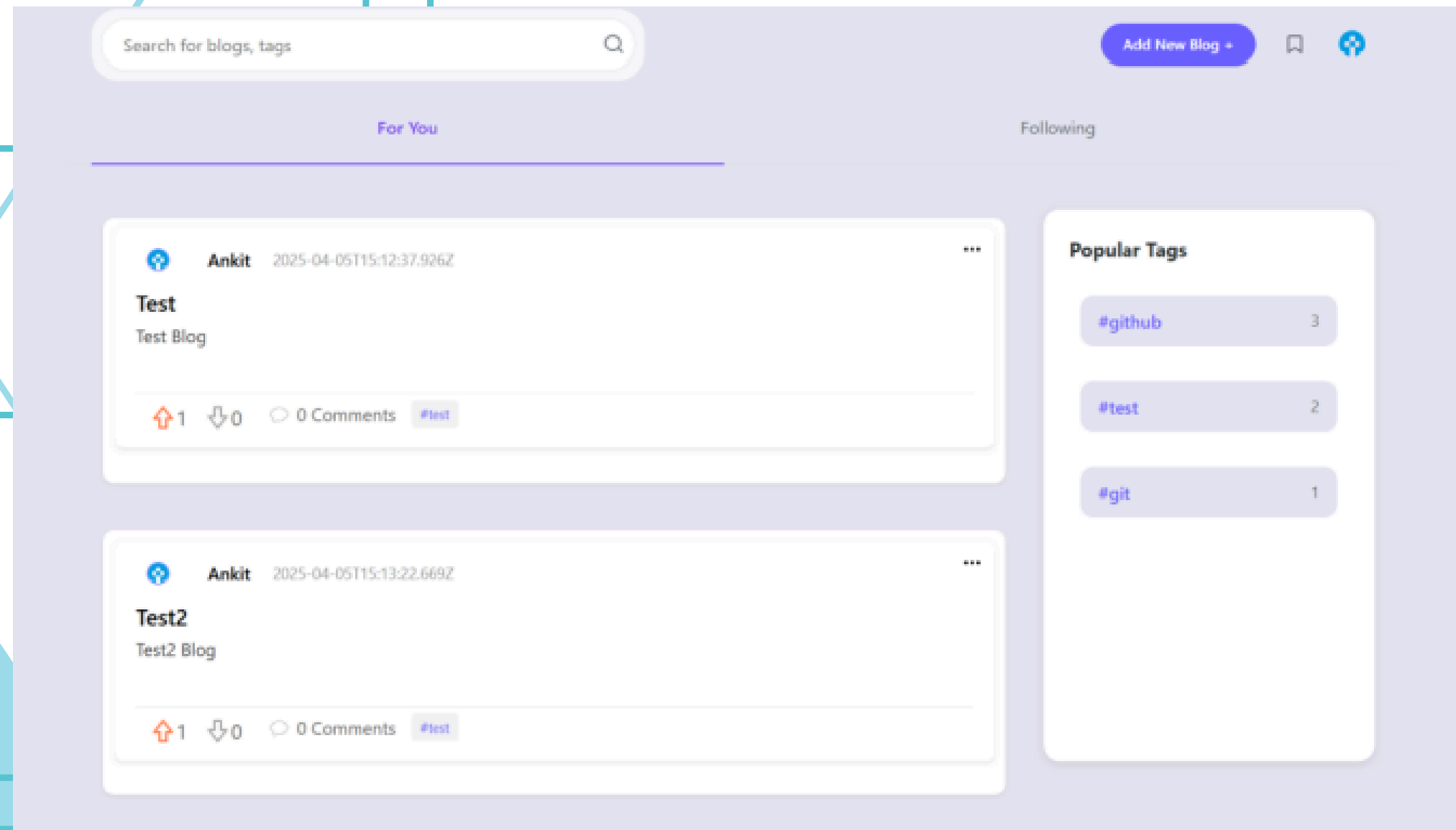
Email Address

 Enter your IITK email

[Send Reset Instructions](#)

Remember your password? [Log in here](#)
Don't have an account? [Sign up here](#)

Accessing the software as a User.

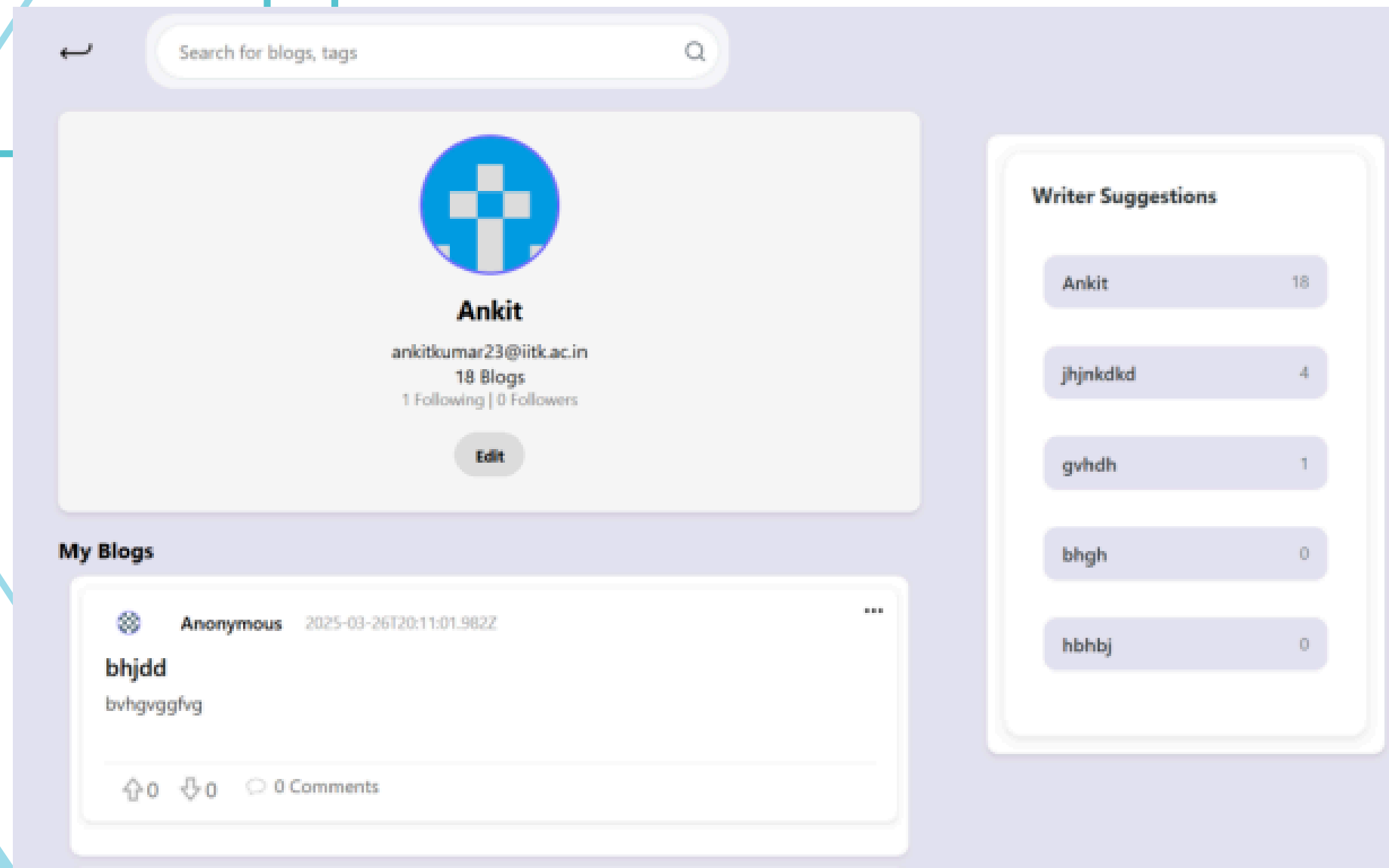


This is the home page of our software. The software was developed keeping in mind that it should be user friendly and easy to use. Users can further perform multiple tasks on the website that are :

Home page



Accessing the software as a User.




Profile page

Users can use this page to edit their profile picture and their names which would be displayed under their blogs. They can also view their previously published blogs on this page.

Accessing the software as a User.

- **CREATE BLOG:** User can easily write and publish a blog using his account.
- **ADD TAGS:** Different tags can be added to categorize the blogs
- **PUBLISH:** Blogs can be published either publicly or anonymously which means your id will not be visible to others.

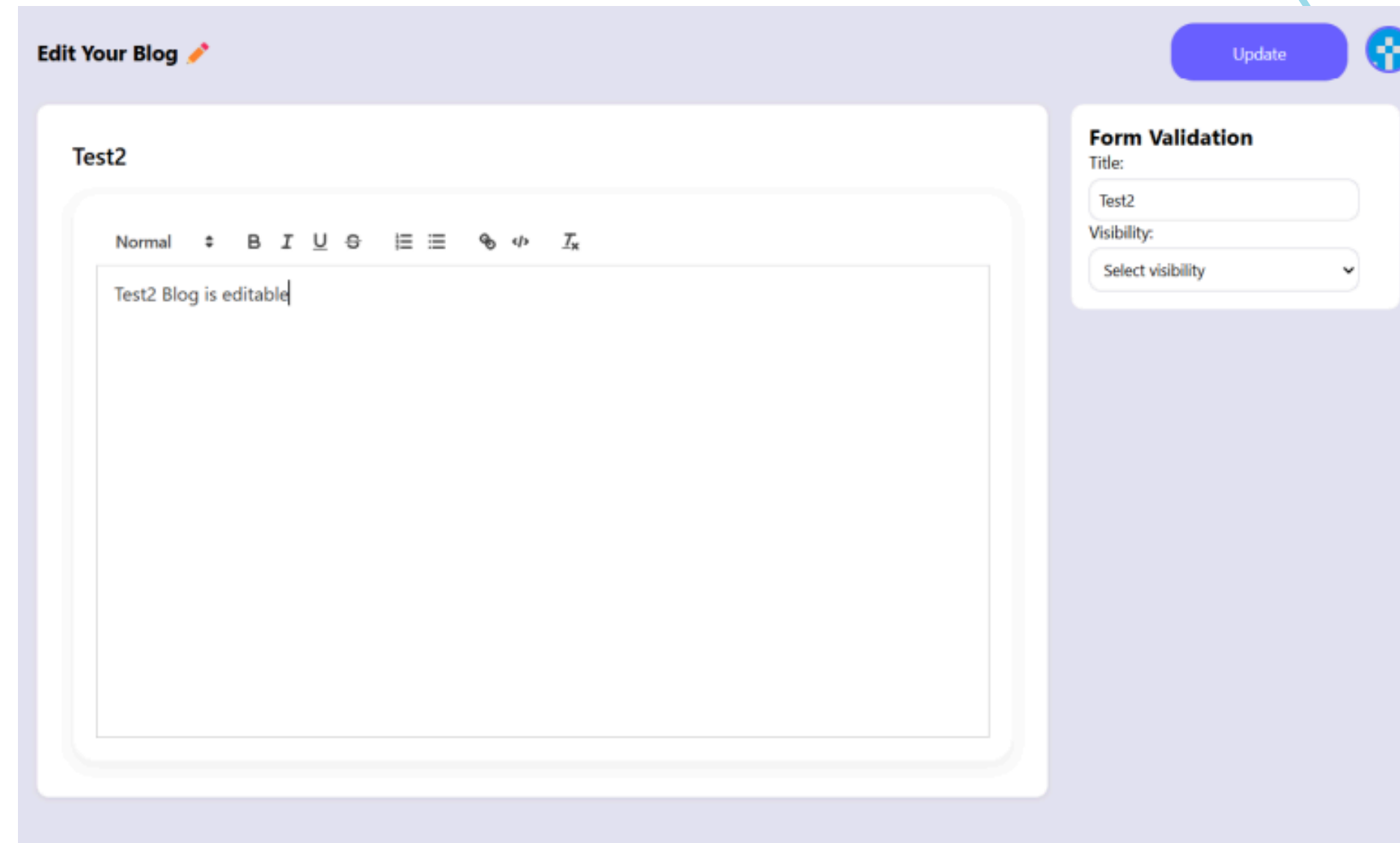


The screenshot displays the 'Build Your Blog' web application interface. At the top left, the title 'Build Your Blog' is accompanied by a small icon. In the top right corner, there is a blue 'Publish' button and a user profile icon. The main content area is titled 'Test2' and contains a rich text editor with a toolbar featuring options for Normal, Bold (B), Italic (I), Underline (U), and other formatting tools. The editor's content area shows the text 'Test2 Blog'. To the right of the editor, there is a 'Form Validation' section with a 'Title' input field containing 'Test2' and a 'Visibility' dropdown menu set to 'Public'. Below this is an 'Add Tags' section with a text input field and a button that says 'Press Enter to add a tag'. A tag labeled 'testx' is shown below the input field. The entire interface is set against a light purple background.

Create blog page

Accessing the software as a User.

- **EDIT BLOG:** If you made a mistake or want to change something in a blog then no problem! You can easily edit your previously uploaded blogs using the edit blog feature.

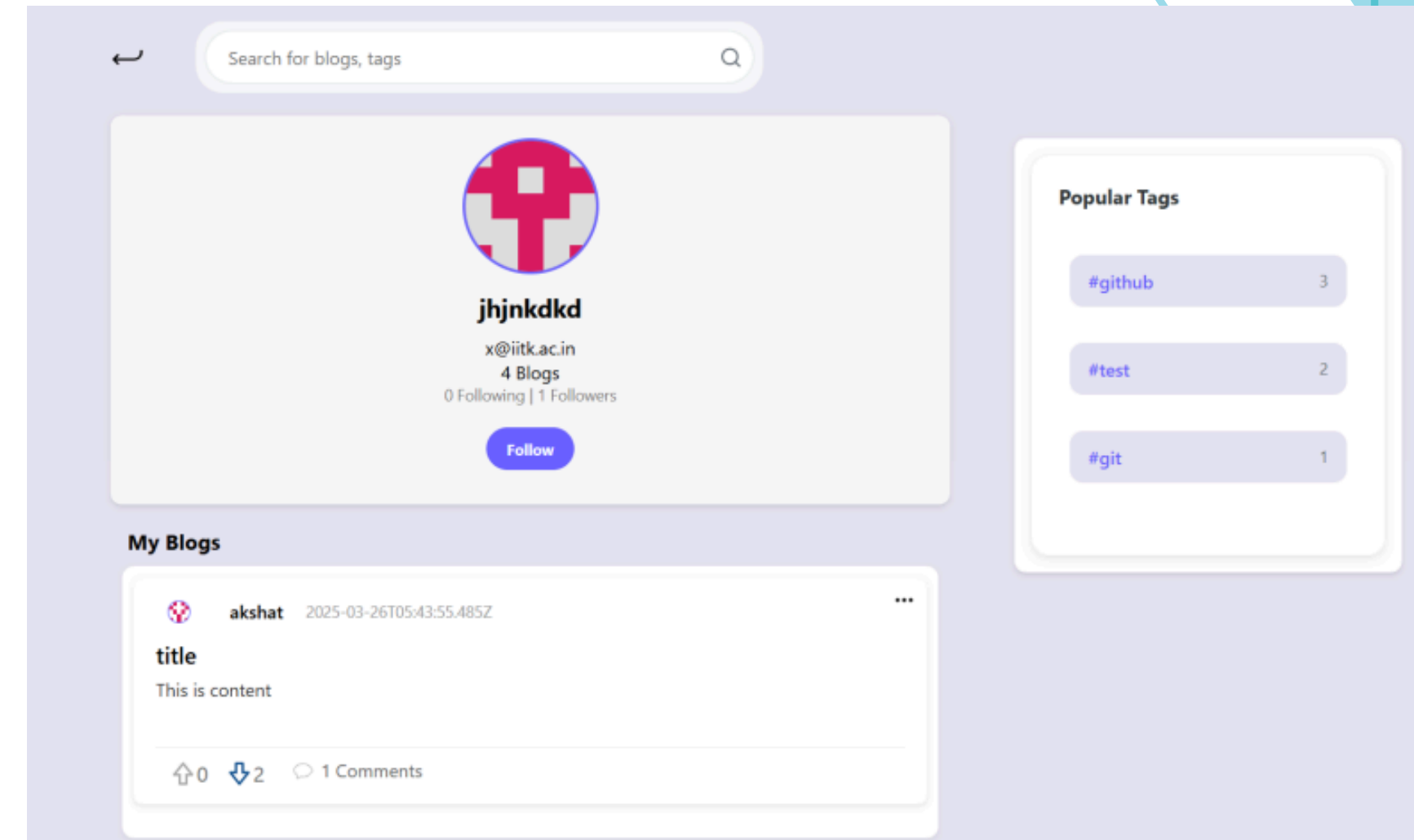


The screenshot displays the 'Edit Your Blog' interface. At the top left, the title 'Edit Your Blog' is followed by a pencil icon. In the top right corner, there is a blue 'Update' button and a plus icon. The main content area is titled 'Test2' and contains a rich text editor with a toolbar (Normal, Bold, Italic, Underline, Link, Unlink, Bulleted List, Numbered List, Indent, Outdent, Undo, Redo) and the text 'Test2 Blog is editable'. On the right side, a 'Form Validation' panel includes a 'Title' field with the value 'Test2' and a 'Visibility' dropdown menu currently set to 'Select visibility'.

Edit blog page

Accessing the software as a User.

- **FOLLOW:** The website does not only target the writers but also the readers who can use the follow function to follow other users to keep up with their work.
- **UPVOTE/DOWNVOTE:** User can upvote or downvote other's work which helps in maintaining a feed in which the user might be interested.
- **COMMENT:** User can comment on someone else's work using the comment option.



Follow page

Accessing the software as a User.

- Users can also delete or edit their comments they made on someone else's posts.

Comments (1)

 Ankit Apr 5, 2025, 08:54 PM

good test

Save

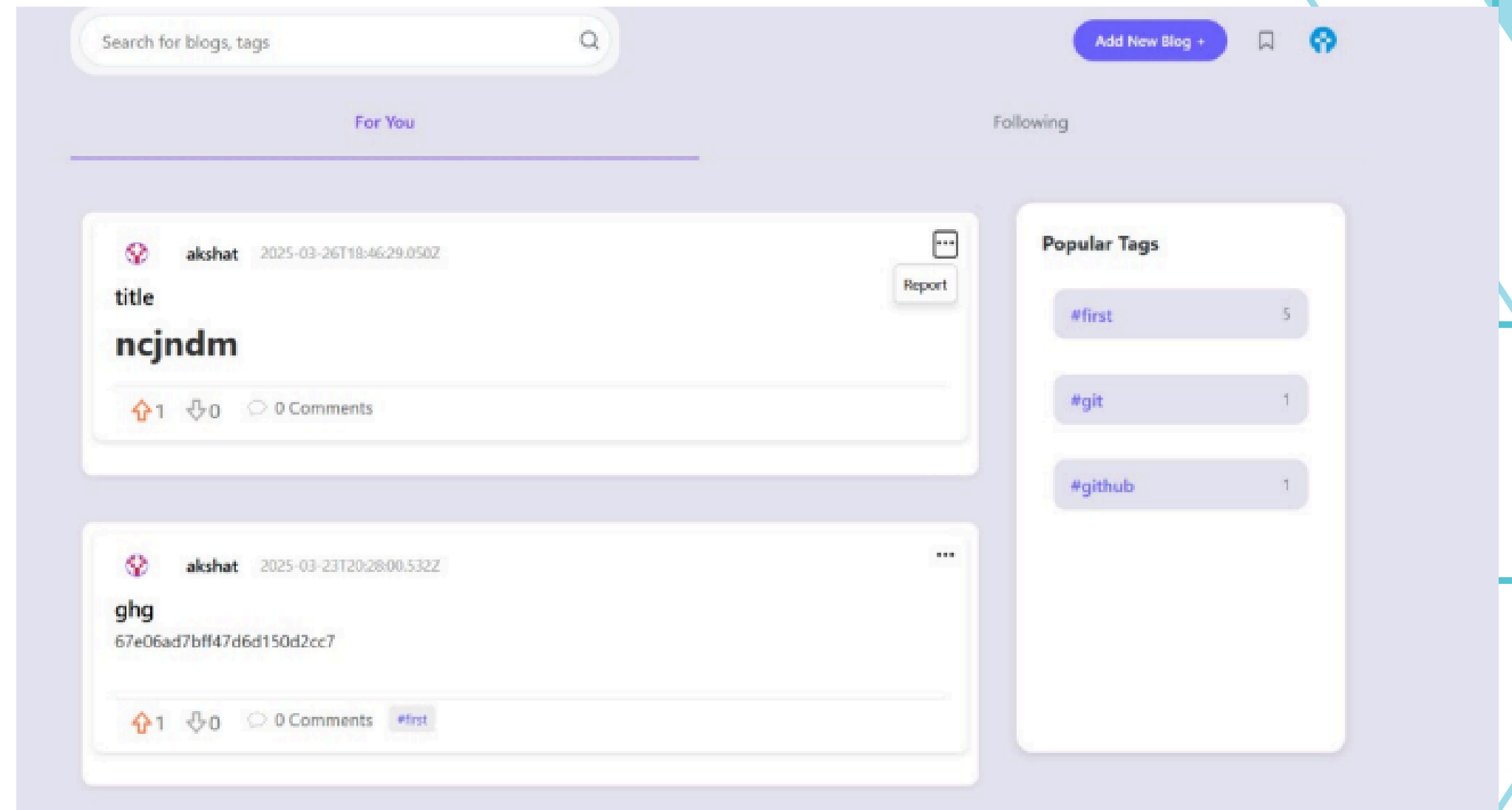
Cancel

Edit

Delete

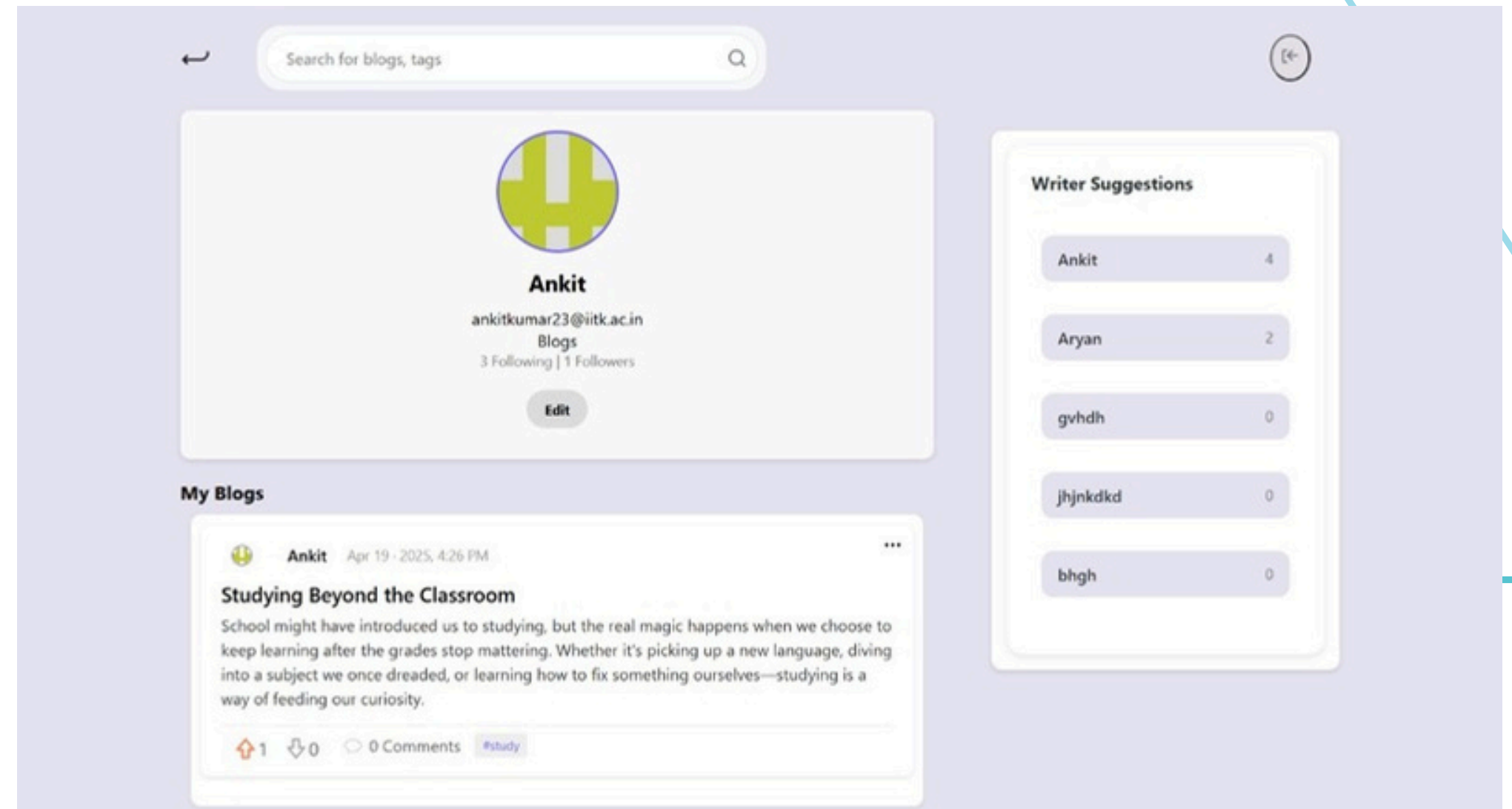
Accessing the software as a User.

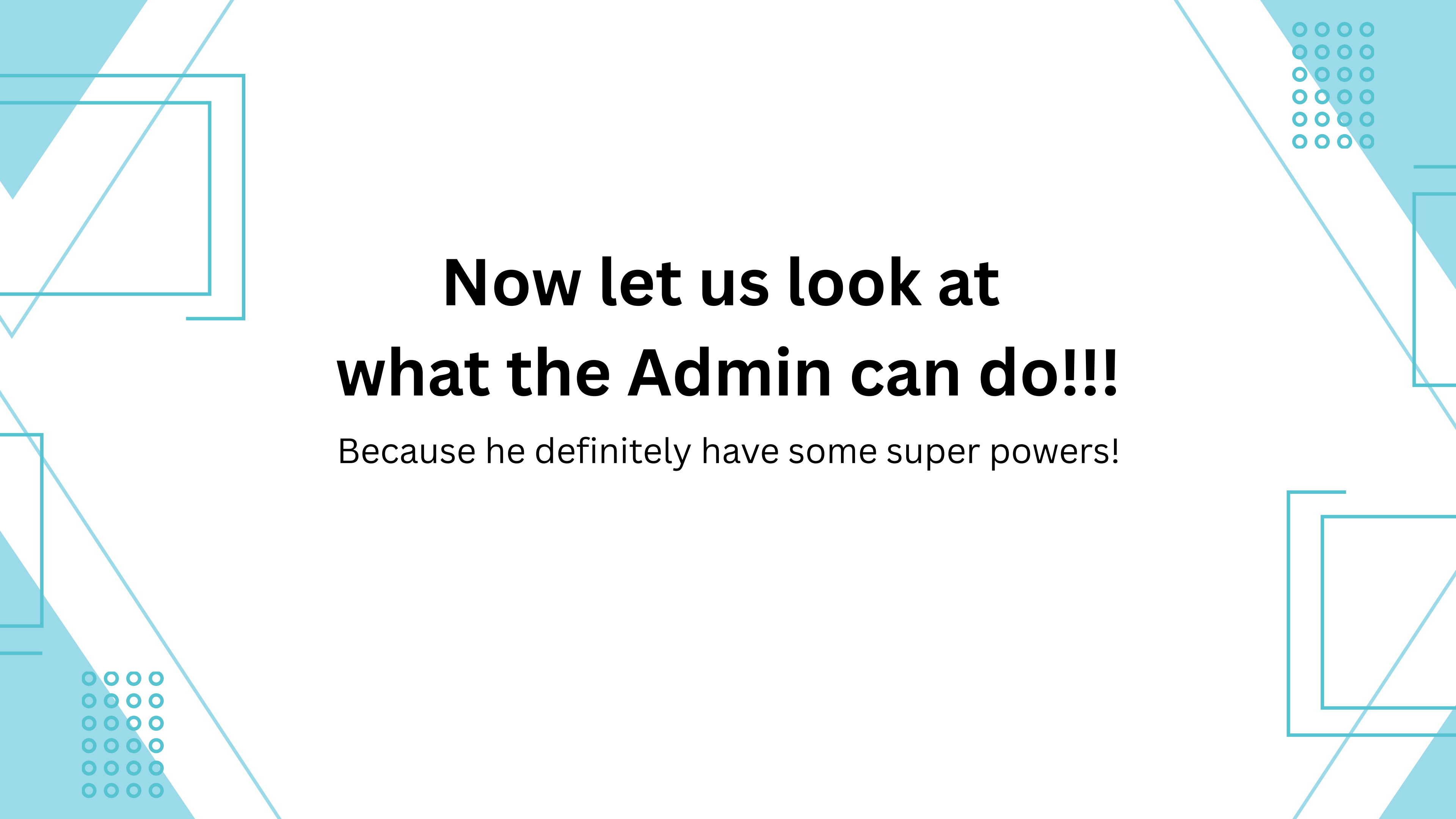
- **REPORT:** If a user finds something offensive and thinks that the text is not people friendly then the user can report the blog. The reported blog will be verified by the admin. The admin can take actions on the reported blog like deleting the blog.



Accessing the software as a User.

- **LOGOUT:** Obviously if you are fed up with the software or just want to take a break, we have also added a log out button for you

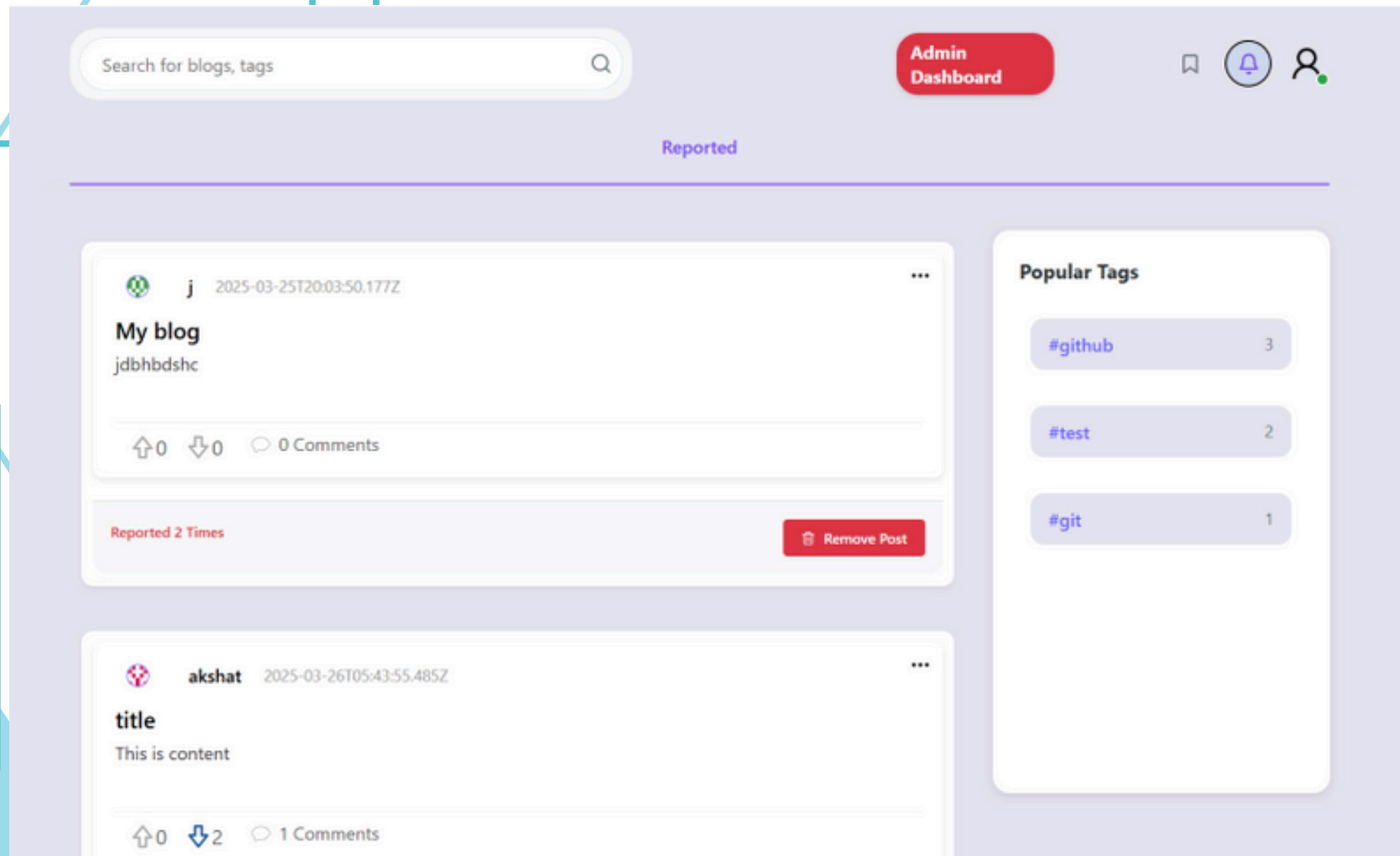


The slide features a light blue background with decorative elements in the corners. The top-left and bottom-left corners contain overlapping teal geometric shapes, including rectangles and triangles. The top-right and bottom-right corners also feature teal geometric shapes, with the top-right corner additionally containing a grid of small teal circles. The main text is centered in the middle of the slide.

Now let us look at what the Admin can do!!!

Because he definitely have some super powers!

Admin Home page



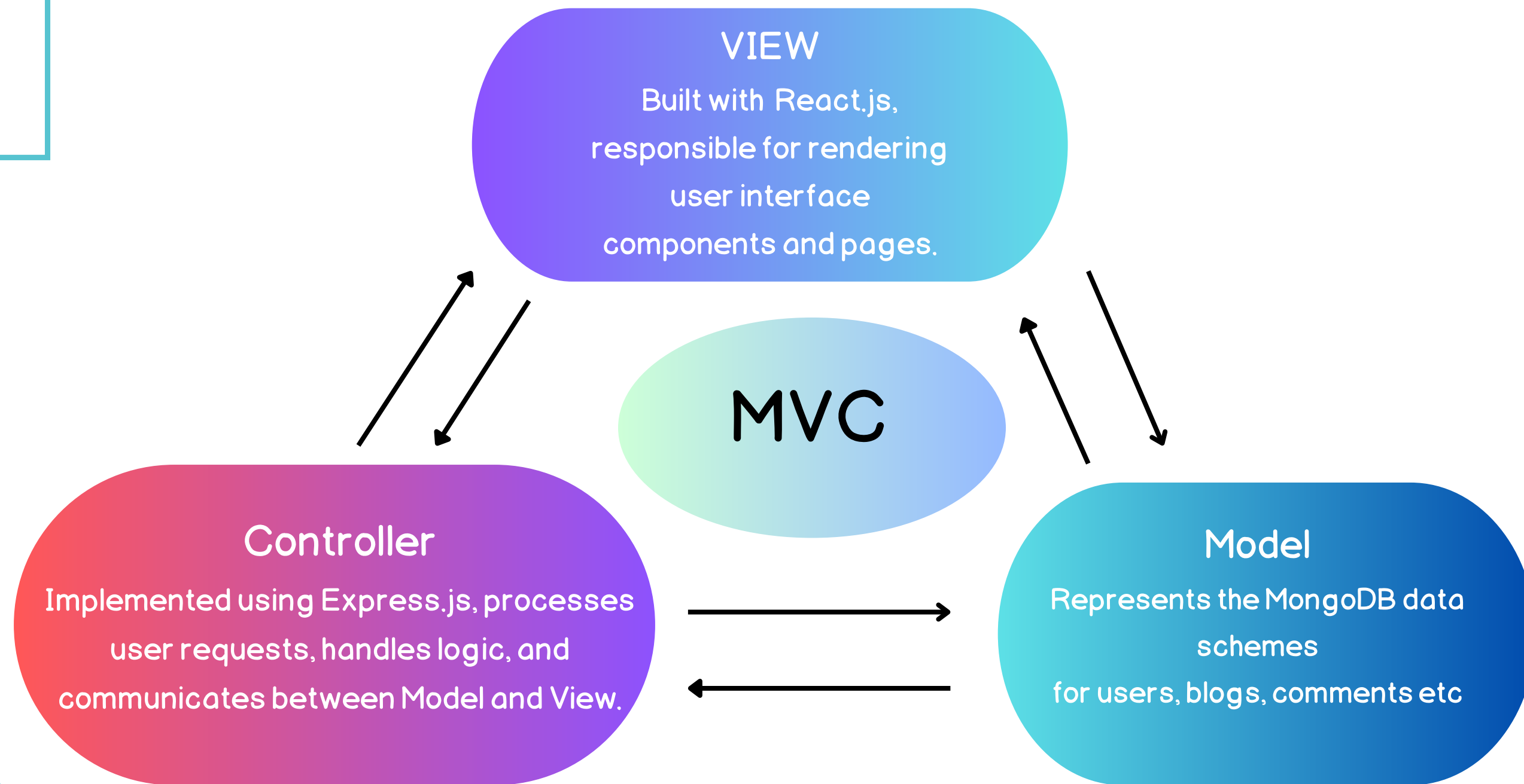
Well the admin can do whatever a user can do, such as blog writing, reading, editing so we will skip that part and look at the superpowers of admin.

The Admin can delete anyone's post.

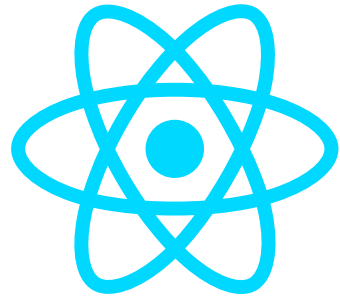
IMPLEMENTATION

- **Architecture**
- **Frontend**
- **Backend**
- **Database**

MODEL ARCHITECTURE

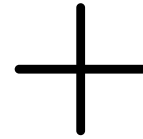


FRONTEND



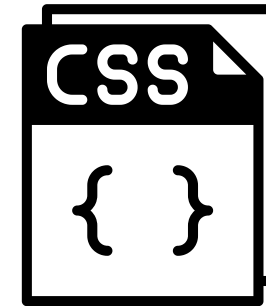
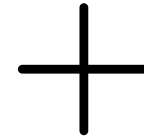
React.js

Modular, component-based
UI framework for fast rendering.



HTML

Defines the structure of
each page and its content.




CSS


Handles layout, design,
responsiveness and virtual consistency.



/frontend

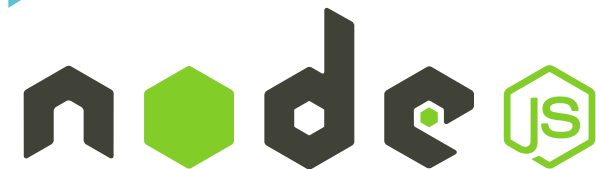
└─  components/ → Reusable UI blocks
(Navbar, Cards, etc.)

└─  pages/ → Views like Home, Profile,
Blog Editor

└─  services/ → API calls and business
logic

└─  public/ → Static files (index.html, icons,
manifest)

BACKEND








JavaScript runtime for building fast, scalable server-side applications.

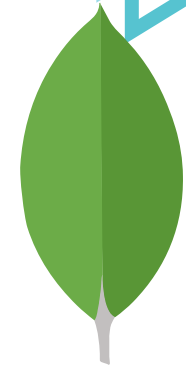
Express JS

Minimal and flexible framework for creating RESTful APIs.

/backend

- └  routes/ → API endpoints (auth, blogs, users)
- └  controllers/ → Business logic for handling requests
- └  middleware/ → Auth & validation layers
- └  models/ → MongoDB schemas for Users, Blogs, Comments
- └  utils/ → Helper functions (OTP, formatters, etc.)

DATABASE



MongoDB

A NoSQL, document-oriented database designed for flexibility and scalability.



/Database (MongoDB)



Users → User profiles, login info, settings.



Blogs → Blog posts (title, content, author, tags)



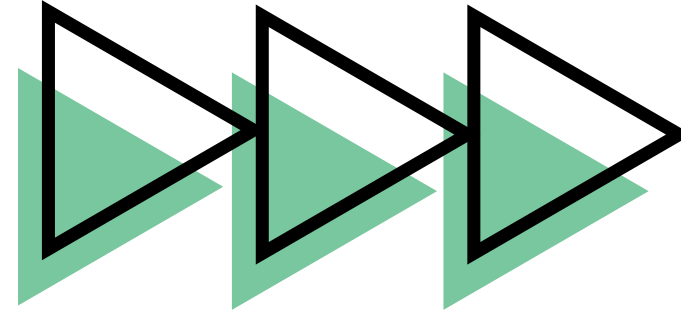
Comments → Comments on blogs.



Followers → Following/follower relationships.



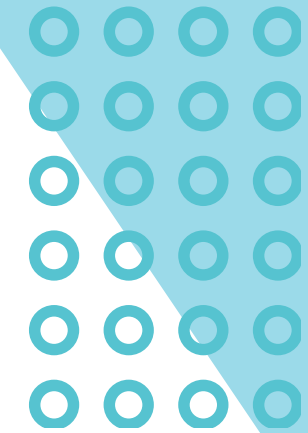
DEMONSTRATION




The background features a light gray field with teal geometric elements. In the top-left, there are nested rectangular outlines. In the top-right, a teal triangle contains a 4x5 grid of small teal circles. In the bottom-left, another teal triangle contains a 5x4 grid of small teal circles. In the bottom-right, there are more nested rectangular outlines. A teal speech bubble with a tail pointing towards the bottom-left is centered horizontally.

LESSONS LEARNT

- Gained hands-on experience building dynamic, interactive web pages for real-world applications.
- Learned to organize code into modular sections and use GitHub for seamless collaboration, streamlining maintenance.
- Met project deadlines through structured planning and teamwork, strengthening our time-management and collaboration skills.





FUTURE DEVELOPMENT PLANS

PLANS

- Collaborative Blogging
- Themes and Templates
- Embedded Content
- Direct Messaging
- Polls and Surveys
- Better UI Design

Our Team

Course Instructor : Dr. Indranil Saha

Project Mentor : Paras Ghodeshwar

Group members:

- Ansh Adarsh
- Aryan Kumar
- Durbasmriti Saha
- Gone Nishant
- Govind Nayak Jarabola
- Harsh Bhati
- Lavish Kanwa
- Lokesh Kumar
- Someshwar Singh

The background features abstract geometric patterns in teal. In the top-left and bottom-left corners, there are nested rectangular outlines. In the top-right and bottom-right corners, there are clusters of small teal circles arranged in a grid-like pattern. A diagonal teal line runs from the top-left towards the bottom-right, intersecting the other elements.

THANK YOU