

CS353 - Web Development Project Report

TITLE – vBlog (A blog website)

BATCH NO. – 65

TEAM MEMBERS –

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GITHUB LINKS –

<https://github.com/Sai-vikas-sun/web-dev-cs353>

https://github.com/i-am-adithyavardhan/cs353_webDevProject

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1.Purpose –

The purpose of this report is to specify the requirements for the blog website that allows users to create new blogs and view other's blogs. This report provides a detailed description of our developed website.

2.Requirements –

2.1 Functional requirements –

- 1. View Blogs** – Anyone who visits the website should be able to view and search for blogs.
- 2. User authentication** – Users can be able to register for our blog website by providing their details such as name, username, password for their account, email and phone number. The website should encrypt the user's password before storing it in the database.
- 3. User Profile** – After a user successfully logged in, the website should provide a dedicated user profile for each user, in which user can be able to view his created blogs, liked blogs, and his saved blogs. Users can update their profile (ex :- profile photo, name etc) and also delete his account.
- 4. Create Blog** – Registered users can create new blogs by providing some necessary details like Title of the Blog, Description, Category tags. They can also add an image

to their blog.

5. **Features** - For successfully logged in users, the application should allow them to like, comment and save blogs. Users who have created blogs can update them.
6. **Follow Users** – An authenticated user can follow or unfollow other authenticated users.
7. **Category Search Filter** – The website should provide some categories and users can view blogs related to a certain category.
8. **Role Based Features** - Authenticated users should have privileged features whereas authenticated users can just view blogs and can use the search category filter.

Non Functional requirements –

1. **Security** – The website should have robust security methods in place to protect user data and prevent unauthorized access.
2. **Response time** – The website should have fast response time with minimal delay when loading pages.
3. **Portability** - The application should work on any system.(Windows or Linux)

3.Design –

3.1 Database Design (Schemas/Collections) –

1. User Collection –

- `_id` – Mongodb unique object Id
- Name
- Username
- Password
- Email
- Bio - User can describe about himself
- PhoneNumber
- ProfilePhoto
- Blogs – An array of posts created by user
- noOfBlogs
- isFollowing – An array of users whom this user is following
- followers – An array of users who follow this user.
- savedBlogs – An array of blogs which the user has saved.

```
_id: ObjectId('645c8a7cff25546c4ce5deb6')
name: "Aditya"
username: "aditya_12"
password: "$2a$12$KLy6l4Af/ACEe7LHwD0G66AByGrfkq8mD8fKrx3hyzqhFV.outFK"
cpassword: "Aditya@12"
phone: 962879288479
email: "xyz@gmail.com"
  > blogs: Array
    > noOfBlogs: 3
  > isFollowing: Array
  > followers: Array
  > likedBlogs: Array
  > savedBlogs: Array
  > deletedBlogs: Array
  isAdmin: false
  createdAt: 2023-05-11T06:26:04.988+00:00
  updatedAt: 2023-05-11T14:51:41.159+00:00
  __v: 0
  bio: "Hey I am Cool"
```

2. Post Collection –

- Title
- Category

- Description – Content of the Blog
- noOfLikes
- likedUsers – Array of users who liked this blog
- user – user_id of user who creates the blog

```

_id: ObjectId('645be1ac530eb53ae6fba7e')
title: "Encoder Decoder"
description: "Encoder-Decoder models and Recurrent Neural Networks are probably the _"
category: "Machine Learning"
author: "645be13c530eb53ae6fba7a"
image: "data:image/webp;base64,iJk1Grp4/AABXRUIJQVIA4WaoAAAAAAmewYSwMAVIA4TIA."
noOfViews: 0
noOfLikes: 0
likedUsers: []
  0: "645be13c530eb53ae6fba7a"
  1: "645c8a7cff25546c4ce5deb6"
isBlogDeleted: false
createdAt: 2023-05-11T18:25:49.899+00:00
updatedAt: 2023-05-11T07:24:27.737+00:00
__v: 0

```

3. Comments –

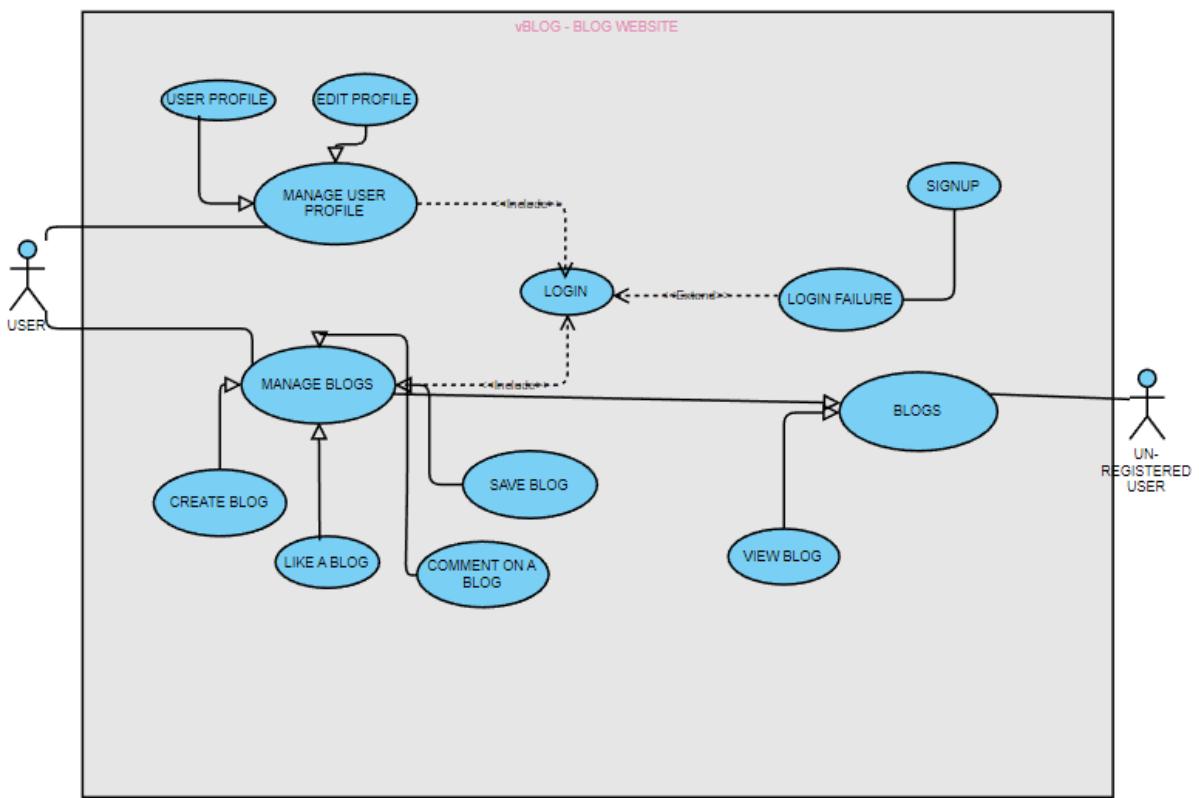
- Post - On which post the user commented
- User – User who comment
- Description

```

_id: ObjectId('645c8cffff25546c4ce5def3')
blog: "645c8b73ff25546c4ce5dec5"
user: "645c8a7cff25546c4ce5deb6"
username: "aditya_12"
description: "ugifhijesr"
createdAt: 2023-05-11T06:36:47.972+00:00
updatedAt: 2023-05-11T06:36:47.972+00:00
__v: 0

```

3.2 Use Case Diagram



4. Technologies Used -

MERN Stack -

Node js - Backend in javascript language uses V8 engine

React js – A frontend framework to create customisable UI

Database : MongoDB (No SQL)

5.Testing -

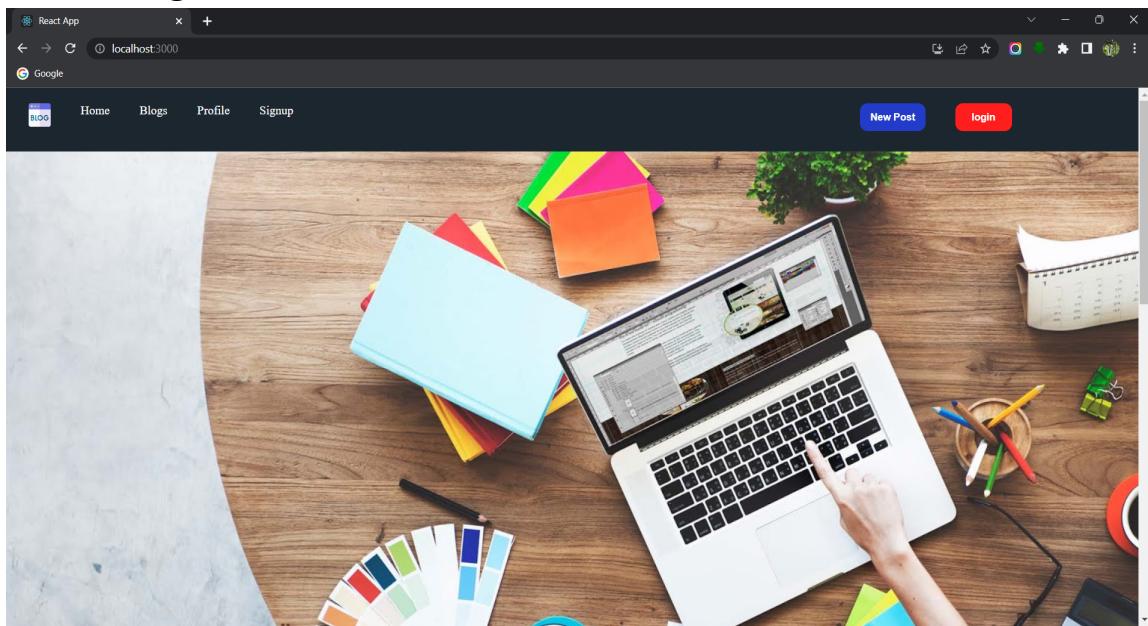
Each functionality is tested manually without any software.

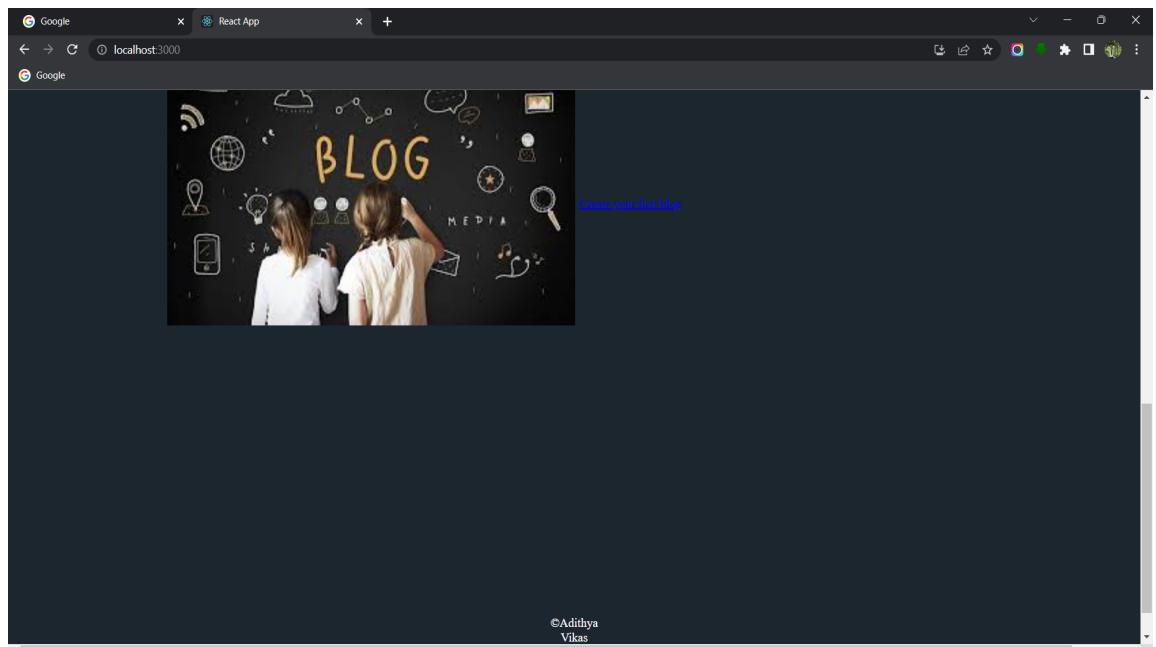
Manual entering of the data and validating it.

6. Website Design Flow with Screenshots -

6.1 Unauthenticated User -

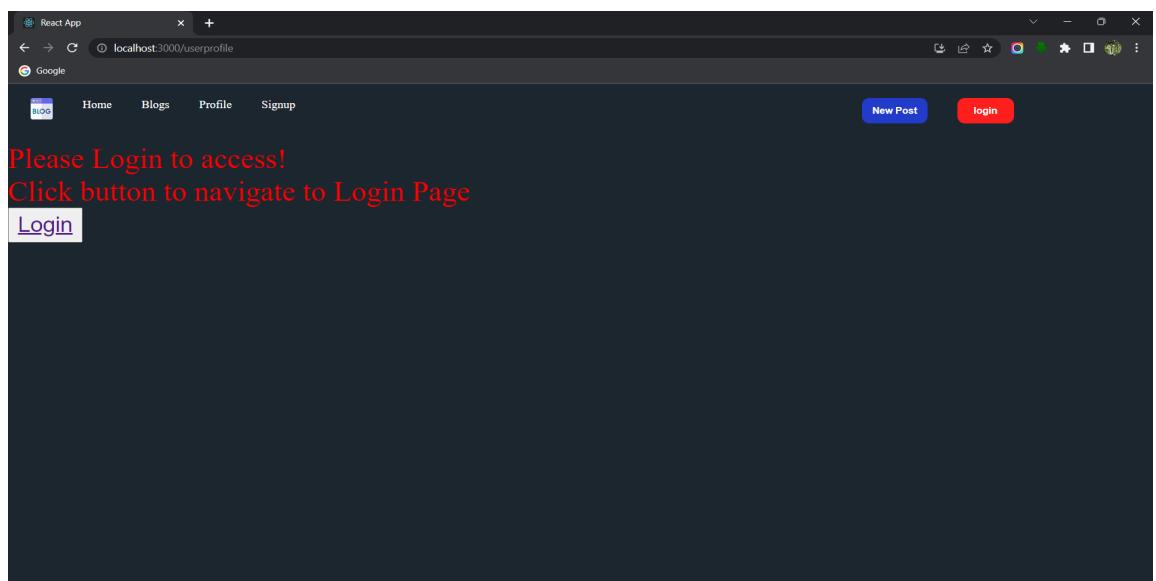
Home Page





User Profile -

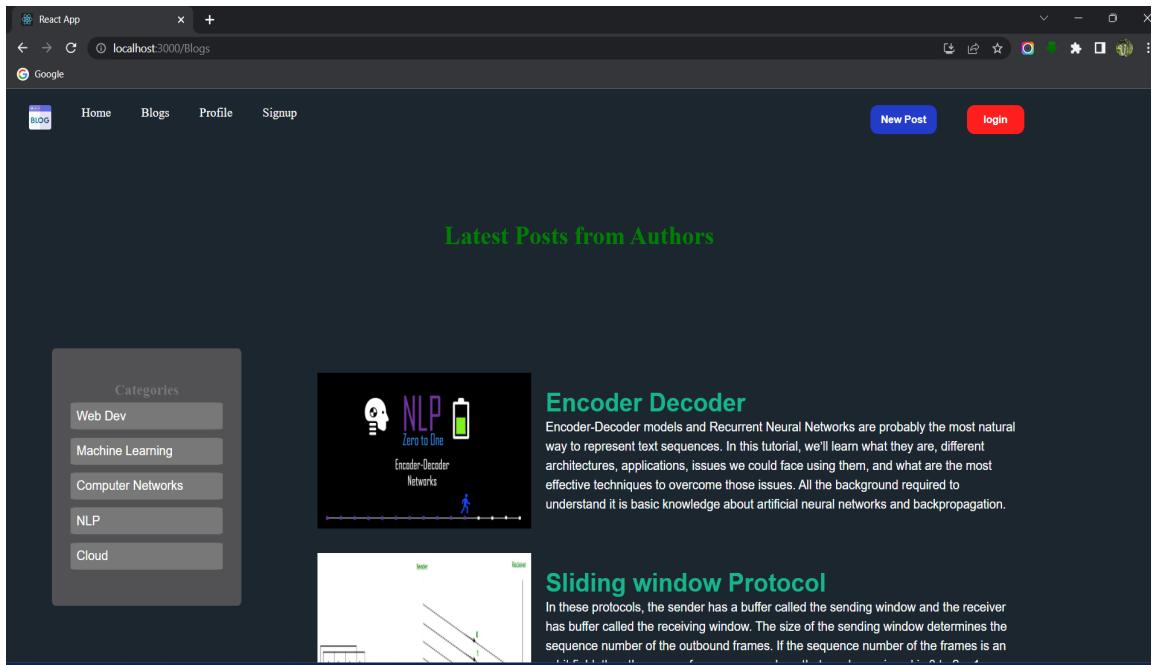
An Unauthenticated User cannot access User Profile Page and new post option



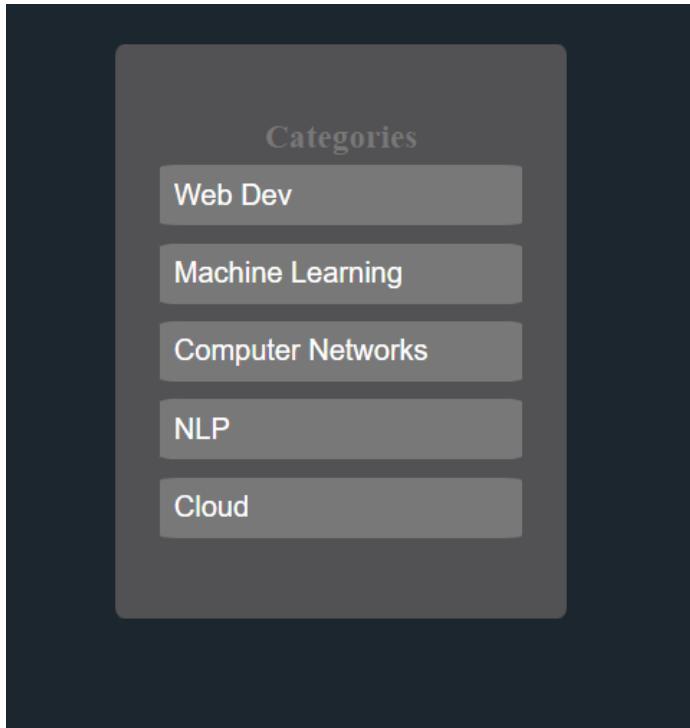
Blogs Page -

An Unauthenticated User can view blogs,use search category filter

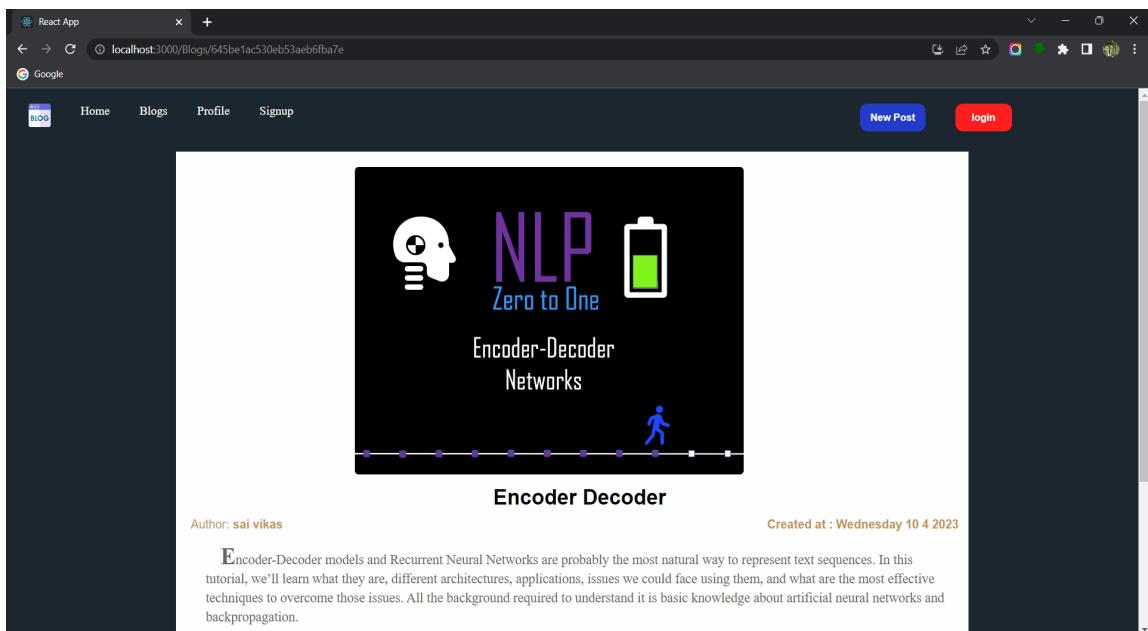
and view each blog (single blog) page.



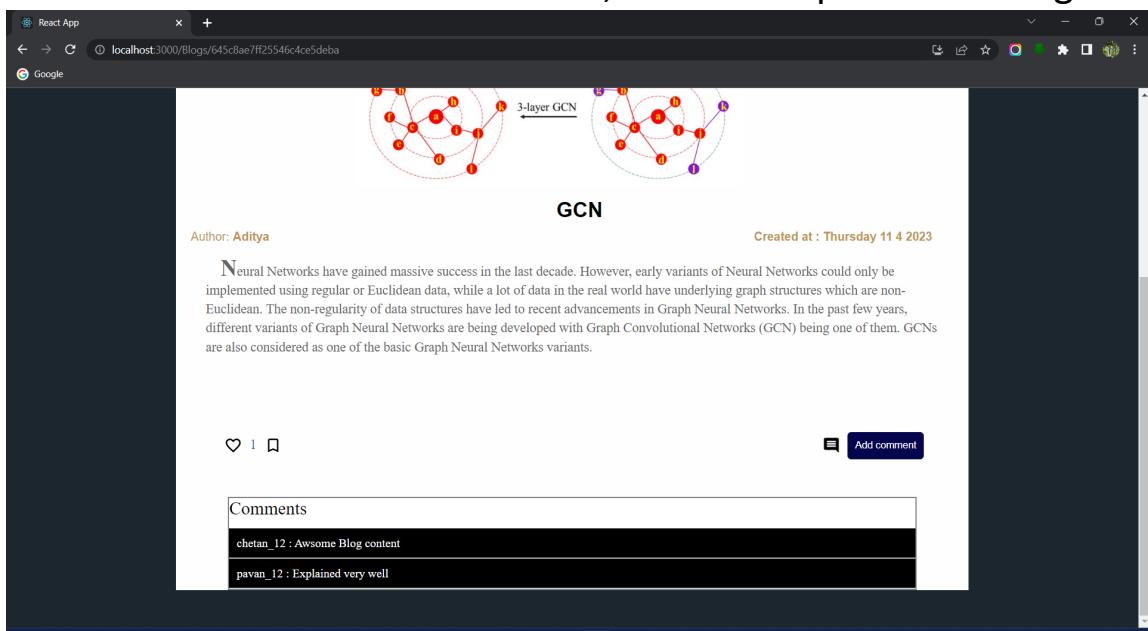
Available Categories -



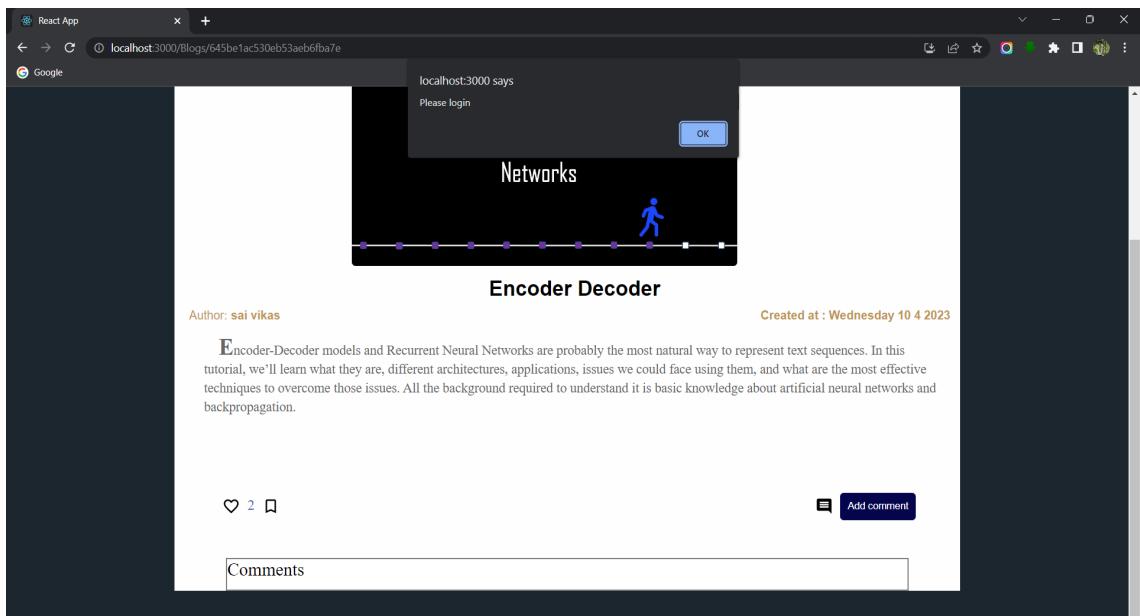
Single BlogPage(Each blog can be viewed fully by clicking on it in blog page)



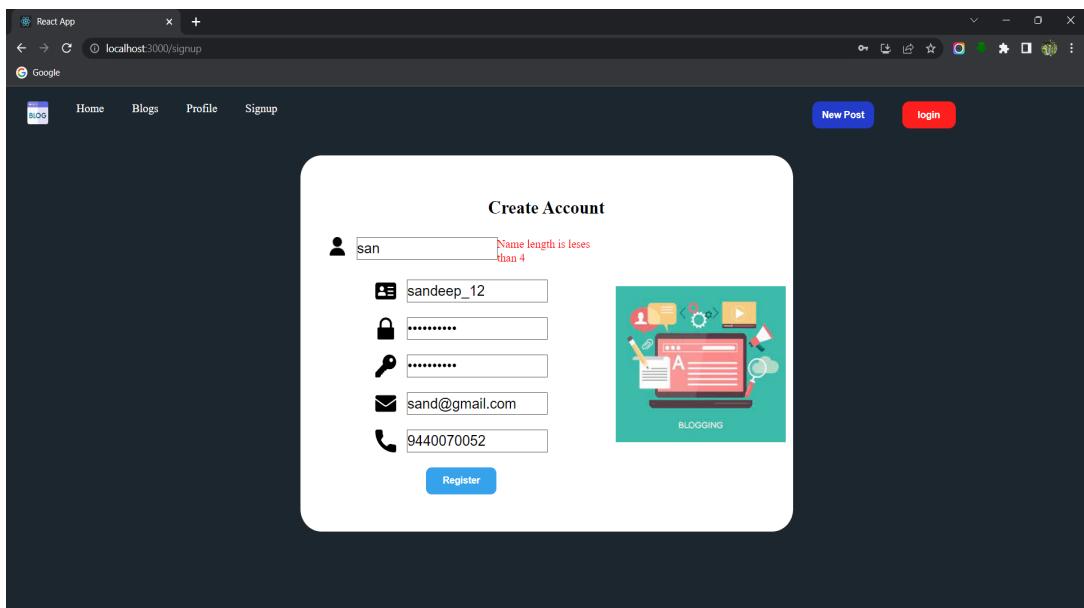
Users can view the number of likes, comments posted on blog .

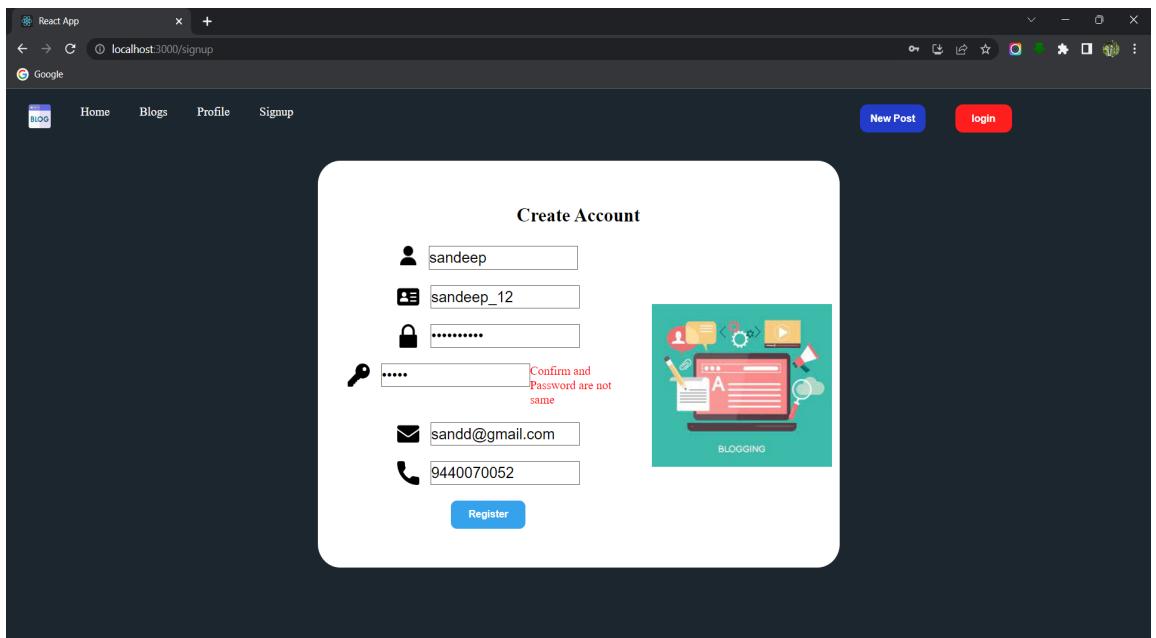
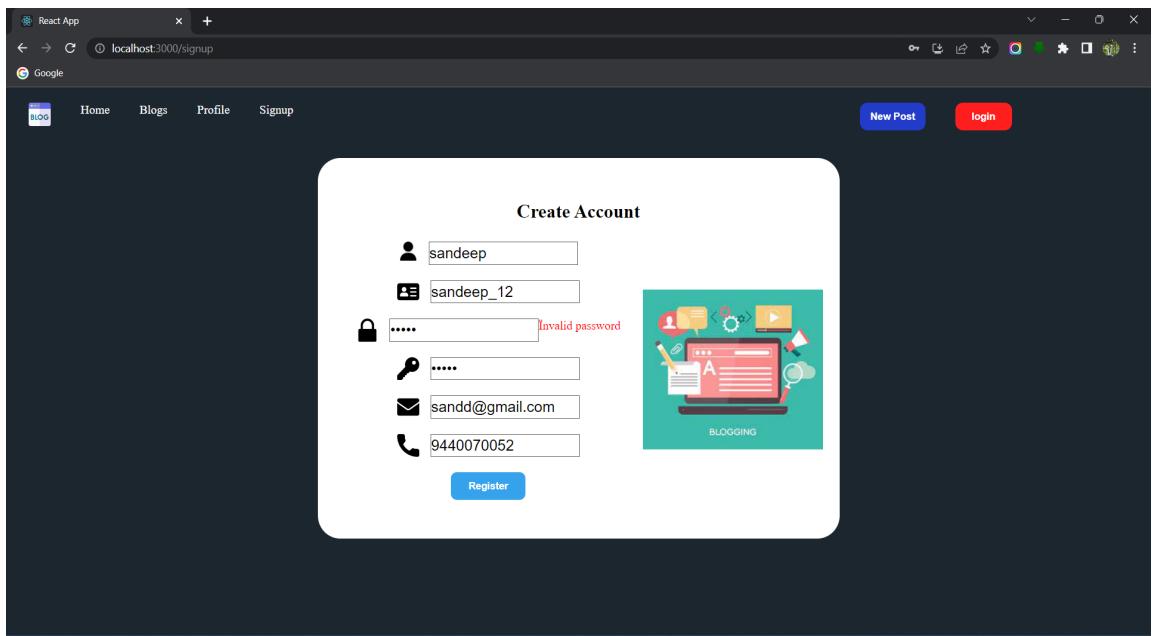


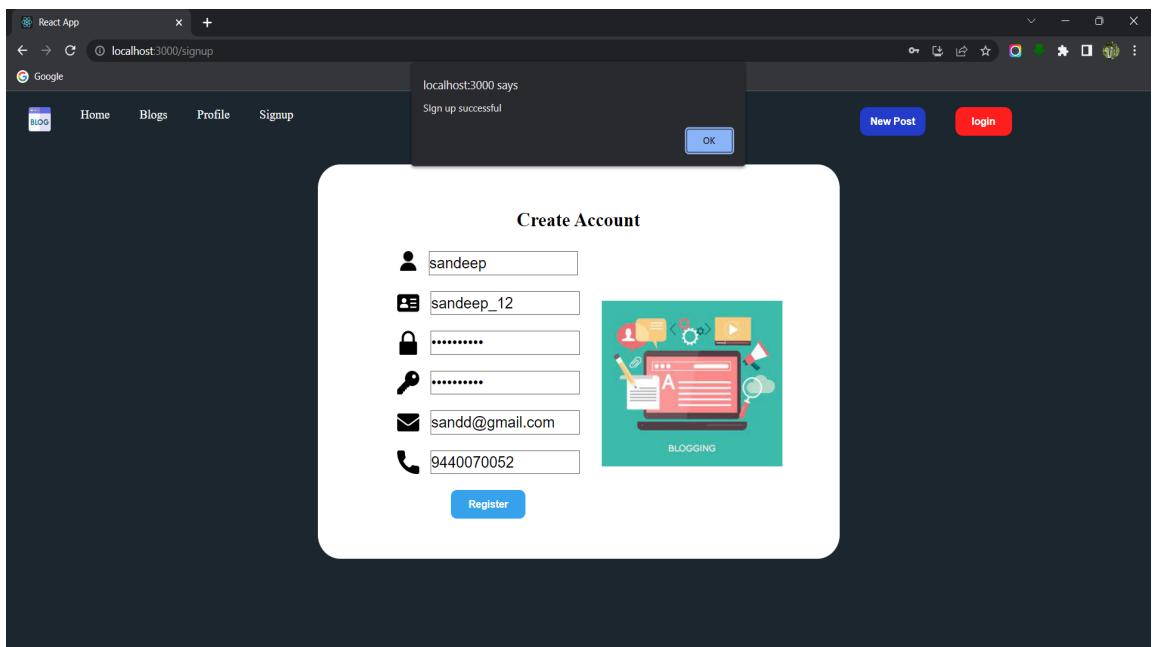
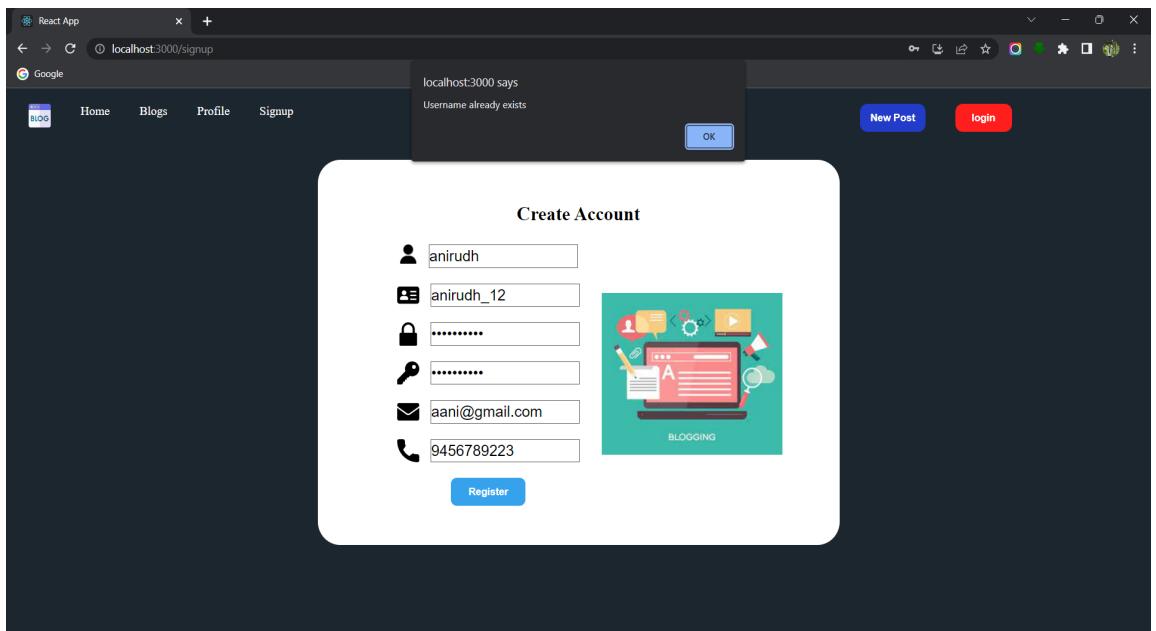
Unauthenticated users cannot like, save or comment on a blog.



User Sign Up -



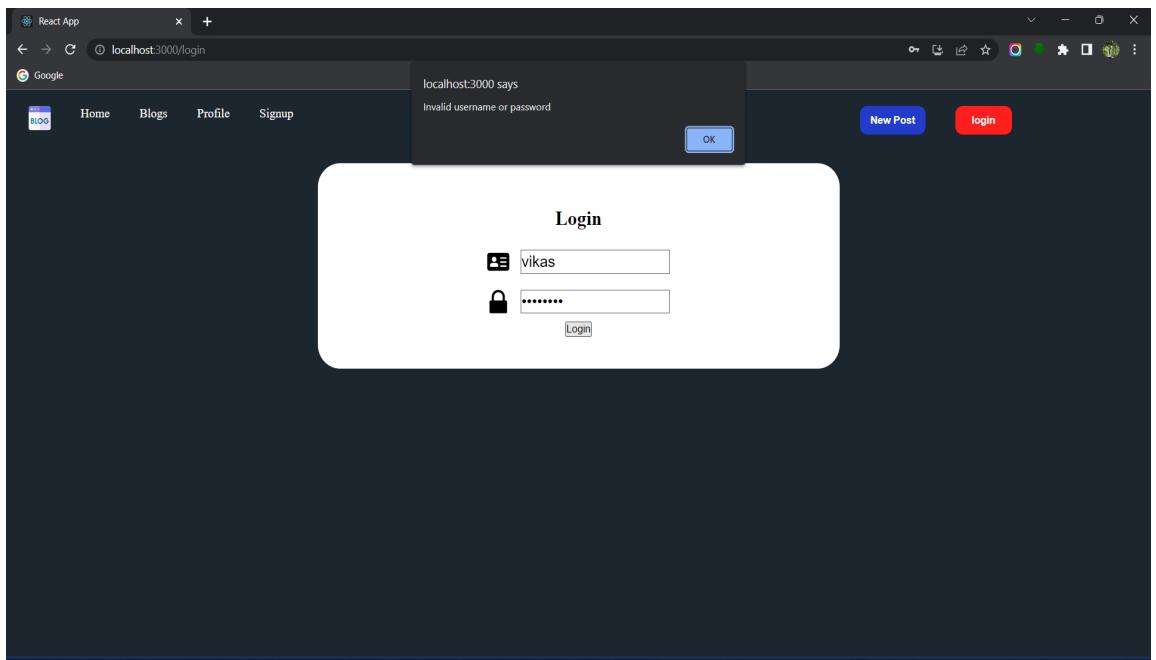




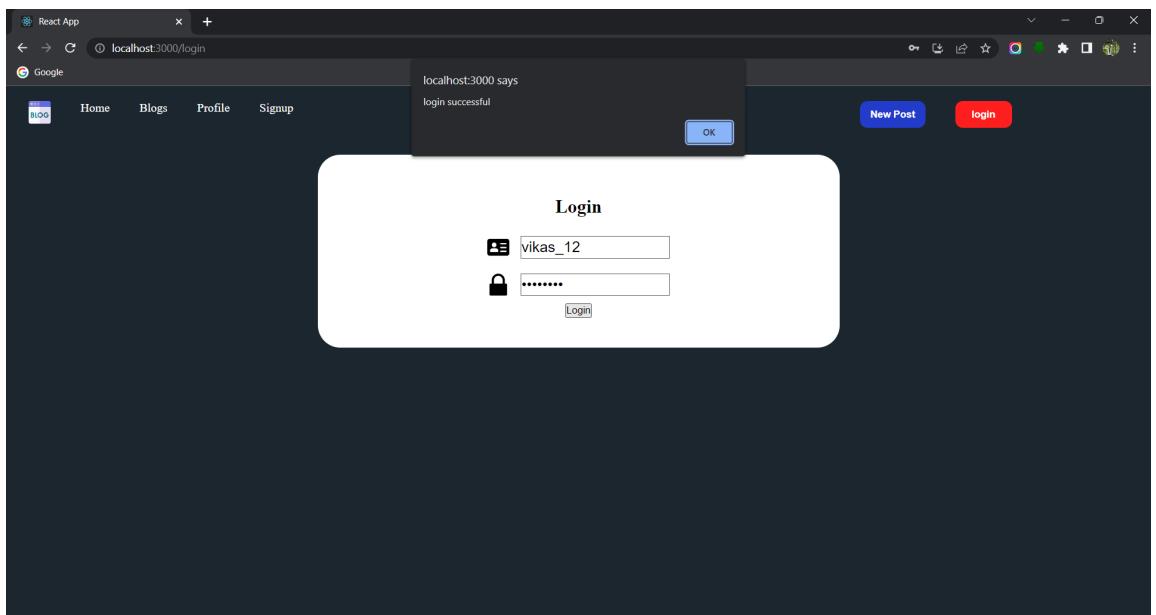
User Login -

User have to enter login credentials - Username and password

If wrong credentials are entered the following message would be displayed



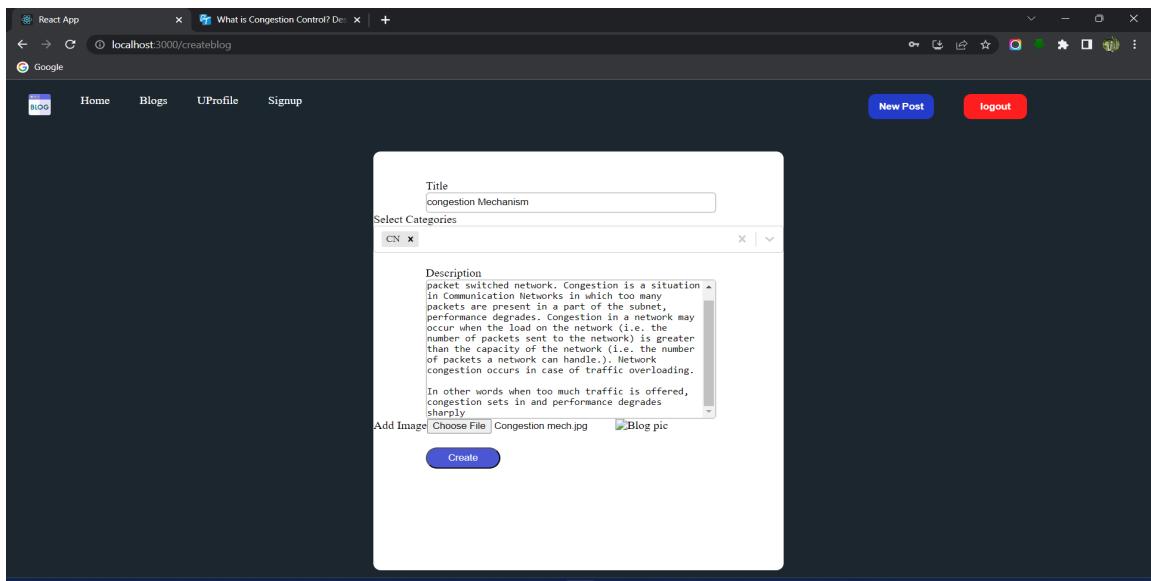
After logging in successfully, user details are stored in local storage which is useful for logout and other functionalities.



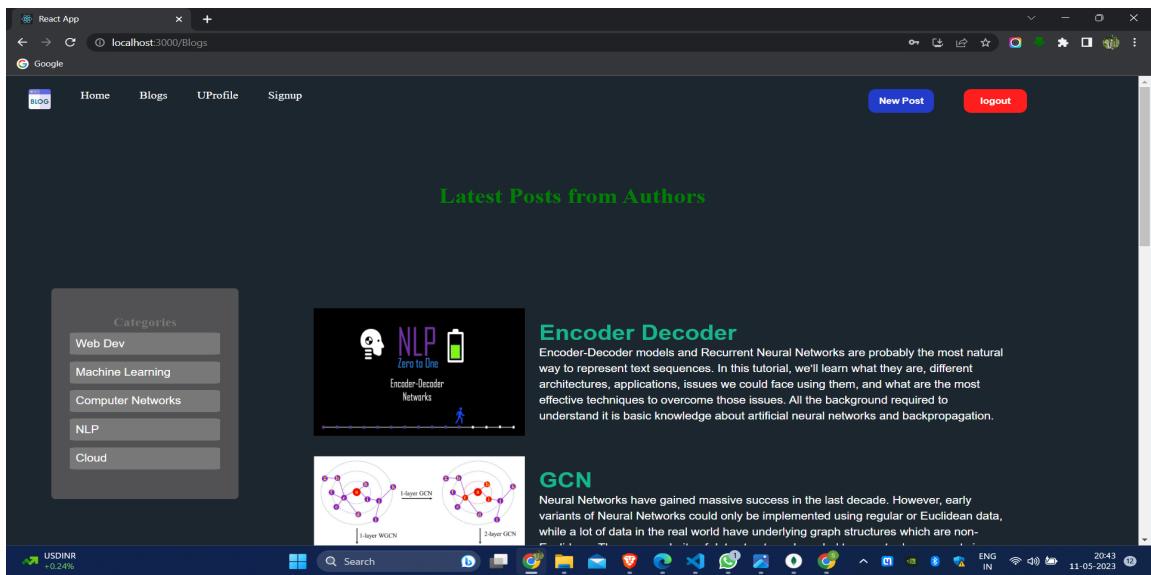
6.2 Authenticated User -

Users can create a new blog by entering title, select one or more

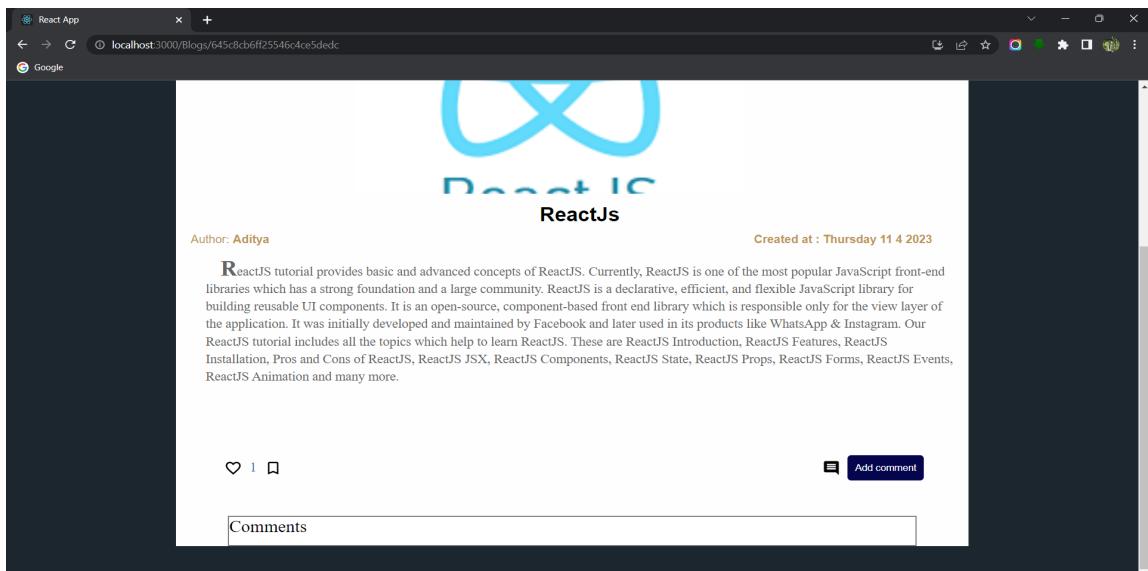
categories , add description and image.



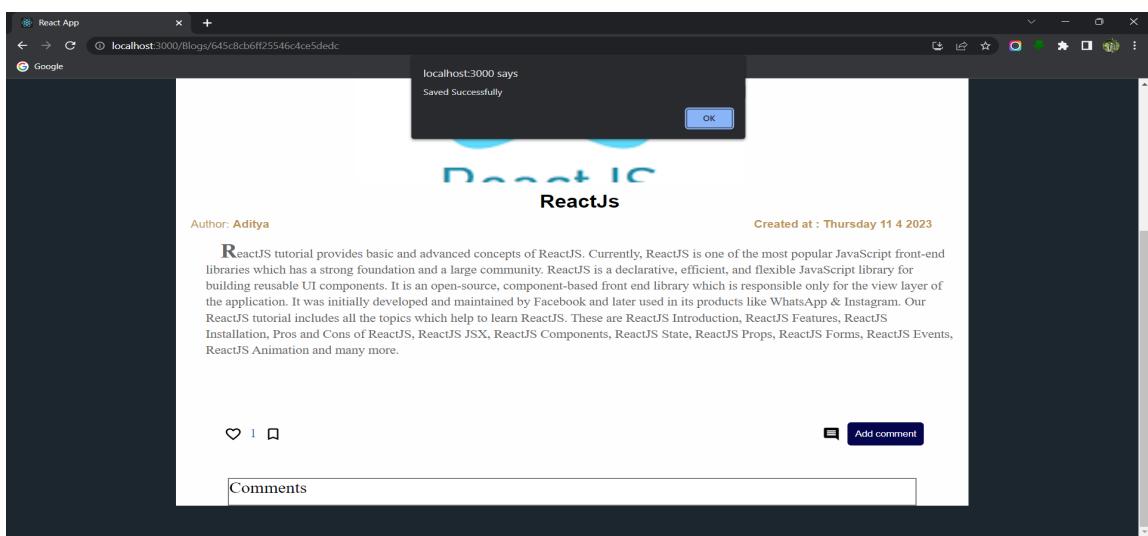
Blogs Page -



Single Blog Page -



Save a Blog



Comment on a Blog

The screenshot shows a browser window titled "React App" displaying a blog post. The URL is "localhost:3000/Blogs/645c8cb6ff25546c4ce5dedc". The post features a large blue React logo at the top. Below it, the title "ReactJS" is displayed. The author is listed as "Author: Aditya" and the creation date is "Created at : Thursday 11 4 2023". The main content discusses the basic and advanced concepts of ReactJS, mentioning its popularity and use in WhatsApp and Instagram. It includes a short description input field with the placeholder "awesome explanation" and a "submit" button. A "Comments" section is present at the bottom.

User created Blog -

The screenshot shows a browser window titled "React App" displaying a user-created blog post. The URL is "localhost:3000/Blogs/645c8784ff25546c4ce5dea0". The post title is "Sliding window Protocol". The author is "sai vikas" and it was created on "Thursday 11 4 2023". The content explains the sliding window protocol, noting that 2 bits are required to represent sequence numbers with a window size of 4. It describes how sequence numbers are numbered modulo-n and provides an example for a sending window size of 4. The receiver's window determines the maximum number of frames accepted at once. The post includes a note about the sequence numbering being modulo-n, an image of a binary sequence (00, 01, 10, 11), and a "Comments" section.

Update Title

localhost:3000 says
title updated successfully

OK

Sender

w Slided On ring Ack of ket - 0

0 1 2 3

ACK - 0

0 → Seq. Number 0 used again

→ 2 bits are required to represent seq. nos with window size 4.

Sliding window Protocol Me [Save](#)

Author: sai vikas [Edit](#) [Delete](#)

Created at : Thursday 11 4 2023

In these protocols, the sender has a buffer called the sending window and the receiver has buffer called the receiving window.

The size of the sending window determines the sequence number of the outbound frames. If the sequence number of the frames is an n-bit field, then the range of sequence numbers that can be assigned is 0 to $2^n - 1$. Consequently, the size of the sending window is $2^n - 1$. Thus in order to accommodate a sending window size of $2^n - 1$, a n-bit sequence number is chosen.

The sequence numbers are numbered as modulo- n . For example, if the sending window size is 4, then the sequence numbers will be 0, 1, 2, 3, 0, 1, 2, 3, 0, 1, and so on. The number of bits in the sequence number is 2 to generate the binary sequence 00, 01, 10, 11.

The size of the receiving window is the maximum number of frames that the receiver can accept at a time. It determines the maximum number of frames that the sender can send before receiving acknowledgement. Meanly

Update Description

localhost:3000 says
description updated successfully

OK

Sliding window Protocol Me [Save](#)

Author: sai vikas [Edit](#) [Delete](#)

Created at : Thursday 11 4 2023

The Receiving window.

The size of the sending window determines the sequence number of the outbound frames. If the sequence number of the frames is an n-bit field, then the range of sequence numbers that can be assigned is 0 to $2^n - 1$. Consequently, the size of the sending window is $2^n - 1$. Thus in order to accommodate a sending window size of $2^n - 1$, a n-bit sequence number is chosen.

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[Save](#)

Comments

Adding a comment -

Sliding window Protocol

Author: sai vikas Created at : Thursday 11 4 2023

the receiving window.

The size of the sending window determines the sequence number of the outbound frames. If the sequence number of the frames is an n-bit field, then the range of sequence numbers that can be assigned is 0 to $2^n - 1$. Consequently, the size of the sending window is $2^n - 1$. Thus in order to accommodate a sending window size of $2^n - 1$, a n-bit sequence number is chosen.

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The size of the receiving window is the maximum number of frames that the receiver can accept at a time. It determines the maximum number of frames that the sender can send before receiving acknowledgment.

Comments

anirudh_12 : Blog explanation was awesome

View Comments -

Comments

anirudh_12 : Blog explanation was awesome

vikas_12 : Hello Brilliant Explanation

vikas_12 : Amazing Explanation

User Profile Page -

User can view his profile

Name : sai vikas
Bio :Hey I am learning!!
Phone: 9346622519
Email : saivikas@gmail.com

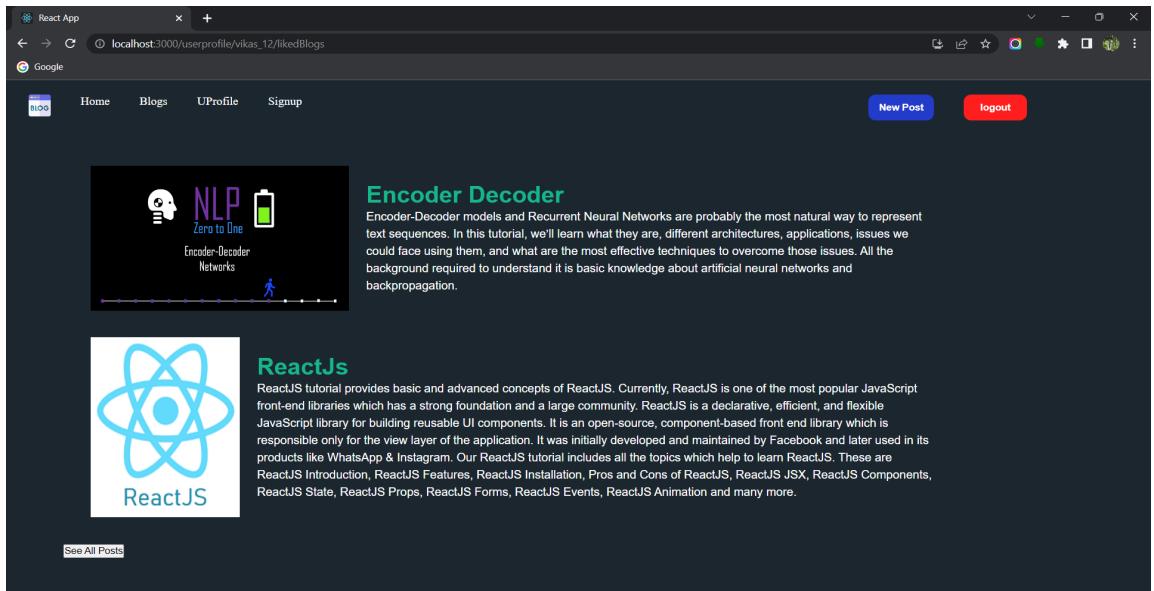
Encoder Decoder
Encoder-Decoder models and Recurrent Neural Networks are probably the most natural way to represent text sequences. In this tutorial, we'll learn what they are, different architectures, applications, issues we could face using them, and what

Update Bio -

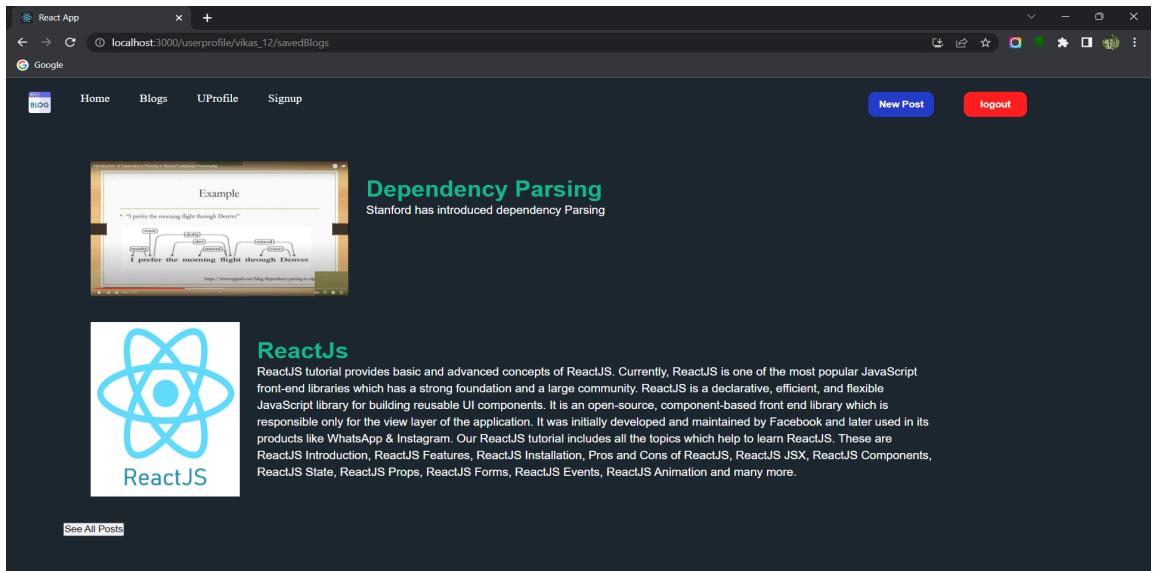
Name : sai vikas
Bio: Enjoying Learning
Phone: 9346622519
Email : saivikas@gmail.com

Encoder Decoder
Encoder-Decoder models and Recurrent Neural Networks are probably the most natural way to represent text sequences. In this tutorial, we'll learn what they are, different architectures, applications, issues we could face using them, and what are the most effective techniques to overcome those issues. All the background required to understand it is basic knowledge about artificial neural networks and

View User Liked Blogs -



View User Saved Blogs -



Update User Profile- (Adding new cover picture, profile picture, changing password)

React App localhost:3000/userprofile/vikas_12/updateUserDetails

Update Your Account

Cover Picture

Profile Picture

Name

Email

Password

Update

Updated Profile Page -

React App localhost:3000/userprofile/vikas_12

BLOG Home Blogs UProfile Signup New Post logout

Liked Blogs Saved Blogs Update Profile Delete Account Followers Following

ONLINE EDUCATION

Name : sai vikas
Bio : Enjoying Learning
Phone: 9346622519
Email : saivikas@gmail.com

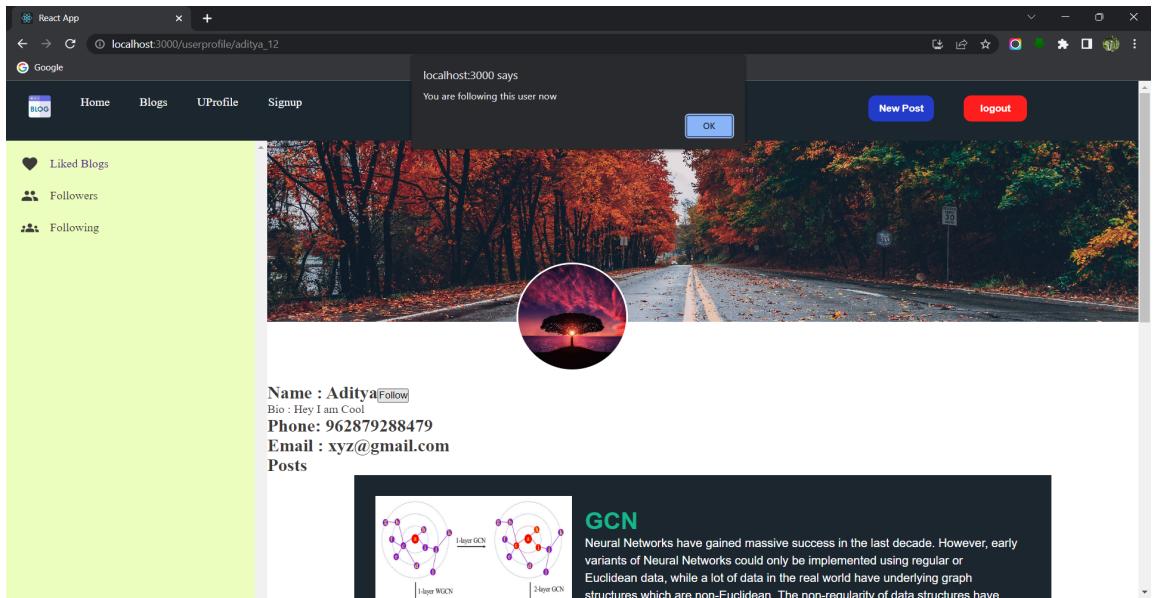
Posts

NLP
Zero to One
Encoder-Decoder

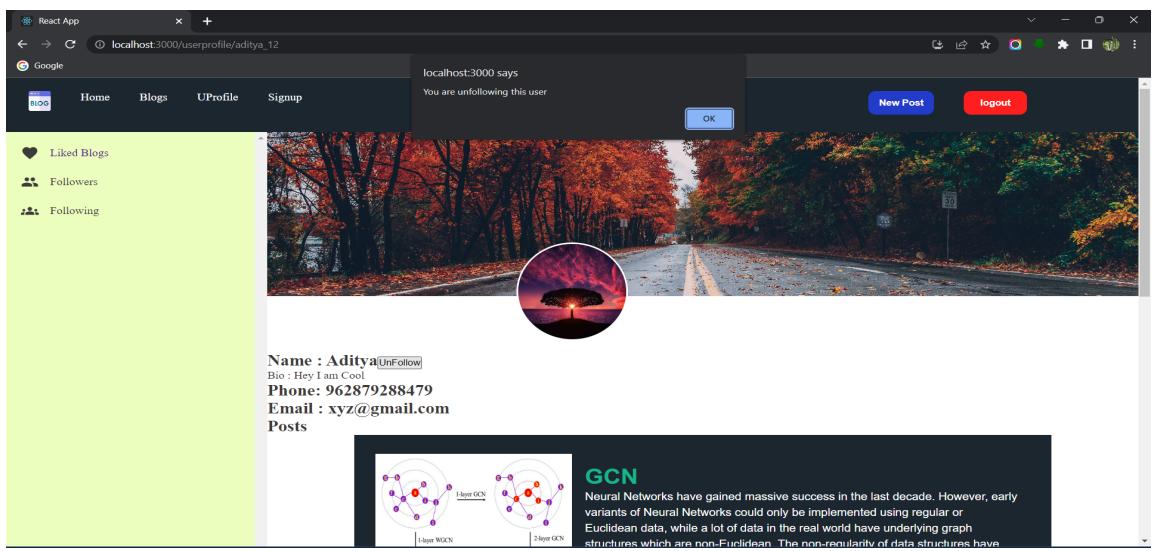
Encoder Decoder

Encoder-Decoder models and Recurrent Neural Networks are probably the most natural way to represent text sequences. In this tutorial, we'll learn what they are, different architectures, applications, issues we could face using them, and what

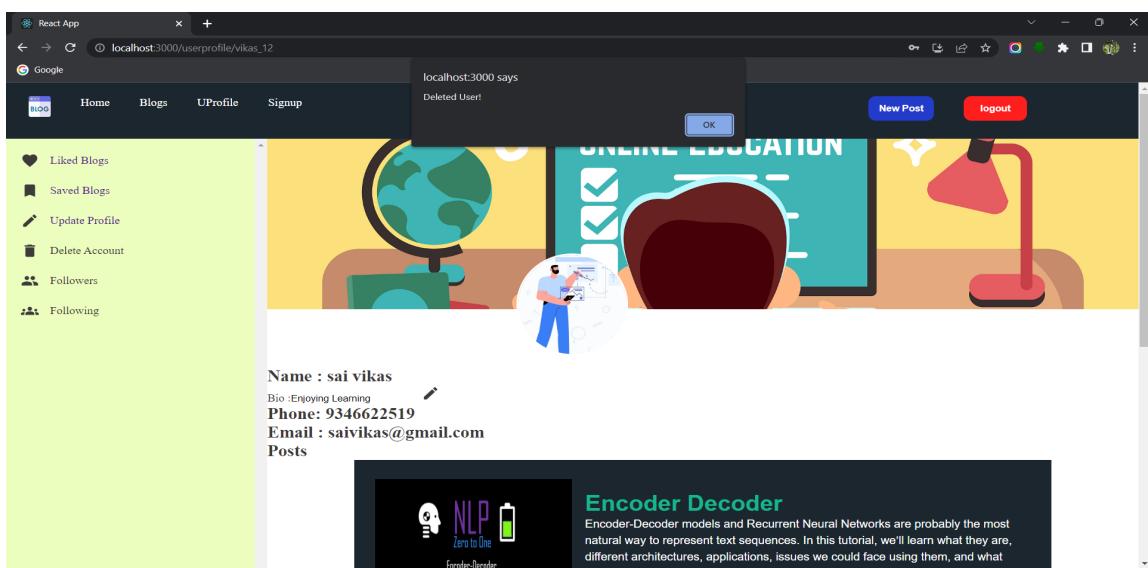
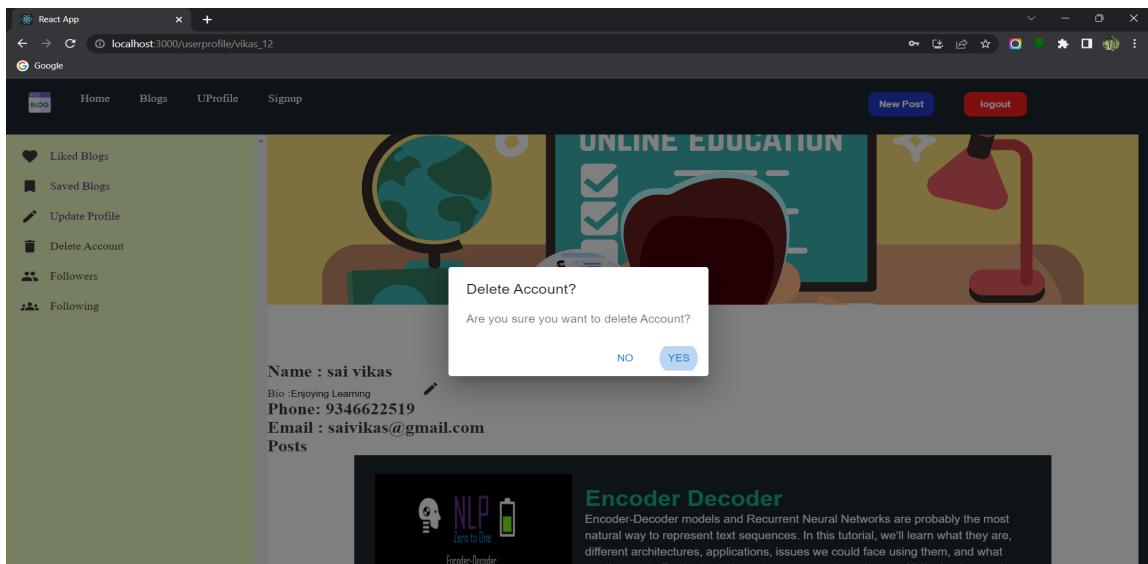
Follow another User -



Unfollow user -



Delete Account (Only user can delete their respective account)



7.Future Scope -

- Display followers and following in the userprofile page.
- Redirect to author's profile page when clicked on author in single blog page.
- Add admin role for deleting users and updating categories.(currently we are having "user" and "guest" roles).
- Creating light and dark theme options.
- Search for blogs by title or author.

8. References -

- The Complete Web Development Bootcamp by Angela Yu -Udemy
- ReactJs Full Course for Beginners by Dave Gray - Youtube
- <https://www.mongodb.com/docs/guides>
- <https://nodejs.org/en/docs>
- Node.js Social Media REST API with MongoDb by Lamadev - Youtube

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DATE - 11.05.2023