Blink - The Social Media Platform

Introduction: -

Blink is a social media application designed to foster a community where users can share their thoughts, experiences, and connect with like-minded individuals. The app enables users to upload pictures, like and comment on posts, manage their profiles, and build connections with others.

Features: -

- **User Authentication and Login:** Secure user registration and login functionality.
- **Picture Upload and Sharing:** Users can upload and share their pictures with the community.
- **Like and Comment:** Users can interact with posts by liking and commenting.
- **User Profile Management:** Users can add their location and occupation details and manage their profiles.
- **Friend Management:** Users can add and remove friends to build their network.

Technologies Used: -

- **Frontend:** React.js
- **Backend:** Node.js, Express.js
- **Database:** MongoDB
- **Authentication:** JWT (JSON Web Token)
- **Styling:** CSS, Material-UI (or any other relevant styling framework)

Installation: -

Follow these steps to set up and run the application locally:

1. **Clone the Repository**

   ```
   git clone https://github.com/Kaysanshaikh/FutureIntern_FSD_05.git
   ```

2. **Setting Up the Client**

   Navigate to the client directory and install the necessary dependencies:

   ```
   cd client
   npm install
   npm start
   ```

3. **Setting Up the Server**

   Navigate to the server directory and install the necessary dependencies:

   ```
   cd server
   npm install
   npm start
   ```

API Endpoints: -

- **POST /api/auth/register:** Register a new user.
- **POST /api/auth/login:** Authenticate and log in a user.
- **GET /api/posts:** Retrieve all posts.
- **POST /api/posts:** Create a new post.
- **GET /api/posts/:id:** Retrieve a specific post by ID.
- **PUT /api/posts/:id:** Update an existing post by ID.
- **DELETE /api/posts/:id:** Delete a post by ID.
- **GET /api/users/:id:** Retrieve a specific user profile by ID.
- **PUT /api/users/:id:** Update a user profile by ID.
- **POST /api/friends/add:** Add a friend.
- **POST /api/friends/remove:** Remove a friend.

Usage: -

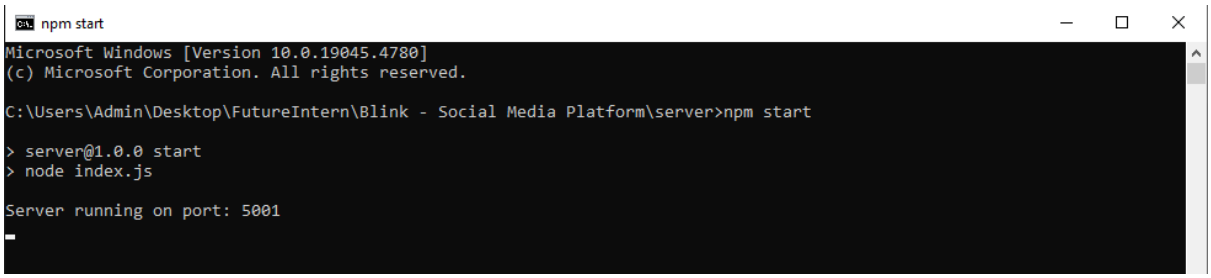
1. **Register and Login:** Use the authentication endpoints to register and log in to the application.
2. **Create and Share Posts:** Navigate to the "Create Post" page to upload and share pictures.
3. **Interact with Posts:** Like and comment on posts from the feed.
4. **Manage Profile:** Update your profile details and manage your account settings.
5. **Manage Friends:** Add or remove friends to build your network.

Security Considerations: -

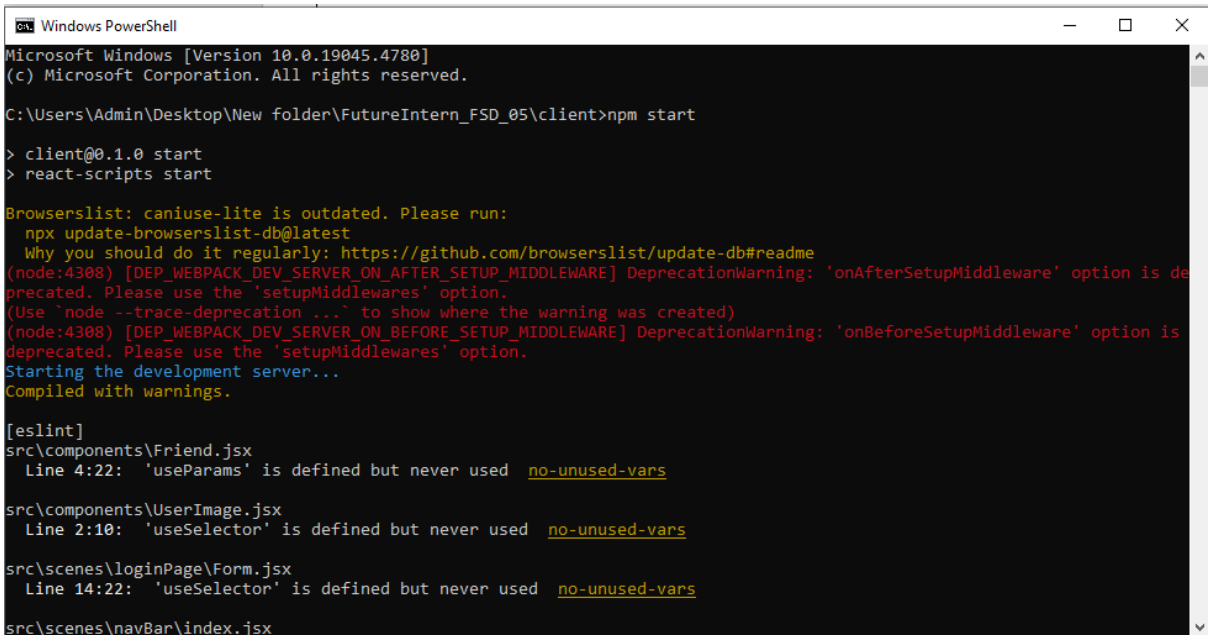
- **Authentication:** Secure user registration and login using JWT.
- **Authorization:** Implemented role-based access control for protected routes and actions.
- **Error Handling:** Proper error handling to ensure a smooth user experience and avoid exposing sensitive information.

Screenshots: -

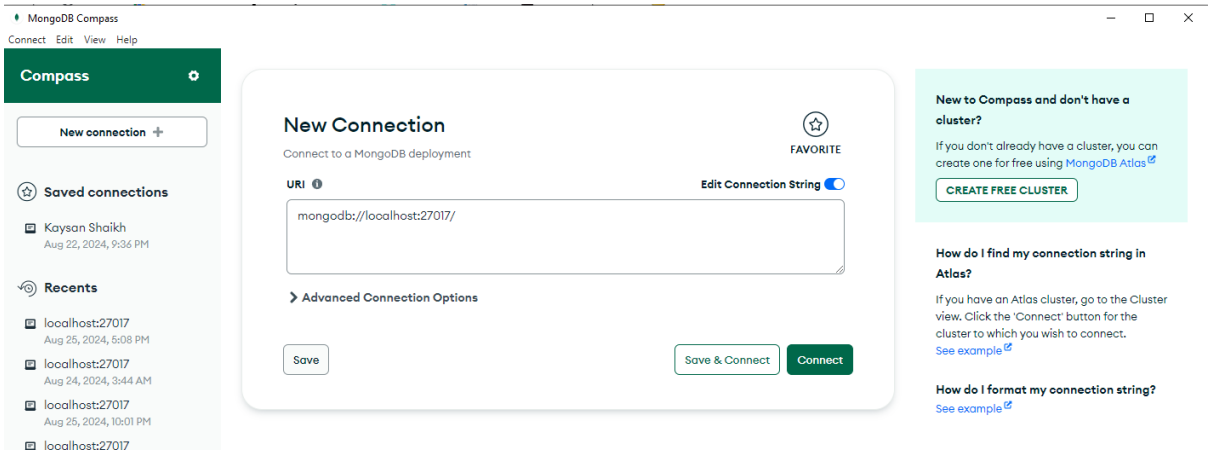
server:

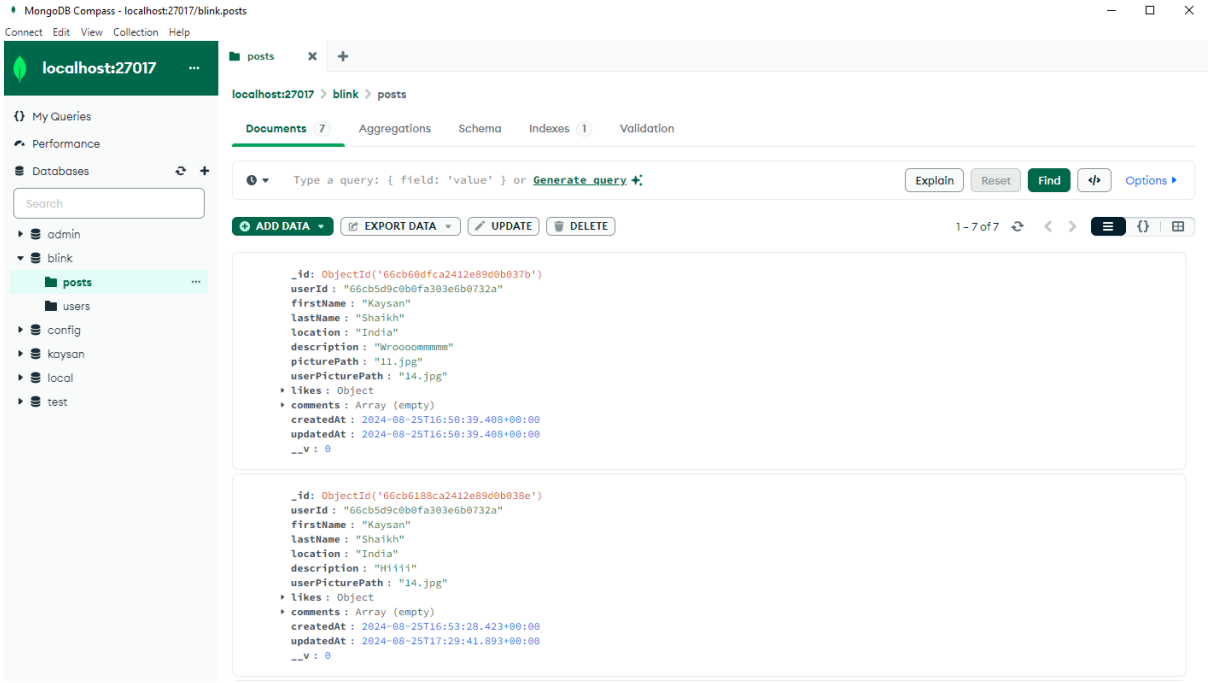


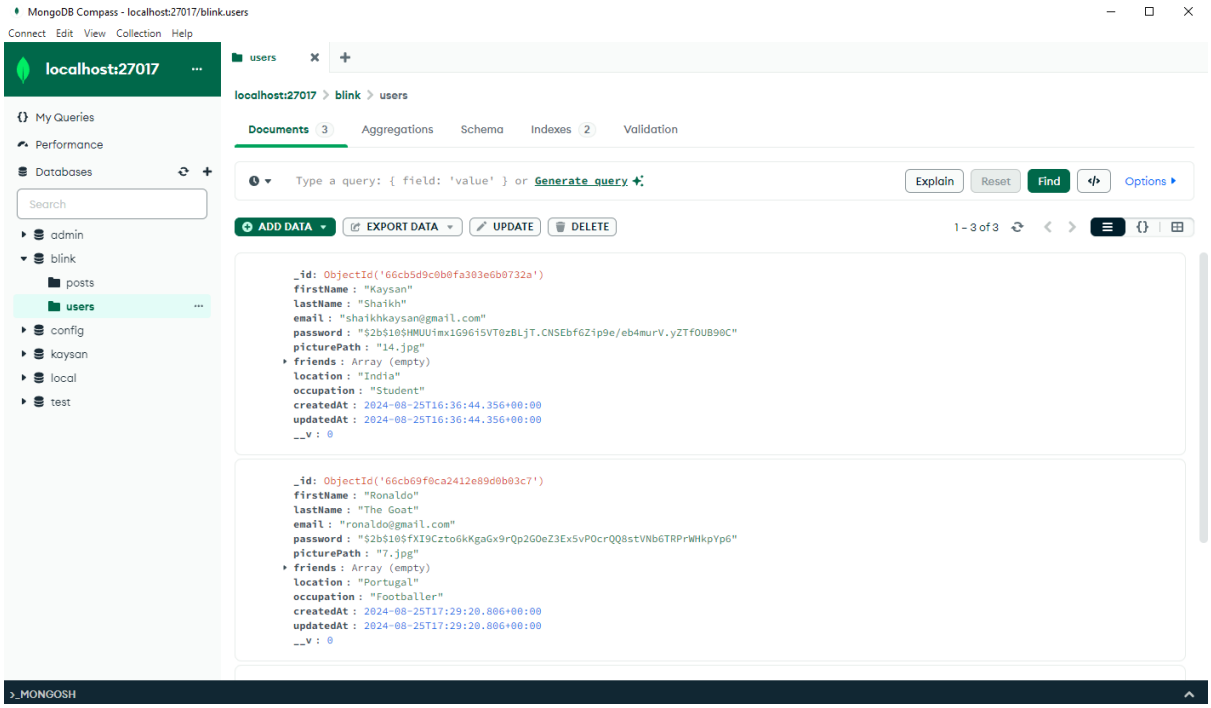
client:



MongoDB:




MongoDB Compass - localhost:27017/blink.posts
Connect Edit View Collection Help
localhost:27017
My Queries
Performance
Databases
Search
admin
blink
posts
users
config
kaysan
local
test
posts
localhost:27017 > blink > posts
Documents 7
Aggregations
Schema
Indexes 1
Validation
Type a query: { field: 'value' } or Generate query
Explain
Reset
Find
Options
ADD DATA
EXPORT DATA
UPDATE
DELETE
1 - 7 of 7
_id: ObjectId('66cb60dfca2412e89d0b037b')
userId : "66cb5d9c0b0fa303e6b0732a"
firstName : "Kaysan"
lastName : "Shaikh"
location : "India"
description : "Wroooommmmm"
picturePath : "11.jpg"
userPicturePath : "14.jpg"
likes : Object
comments : Array (empty)
createdAt : 2024-08-25T16:50:39.408+00:00
updatedAt : 2024-08-25T16:50:39.408+00:00
__v : 0
_id: ObjectId('66cb6188ca2412e89d0b038e')
userId : "66cb5d9c0b0fa303e6b0732a"
firstName : "Kaysan"
lastName : "Shaikh"
location : "India"
description : "Hiiii"
userPicturePath : "14.jpg"
likes : Object
comments : Array (empty)
createdAt : 2024-08-25T16:53:28.423+00:00
updatedAt : 2024-08-25T17:29:41.893+00:00
__v : 0


MongoDB Compass - localhost:27017/blink.users
Connect Edit View Collection Help
localhost:27017
My Queries
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localhost:27017 > blink > users
Documents 3
Aggregations
Schema
Indexes 2
Validation
Type a query: { field: 'value' } or Generate query
Explain
Reset
Find
Options
ADD DATA
EXPORT DATA
UPDATE
DELETE
1 - 3 of 3
_id: ObjectId('66cb5d9c0b0fa303e6b0732a')
firstName : "Kaysan"
lastName : "Shaikh"
email : "shaikhkaysan@gmail.com"
password : "$2b$10$HMUUimx1G96i5VT0zBLjT.CNSEbf6Zip9e/eb4murV.yZTfOUB90C"
picturePath : "14.jpg"
friends : Array (empty)
location : "India"
occupation : "Student"
createdAt : 2024-08-25T16:36:44.356+00:00
updatedAt : 2024-08-25T16:36:44.356+00:00
__v : 0
_id: ObjectId('66cb69f0ca2412e89d0b03c7')
firstName : "Ronaldo"
lastName : "The Goat"
email : "ronaldo@gmail.com"
password : "$2b$10$fXI9Czto6kKgaGx9rQp2GOeZ3Ex5vPOcrQQ8stVNb6TRPrWHkpYp6"
picturePath : "7.jpg"
friends : Array (empty)
location : "Portugal"
occupation : "Footballer"
createdAt : 2024-08-25T17:29:20.806+00:00
updatedAt : 2024-08-25T17:29:20.806+00:00
__v : 0
>_MONGOSH

Code: -

client:

FlexBetween.jsx

C:\Users\Admin\Desktop\FutureIntern\Blink - Social Media Platform\client\src\components\FlexBetween.jsx

```jsx
import { styled } from '@mui/system';

const FlexBetween = styled(Box)({
    display: 'flex',
    justifyContent: 'space-between',
    alignItems: 'center',

});

export default FlexBetween;
```

UserImage.jsx

client > src > components > UserImage.jsx

```jsx
import { Box } from "@mui/material";
import { useSelector } from "react-redux";

const userImage = ({image, size = "60px"})=>{
    const url  = "http://localhost:5001";


    return (
        <Box width={size} height={size}>
            <img
            style={{
                objectFit: "cover",
                borderRadius: "50%",
            }}
            width={size}
            height={size}
            src={`${url}/assets/${image}`}
            alt="user"
            />
        </Box>
    )
}

export default userImage;
```

WidgetWrapper.jsx

client > src > components > WidgetWrapper.jsx > ...

```jsx
import {Box} from "@mui/material"
import { styled } from '@mui/system';

const WidgetWrapper = styled(Box)(({theme}) =>({
    padding: "1.5rem 1.5rem 0.75rem 1.5rem",
    backgroundColor: theme.palette.background.alt,
    borderRadius: "0.75rem",
}))

export default WidgetWrapper;
```

server: (Backend)

auth.js

server > middleware > auth.js > verifyToken

```jsx
import jwt from 'jsonwebtoken';

export const verifyToken = async(req, res, next) => {
    try{
        console.log(req.headers);
        let token = req.headers['authorization'];

        if(!token){
            return res.status(403).json({msg: 'Access denied'});
        }

        if(token.startsWith('Bearer ')){
            token = token.slice(7, token.length).trimLeft();
        }

        const verified = jwt.verify(token, process.env.JWT_SECRET);
        req.user = verified;
        next();
    }catch(err){
        res.status(500).json({error: err.message});
    }
}
```

Post.js

server > models > Post.js > ...

```jsx
import mongoose from 'mongoose';

const postSchema = mongoose.Schema({
    userId:{
        type: String,
        required: true
    },
    firstName:{
        type: String,
        required: true
    },
    lastName:{
        type: String,
        required: true
    },
    location:String,
    description: String,
    picturePath: String,
    userPicturePath: String,
    likes: {
        type: Map,
        of: Boolean
    },
    comments: {
        type:Array,
        default: []
    },

}
, { timestamps: true });

export default mongoose.model('Post', postSchema);
```

User.js

server > models > User.js > ...

```
import mongoose from 'mongoose';

const UserSchema = new mongoose.Schema({

    firstName:{
        type: String,
        required: true,
        min: 2,
        max: 50
    },

    lastName:{
        type: String,
        required: true,
        min: 2,
        max: 50
    },

    email:{
        type: String,
        required: true,
        max: 255,
        unique: true
    },

    password:{
        type: String,
        required: true,
        min: 5,
    },

    picturePath:{
        type: String,
        default: "",

    },

    friends:{
        type: Array,
        default: []
    },

    location: String,
    occupation: String,

}, {timestamps: true});

const User = mongoose.model("User", UserSchema);

export default User;
```

client: (Frontend)

Friend.jsx

client > src > components > Friend.jsx

```jsx
import { PersonAddOutlined, PersonRemoveOutlined } from "@mui/icons-material";
import { Box, IconButton, Typography, useTheme } from "@mui/material";
import { useDispatch, useSelector } from "react-redux";
import { useNavigate,useParams } from "react-router-dom";
import { setFriends } from "../state";
import FlexBetween from "./FlexBetween";
import UserImage from "./UserImage";

const Friend = ({ friendId, name, subtitle, userPicturePath }) => {
    const dispatch = useDispatch();
    const navigate = useNavigate();
    const { _id } = useSelector((state) => state.user);
    const token = useSelector((state) => state.token);
    const friends = useSelector((state) => state.user.friends);

    const { palette } = useTheme();
    const primaryLight = palette.primary.light;
    const primaryDark = palette.primary.dark;
    const main = palette.neutral.main;
    const medium = palette.neutral.medium;


    const isFriend = friends?.find((friend) => friend._id === friendId);

    const isMe = _id === friendId ;

    const patchFriend = async () => {
        const response = await fetch(
            `http://localhost:5001/${_id}/${friendId}`,
            {
                method: "PATCH",
                headers: {
                    Authorization: `Bearer ${token}`,
                    "Content-Type": "application/json",
                },
            }
        );
        const data = await response.json();
        dispatch(setFriends({ friends: data }));
    };

    return (
        <FlexBetween>
            <FlexBetween gap="1rem">
                <UserImage image={userPicturePath} size="55px" />
                <Box
                    onClick={() => {
                        navigate(`/profile/${friendId}`);
                        navigate(0);
```

index.jsx

client > src > scenes > homePage > index.jsx > ...

```jsx
import { Box, useMediaQuery } from '@mui/material'
import React from 'react'
import NavBar from '../navBar'
import { useSelector } from 'react-redux'
import UserWidget from '../widgets/UserWidget'
import MyPostWidget from "../widgets/MyPostWidget"
import PostsWidget from '../widgets/PostsWidget'
import FriendListWidget from '../widgets/FriendListWidget'

const HomePage = () => {
    const isNonMobileScreens = useMediaQuery("(min-width:1000px)");
    const {_id, picturePath} = useSelector(state => state.user)

    return (
        <Box>
            <NavBar />
            <Box
                width="100%"
                padding="2rem 6%"
                display={isNonMobileScreens ? "flex" : "block"}
                gap="0.5rem"
                justifyContent="space-between"
            >
                <Box flexBasis={isNonMobileScreens ? "26%": undefined}>
                    <UserWidget userId={_id} picturePath={picturePath} />
                </Box>
                <Box
                    flexBasis={isNonMobileScreens ? "42%": undefined}
                    mt={isNonMobileScreens ? undefined : "2rem"}
                >
                    <MyPostWidget picturePath={picturePath}/>
                    <PostsWidget userId={_id} />
                </Box>
                {isNonMobileScreens && (
                    <Box flexBasis="26%">
                        <FriendListWidget userId={_id}/>
                    </Box>
                    )}
            </Box>
        </Box>
    )
}

export default HomePage
```

Form.jsx

client > src > scenes > loginPage > Form.jsx > ...

```jsx
import { useState } from "react";
import {
    Box,
    Button,
    TextField,
    useMediaQuery,
    Typography,
    useTheme,
} from "@mui/material";
import EditOutlinedIcon from "@mui/icons-material/EditOutlined";
import { Formik } from "formik";
import * as yup from "yup";
import { useNavigate } from "react-router-dom";
import { useDispatch,useSelector } from "react-redux";
import { setLogin } from "../../state";
import Dropzone from "react-dropzone";
import FlexBetween from "../../components/FlexBetween";

const registerSchema = yup.object().shape({
    firstName: yup.string().required("required"),
    lastName: yup.string().required("required"),
    email: yup.string().email("invalid email").required("required"),
    password: yup.string().required("required"),
    location: yup.string().required("required"),
    occupation: yup.string().required("required"),
    picture: yup.string().required("required"),
});

const loginSchema = yup.object().shape({
    email: yup.string().email("invalid email").required("required"),
    password: yup.string().required("required"),
});

const initialValuesRegister = {
    firstName: "",
    lastName: "",
    email: "",
    password: "",
    location: "",
    occupation: "",
    picture: "",
};

const initialValuesLogin = {
    email: "",
    password: "",
};

const Form = () => {
```

index.jsx

client > src > scenes > loginPage > index.jsx > ...

```jsx
import React from 'react'
import { Box, Typography, useTheme, useMediaQuery } from '@mui/material'
import Form from './Form'

const LoginPage = () => {
  const theme = useTheme()
  const isNonMobileScreens = useMediaQuery("(min-width: 1000px)")

  return (
    <Box>
      <Box
        width="100%"
        backgroundColor={theme.palette.background.alt}
        padding="1rem 6%"
        textAlign="center"
      >
        <Typography
          fontWeight="bold"
          fontSize="32px"
          color="primary"
        >
          Blink
        </Typography>
      </Box>

      <Box
        width={isNonMobileScreens ? "50%" : "100%"}
        p="2rem"
        m="2rem auto"
        borderRadius="1.5rem"
        backgroundColor={theme.palette.background.alt}
      >
        <Typography
          fontWeight="500"
          variant='h5'
          sx={{
            mb:"1.5rem"
          }}
        >
          Welcome to Blink, Connect with anyone in the blink of an eye
        </Typography>
        <Form />
      </Box>
    </Box>
  )
}

export default LoginPage
```

index.js

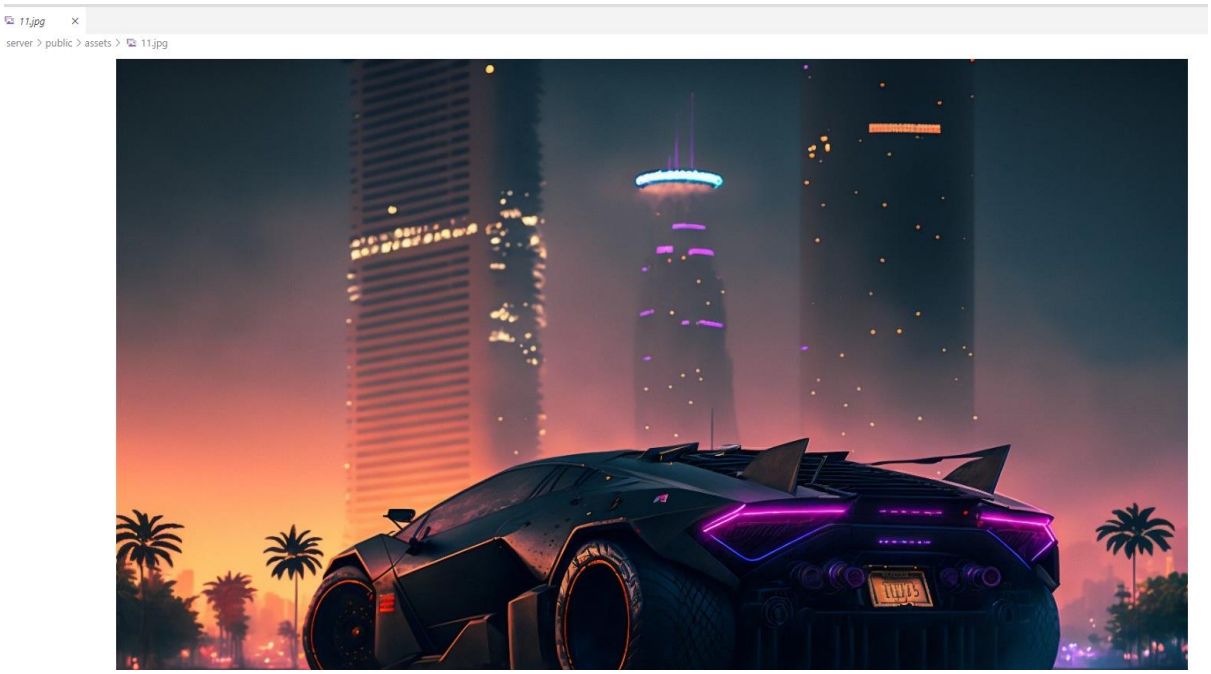
client > src > index.js > ...

```
import React from 'react';
import ReactDOM from 'react-dom/client';
import './index.css';
import App from './App';
import authReducer from './state';
import { configureStore } from '@reduxjs/toolkit';
import { Provider } from 'react-redux';
import {
  persistStore,
  persistReducer,
  FLUSH,
  REHYDRATE,
  PAUSE,
  PERSIST,
  PURGE,
  REGISTER,
} from "redux-persist";
import storage from 'redux-persist/lib/storage';
import { PersistGate } from 'redux-persist/integration/react';

const persistConfig = {
  key: 'root',
  storage,
  version: 1,
};
const persistedReducer = persistReducer(persistConfig, authReducer);
const store = configureStore({
  reducer: persistedReducer,
  middleware: (getDefaultMiddleware) =>
    getDefaultMiddleware({
      serializableCheck: {
        ignoredActions: [FLUSH, REHYDRATE, PAUSE, PERSIST, PURGE, REGISTER],
      },
    }),
});

const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(
  <React.StrictMode>
    <Provider store={store}>
      <PersistGate loading={null} persistor={persistStore(store)}>
        <App />
      </PersistGate>
    </Provider>
  </React.StrictMode>
);


```

JS theme.js ×

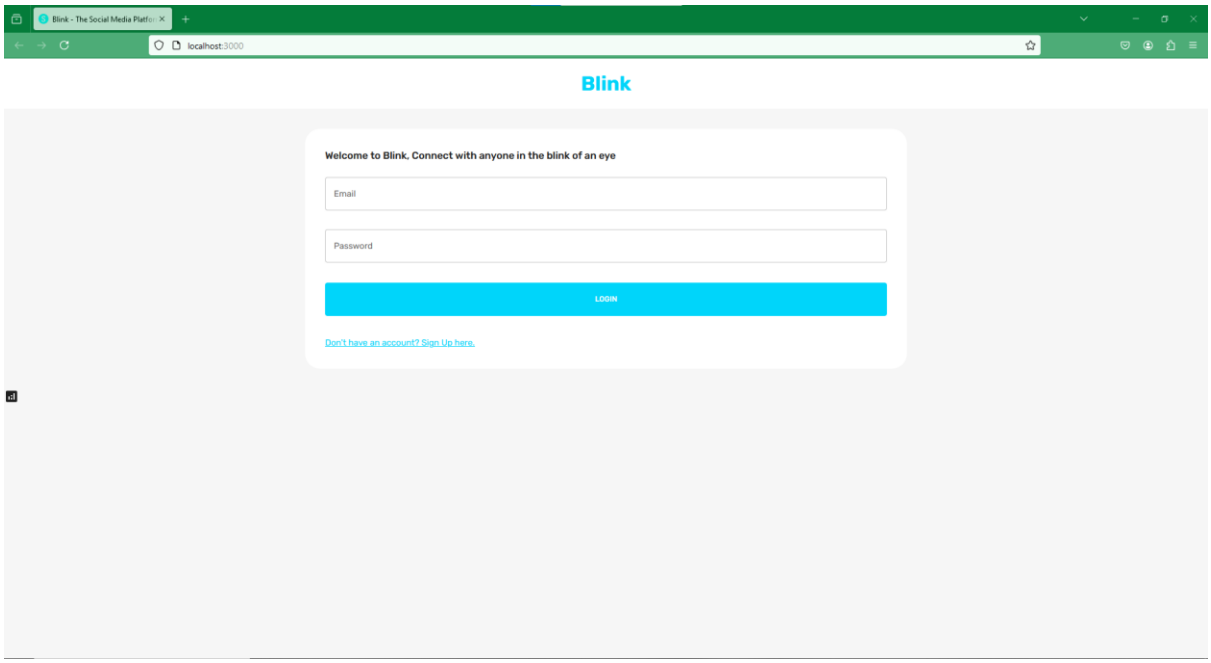
client > src > JS theme.js > ...

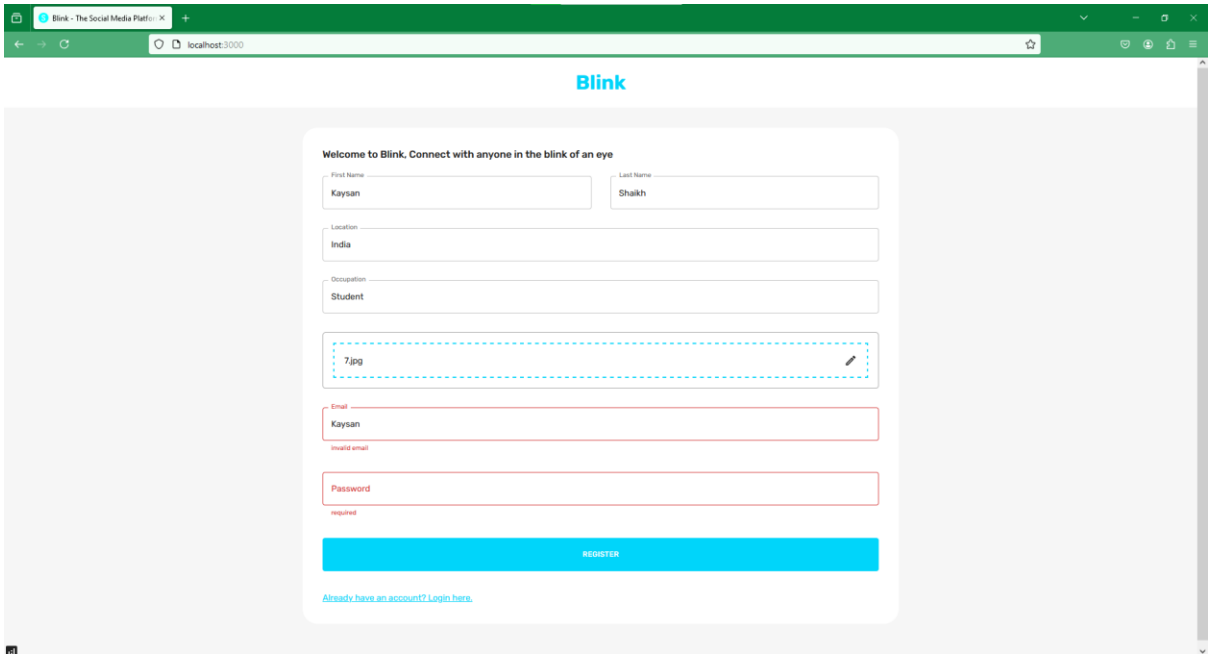
```
export const colorTokens = {
    grey: {
        0: "#FFFFFF",
        10: "#F6F6F6",
        50: "#F0F0F0",
        100: "#E0E0E0",
        200: "#C2C2C2",
        300: "#A3A3A3",
        400: "#858585",
        500: "#666666",
        600: "#4D4D4D",
        700: "#333333",
        800: "#1A1A1A",
        900: "#0A0A0A",
        1000: "#000000",
    },
    primary: {
        50: "#E6FBFF",
        100: "#CCF7FE",
        200: "#99EEFD",
        300: "#66E6FC",
        400: "#33DDFB",
        500: "#00D5FA",
        600: "#00A0BC",
        700: "#006B7D",
        800: "#00353F",
        900: "#001519",
    },
};

// mui theme settings
export const themeSettings = (mode) => {
    return {
        palette: {
            mode: mode,
            ...(mode === "dark"
                ? {
                    // palette values for dark mode
                    primary: {
                        dark: colorTokens.primary[200],
                        main: colorTokens.primary[500],
                        light: colorTokens.primary[800],
                    },
                    neutral: {
                        dark: colorTokens.grey[100],
                        main: colorTokens.grey[200],
                        mediumMain: colorTokens.grey[300],
                        medium: colorTokens.grey[400],
                        light: colorTokens.grey[700],
                    }
```

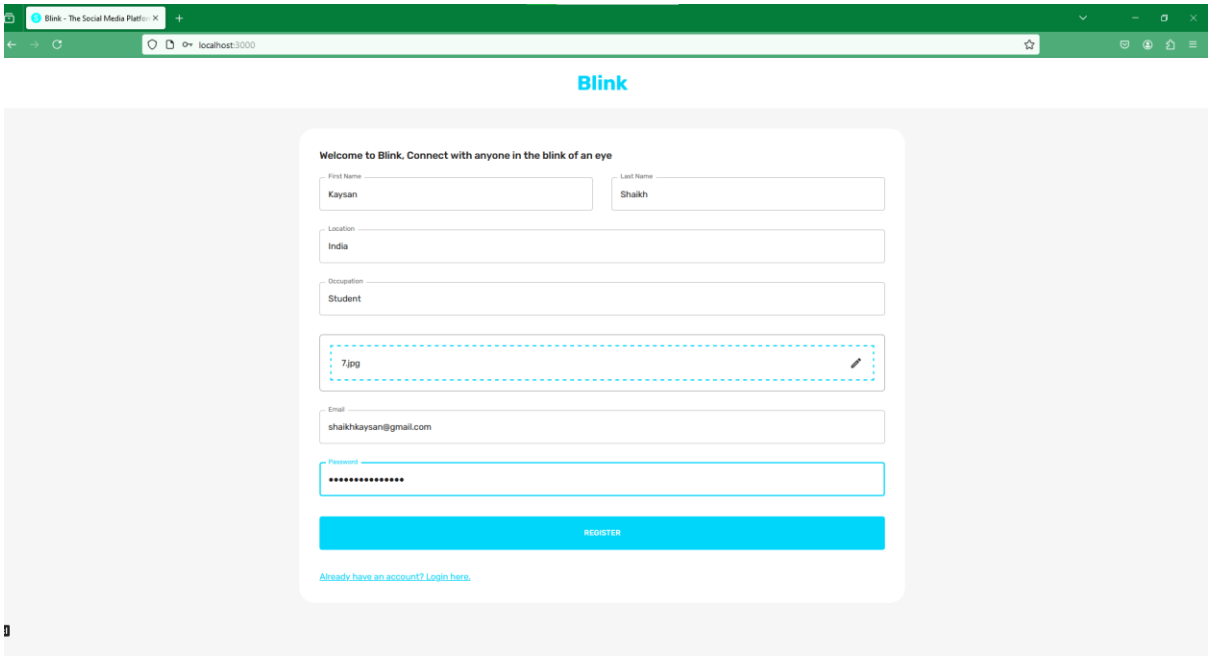


Output: -

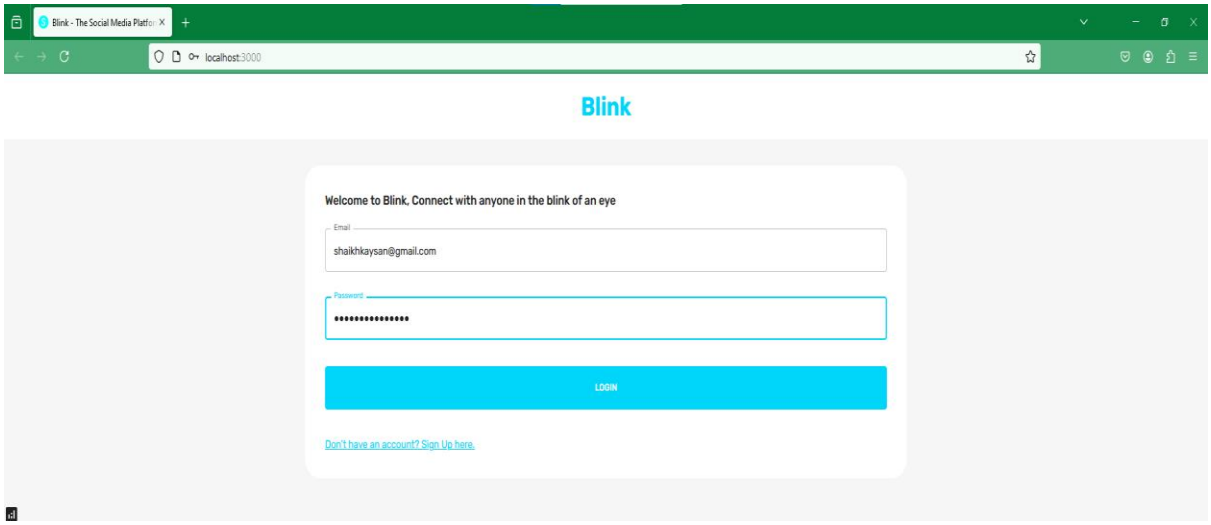
Sign in



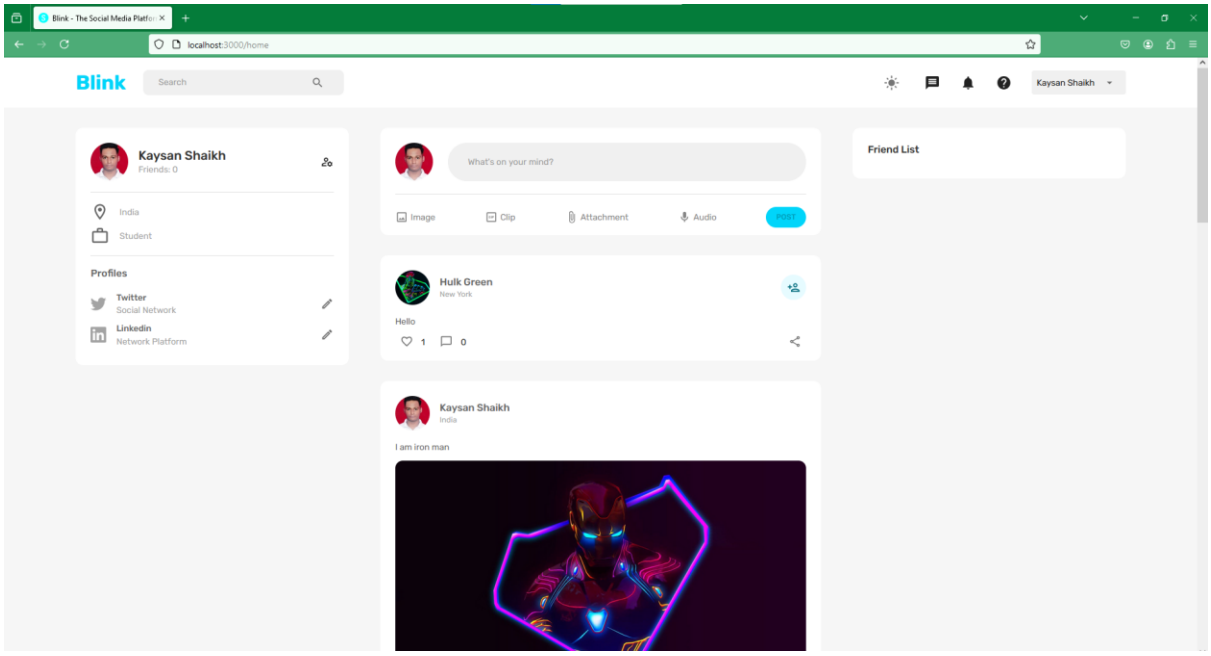

Blink - The Social Media Platfo
localhost:3000
Blink
Welcome to Blink, Connect with anyone in the blink of an eye
First Name
Kaysan
Last Name
Shaikh
Location
India
Occupation
Student
7.jpg
Email
Kaysan
Invalid email
Password
required
REGISTER
Already have an account? Login here.

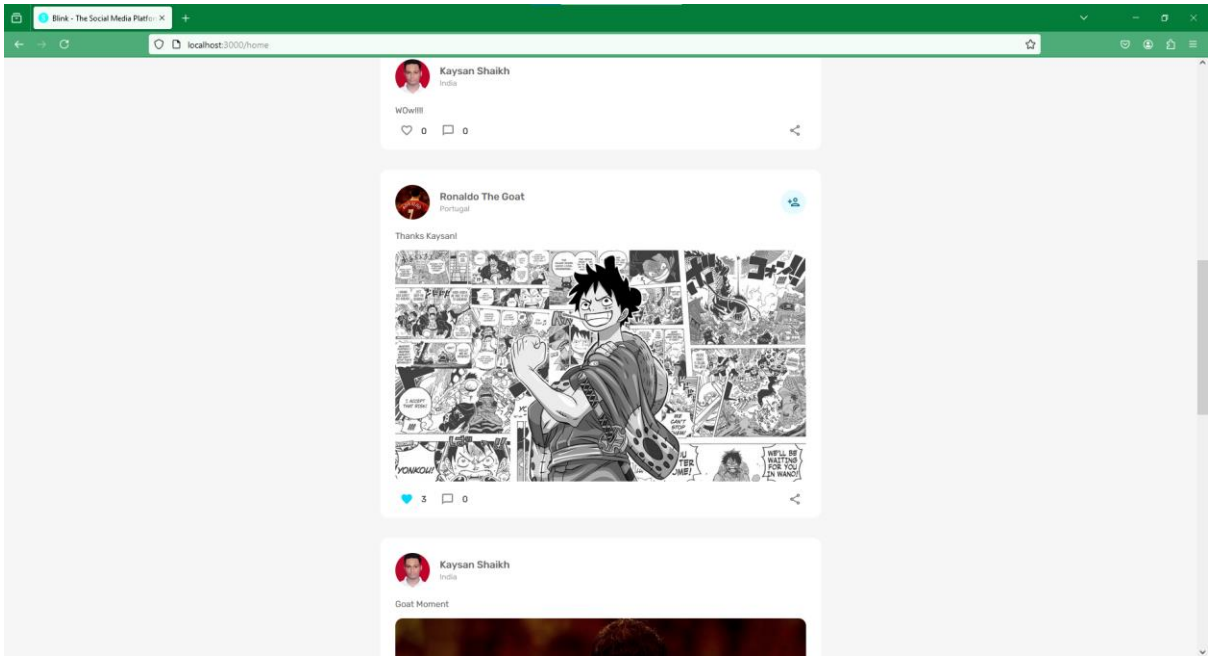

Blink - The Social Media Platfo
localhost:3000
Blink
Welcome to Blink, Connect with anyone in the blink of an eye
First Name
Kaysan
Last Name
Shaikh
Location
India
Occupation
Student
7.jpg
Email
shaikhkaysan@gmail.com
Password
REGISTER
Already have an account? Login here.

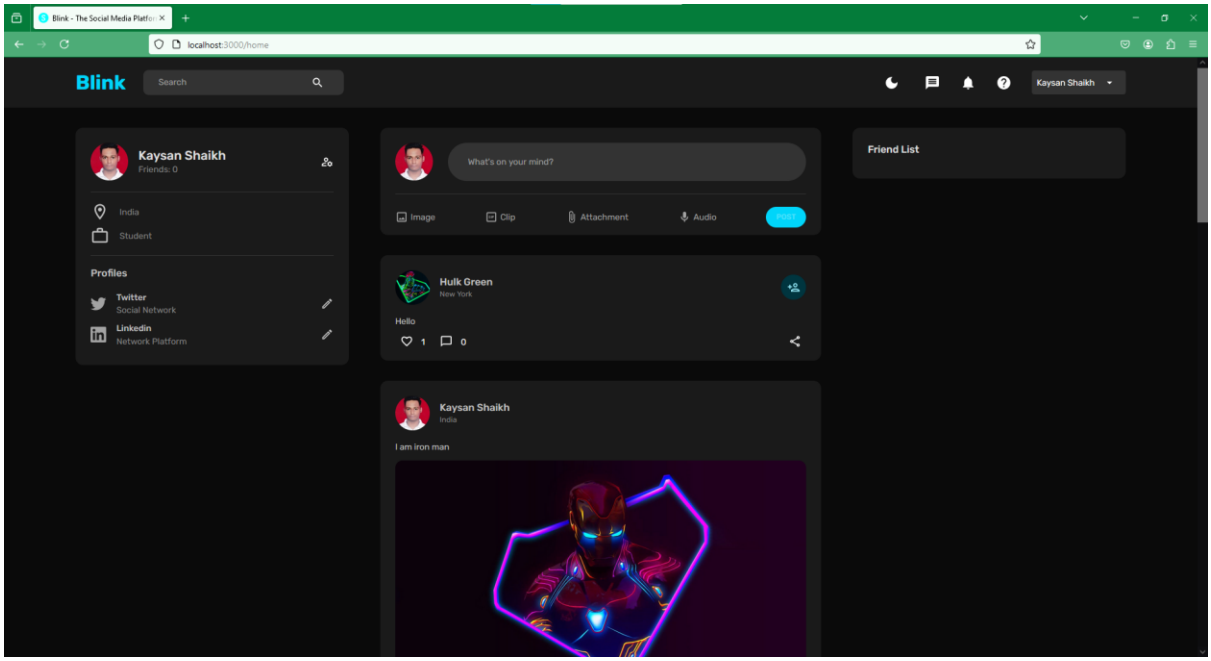
Log in

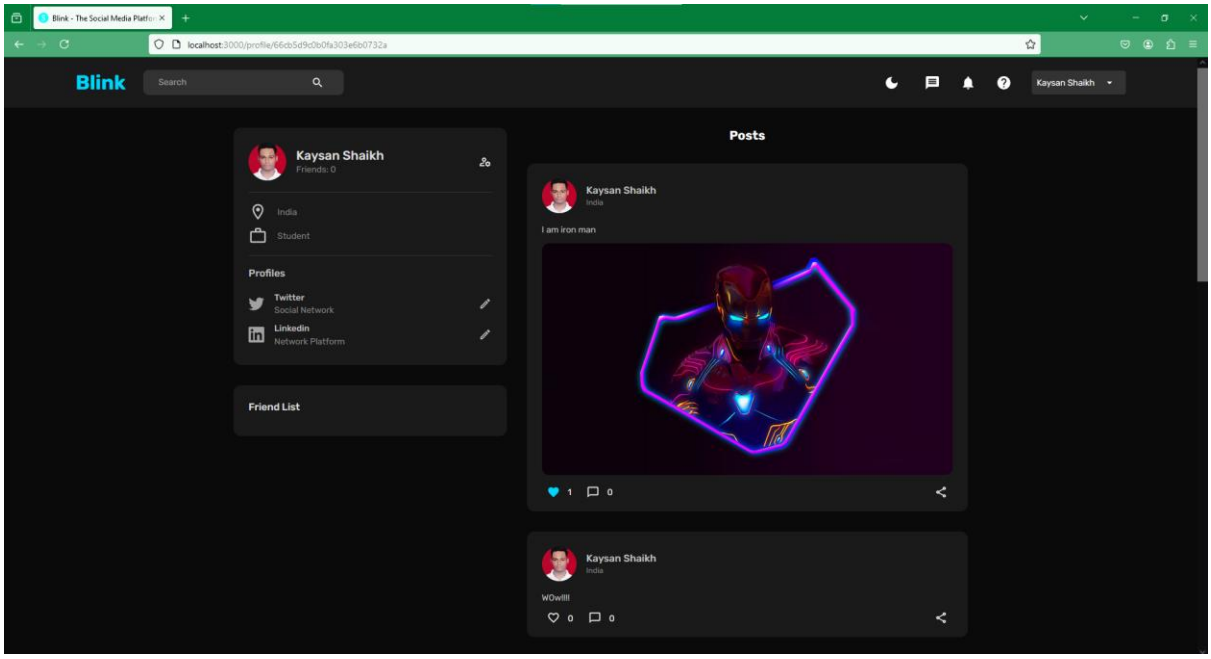

Blink - The Social Media Platfor
localhost:3000
Blink
Welcome to Blink, Connect with anyone in the blink of an eye
Email
shaikhkaysan@gmail.com
Password
LOGIN
Don't have an account? Sign Up here.

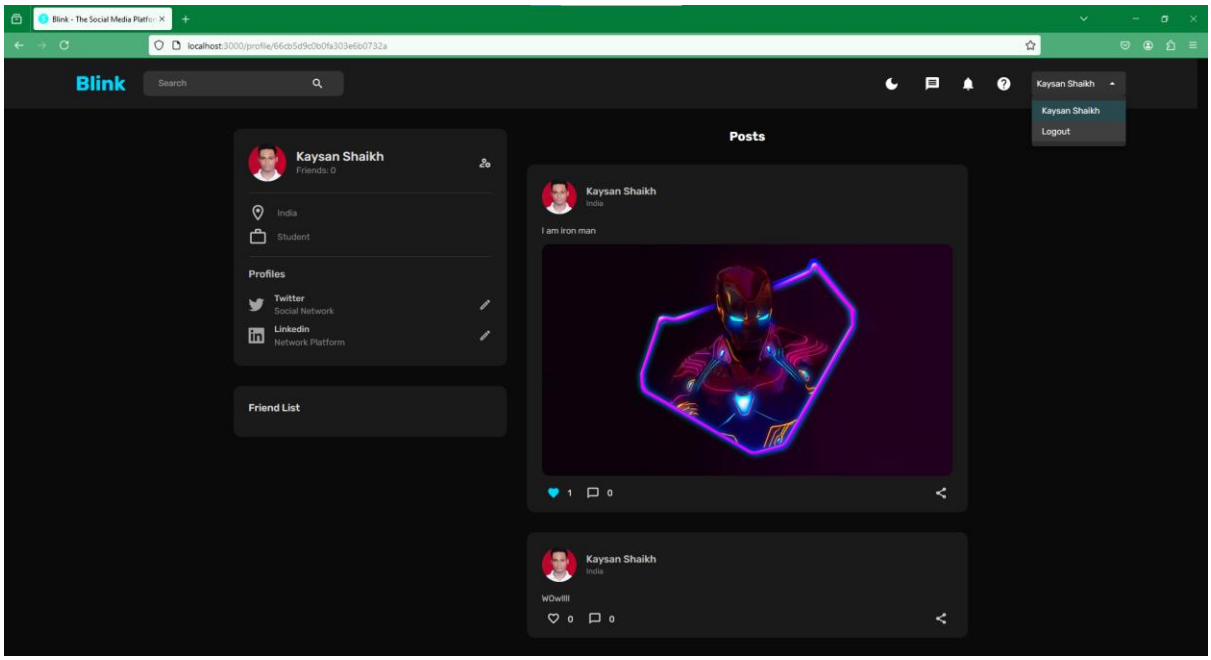
After Log in:


Blink - The Social Media Platfor
localhost:3000/home
Blink
Search
Kaysan Shaikh
Kaysan Shaikh
Friends: 0
India
Student
Profiles
Twitter
Social Network
Linkedin
Network Platform
What's on your mind?
Image
Clip
Attachment
Audio
Post
Hulk Green
New York
Hello
1
0
Kaysan Shaikh
India
I am iron man
Friend List


Blink - The Social Media Platfo
localhost:3000/home
Kaysan Shaikh
India
WOw!!!!
0
0
Ronaldo The Goat
Portugal
Thanks Kaysan!
3
0
Kaysan Shaikh
India
Goat Moment


Blink - The Social Media Platfo
localhost:3000/home
Blink
Search
Kaysan Shaikh
Kaysan Shaikh
Friends: 0
India
Student
Profiles
Twitter
Social Network
Linkedin
Network Platform
What's on your mind?
Image
Clip
Attachment
Audio
POST
Friend List
Hulk Green
New York
Hello
1
0
Kaysan Shaikh
India
I am iron man





Future Enhancements: -

- **Real-time Notifications:** Implement real-time notifications for post interactions and friend requests.
- **Search Functionality:** Add search capabilities for posts and user profiles.
- **Enhanced User Analytics:** Provide insights and analytics for user engagement and activity

Contributions: -

Contributions are welcome! Please fork the repository and submit a pull request with your changes.