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## **Social Media Website – ReactJS and NodeJS**

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## Introduction

DevSpace is a social media platform designed for developers and tech enthusiasts to connect, collaborate, and share their knowledge and ideas. The app is developed to provide a safe and secure space for like-minded individuals to network, grow and learn from each other. DevSpace aims to bridge the gap between developers from all over the world, offering them a platform where they can exchange ideas, gain knowledge, and showcase their projects.

The app is developed to provide users with a seamless experience, with an intuitive user interface, and an array of features that enhance the user experience. The platform is built using modern web development technologies, and it offers a robust backend that ensures that the app is fast, reliable, and secure.

DevSpace offers a unique set of features that are tailored specifically for developers. The app allows users to create a profile, where they can showcase their skills, projects, and experience. Users can also create and join groups based on their interests, where they can collaborate, share knowledge and ideas, and work on projects together. DevSpace also offers a newsfeed, where users can stay up to date with the latest trends, news, and updates from the tech industry.

Overall, DevSpace is a platform that aims to provide developers with a space where they can connect, collaborate, and grow. The app is designed to be user-friendly, intuitive, and engaging, offering developers a platform where they can showcase their skills, learn from others, and build meaningful connections with like-minded individuals from all over the world.

The report provides an overview of the social media project, including the technologies and dependencies used to develop the project. It includes a detailed description of the features implemented, the design decisions made, and the challenges encountered during development. The report also highlights the strengths and weaknesses of the project, along with the potential improvements that can be made to enhance its functionality and appeal.

The development of the social media project has not only provided an opportunity to showcase technical skills but has also enabled the exploration of creative aspects, such as design and user experience. The report aims to provide insights into the development process of a social media project using modern web technologies and encourage aspiring developers to join and network with like-minded professionals and to exhibit their abilities and stand out in the competitive job market.

## Technology Stack

The technology stack used for the development of the Devspace app is the MERN stack, which stands for MongoDB, Express, React, and Node.js.

- **MongoDB:** used as the database management system for the app. It is a NoSQL document-oriented database that stores data in JSON-like documents.
- **Express:** a web application framework for Node.js. It is used to create the backend of the app and handle HTTP requests from the client-side.
- **React:** a JavaScript library for building user interfaces. It is used to create the frontend of the app and provide a rich user experience.
- **Node.js:** a JavaScript runtime environment that allows developers to run JavaScript on the server-side.

## FRONT-END DEVELOPMENT

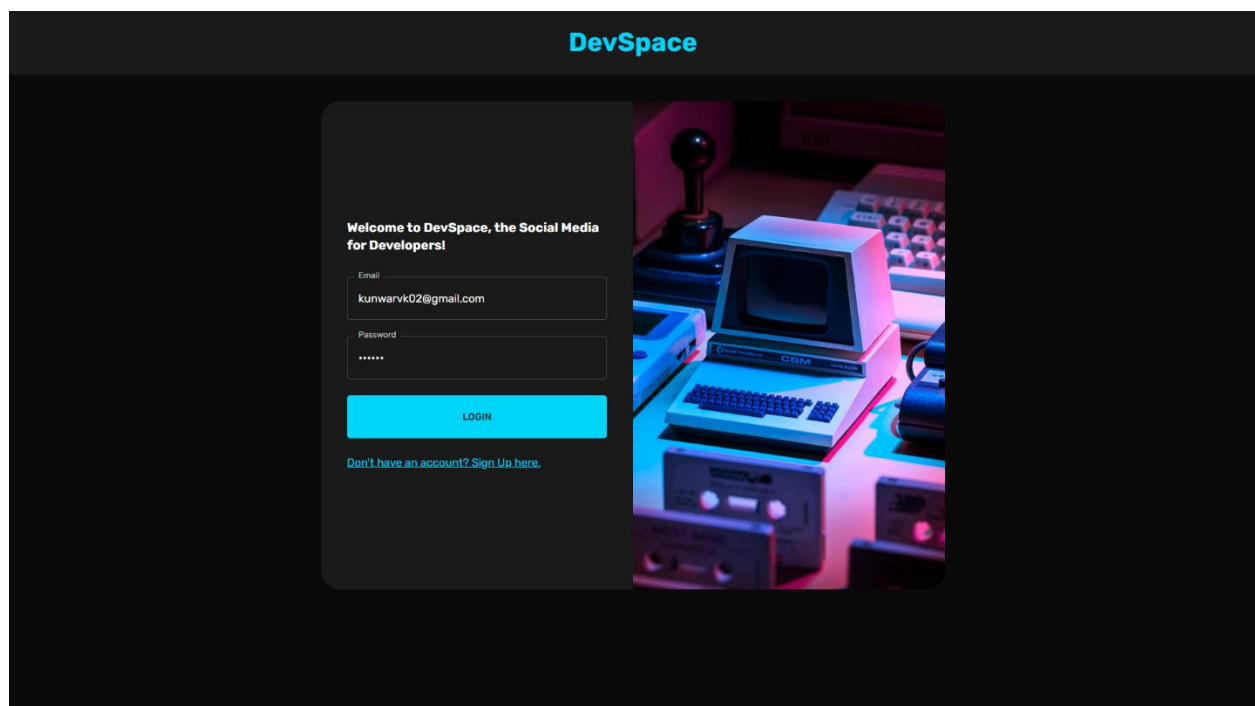
### Front-End

Modules used in frontend design and development –

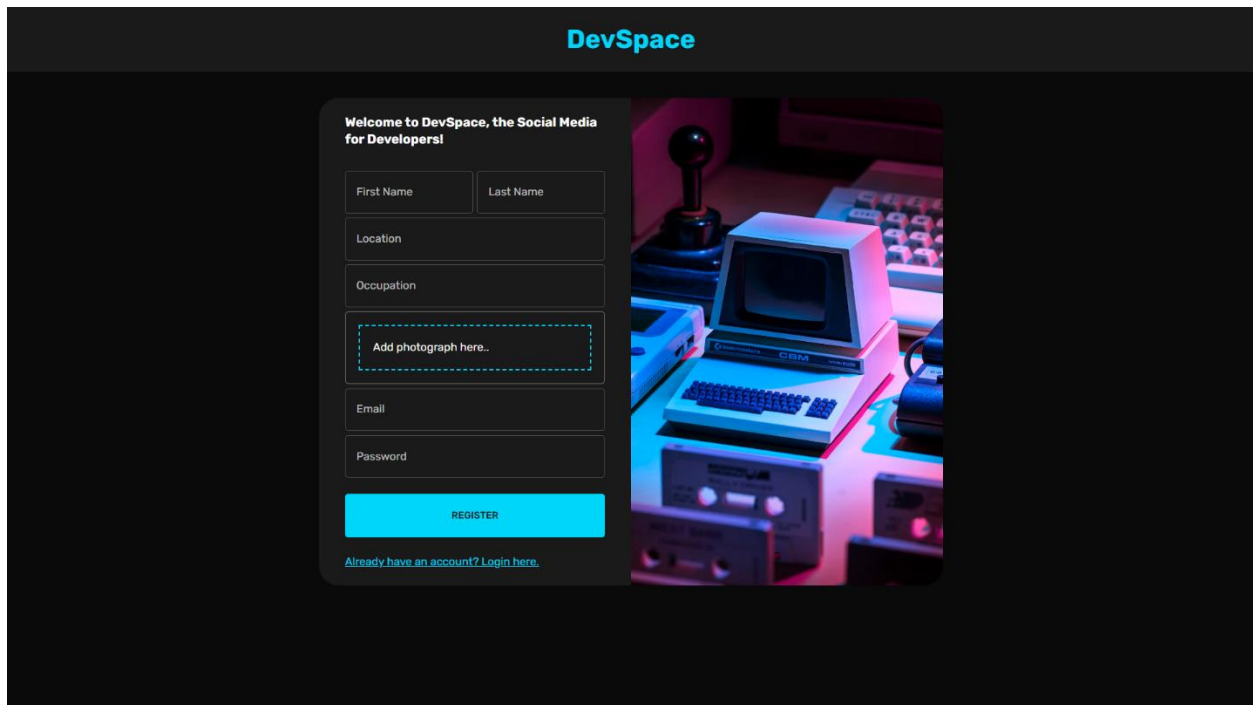
- **react-router-dom:** React Router is used to handle routing in the app and provides a way to navigate between different pages and components.
- **formik + yup:** Formik is a library for building forms in React. It is used in combination with Yup, a validation library, to provide robust form validation and error handling.
- **@reduxjs/toolkit:** Redux Toolkit is used to manage the state of the app and provides a predictable way to update and manage the data in the app.
- **redux-persist:** Redux Persist is a library for persisting the Redux store to local storage. It is used to save the state of the app between sessions, providing a seamless user experience.
- **react-dropzone:** React Dropzone is a library for handling file uploads in React. It is used to enable users to upload images to the app, which are then stored and displayed in the user's profile or community pages.

- **@mui/material**: Material UI is a React UI framework that provides pre-built, customizable components for building modern web applications. It is used to create the visual design of the app, including buttons, forms, icons, and other UI elements.

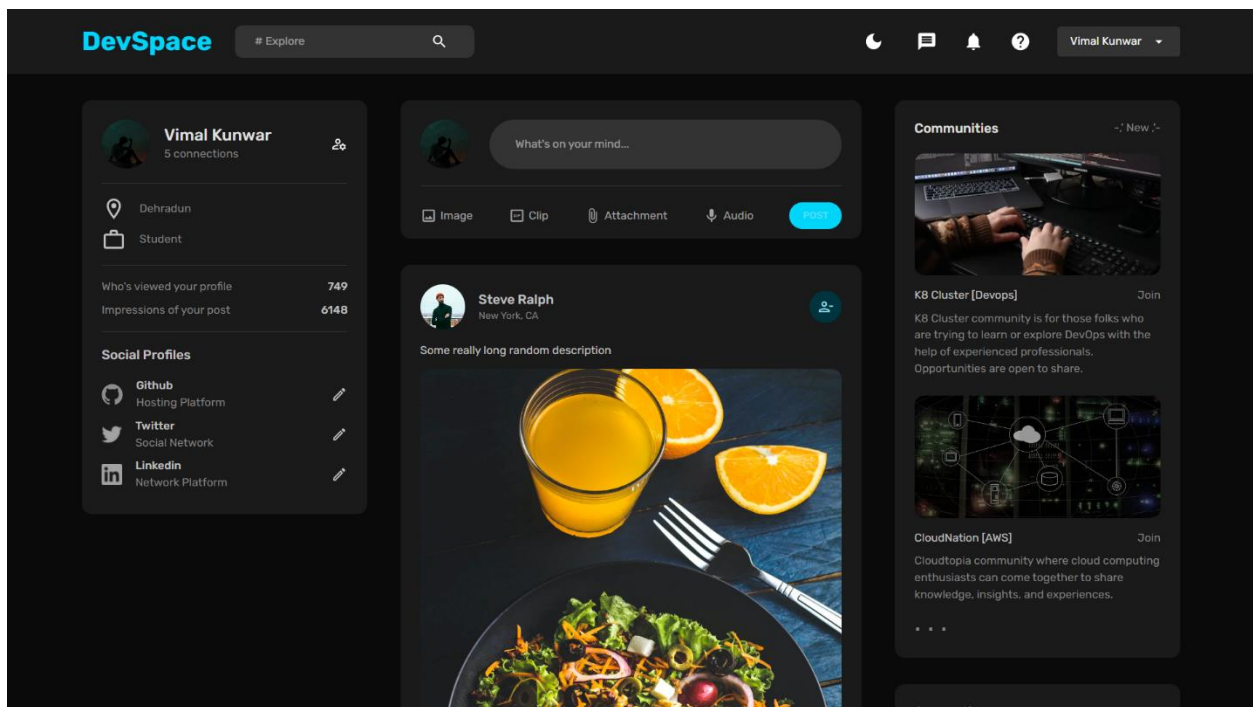
## Login Page



Form made using Formik and validation and error handling done through Yup module.



## Home Page

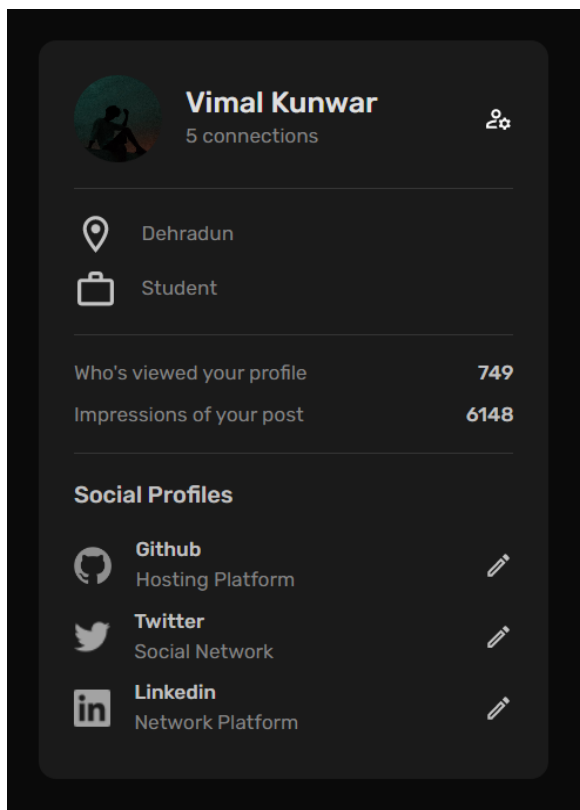


## NAVBAR COMPONENT



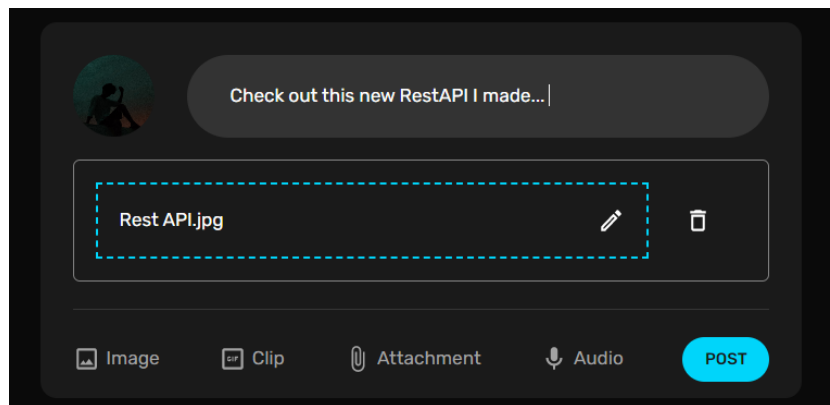
- App Logo – Devspace app logo is shown at the left side of the navbar.
- Search Bar – A search functionality is added which can be used to search people, communities and companies on the app.
- Icons –
  - Mode Icon – with this the user can switch between light or dark mode.
  - Notification Icon – can be used to check new notifications.
  - Message Icon – can be used to open up conversation menu.
  - About us icon – can be used to know more about DevSpace.
- User Profile – expands to show the current user and the option to log out.

## USER WIDGET



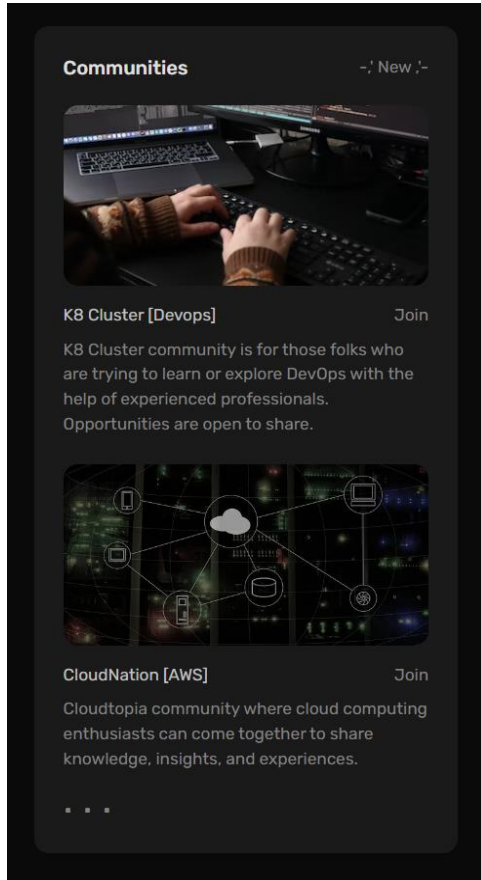
- Username Section – This includes the profile photo, username and the number of connections the user has.
- User Info – This section shows the current location and job of the user.
- Profile Info – This section shows the number of views on the user's profile and how many times impressions the users post has got.
- Social Profile – This section allows the user to link other social profiles handles to his/her account. Eg- GitHub, Twitter and LinkedIn.

## CREATE POST WIDGET



- User profile photo – the user's profile photo is shown at the start.
- Text Box – where the user can input news or any updates.
- Dropbox – where the user can drop any image, clip, attachment or audio.
- Options – to choose which type of file needs to be uploaded.
- Post button – to upload the post to the database and link it to the user's profile.

## POSTS WIDGET

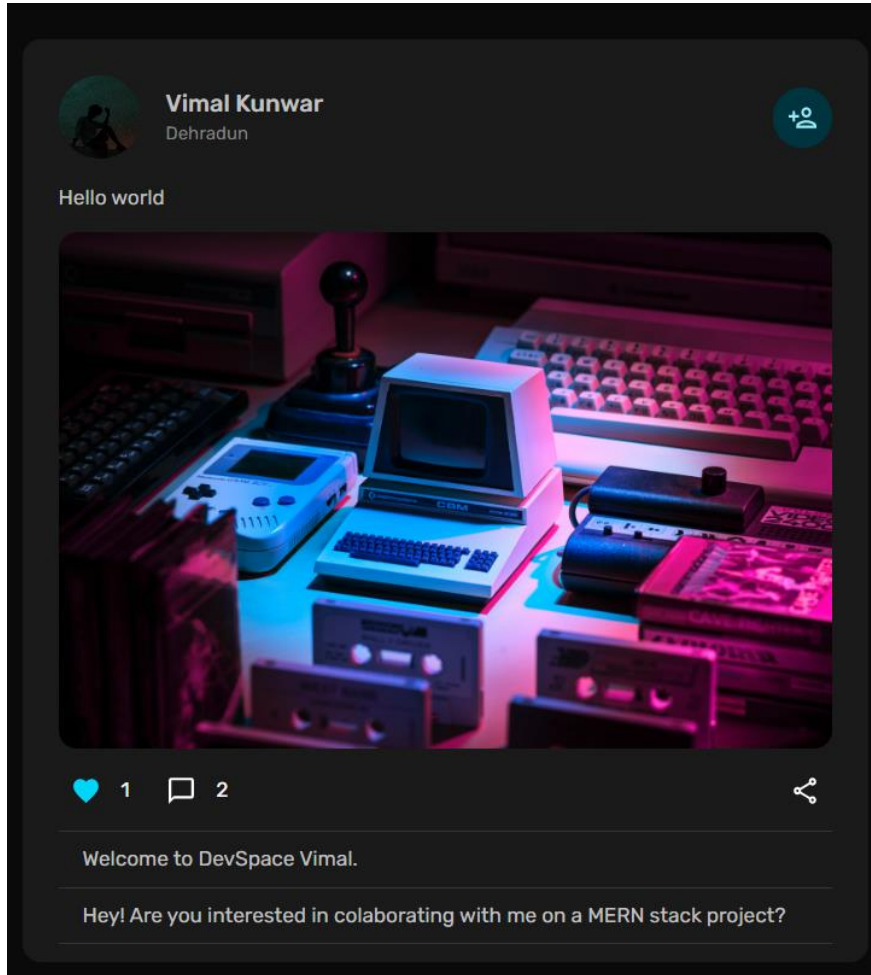


Each post widget has the following sub-parts :

- Details – profile photo and name of the user the post belongs to. Clicking on the name redirects to the user's profile page.
- Add/ Remove connection button – the button can be used add or remove the user from our connection list.
- Post Description – the text part added by the user.
- Post Image – this holds the post image/clip/audio uploaded by the user.
- Like button – can be used to like/unlike the post.
- Comments button – expands the comment section of the post.



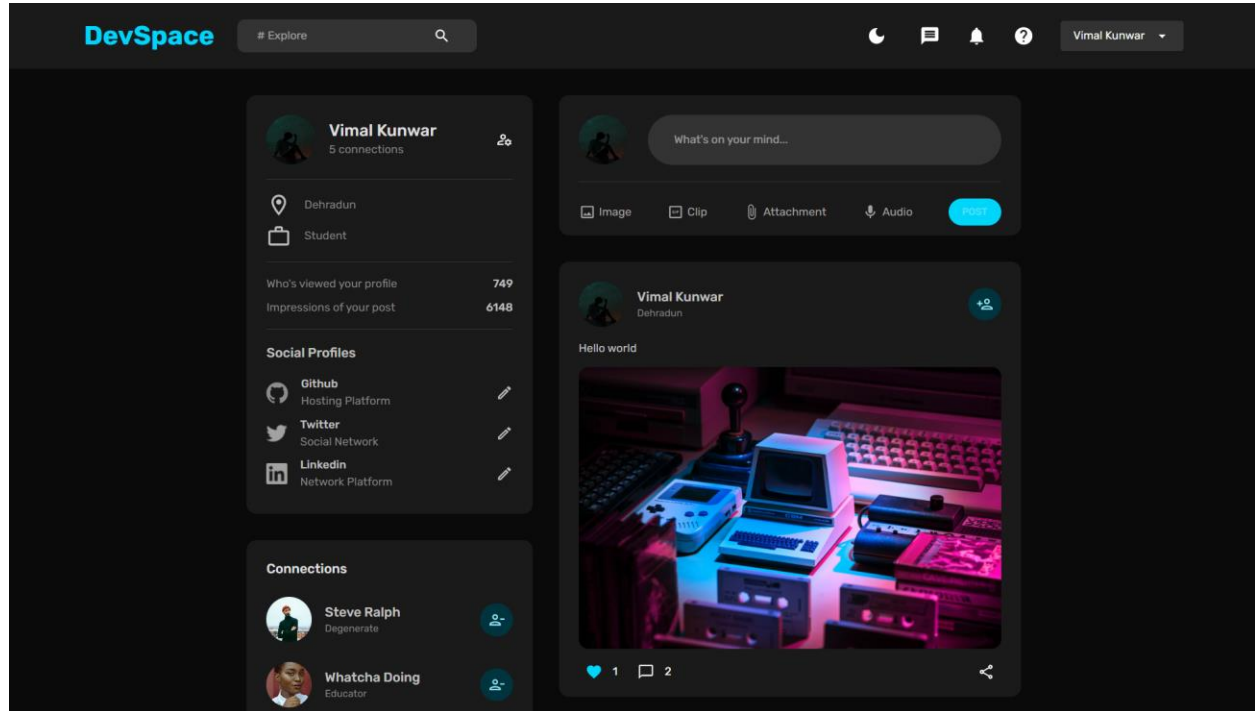
## CONNECTION LIST WIDGET



Each list item has the following sub-parts :

- User Details – profile photo and name of the user. Clicking on the name redirects to the user's profile page.
- Designation – the designation/job of the person.
- Add/ Remove connection button – the button can be used add or remove the user from our connection list.

## Profile Page



## Future Changes

Few new features need to be added to the webapp, namely:

- Conversation page/menu: where all the community chats and private chats can be shown.
- Jobs Listing: A section which will be added to the sidebar where one can scroll and add job listings on the webapp.
- Community Page: The community page where people can post, open threads and reply to them.
- Company/Organization Page: Where all the information about a company can be found i.e., location, number of employees, job listings, etc.

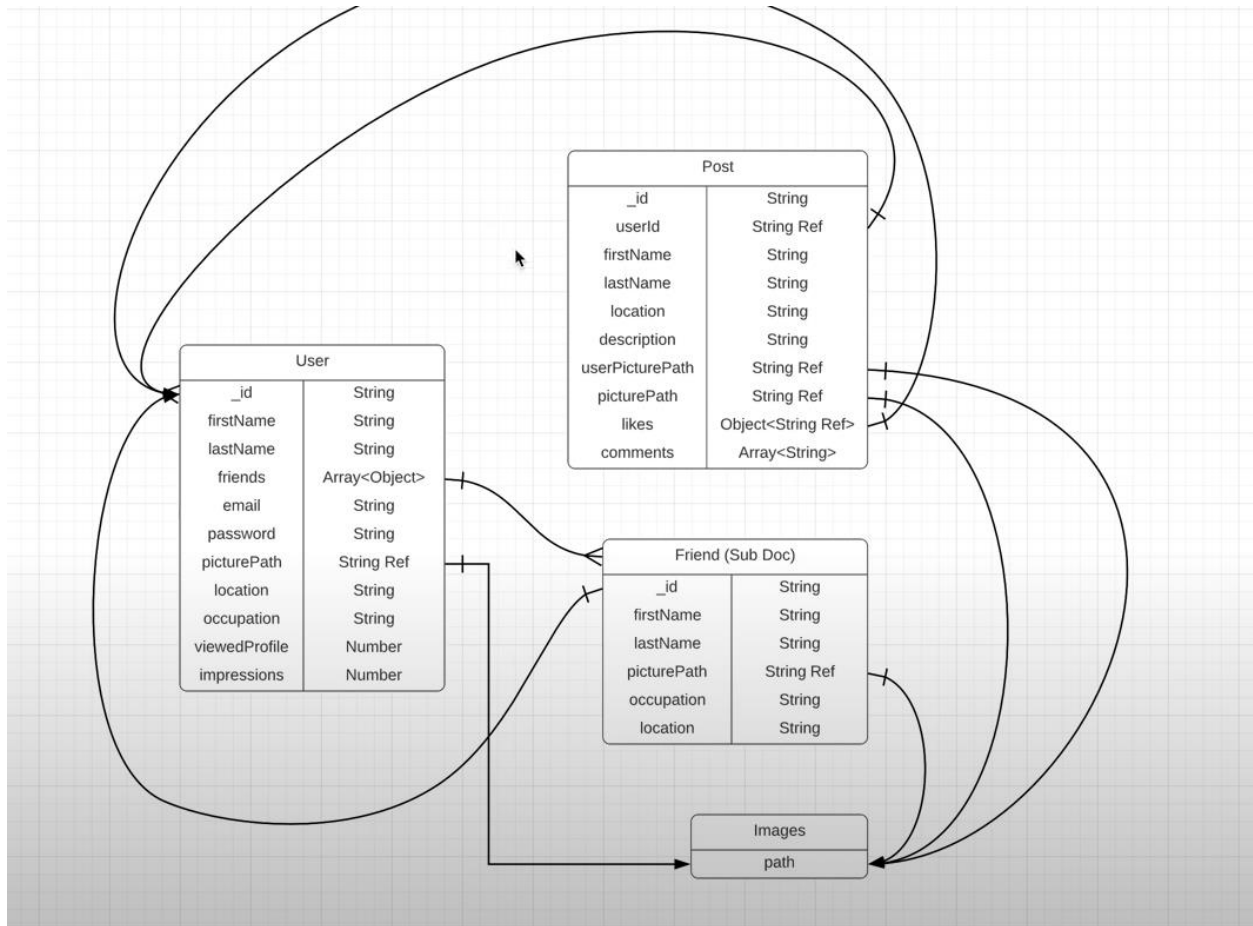
## BACK-END DEVELOPMENT

### Back-End

Modules used in backend development, database and authorization –

- **express:** A popular Node.js web application framework that provides a set of features for building web applications and APIs.
- **body-parser:** A middleware that extracts the body of an incoming HTTP request and exposes it on `req.body`.
- **bcrypt:** A library used for password hashing and verification.
- **cors:** Cross-Origin Resource Sharing is a mechanism that allows resources on a web page to be requested from another domain outside the domain from which the resource originated.
- **dotenv:** A zero-dependency module that loads environment variables from a `.env` file into `process.env`.
- **multer:** A middleware for handling multipart/form-data, which is primarily used for uploading files.
- **jsonwebtoken:** A library for generating and verifying JSON Web Tokens (JWTs).
- **mongoose:** A popular Object Data Modeling (ODM) library for MongoDB that provides a higher-level API for querying and manipulating MongoDB documents.

## Schema Diagram



## SERVER ROUTES

### 1. /auth

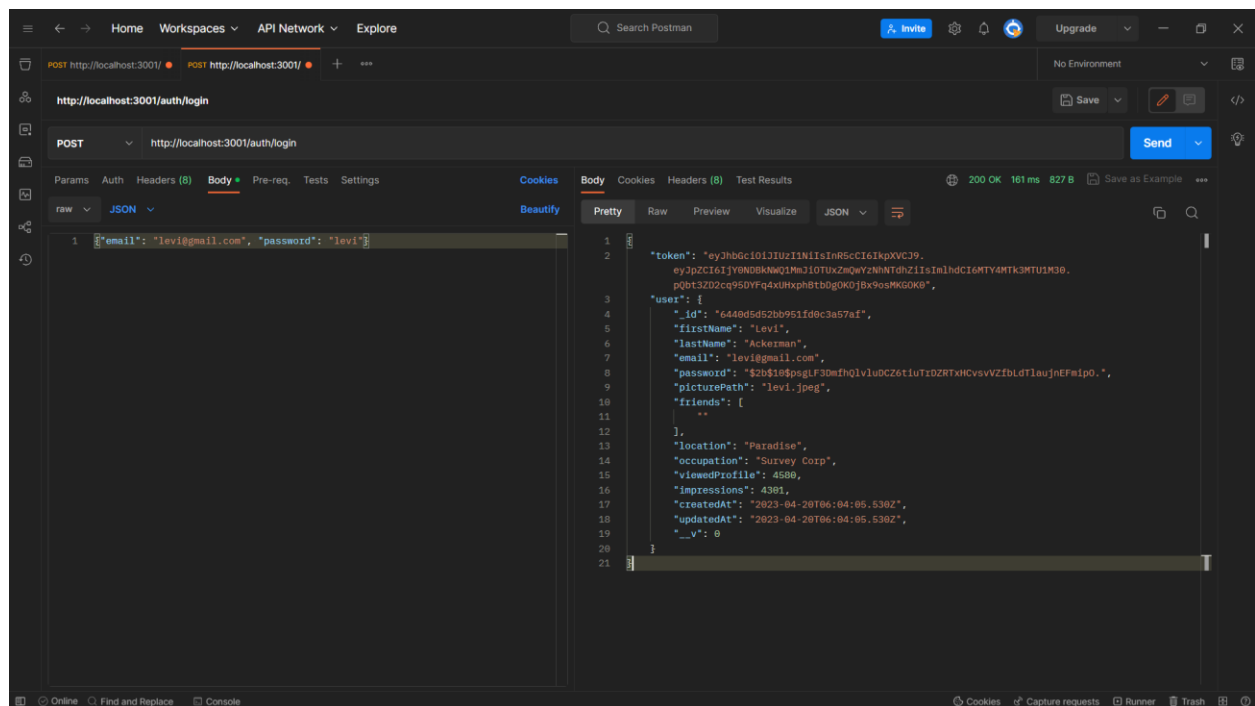
- /auth/register type-- [POST]
- /auth/login type-- [POST]

### 2. /users

- /users/:id type-- [GET]
- /users/:id/friends type-- [GET]
- /users/:id/friendId type-- [PATCH]

### 3. /posts

- /posts type-- [GET]
- /posts/:userId/posts type-- [GET]



Postman interface showing a GET request to `http://localhost:3001/users/id`. The response body is a JSON object representing a user profile.

**Request:** `GET http://localhost:3001/users/id`

**Response Body (JSON):**

```
{
  "_id": "64398a581d7d9510b1ffd400",
  "firstName": "Vimal",
  "lastName": "Kumar",
  "email": "kumarv402@gmail.com",
  "password": "420ti88-wkav1i1hDUMf/qgEgcNauPv831x0K9w-vFxf3QcU59TALxkh13CK",
  "picturePath": "IMG_20211022_204437_001.jpg",
  "friends": [
    "64325f1aa9b37036998b1135",
    "64325f1aa9b37036998b1137",
    "64325f1aa9b37036998b1138",
    "64325f1aa9b37036998b1139",
    "64325f1aa9b37036998b113a"
  ],
  "location": "Dehradun",
  "occupation": "Student",
  "viewProfile": 749,
  "impressions": 6140,
  "createdAt": "2023-04-14T17:16:08.539Z",
  "updatedAt": "2023-04-19T10:51:56.483Z",
  "__v": 15
}
```

Postman interface showing a GET request to `http://localhost:3001/users/id/friends`. The response body is a JSON array of friend profiles. An Authorization header is present.

**Request:** `GET http://localhost:3001/users/id/friends`

**Headers:** Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6I...

**Response Body (JSON):**

```
[
  {
    "_id": "64325f1aa9b37036998b1135",
    "firstName": "Steve",
    "lastName": "Ralph",
    "occupation": "Degenerate",
    "location": "New York, CA",
    "picturePath": "p3.jpeg"
  },
  {
    "_id": "64325f1aa9b37036998b1137",
    "firstName": "Whatcha",
    "lastName": "Doing",
    "occupation": "Educator",
    "location": "Korea, CA",
    "picturePath": "p6.jpeg"
  },
  {
    "_id": "64325f1aa9b37036998b1138",
    "firstName": "Jane",
    "lastName": "Doe",
    "occupation": "Hacker",
    "location": "Utah, CA",
    "picturePath": "p5.jpeg"
  },
  {
    "_id": "64325f1aa9b37036998b1139",
    "firstName": "Harvey",
    "lastName": "Dunn",
    "occupation": "Journalist",
    "location": "Los Angeles, CA",
    "picturePath": "p4.jpeg"
  }
]
```

Home Workspaces API Network Explore Search Postman

POST http://localhost:3001/ PATCH http://localhost:3001/users/id/friendid

PATCH http://localhost:3001/users/id/friendid

Send

Params Auth Headers (8) Body Pre-req. Tests Settings Cookies Body Cookies Headers (8) Test Results

Query Params

Key	Value	Description
Key	Value	Description

Path Variables

Key	Value	Description
id	64398a581d7...	
friendid	64325f1aa90...	Description

Body

```
1 {
2   "_id": "64325f1aa9037036990b1135",
3   "firstName": "Steve",
4   "lastName": "Ralph",
5   "occupation": "Degenerate",
6   "location": "New York, CA",
7   "picturePath": "p3.jpeg"
8 },
9 {
10  "_id": "64325f1aa9037036990b1130",
11  "firstName": "Jane",
12  "lastName": "Doe",
13  "occupation": "Hacker",
14  "location": "Utah, CA",
15  "picturePath": "p5.jpeg"
16 },
17 {
18  "_id": "64325f1aa9037036990b1139",
19  "firstName": "Harvey",
20  "lastName": "Dunn",
21  "occupation": "Journalist",
22  "location": "Los Angeles, CA",
23  "picturePath": "p7.jpeg"
24 },
25 {
26  "_id": "64325f1aa9037036990b113a",
27  "firstName": "Carly",
28  "lastName": "Vowel",
29  "occupation": "Nurse",
30  "location": "Chicago, IL",
31 }
```

Home Workspaces API Network Explore Search Postman

POST http://localhost:3001/ PATCH http://localhost:3001/ GET http://localhost:3001/posts

GET http://localhost:3001/posts

Send

Params Auth Headers (7) Body Pre-req. Tests Settings Cookies Body Cookies Headers (8) Test Results

Headers

Key	Value	Description
Authorization	Bearer eyJhb...	

Body

```
1 {
2   "_id": "643e6fc0870b0d85d7fbab5",
3   "userId": "64398a581d7d9510b1ff4d00",
4   "firstName": "Vimal",
5   "lastName": "Kunwar",
6   "location": "Dehradun",
7   "description": "Mountains calling",
8   "picturePath": "IMG_20210910_221547_002.jpg",
9   "userPicturePath": "IMG_20211022_204437_001.jpg",
10  "likes": {
11    "64398a581d7d9510b1ff4d00": true
12  },
13  "comments": [
14    "Welcome to DevSpace Vimal.",
15    "Hey! Are you interested in collaborating with me on a MERN stack project?"
16  ],
17  "createdAt": "2023-04-10T10:24:00.856Z",
18  "updatedAt": "2023-04-10T16:48:47.833Z",
19  "__v": 0
20 },
21 {
22  "_id": "643d50e2248902abc326ff2f",
23  "userId": "64398a581d7d9510b1ff4d00",
24  "firstName": "Vimal",
25  "lastName": "Kunwar",
26  "location": "Dehradun",
27  "description": "Hello world",
28  "picturePath": "bg1.jpg",
29  "userPicturePath": "IMG_20211022_204437_001.jpg",
30  "likes": {
31    }
```

Home Workspaces API Network Explore Search Postman

POST http://localhost:3001/ POST http://localhost:3001/ PATCH http://localhost:3001/ GET http://localhost:3001/p/ + ... No Environment

http://localhost:3001/posts/userId/posts

GET http://localhost:3001/posts/userId/posts Send

Params Auth Headers (9) Body Pre-req. Tests Settings Cookies Body Cookies Headers (8) Test Results 200 OK 85 ms 1.22 KB Save as Example

Query Params

Key	Value	Description
Key	Value	Description

Path Variables

Key	Value	Description
userId	64398a581d7...	Description

Body

```
12 {
13   "64398a581d7d9510b1ff4d400": true
14 },
15   "comments": [
16     "welcome to DevSpace Vimal.",
17     "Hey!\nAre you interested in collaborating with me on a MERN stack project?"
18   ],
19   "createdAt": "2023-04-17T14:09:02.828Z",
20   "updatedAt": "2023-04-18T16:48:50.198Z",
21   "__v": 0
22 },
23   {
24     "_id": "643e6fc0879b0d855d7f8ab8",
25     "userId": "64398a581d7d9510b1ff4d400",
26     "firstName": "Vimal",
27     "lastName": "Kumari",
28     "location": "Dehradun",
29     "description": "mountains calling",
30     "picturePath": "IMG_20210918_221547_002.jpg",
31     "userPicturePath": "IMG_20211022_204437_001.jpg",
32     "likes": [
33       "64398a581d7d9510b1ff4d400": true
34     ],
35     "comments": [
36       "welcome to DevSpace Vimal.",
37       "Hey!\nAre you interested in collaborating with me on a MERN stack project?"
38     ],
39     "createdAt": "2023-04-18T10:24:00.856Z",
40     "updatedAt": "2023-04-18T16:48:47.833Z",
41     "__v": 0
42   }
43 ]
```

Online Find and Replace Console Cookies Capture requests Runner Trash

Home Workspaces API Network Explore Search Postman

POST http://localhost: POST http://localhost: GET http://localhost:3 GET http://localhost:3 PATCH http://localhost: GET http://localhost:3 GET http://localhost:3 PATCH http://localhost: + ... No Environment

http://localhost:3001/posts/id/like

PATCH http://localhost:3001/posts/id/like Send

Params Auth Headers (9) Body Pre-req. Tests Settings Cookies Body Cookies Headers (8) Test Results 200 OK 164 ms 773 B Save as Example

Query Params

Key	Value	Description
Key	Value	Description

Path Variables

Key	Value	Description
id	643e6fc0070...	Description

Body

```
1 {
2   "_id": "643e6fc0879b0d855d7f8ab8",
3   "userId": "64398a581d7d9510b1ff4d400",
4   "firstName": "Vimal",
5   "lastName": "Kumari",
6   "location": "Dehradun",
7   "description": "mountains calling",
8   "picturePath": "IMG_20210918_221547_002.jpg",
9   "userPicturePath": "IMG_20211022_204437_001.jpg",
10  "likes": [
11    "64398a581d7d9510b1ff4d400": true
12  ],
13  "comments": [
14    "welcome to DevSpace Vimal.",
15    "Hey!\nAre you interested in collaborating with me on a MERN stack project?"
16  ],
17  "createdAt": "2023-04-18T10:24:00.856Z",
18  "updatedAt": "2023-04-20T06:58:46.986Z",
19  "__v": 0
20 }
```

Online Find and Replace Console Cookies Capture requests Runner Trash



## **Future Changes**

Few new features need to be added to the webapp, namely:

- Conversation: to configure and store chats in the app.
- Company/Organization Schema: to store company and employee details.
- Jobs Schema: to store Jobs and their details.
- Community Schema: to store details and member details.
- Community Posts Schema: to store community posts and threads.
- Routes: to get, post and patch community members, organization details and job applications.