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# Test Document

for

# College Pathfinder

Version 1.0

Prepared by

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## **Revisions**

<b>Version</b>	<b>Primary Author(s)</b>	<b>Description of Version</b>	<b>Date Completed</b>
Version 1.0	DominatorDevs	First draft	29/03/24

## 1 Introduction

### Test Strategy:

Manual Testing is used to test our software.

### Testing Period:

We tested after the implementation of our software was completed.

### Testers:

Developers were the testers.

### Coverage Criteria:

We mainly have used decision coverage(which is a type of functional coverage) to test this software.

### Tools:

We used [Postman](#) to test our software. Postman is a versatile API development and testing tool that offers many benefits to developers and teams:

- **Intuitive Interface:** Postman provides a user-friendly interface, making it easy for developers to set up and send requests without complex configurations.
- **Request Building:** With Postman, users can quickly build HTTP requests, including support for various HTTP methods (GET, POST, PUT, DELETE, etc.), request headers, parameters, and body content.
- **Free and Open Source:** Postman is an open-source tool that empowers developers to utilize its robust capabilities without licensing fees. Furthermore, being open source encourages community contributions, fostering continuous improvement and innovation.
- **Secure API Development:** Postman prioritizes security with features such as OAuth authentication, SSL certificate validation, and request signing. These security measures help safeguard API communications during development and testing, ensuring data integrity and confidentiality.

### Code:

The final code after debugging is available at the following links:

#### backend:

[https://github.com/AYushM25/college\\_backend](https://github.com/AYushM25/college_backend)

#### frontend:

[https://github.com/AYushM25/college\\_frontend](https://github.com/AYushM25/college_frontend)

**Website:**<https://college-frontend-vert.vercel.app/>

## 2 Unit Testing

### 1. Register

Is made to register new users based on their designation, whether they are college-going or college-searching.

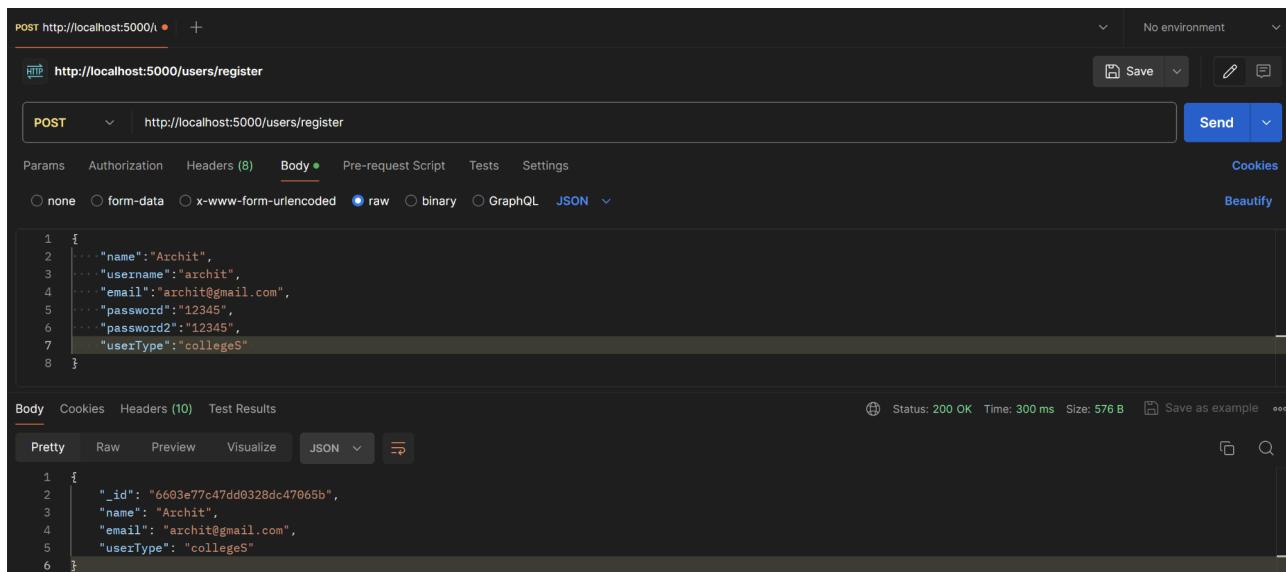
**Unit details:** users/register ( routes/users.js)

**Test owners:** Mayank Gupta and Ayush Meena

**Test Date:** 27/3/24-28/3/24

**Test Result:** was able to register new people, based on whether they are college going or college searching, and was also sensitive to whether the user exists, and would throw an error on such occasions.

#### case 1: Register of a College-Searching Student

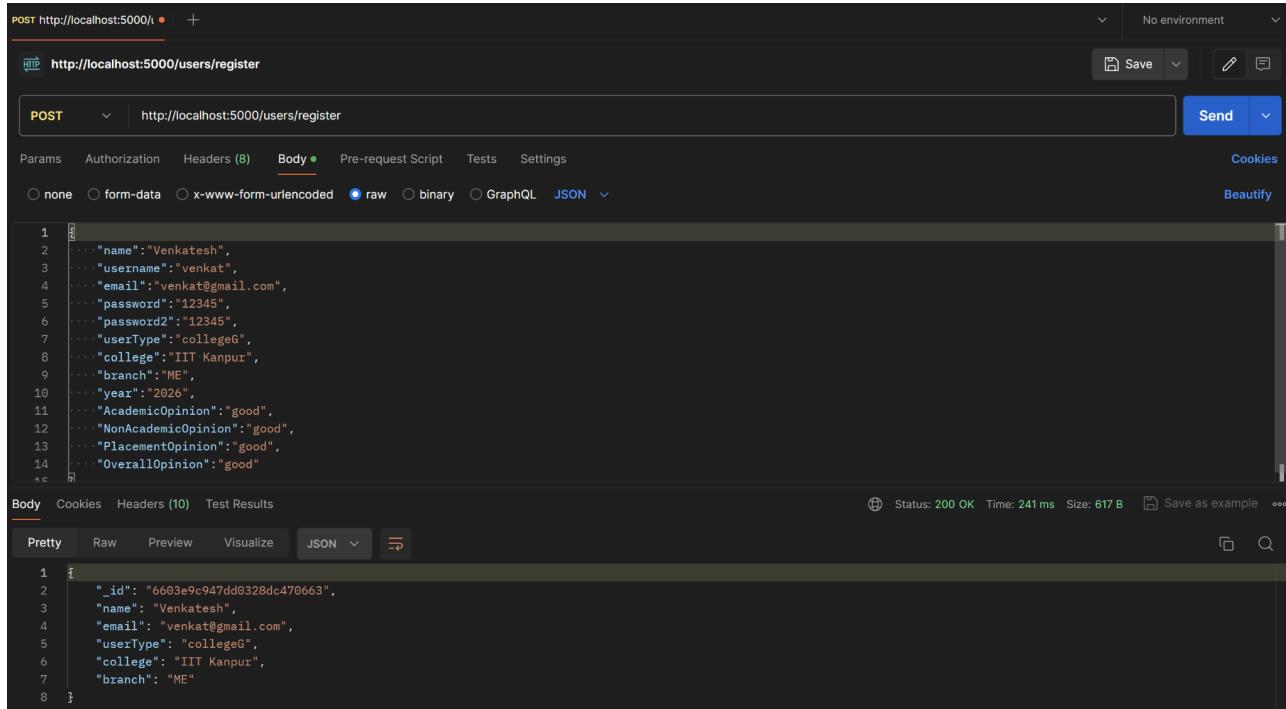


The screenshot shows a Postman interface with the following details:

- Method: POST
- URL: http://localhost:5000/users/register
- Body type: raw JSON
- Body content:

```
1 {
2     "name": "Archit",
3     "username": "archit",
4     "email": "archit@gmail.com",
5     "password": "12345",
6     "password2": "12345",
7     "userType": "collegeS"
8 }
```
- Response status: 200 OK
- Response time: 300 ms
- Response size: 576 B

## case 2: Register of a College-Going Student



The screenshot shows a Postman interface with the following details:

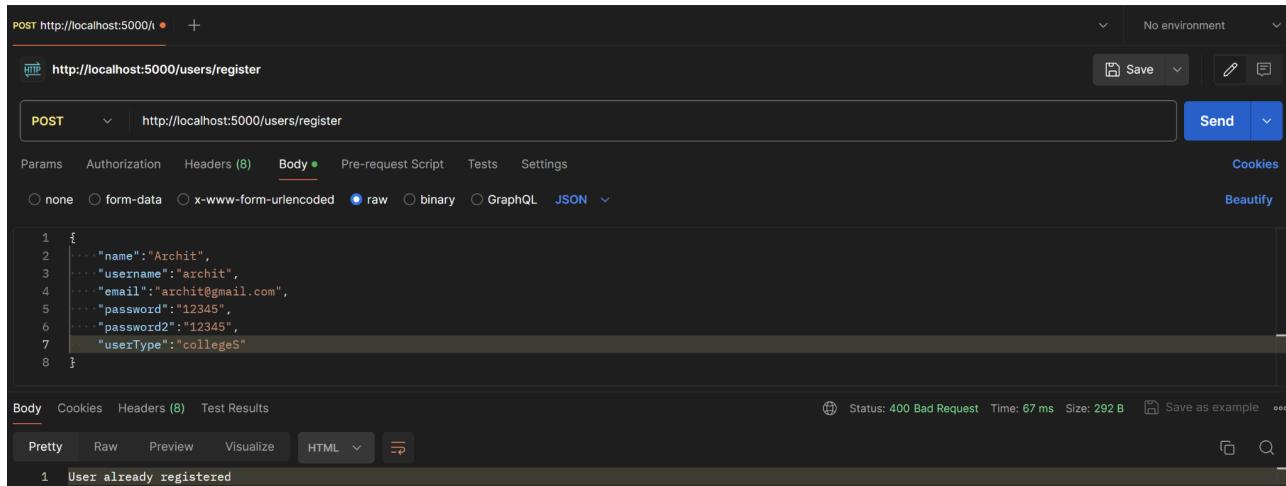
- Method:** POST
- URL:** http://localhost:5000/users/register
- Body (JSON):**

```

1 {
2   "name": "Venkatesh",
3   "username": "venkat",
4   "email": "venkat@gmail.com",
5   "password": "12345",
6   "password2": "12345",
7   "userType": "collegeG",
8   "college": "IIT Kanpur",
9   "branch": "ME",
10  "year": "2026",
11  "AcademicOpinion": "good",
12  "NonAcademicOpinion": "good",
13  "PlacementOpinion": "good",
14  "OverallOpinion": "good"
      
```

- Response Status:** 200 OK
- Response Time:** 241 ms
- Response Size:** 617 B

## case 3: Register of already Registered Student



The screenshot shows a Postman interface with the following details:

- Method:** POST
- URL:** http://localhost:5000/users/register
- Body (JSON):**

```

1 {
2   "name": "Archit",
3   "username": "archit",
4   "email": "archit@gmail.com",
5   "password": "12345",
6   "password2": "12345",
7   "userType": "collegeS"
      
```

- Response Status:** 400 Bad Request
- Response Time:** 67 ms
- Response Size:** 292 B
- Response Body:** User already registered

## 2. Login

To allow entrance for the user who has already registered.

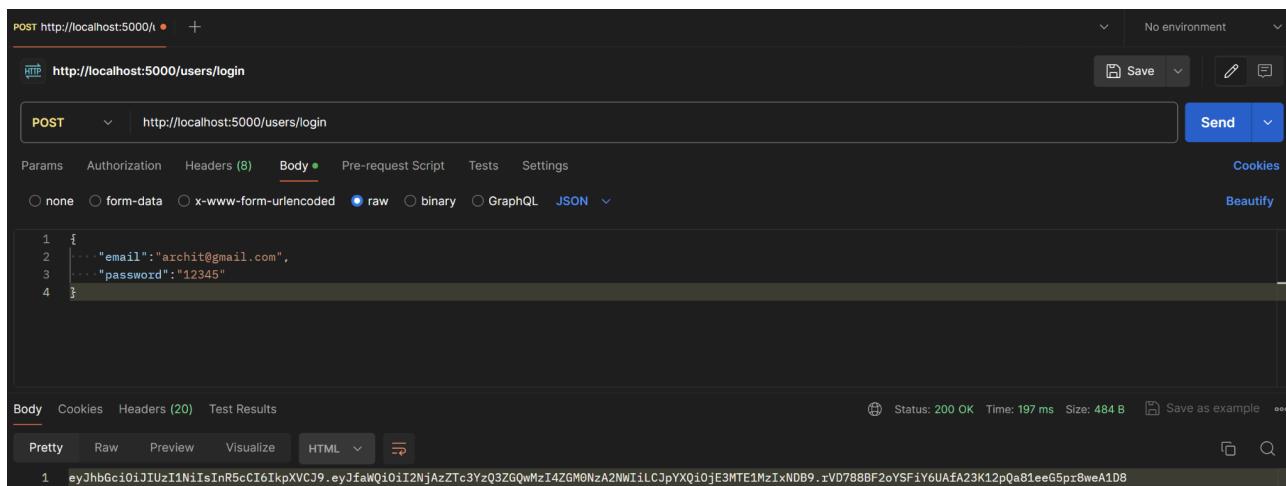
**Unit details:** users/login (routes/users.js)

**Test owners:** Mayank Gupta and Ayush Meena

**Test Date:** 27/3/24-28/3/24

**Test Result:** Below are the result outcomes

**Case 1:** A person who has registered should be able to log in



The screenshot shows a Postman interface with a POST request to `http://localhost:5000/users/login`. The request body is a JSON object with fields `email` and `password`. The response status is 200 OK, indicating a successful login attempt.

```
POST http://localhost:5000/k +  
HTTP http://localhost:5000/users/login  
Save | Edit |  
Send |  
POST http://localhost:5000/users/login  
Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies  
none form-data x-www-form-urlencoded raw binary GraphQL JSON Beautify  
1 {  
2   "email": "archit@gmail.com",  
3   "password": "12345"  
4 }  
  
Body Cookies Headers (20) Test Results Status: 200 OK Time: 197 ms Size: 484 B Save as example ...  
Pretty Raw Preview Visualize HTML  
eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJfaWQiOiI2NjAzZTc3YzQ3ZGQwMzI4ZGM0NzA2NWItLCJpYXQiOjE3MTE1MzIxNDB9.rVD788BF2oYSFiy6UAfA23K12pQa81ee65pr8weA1D8
```

authorization token generated

## Case 2: A person who has not yet registered should not be able to log in

POST http://localhost:5000/ +

HTTP http://localhost:5000/users/login

POST http://localhost:5000/users/login

Params Authorization Headers (9) Body Pre-request Script Tests Settings Cookies Beautify

Body none form-data x-www-form-urlencoded raw binary GraphQL JSON

```

1 {
2   ...
3   "email": "testuser@gmail.com",
4   "password": "123456"
5 }
```

Body Cookies Headers (8) Test Results

Pretty Raw Preview Visualize HTML Status: 400 Bad Request Time: 250 ms Size: 294 B Save as example

1 Invalid email or password

## Case 3: A person, although registered, should be unable to log in because of the wrong username or password.

POST http://localhost:5000/ +

HTTP http://localhost:5000/users/login

POST http://localhost:5000/users/login

Params Authorization Headers (9) Body Pre-request Script Tests Settings Cookies Beautify

Body none form-data x-www-form-urlencoded raw binary GraphQL JSON

```

1 {
2   ...
3   "email": "ayush@gmail.com",
4   "password": "1234567890"
5 }
```

Body Cookies Headers (8) Test Results

Pretty Raw Preview Visualize HTML Status: 400 Bad Request Time: 224 ms Size: 294 B Save as example

1 invalid email or password

## Case 4: Admin Login

### 3. Forum

A platform for the logged-in users to ask questions to the entire community, where they can like any post, reply to it, and sort them based on the tags available.

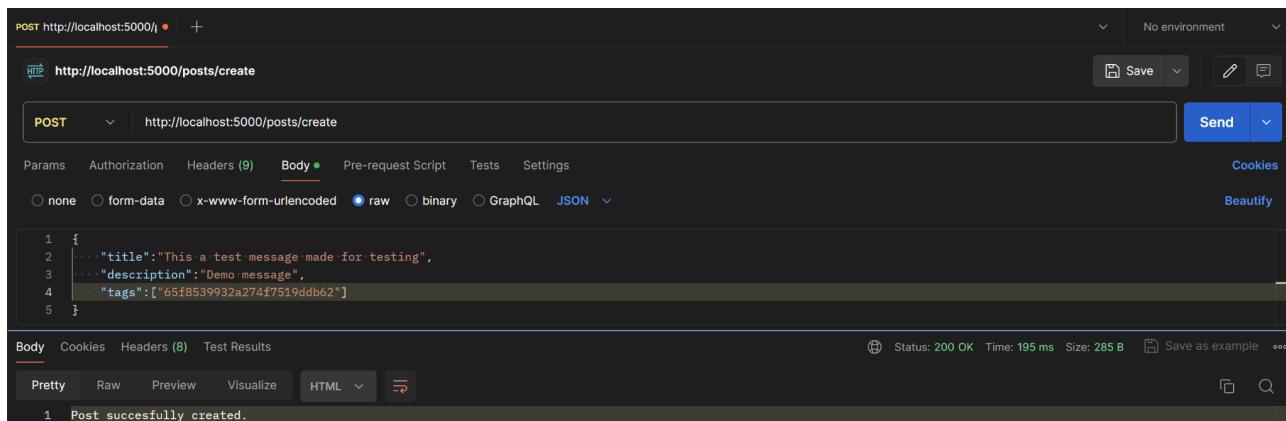
**Unit details :** posts (routes/posts.js), reply (routes/reply.js)

**Test owners:** Mayank Gupta and Ayush Meena

**Test Date:** 27/3/24-28/3/24

**Test Result:** Below are the result outcomes

## Case 1: Adding a new post (using tags)

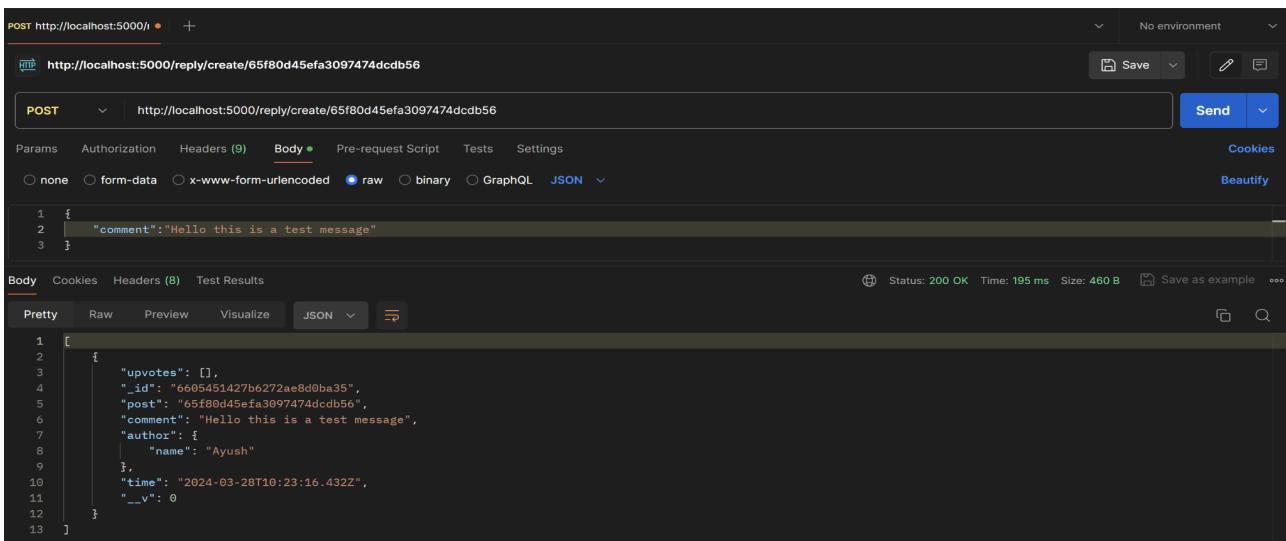


The screenshot shows a Postman interface with a POST request to `http://localhost:5000/posts/create`. The request body is raw JSON:

```
1 {
2   "title": "This is a test message made for testing",
3   "description": "Demo message",
4   "tags": ["65f8539932a274f7519ddb62"]
5 }
```

The response status is 200 OK, time: 195 ms, size: 285 B. The message "Post successfully created." is displayed.

## Case 2: Replying to any post



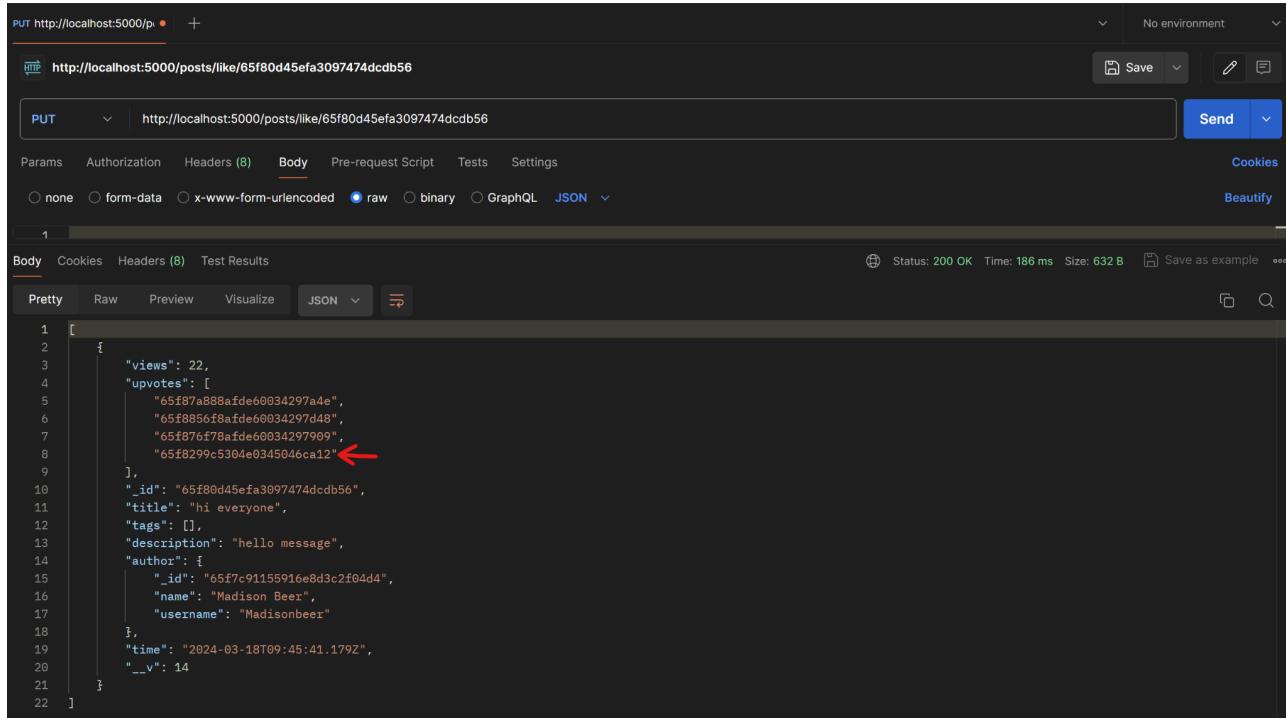
The screenshot shows a Postman interface with a POST request to `http://localhost:5000/reply/create/65f80d45efa3097474dcdb56`. The request body is raw JSON:

```
1 {
2   "comment": "Hello this is a test message"
3 }
```

The response status is 200 OK, time: 195 ms, size: 460 B. The returned JSON object is:

```
1 [
2   {
3     "upvotes": [],
4     "_id": "6605451427b6272ae8d0ba35",
5     "post": "65f80d45efa3097474dcdb56",
6     "comment": "Hello this is a test message",
7     "author": {
8       "name": "Ayush"
9     },
10    "time": "2024-03-28T10:23:16.432Z",
11    "__v": 0
12  }
13 ]
```

## Case 3: Liking a post (Upvote marked)



The screenshot shows a POST request in Postman to the URL `http://localhost:5000/posts/like/65f80d45efa3097474dcdb56`. The request body is a JSON object with a single key-value pair: `"_id": "65f8299c5304e0345046ca12"`. The response status is 200 OK, time taken is 186 ms, and size is 632 B.

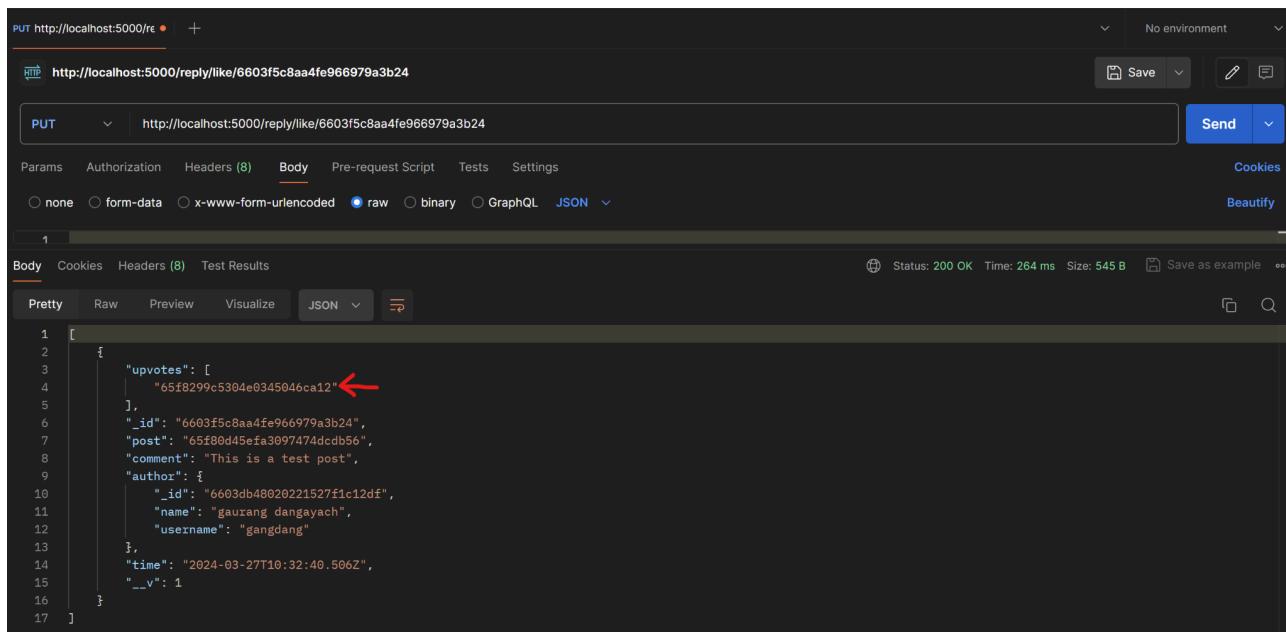
```

PUT http://localhost:5000/p • +
HTTP http://localhost:5000/posts/like/65f80d45efa3097474dcdb56

PUT http://localhost:5000/posts/like/65f80d45efa3097474dcdb56
Save Send
Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies Beautify
none form-data x-www-form-urlencoded raw binary GraphQL JSON
1
Body Cookies Headers (8) Test Results
Pretty Raw Preview Visualize JSON
1 [
  {
    "views": 22,
    "upvotes": [
      "65f87a88afde60034297a4e",
      "65f8856f8afde60034297d48",
      "65f876f78afde60034297969",
      "65f8299c5304e0345046ca12" ←
    ],
    "_id": "65f80d45efa3097474dcdb56",
    "title": "hi everyone",
    "tags": [],
    "description": "hello message",
    "author": {
      "_id": "65f7c91155916e8d3c2f04d4",
      "name": "Madison Beer",
      "username": "Madisonbeer"
    },
    "time": "2024-03-18T09:45:41.179Z",
    "__v": 14
  }
]

```

## Case 4: Liking a Reply (Upvote marked)



The screenshot shows a POST request in Postman to the URL `http://localhost:5000/reply/like/6603f5c8aa4fe966979a3b24`. The request body is a JSON object with a single key-value pair: `"_id": "65f8299c5304e0345046ca12"`. The response status is 200 OK, time taken is 264 ms, and size is 545 B.

```

PUT http://localhost:5000/re • +
HTTP http://localhost:5000/reply/like/6603f5c8aa4fe966979a3b24

PUT http://localhost:5000/reply/like/6603f5c8aa4fe966979a3b24
Save Send
Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies Beautify
none form-data x-www-form-urlencoded raw binary GraphQL JSON
1
Body Cookies Headers (8) Test Results
Pretty Raw Preview Visualize JSON
1 [
  {
    "upvotes": [
      "65f8299c5304e0345046ca12" ←
    ],
    "_id": "6603f5c8aa4fe966979a3b24",
    "post": "65f80d45efa3097474dcdb56",
    "comment": "This is a test post",
    "author": {
      "_id": "6603db4802022157f1c12df",
      "name": "gaurang dangayach",
      "username": "gangdang"
    },
    "time": "2024-03-27T10:32:40.506Z",
    "__v": 1
  }
]

```

## Case 5: Creating a Post without Login

POST http://localhost:5000/posts/create

**Body**

```
{
  "_id": {"$oid": "65f8315aff91188264cc623a"}, "views": {"$numberInt": 12}, "upvotes": [], "title": "how is the academics at IIT Kanpur?", "tags": [{"used": {"$numberInt": "0"}}, {"_id": {"$oid": "65f830f532a274f7519dbb5d"}, "name": "IIT Kanpur"}], "description": "I wanted to know about the acads at IIT K. I have been told that the courses are very tough and profs dont give good grades easily and this affects CPI. Is this true?", "author": {"$oid": "65f7c91155916e8d3c2f04d4"}, "time": {"$date": {"$numberLong": "1710764378142"}}, "__v": {"$numberInt": "0"}}
}
```

Status: 401 Unauthorized Time: 7 ms Size: 302 B

1 Access denied. No token provided

Structural Coverage:

Additional Comments:

## Case 6: Deleting a Post by Admin

DELETE https://college-backend-tyqu.onrender.com/posts/660a9cbdd46dbf0033ba635b

**Body**

```
1
```

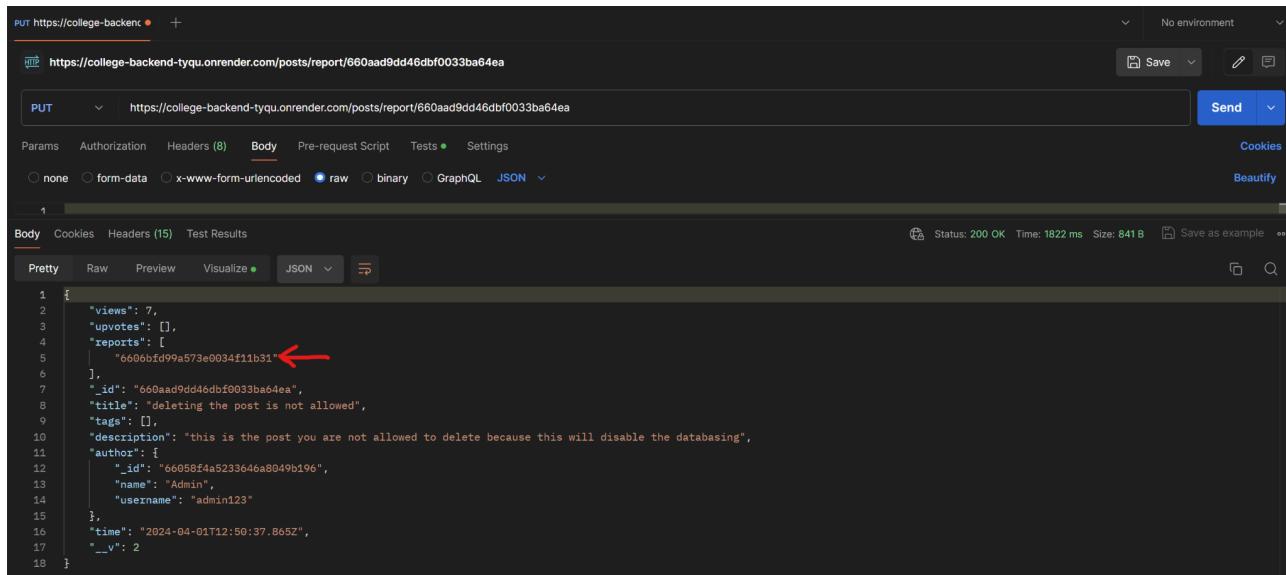
Status: 200 OK Time: 1610 ms Size: 505 B

1 Post and associated replies deleted successfully

Structural Coverage:

Additional Comments:

## Case 7: Reporting a Post (Report Marked)



The screenshot shows a Postman interface with the following details:

- Method:** PUT
- URL:** https://college-backend-tyqu.onrender.com/posts/report/660aad9dd46dbf0033ba64ea
- Body:** JSON (Pretty)
- Response Status:** 200 OK
- Response Time:** 1822 ms
- Response Size:** 841 B

The JSON response body is as follows:

```
1: {
2:   "views": 7,
3:   "upvotes": [],
4:   "reports": [
5:     "6606bd9d99a573e0034f11b31" ←
6:   ],
7:   "_id": "660aad9dd46dbf0033ba64ea",
8:   "title": "deleting the post is not allowed",
9:   "tags": [],
10:  "description": "this is the post you are not allowed to delete because this will disable the databasing",
11:  "author": [
12:    {
13:      "_id": "6605ff4a5233646a8049b196",
14:      "name": "Admin",
15:      "username": "admin123"
16:    },
17:    "time": "2024-04-01T12:50:37.865Z",
18:    "_v": 2
}
```

Structural Coverage:

Additional Comments:

## 4. Profile Page

Functionality for the people to see what they want to

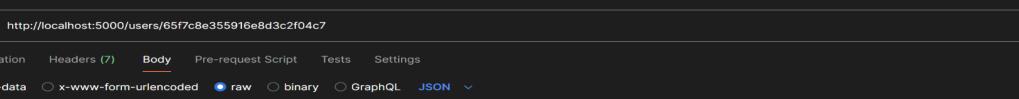
**Unit details** : user/:id (routes/users.js)

**Test owners:** Mayank Gupta and Ayush Meena

**Test Date:** 27/3/24-28/3/24

**Test Result:** here are the test results

**Case 1: A college-going student should be able to see his profile**



GET http://localhost:5000/users/65f7c8e355916e8d3c2f04c7

Params Authorization Headers (7) Body Pre-request Script Tests Settings Cookies

Body Cookies Headers (8) Test Results

Pretty Raw Preview Visualize JSON

1

```
1 "id": "65f7c8e355916e8d3c2f04c7",
2   "name": "John Doe",
3   "email": "johndoe@gmail.com",
4   "username": "John_Doe",
5   "userType": "collegeG",
6   "college": "IIT Kanpur",
7   "branch": "CSE",
8   "year": "2026",
9   "AcademicOpinion": "very good",
10  "NonAcademicOpinion": "very good",
11  "PlacementOpinion": "very good",
12  "OverallOpinion": "very good",
13  "_v": 0
```

**Case 2: A college-searching student should be able to see his profile**

GET http://localhost:5000/u... | + No environment

HTTP http://localhost:5000/users/65f815020f6140b9674c478a

Send

GET http://localhost:5000/users/65f815020f6140b9674c478a

Params Authorization Headers (7) Body Pre-request Script Tests Settings Cookies Beautify

Body none form-data x-www-form-urlencoded raw binary GraphQL JSON

1

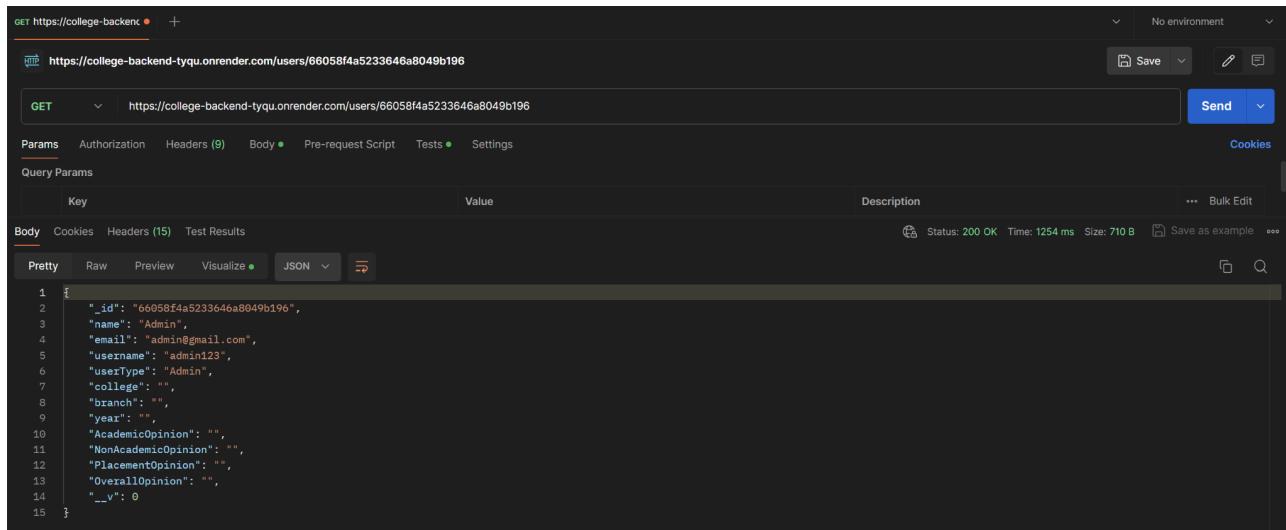
Body Cookies Headers (8) Test Results Status: 200 OK Time: 57 ms Size: 515 B Save as example ...

Pretty Raw Preview Visualize JSON

```
1 {  
2   "_id": "65f815020f6140b9674c478a",  
3   "name": "anitej",  
4   "email": "@gmail.com",  
5   "username": "anitej123",  
6   "useType": "collegeS",  
7   "college": "",  
8   "branch": "",  
9   "year": "",  
10  "AcademicOpinion": "",  
11  "NonAcademicOpinion": "",  
12  "PlacementOpinion": "",  
13  "OverallOpinion": "",  
14  "_v": 0  
15 }
```

Structural Coverage:  
Additional Comments:

## Case 3: Admin Profile



```
1 {
2   "_id": "66058f4a5233646a8049b196",
3   "name": "Admin",
4   "email": "admin@gmail.com",
5   "username": "admin123",
6   "userType": "Admin",
7   "college": "",
8   "branch": "",
9   "year": "",
10  "AcademicOpinion": "",
11  "NonAcademicOpinion": "",
12  "PlacementOpinion": "",
13  "OverallOpinion": "",
14  "__v": 0
15 }
```

## 5. College Search

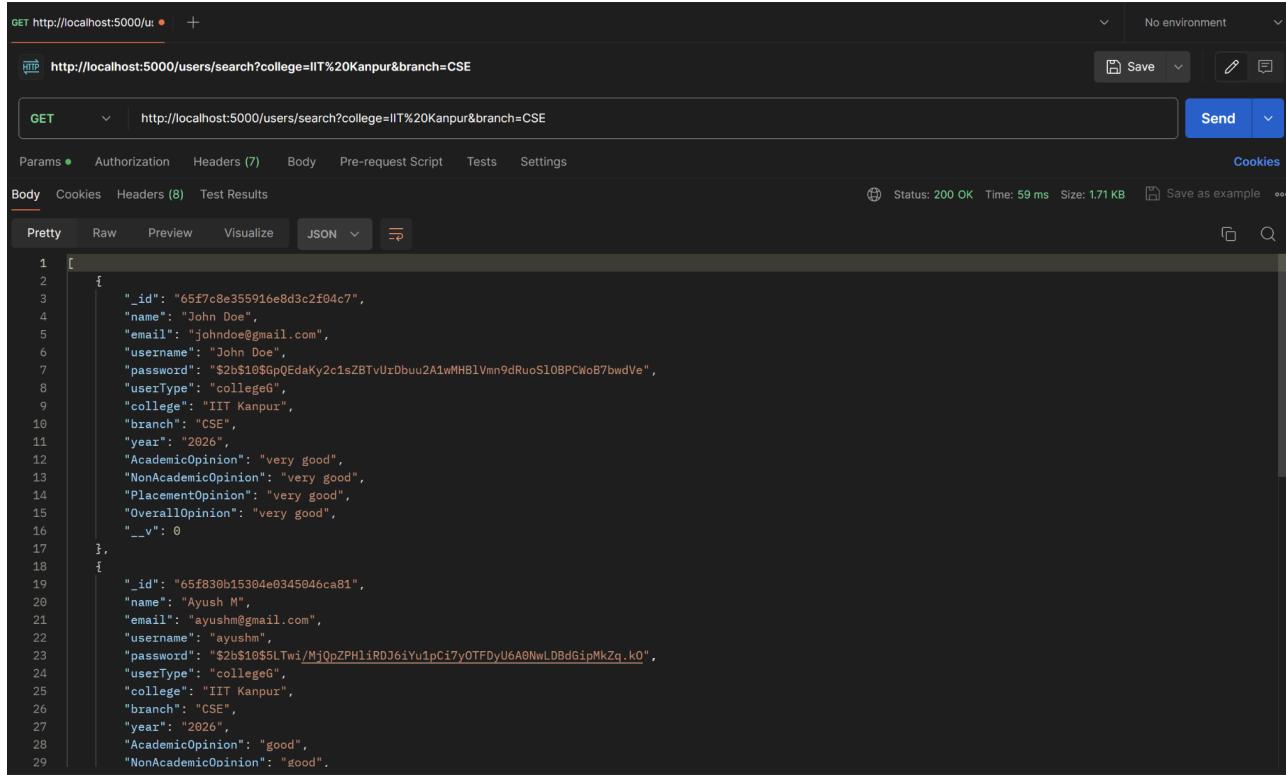
**Unit details:** search (routes/user.js)

**Test owners:** Mayank Gupta and Ayush Meena

**Test Date:** 27/3/24-28/3/24

**Test Result:** Below are the test results

## A person is putting in a request to the college he wants to search for:-



The screenshot shows a Postman interface with the following details:

- Method:** GET
- URL:** http://localhost:5000/users/search?college=IIT%20Kanpur&branch=CSE
- Status:** 200 OK
- Time:** 59 ms
- Size:** 1.71 KB
- Preview:** Shows two JSON objects representing users. The first user is "John Doe" from IIT Kanpur CSE, and the second is "Ayush M" from IIT Kanpur CSE.

```

1 [
2   {
3     "_id": "65f7c8e355916e8d3c2f94c7",
4     "name": "John Doe",
5     "email": "johndoe@gmail.com",
6     "username": "John Doe",
7     "password": "$2b$10$GpQEdaKy2c1sZBTvUrDbuu2A1wMHBlVmnn9dRuoS10BPCWoB7bwvdVe",
8     "userType": "collegeG",
9     "college": "IIT Kanpur",
10    "branch": "CSE",
11    "year": "2026",
12    "AcademicOpinion": "very good",
13    "NonAcademicOpinion": "very good",
14    "PlacementOpinion": "very good",
15    "OverallOpinion": "very good",
16    "__v": 0
17  },
18  {
19    "_id": "65f830b15304e0345046ca81",
20    "name": "Ayush M",
21    "email": "ayushm@gmail.com",
22    "username": "ayushm",
23    "password": "$2b$10$5LTwi/MjQpZPHliRDJ6iYuIpCi7yOTFDyU6AOvwLDBdGipMkZc.k0",
24    "userType": "collegeG",
25    "college": "IIT Kanpur",
26    "branch": "CSE",
27    "year": "2026",
28    "AcademicOpinion": "good",
29    "NonAcademicOpinion": "good"
  }
]
  
```

Structural Coverage:

Additional Comments: receives opinions of students studying in that college

## 6. College Compare

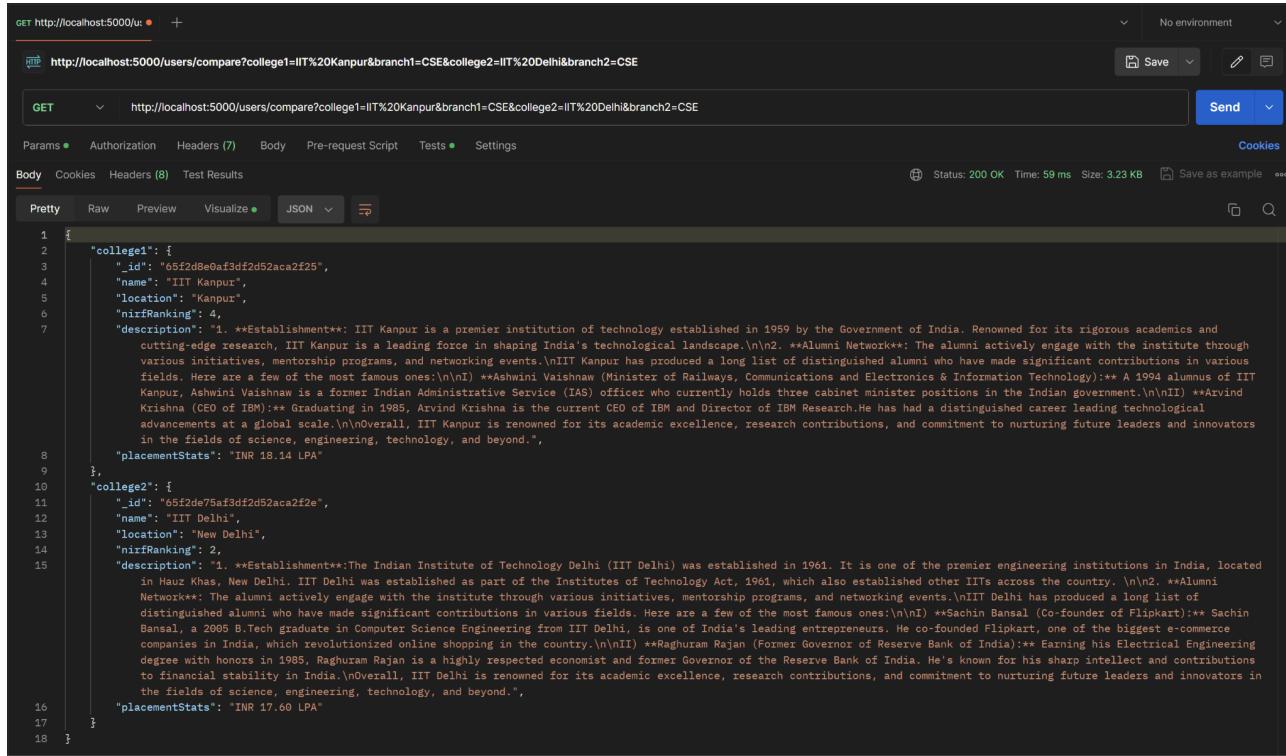
**Unit details:** compare (routes/users.js)

**Test owners:** Mayank Gupta and Ayush Meena

**Test Date:** 27/3/24-28/3/24

**Test Result:** here are the test results

## A person putting requests for the colleges he wants to compare:-



```

GET http://localhost:5000/users/compare?college1=IIT%20Kapur&branch1=CSE&college2=IIT%20Delhi&branch2=CSE
  
```

GET http://localhost:5000/users/compare?college1=IIT%20Kapur&branch1=CSE&college2=IIT%20Delhi&branch2=CSE

Params Authorization Headers (7) Body Pre-request Script Tests Cookies

Body Cookies Headers (8) Test Results

Pretty Raw Preview Visualize JSON

```

1  {
2    "college1": {
3      "_id": "65f2d8eaaf3df2d52aca2f25",
4      "name": "IIT Kanpur",
5      "location": "Kanpur",
6      "nirfRanking": 4,
7      "description": "1. **Establishment**: IIT Kanpur is a premier institution of technology established in 1959 by the Government of India. Renowned for its rigorous academics and cutting-edge research, IIT Kanpur is a leading force in shaping India's technological landscape.\n\n2. **Alumni Network**: The alumni actively engage with the institute through various initiatives, mentorship programs, and networking events.\n\nIIT Kanpur has produced a long list of distinguished alumni who have made significant contributions in various fields. Here are a few of the most famous ones:\n\nI) **Ashwini Vaishnav** (Minister of Railways, Communications and Electronics & Information Technology): A 1994 alumnus of IIT Kanpur, Ashwini Vaishnav is a former Indian Administrative Service (IAS) officer who currently holds three cabinet minister positions in the Indian government.\n\nII) **Arvind Krishna** (CEO of IBM): Graduating in 1985, Arvind Krishna is the current CEO of IBM and Director of IBM Research. He has had a distinguished career leading technological advancements at a global scale.\n\nOverall, IIT Kanpur is renowned for its academic excellence, research contributions, and commitment to nurturing future leaders and innovators in the fields of science, engineering, technology, and beyond.",
8      "placementStats": "INR 18.14 LPA"
9    },
10   "college2": {
11     "_id": "65f2de75af3df2d52aca2f2e",
12     "name": "IIT Delhi",
13     "location": "New Delhi",
14     "nirfRanking": 2,
15     "description": "1. **Establishment**: The Indian Institute of Technology Delhi (IIT Delhi) was established in 1961. It is one of the premier engineering institutions in India, located in Hauz Khas, New Delhi. IIT Delhi was established as part of the Institutes of Technology Act, 1961, which also established other IITs across the country.\n\n2. **Alumni Network**: The alumni actively engage with the institute through various initiatives, mentorship programs, and networking events.\n\nIIT Delhi has produced a long list of distinguished alumni who have made significant contributions in various fields. Here are a few of the most famous ones:\n\nI) **Sachin Bansal** (Co-founder of Flipkart): Sachin Bansal, a 2008 B.Tech graduate in Computer Science Engineering from IIT Delhi, is one of India's leading entrepreneurs. He co-founded Flipkart, one of the biggest e-commerce companies in India, which revolutionized online shopping in the country.\n\nII) **Raghuram Rajan** (Former Governor of Reserve Bank of India): Earning his Electrical Engineering degree with honors in 1985, Raghuram Rajan is a highly respected economist and former Governor of the Reserve Bank of India. He's known for his sharp intellect and contributions to financial stability in India.\n\nOverall, IIT Delhi is renowned for its academic excellence, research contributions, and commitment to nurturing future leaders and innovators in the fields of science, engineering, technology, and beyond."
16    },
17  }
18 }
```

**Structural Coverage:**  
**Additional Comments:**

## 3 Integration Testing

### 1. Home Page

Several functionalities were added to the front end of the home page, including the navigation bar, news section, top colleges carousel, and footer. Upon integration of the frontend and backend components of the homepage, every functionality was found to be working correctly and within the requirement document's consistency.

#### Module Details:

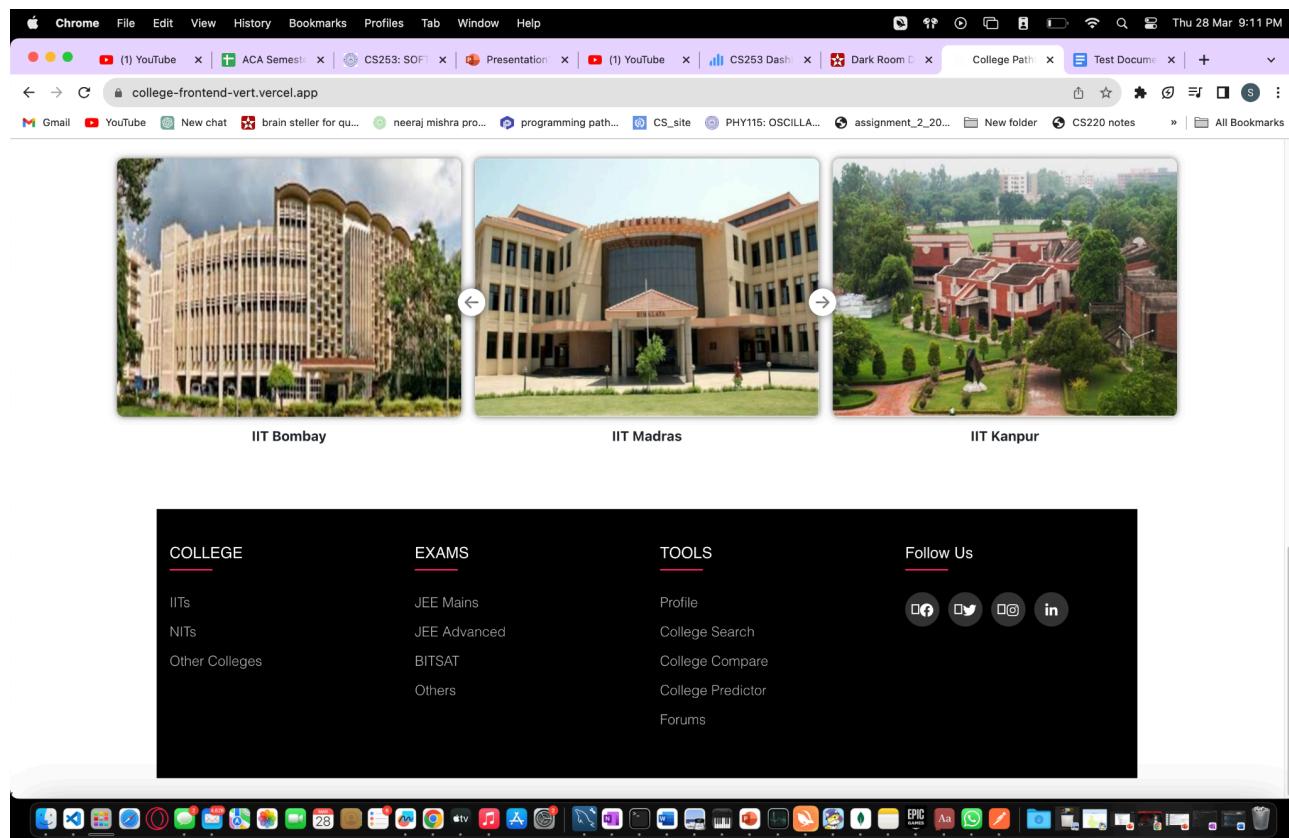
Integrated components in the frontend of the homepage.

**Test Owner:** Kumar Shivam

**Test Date:** 28/3/24-28/3/24

#### Test Results:

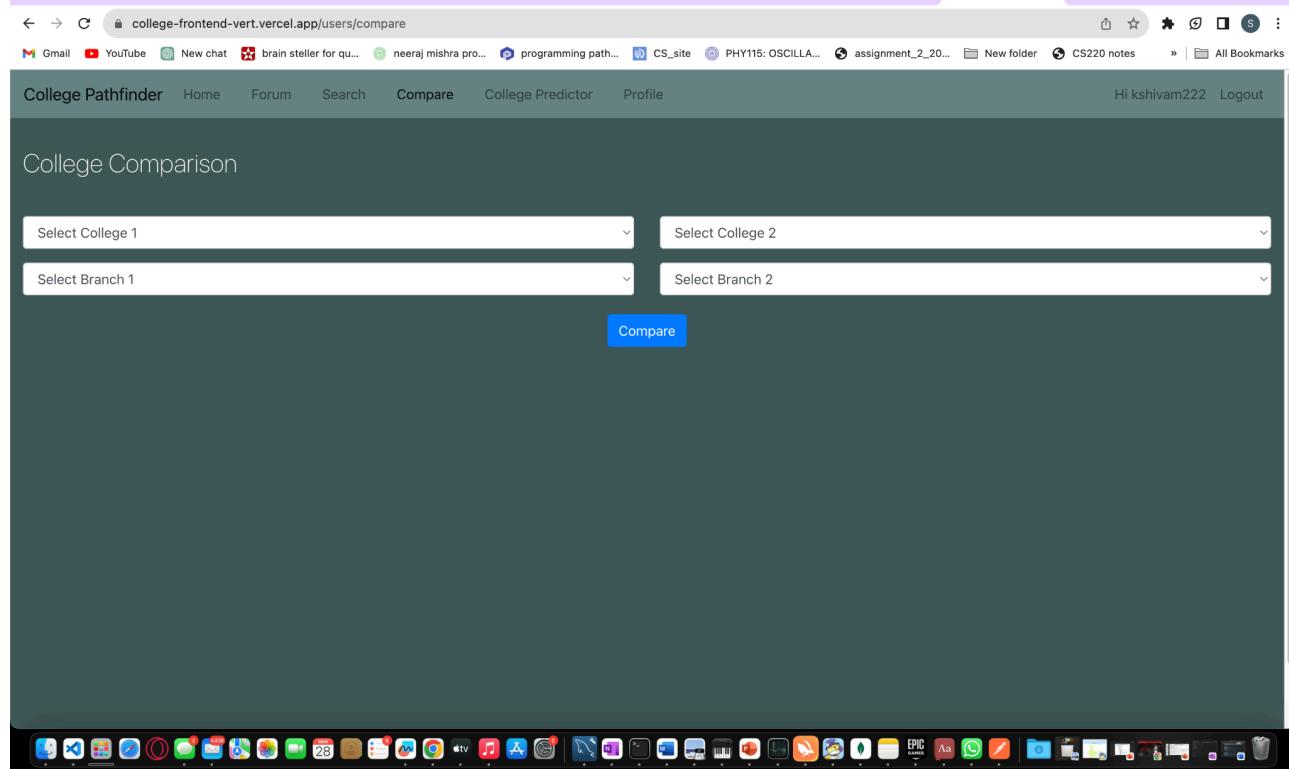
**Case 1:** testing for the footers function of reaching various platforms like profile/college search/college compare / college predictor/forum/profile



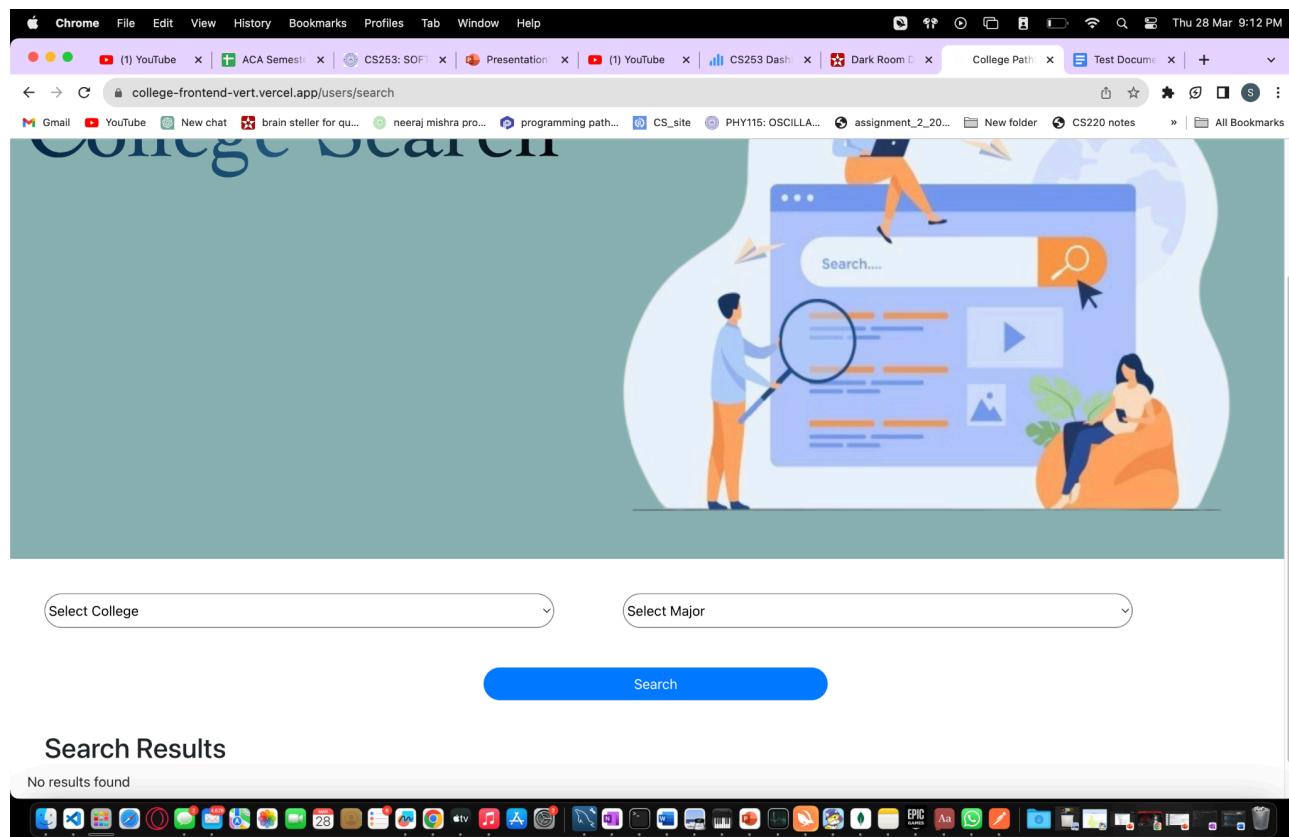
The screenshot shows a user profile page. At the top left is a verified user icon. Below it is a section titled "Personal Details" containing fields for "Your Name" (Kumar Shivam), "Username" (kshivam222), and "Email" (kshivam22@iitk.ac.in), each with an "Edit" button. To the right is a "Preferences" section with a text input field containing the message: "Hi everyone , I am searching the best college for computer science and engineering". An "Edit" button is located next to the text input.

The screenshot shows the "College Predictor" page. It features several dropdown menus for filtering search results: "Choose Examination:", "Choose Category:", "Enter Category AIR", "Choose Gender:", "Choose Preferred College:", "Choose Preferred Branch:", and a central "Submit" button.

The screenshot shows the "College Predictor" page with a large list of college names and their details, such as "IIT Kharagpur", "IIT Roorkee", "IIT Bombay", etc., displayed below the search filters.



The screenshot shows the 'College Comparison' section of the application. At the top, there are two dropdown menus labeled 'Select College 1' and 'Select College 2'. Below each dropdown is another dropdown menu labeled 'Select Branch 1' and 'Select Branch 2'. A blue 'Compare' button is positioned between the second and third dropdowns. The background of this section is dark grey.



The screenshot shows the 'College Search' section. At the top, there are two dropdown menus labeled 'Select College' and 'Select Major'. A large blue 'Search' button is centered below them. Above the search button is a decorative illustration of a person walking on a globe, with another person sitting nearby. The background of this section is light green.

**Search Results**

No results found

## 2. Forum

Functionalities to view and filter posts based on the tags and the new post-API were incorporated into the front end. View and filter functionalities were working as expected. The new post-API was working correctly.

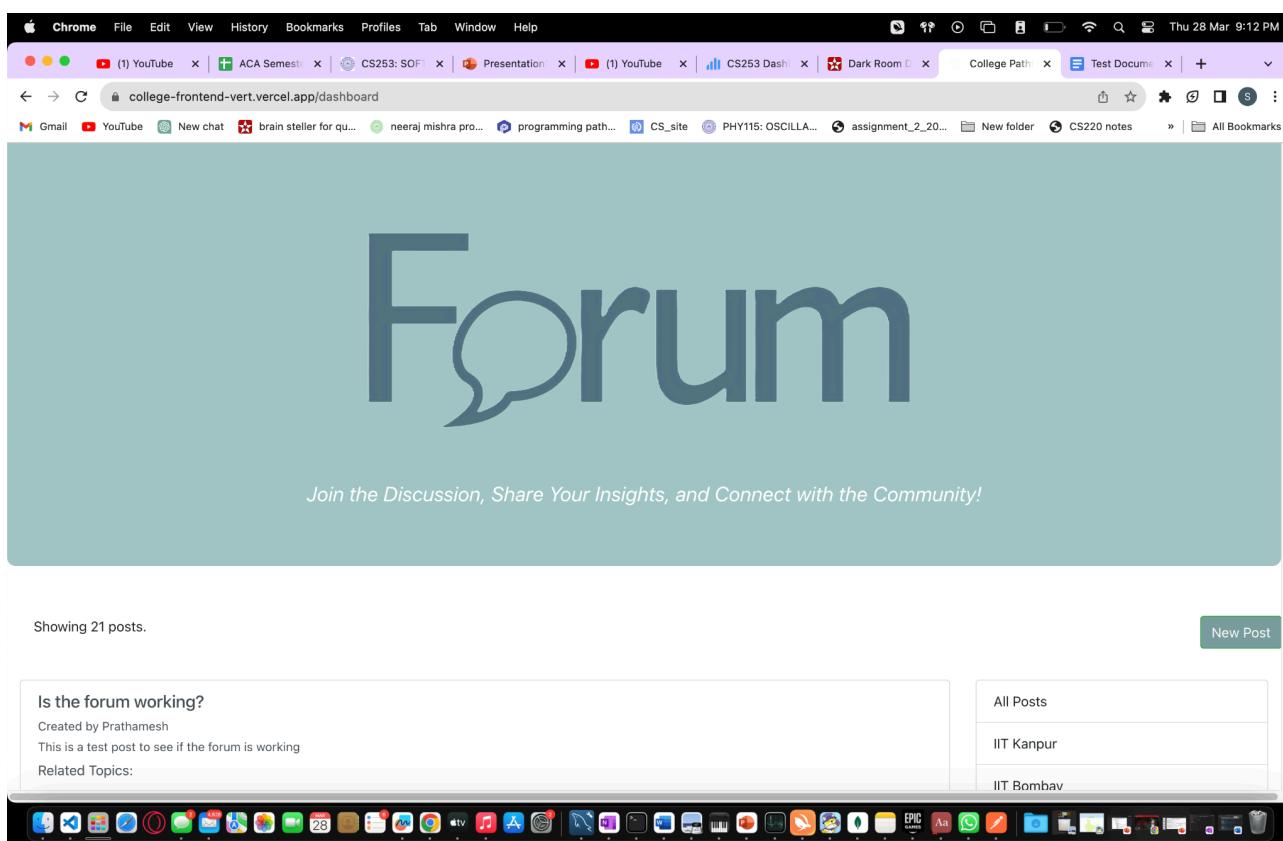
### Module Details:

The new post API and functionalities mentioned above were integrated with the front end of the forum.

**Test Owner:** Kumar Shivam

**Test Date:** 28/3/24

**Test Results:** here are the following results of the testing performed



## Case1: adding a new post in the forum while taking any tag

College Pathfinder Home Forum Search Compare College Predictor Profile Hi kshivam222 Logout

Create a New Discussion

Title  
This is a test post

Description  
This has been created for the testing purpose

Related Tags  
 IIT Kanpur  IIT Bombay  IIT Delhi  Academics  General  Helpful

Submit

Related Topics: IIT Bombay, IIT Delhi, IIT Kanpur

2 Likes | 13 Views

**forum working slow**  
Created by grenade  
sdfa;asldkj

Related Topics: IIT Kanpur

2 Likes | 9 Views

**What are the Opportunities for extra curricular activities in IITK**  
Created by anitej  
I like dancing Can you tell how is the dance club at IITK

Related Topics: IIT Kanpur

0 Likes | 6 Views

**This is a test post**  
Created by Kumar Shivam  
This has been created for the testing purpose

Related Topics: IIT Kanpur

0 Likes | 1 Views

1 2

## Case 2: Replying to a post

The screenshot shows a web browser window with multiple tabs open. The active tab is 'College Pathfinder'.

**Post Details:**

- Title:** Testing post
- Content:** hello hii
- Related Topics:** General
- Upvotes:** 3
- Reports:** 5 Reports
- Views:** 37 Views
- Posted by:** anitej123
- Time:** 2 hours ago

**Reply Form:**

Post Reply (min. 5 words)

test reply

**Post Reply** button

**Showing 1 replies**

**Reply Details:**

- Posted by:** manyankg22
- Content:** this is the reply
- Upvotes:** 0
- Views:** 38 Views
- Posted by:** anitej123
- Time:** 2 hours ago

**Reply Form:**

Post Reply (min. 5 words)

**Showing 2 replies**

**Reply Details:**

- Posted by:** manyankg22
- Content:** this is the reply
- Upvotes:** 0
- Posted by:** manyankg22
- Content:** test reply
- Upvotes:** 0
- Time:** a few seconds ago

### Case 3: Liking a post

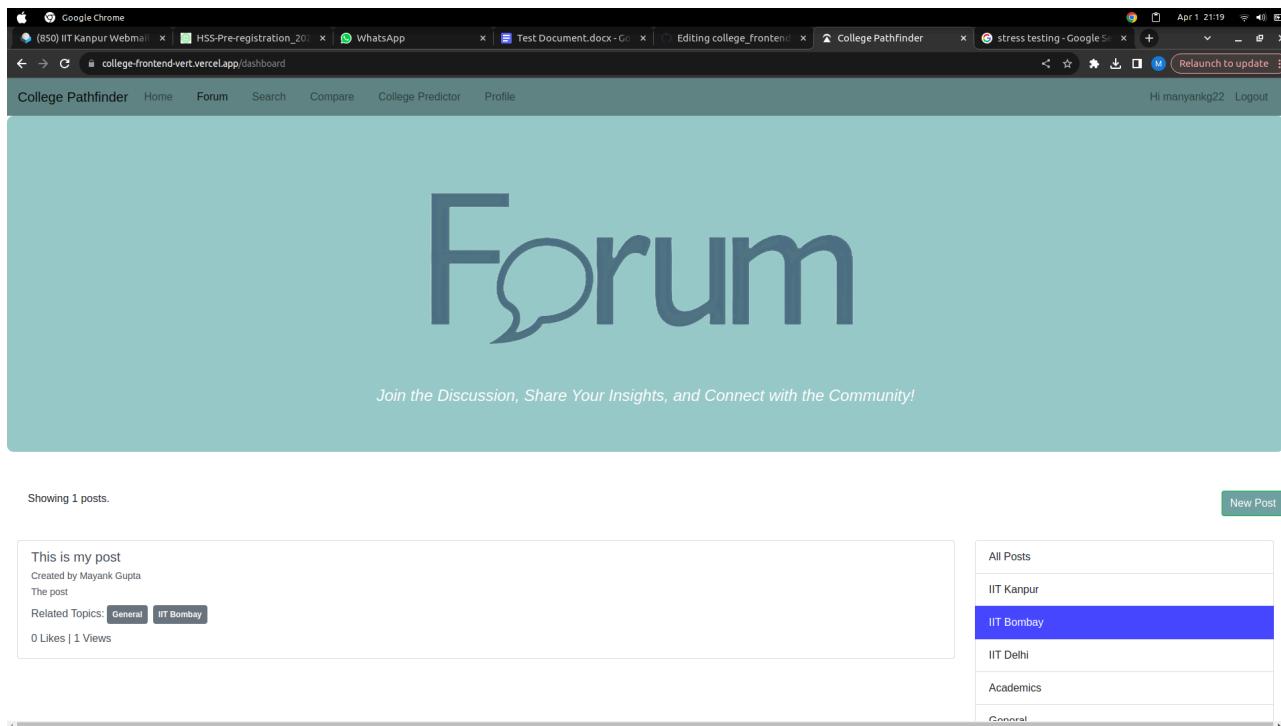
The screenshot shows a web browser window with multiple tabs open. The active tab displays a post titled "Testing post" with the content "hello hi". Below the content, it says "Related Topics: General". There are three like buttons (blue with white thumbs up) and one report button (red with a white exclamation mark). To the right, it shows "38 Views" and "2 hours ago". Below the post, there is a "Post Reply (min. 5 words)" input field with a "Post Reply" button. At the bottom, it says "Showing 2 replies" and lists a reply from "manyankg22" with the content "this is the reply".

**Additional Comments:** The person who made the comment or post cannot like his/her post/comment

### Case 4: Reporting a post

The screenshot shows a web browser window with multiple tabs open. The active tab displays a post titled "Testing post" with the content "hello hi". Below the content, it says "Related Topics: General". There are three like buttons (blue with white thumbs up) and one report button (red with a white exclamation mark). To the right, it shows "38 Views" and "2 hours ago". Below the post, there is a "Post Reply (min. 5 words)" input field with a "Post Reply" button. At the bottom, it says "Showing 2 replies" and lists a reply from "manyankg22" with the content "this is the reply".

## Case 5: Filtering using a tag



### 3. Search Page

The search API was integrated into the front end of the Search Page. Functionalities to select respective branches and colleges were added. The search API was found to be correctly working as the front end showed the correct details of all the reviews posted by the college-going students. The two of the functionalities mentioned earlier were also found to working correctly.

#### Module Details:

Integrated the search API and college and branch selection functionalities with the front end.

**Test Owner:** Kumar Shivam

**Test Date:** 29/3/24-29/3/24

**Test Results:** here are the test results

**Test: Here is a demo of the search page working (with the college as IIT Kanpur CSE)**

The screenshot shows a web browser window for the 'College Pathfinder' application. The URL in the address bar is `college-frontend-vert.vercel.app/users/search`. The page title is 'College Search'. The main content area features a large illustration of three people interacting with a digital interface that includes a search bar and a magnifying glass. Below the illustration, there are two input fields: one for 'College' containing 'IIT Kanpur' and another for 'Branch' containing 'CSE'. A blue 'Search' button is positioned between the fields. The background of the page has a teal gradient.

**Search Results**

No results found

**John Doe**

Email: [johndoe@gmail.com](mailto:johndoe@gmail.com)  
College: IIT Kanpur  
Branch: CSE  
Opinions:

- Academic Opinion: very good
- Non-Academic Opinion: very good
- Placement Opinion: very good
- Overall Opinion: very good

**Ayush M**

Email: [ayushm@gmail.com](mailto:ayushm@gmail.com)  
College: IIT Kanpur  
Branch: CSE  
Opinions:

- Academic Opinion: good
- Non-Academic Opinion: good
- Placement Opinion: good

## Additional Comments:

Here after the search is performed, based on whether there is data in the database or not, the information is displayed as per the information filled up by the college-going students.

## 4. Compare Page

The compare API was integrated into the front end of the Compare Page. Functionalities to select branches and colleges were added. The compare API was working correctly, as the front end showed the correct details of both colleges in the database. The functionalities mentioned earlier were also found to working correctly.

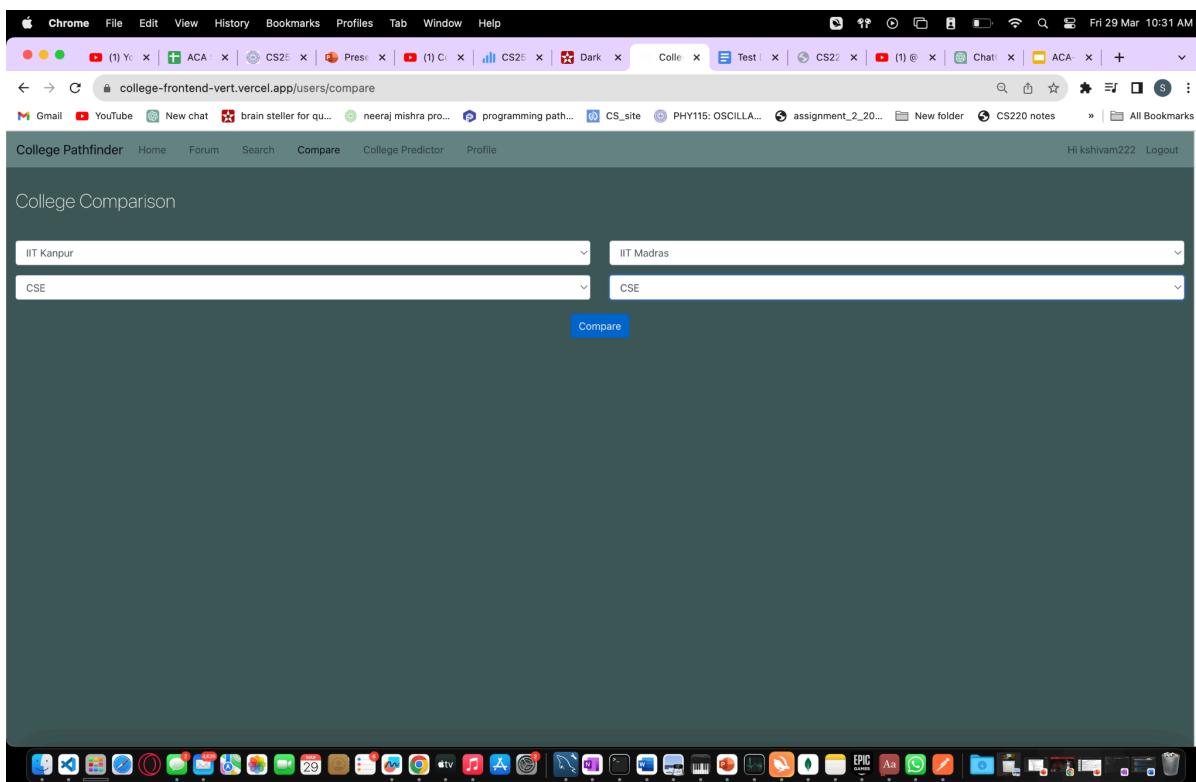
### Module Details:

Integrated the compare API, college, and branch selection functionalities with the front end.

**Test Owner:** Kumar Shivam

**Test Date:** 29/3/24-29/3/24

**Test Results:** Here we are demonstrating a college comparison of two colleges and branches, IIT Kanpur CSE vs IIT Madras CSE



**IIT Kanpur**

**IIT Madras**

**Description**

1. Establishment: IIT Kanpur is a premier institution of technology established in 1960 by the Government of India. Renowned for its rigorous academics and cutting-edge research, IIT Kanpur is a leading force in shaping India's technological landscape.

2. Alumni Network: The alumni actively engage with the institute through various initiatives, mentorship programs, and networking events. IIT Kanpur has produced a long list of distinguished alumni who have made significant contributions in various fields. Here are a few of the most famous ones:

- I) Ashwini Vaishnaw (Minister of Railways, Communications and Electronics & Information Technology): A 1994 alumnus of IIT Kanpur, Ashwini Vaishnaw is a former Indian Administrative Service (IAS) officer who currently holds three cabinet minister positions in the Indian government.
- II) Arvind Krishna (CEO of IBM): Graduating in 1985, Arvind Krishna is the current CEO of IBM and Director of IBM Research. He has had a distinguished career leading technological advancements at a global scale.

Overall, IIT Kanpur is renowned for its academic excellence, research contributions, and commitment to nurturing future leaders and innovators in the fields of science, engineering, technology, and beyond.

**NIRF Ranking**: 4

**Average Package**: INR 18.14 LPA

**User Opinions**

John Doe

- Academic Opinion: very good
- Non-Academic Opinion: very good
- Placement Opinion: very good
- Overall Opinion: very good

Ayush M

- Academic Opinion: good
- Non-Academic Opinion: good
- Placement Opinion: good
- Overall Opinion: good

Jasdeep

**IIT Madras**

**Description**

1. Establishment: The Indian Institute of Technology Madras (IIT Madras) was established in 1959. It is one of the premier engineering institutions in India, located in Chennai, Tamil Nadu. IIT Madras was the third IIT to be established in India after IIT Bombay and IIT Kharagpur.

2. Alumni Network: The alumni actively engage with the institute through various initiatives, mentorship programs, and networking events. IIT Madras has produced a long list of distinguished alumni who have made significant contributions in various fields. Here are a few of the most famous ones:

- I) R. Chandrasekhar (Chairman of NASSCOM): An alumnus of IIT Madras with a B. Tech in Mechanical Engineering (1988), R. Chandrasekhar is a prominent figure in the Indian IT industry. He previously served as the President of NASSCOM (National Association of Software and Service Companies), a leading trade association for the Indian IT-BPM industry.
- II) Vineeta Singh (CEO of SUGAR Cosmetics): IIT Madras graduate with a B Tech in Electrical Engineering (2005), Vineeta Singh is a successful entrepreneur and the CEO of SUGAR Cosmetics, a popular makeup brand in India. She's known for her innovative approach to beauty products and building a strong brand presence.

Overall, IIT Madras is renowned for its academic excellence, research contributions, and commitment to nurturing future leaders and innovators in the fields of science, engineering, technology, and beyond.

**NIRF Ranking**: 1

**Average Package**: INR 19 LPA

**User Opinions**

item100

- Academic Opinion: excellent
- Non-Academic Opinion: there is scope of improvement
- Placement Opinion: there is scope of improvement
- Overall Opinion: great college

**Additional Comments:** Here, also if the data is present in the database, then only the data will be displayed side by side, else it shall not be displayed.

## 5. College Predictor

The college predictor API was integrated into the front end of the College Predictor Page. Functionalities to select details such as examination, category, gender, preferred college, preferred branch, entering AIR, and loading more results were added. The college predictor API was found to be correctly working as the front end showed the correct details of the colleges matching the selected fields in the database. The functionalities mentioned earlier were also found to be working correctly.

### Module Details:

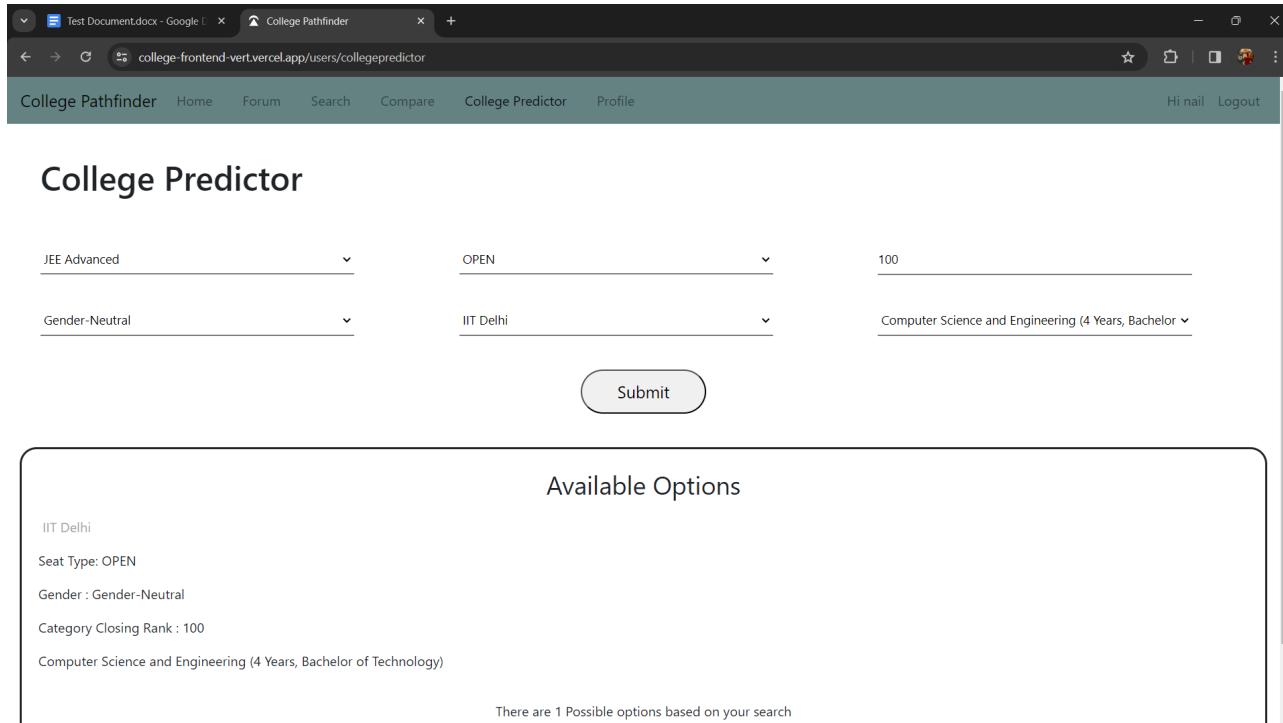
Integrated the college predictor API and functionalities above with the front end.

**Test Owner:** Manan Kumar

**Test Date:** 28/3/24

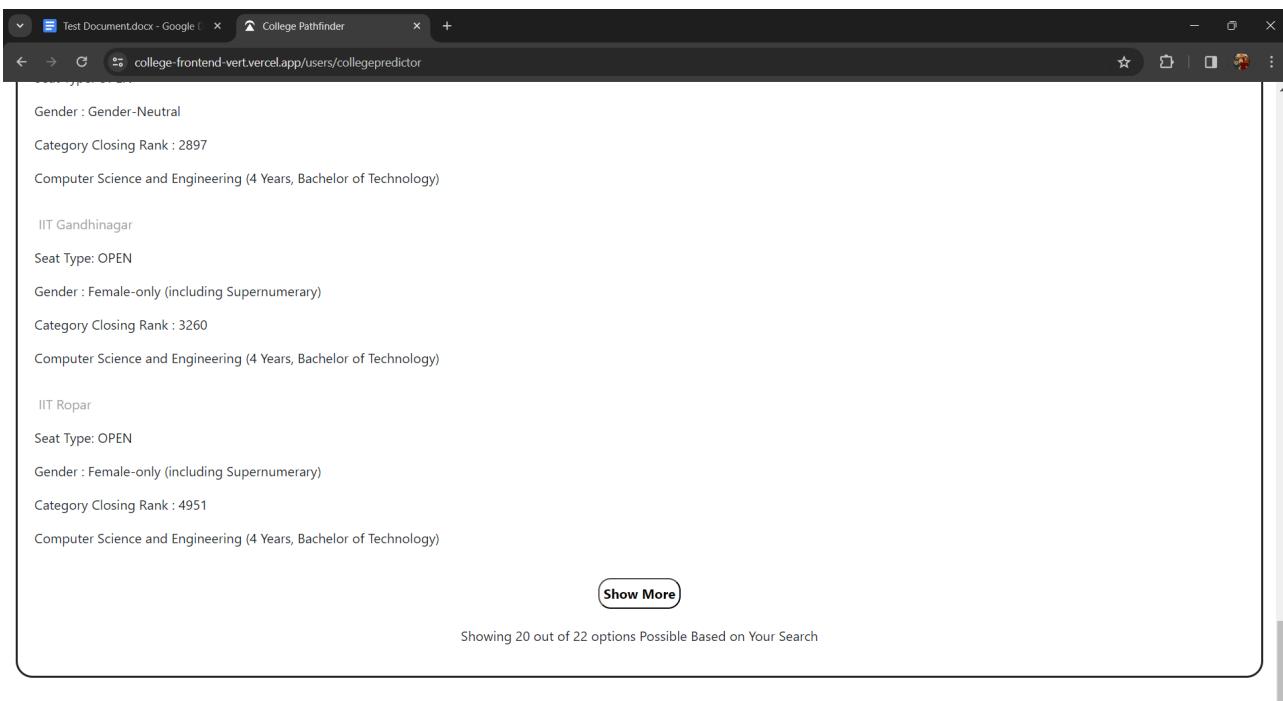
**Test Results:** In this test, we successfully showcased that all the selection buttons and input boxes for entering the AIR, submitting, and showing more buttons were working as intended.

**Test 1:** College predictor working properly i.e., description of all the colleges falling as per the selected fields popped up on clicking the submit button.



The screenshot shows a web browser window for 'College Pathfinder'. The URL is 'college-frontend-vert.vercel.app/users/collegepredictor'. The page has a header with 'College Pathfinder' and navigation links for Home, Forum, Search, Compare, College Predictor, and Profile. On the right, there are 'Hi nail' and 'Logout' buttons. The main content area is titled 'College Predictor'. It contains four dropdown menus: 'JEE Advanced', 'OPEN', '100', 'Gender-Neutral', 'IIT Delhi', and 'Computer Science and Engineering (4 Years, Bachelor)'. Below these is a 'Submit' button. A large rounded rectangle highlights the 'Available Options' section. Inside this section, it lists: 'IIT Delhi', 'Seat Type: OPEN', 'Gender : Gender-Neutral', 'Category Closing Rank : 100', and 'Computer Science and Engineering (4 Years, Bachelor of Technology)'. At the bottom of this section, a message says 'There are 1 Possible options based on your search'.

**Test 2:** Show more functionality was working correctly i.e., on clicking the show more button, ten more results were displayed along with the previous results.



The screenshot shows the same web browser window for 'College Pathfinder'. The 'Show More' button has been clicked, expanding the list of results. The expanded list includes: 'Gender : Gender-Neutral', 'Category Closing Rank : 2897', 'Computer Science and Engineering (4 Years, Bachelor of Technology)', 'IIT Gandhinagar', 'Seat Type: OPEN', 'Gender : Female-only (including Supernumerary)', 'Category Closing Rank : 3260', 'Computer Science and Engineering (4 Years, Bachelor of Technology)', 'IIT Ropar', 'Seat Type: OPEN', 'Gender : Female-only (including Supernumerary)', 'Category Closing Rank : 4951', and 'Computer Science and Engineering (4 Years, Bachelor of Technology)'. At the bottom of this expanded list, a 'Show More' button is visible. A message at the bottom of the page says 'Showing 20 out of 22 options Possible Based on Your Search'.

## 6. Login

The functionality to enter username and password was added. The front end also added buttons to log in and redirect to the registration page.

### Module Details:

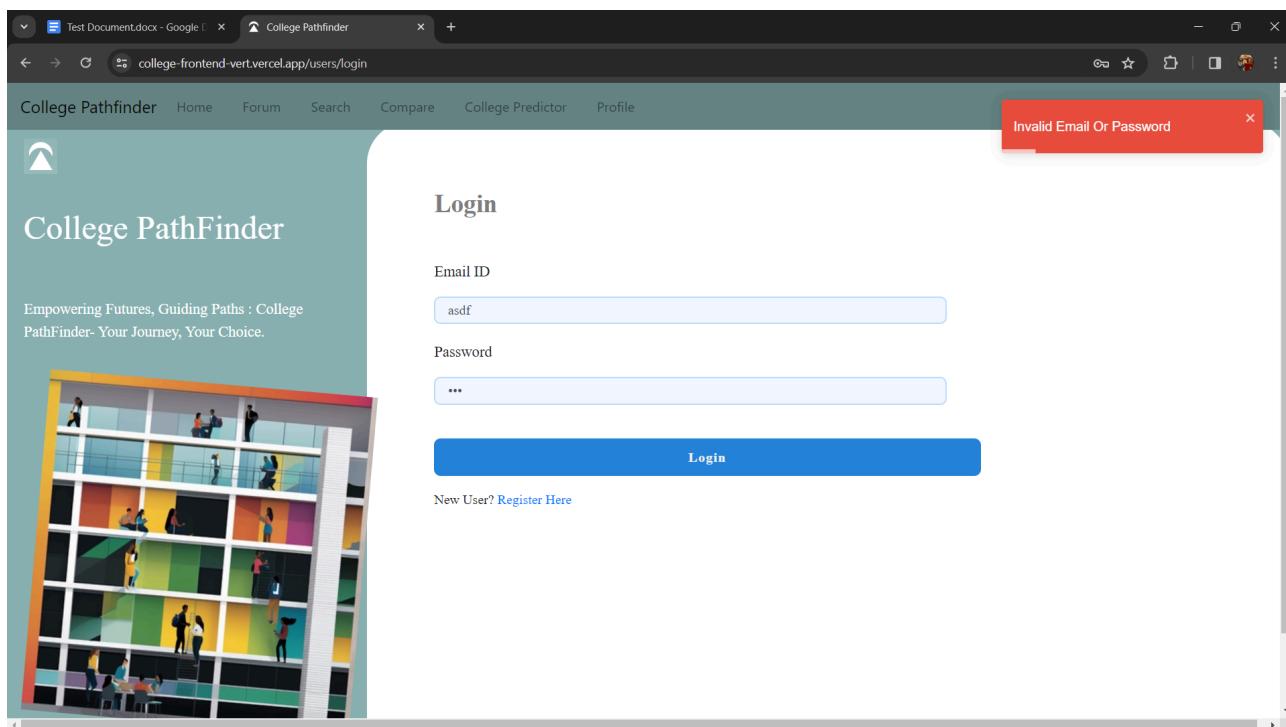
Added functionality to enter username and password.

**Test Owner:** Manan Kumar

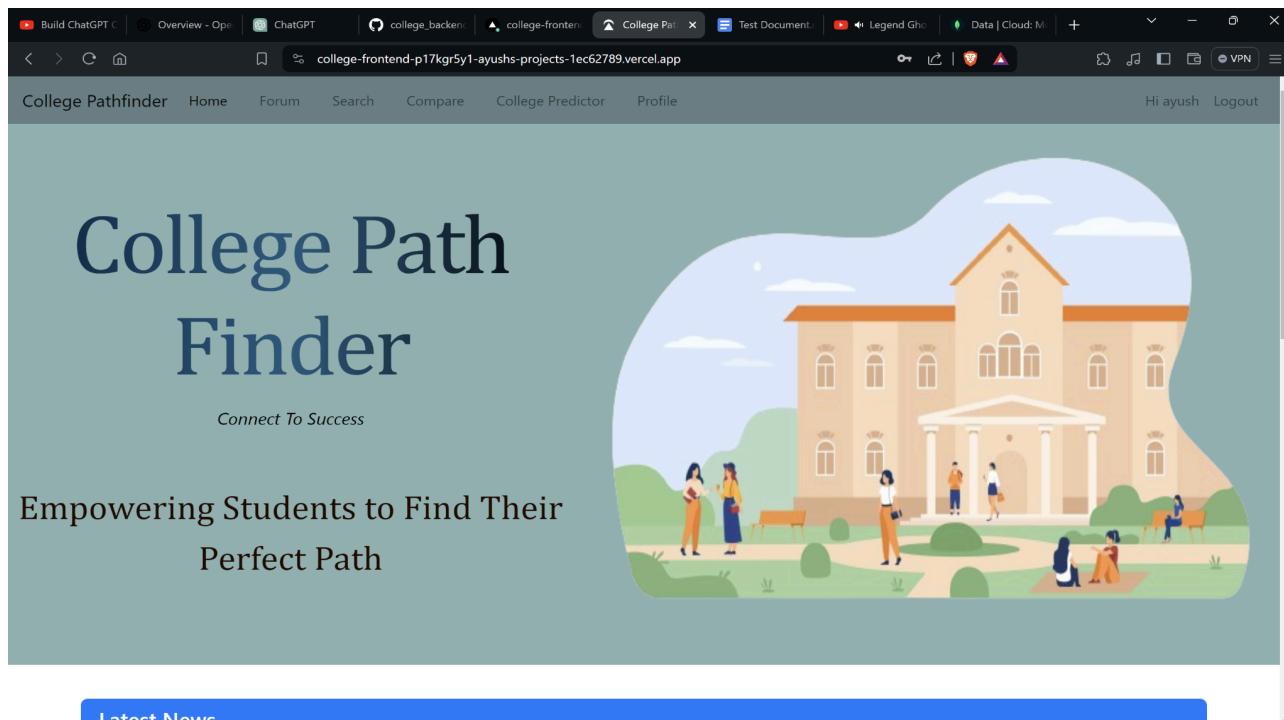
**Test Date:** 28/3/24

**Test Results:** This test successfully showcased that the input boxes to enter to username and password were working correctly. Along with them, the login button was working correctly, as it logged the user in if the credentials matched with one of the database entries and otherwise prompted the user with “Invalid email ID or password.” Also, the button to redirect to the registration page was working fine.

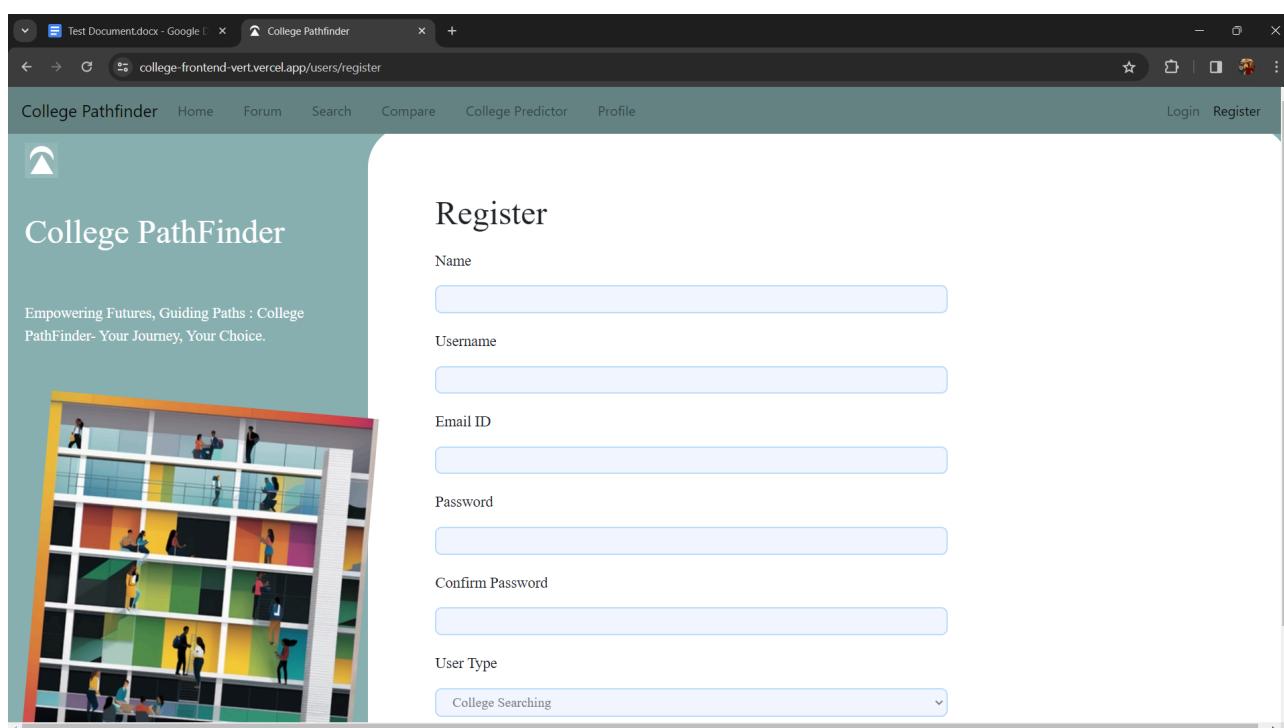
**Test 1:** The login button worked correctly in case of invalid input.



**Test 2:** The login button was working correctly for a valid input.



**Test 3:** Registration button redirection was working correctly.



## 7. Register

Added functionality to enter username, email address, and password along with a selection option for the type of user. If the selection is college-going, functionalities should be added to enter more fields, namely, year of graduation, opinion about various fields, and selection options for the college and branch.

### Module Details:

Integrated above mentioned functionalities into the registration page front end.

**Test Owner:** Manan Kumar

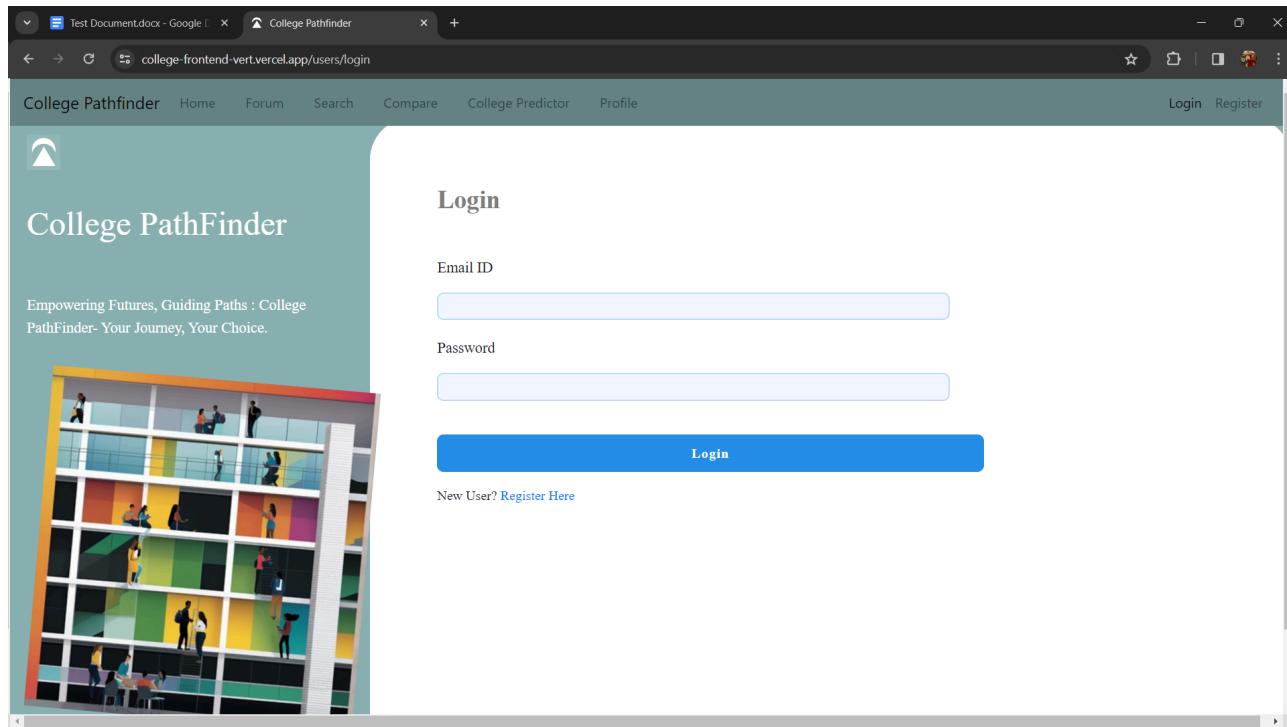
**Test Date:** 28/3/24

**Test Results:** This test successfully showcased that the input boxes for entering fields like name, username, email ID, password, and renter password worked correctly. Along with them, the register button was working correctly, as it logged the user in if valid and new credentials that didn't match any of the database entries and otherwise prompted the user with "User Already Existed." Still, there was a bug that displayed two prompts instead of only one of them. Also, the selection button to expand the registration page in case of college-going students was working fine. The extra selection buttons and input entry buttons also worked correctly.

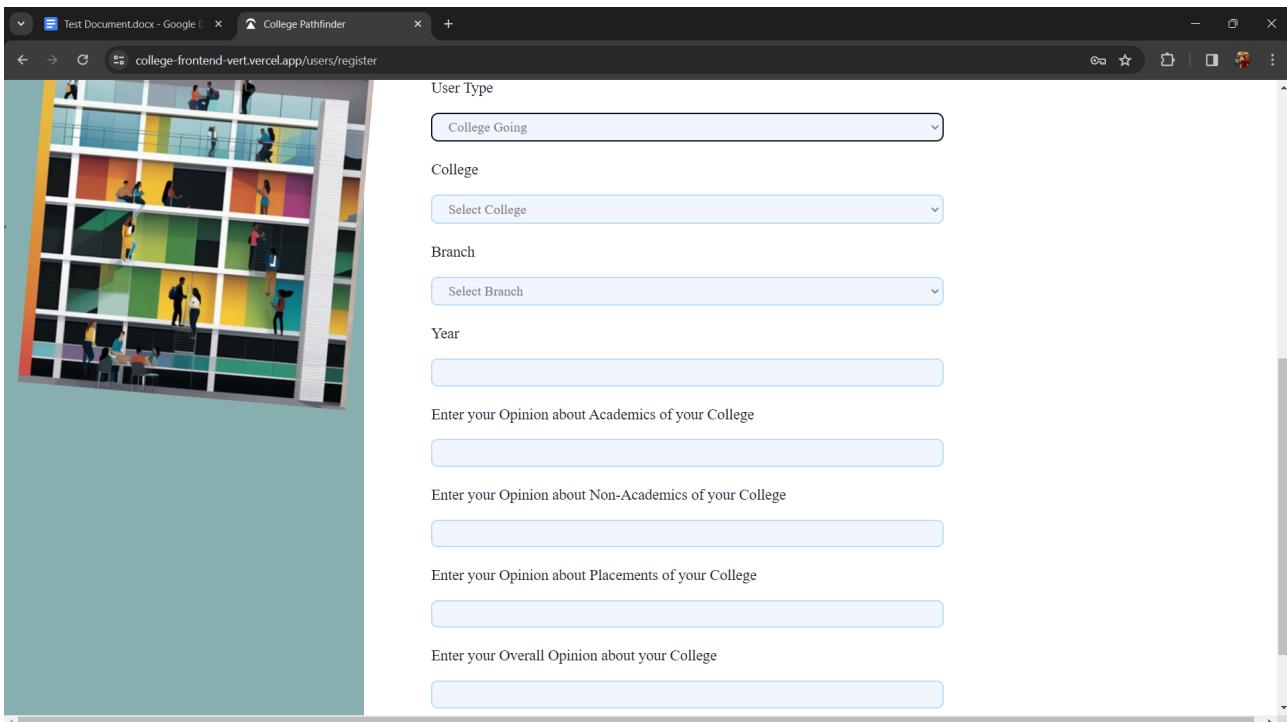
**Test 1:** The register button worked correctly for input matching one of the existing users, as a prompt was displayed.

The screenshot shows the College PathFinder registration interface. At the top, there is a navigation bar with links for Home, Forum, Search, Compare, College Predictor, and Profile. On the right side of the header, a red banner displays the message "User already registered". The main content area is titled "Register". It contains several input fields: "Name (min. 5 words)" with the value "mayank", "Username (min. 5 words)" with the value "mayankgupta1234", "Email ID (min. 5 words)" with the value "mayankg22@iitk.ac.in", "Password (min. 5 words)" with the value "\*\*\*\*\*", "Confirm Password" with the value "\*\*\*\*\*", and a dropdown menu for "User Type" set to "College Searching". A large blue "Register" button is at the bottom of the form. To the left of the form, there is a decorative graphic of a modern building with people walking on its balconies.

**Test 2:** The register button works correctly for new credentials, as it correctly redirects to the login page.



**Test 3:** The selection button for the type of user was working correctly.



## 8. Profile

Added edit APIs to edit names, usernames, and emails for the students, as well as functionalities to enter them in input boxes.

### Module Details:

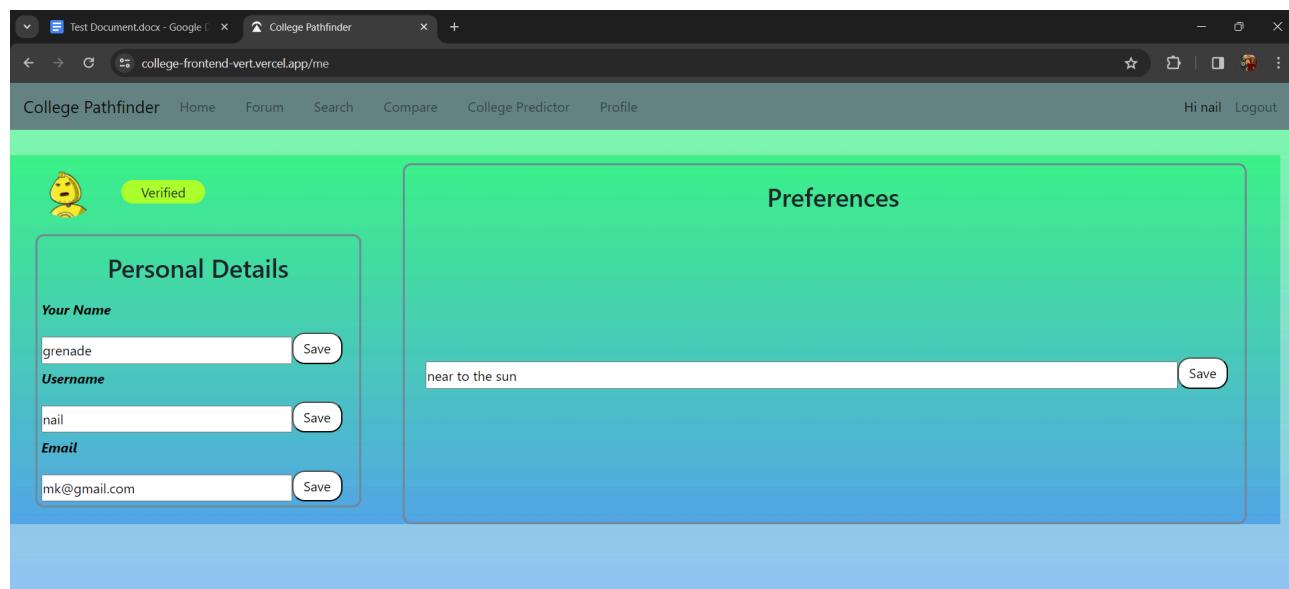
Integrated edit APIs are available for students at the front end of the profile page.

**Test Owner:** Manan Kumar

**Test Date:** 28/3/24

**Test Results:** This test showed that the edit APIs were working correctly for all the fields and functionalities to enter in the input boxes.

**Test:** Various edit and save buttons working correctly.



## 9. Profile Page for Admin

Added edit APIs to edit names, usernames, and emails for the students, as well as functionalities to enter them in input boxes. User distribution API, which shows a pi chart corresponding to the percentage of users falling into each user type, was also added.

### Module Details:

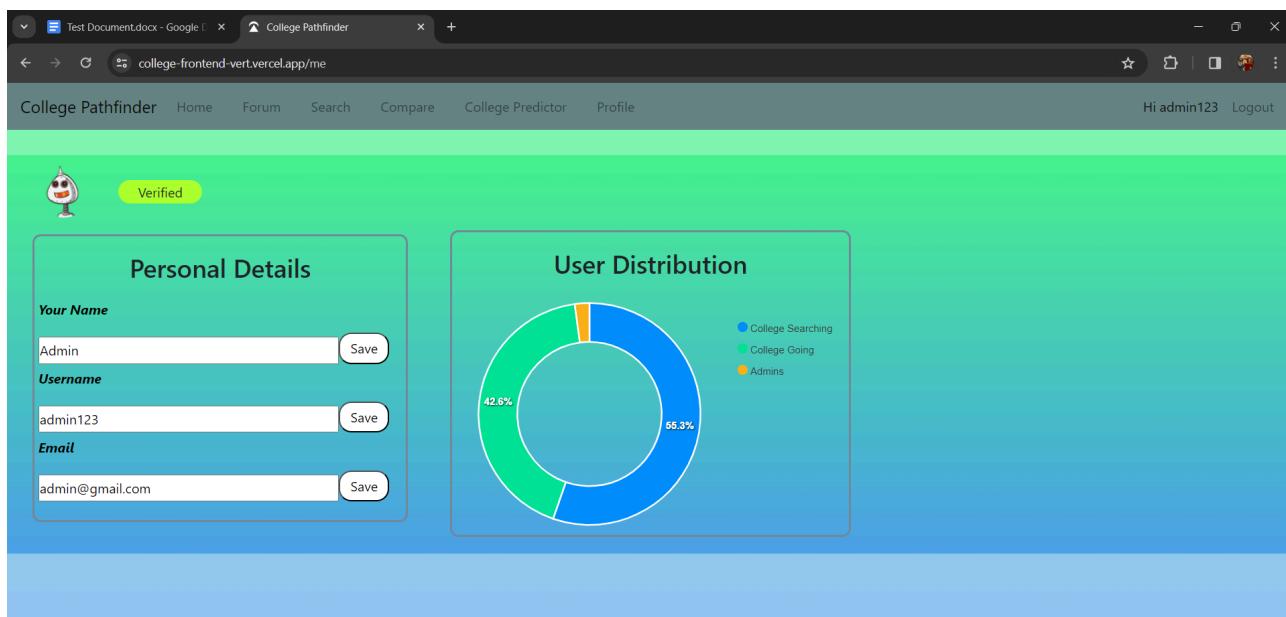
Integrated edit and user distribution APIs for the admin at the front end of the profile page.

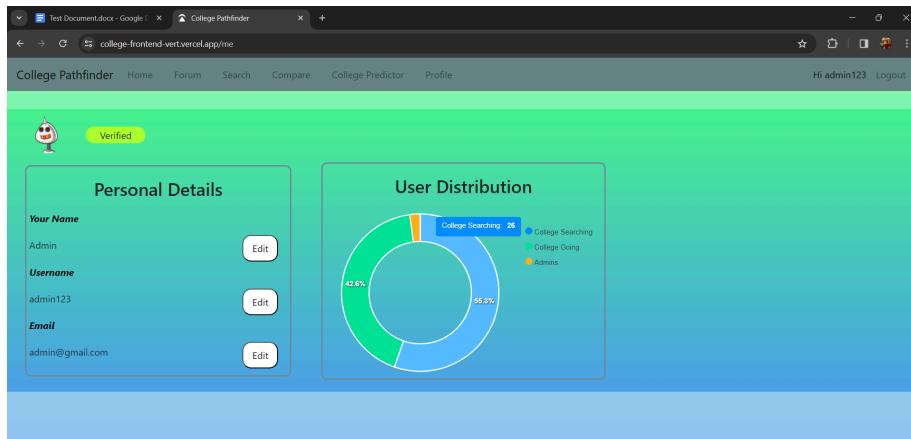
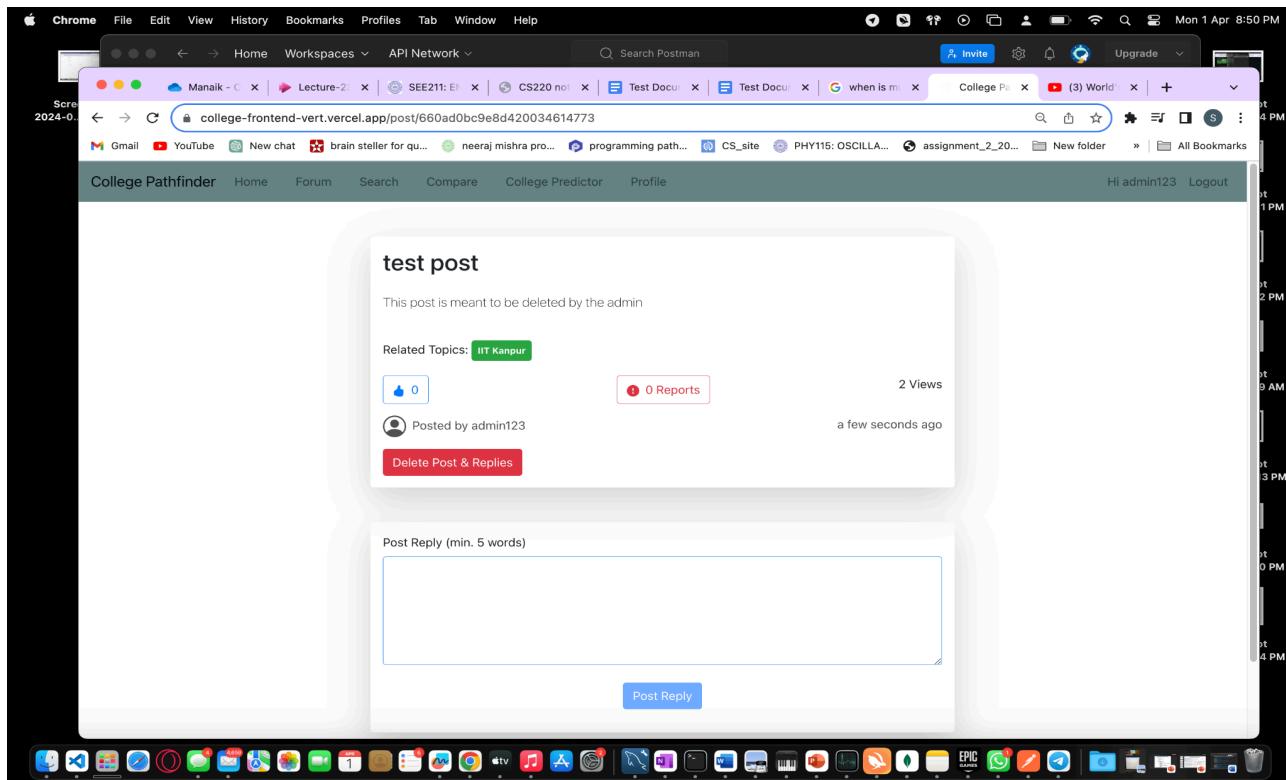
**Test Owner:** Manan Kumar and Anitej Jain

**Test Date:** 28/3/24

**Test Results:** This test showed that the edit APIs are working correctly for all the fields and functionalities to enter in the input boxes, and user distribution was also found to work as per the requirements.

**Test 1:** Various edit and save buttons working correctly.



**Test 2:** User distribution API was working correctly.**Test 3:** Deleting a post is working correctly , where on clicking the delete post and reviews button , the post was successfully deleted.

## 4 System Testing

**System Testing** is a level of testing that validates the complete and fully integrated software product. The purpose of a system test is to evaluate the end-to-end system specifications. Usually, the software is only one element of a more extensive computer-based system. Ultimately, the software is interfaced with other software/hardware systems. System Testing is a series of tests solely to exercise the entire computer-based system.

### System Testing

#### #1 Registration

##### Requirement: New Users Registration

**Basic Information:** This test verifies the registration process for new users. Users should be able to navigate to the "Sign Up" or "Register" option on the homepage, complete the registration form with the required information, and set up a secure password for their account.

**Test Owner:** Ayushmaan

**Test Date:** 28/03/2024

**Test Results:** The registration process for new users was tested thoroughly. Users can access the registration form from the homepage, provide the necessary information, and set up a secure password. Additionally, the system correctly validated user inputs and created new accounts as expected.

**Additional Comments:** The registration process for new users functions as intended and ensures a smooth onboarding experience.

##### Requirement: Registered Users Login

**Basic Information:** This test focuses on the login process for existing users. Registered users should be able to click the "Login" or "Sign In" button on the homepage, enter their registered email address and password, and access their personalized profile upon successful authentication.

**Test Owner:** Ayushmaan

**Test Date:** 28/03/2024

**Test Results:** The login process for registered users was tested rigorously. Existing users could successfully access the login page, enter their credentials, and log in to their accounts. Authentication mechanisms effectively verified user identity and granted access to personalized profiles.

**Additional Comments:** The login functionality for registered users functions smoothly and provides secure access to user profiles.

## Requirement: Administrator Login

**Basic Information:** This test ensures that administrators can securely log in to the system using unique credentials. Authentication mechanisms must be in place to maintain the confidentiality of administrator accounts.

**Test Owner:** Ayushmaan

**Test Date:** 28/03/2024

**Test Results:** The login process for administrators was tested to ensure secure access to the system. Administrators were able to log in using their unique credentials, and authentication mechanisms successfully verified their identities. Confidentiality of administrator accounts was maintained throughout the login process.

**Additional Comments:** The administrator login functionality meets the security requirements and provides authorized access to administrative features.

## #2 Forum and Q/A

### Requirement: College-seeking Students Functionality

**Basic Information:** This test ensures that college-seeking students can effectively use the Q&A forum to ask questions, read answers, upvote answers, and bookmark questions and answers for future reference.

**Test Owner:** Ayushmaan

**Test Date:** 28/03/2024

**Test Results:** The functionality for college-seeking students was thoroughly tested. Students could ask questions on the platform, read answers provided by other users, upvote answers they found helpful. The Q&A forum interface provided clear options for these actions and responded appropriately to user interactions. No significant bugs were encountered during testing, ensuring a smooth user experience.

**Additional Comments:** The Q&A forum successfully facilitates interaction for college-seeking students, enhancing their experience in seeking information and support.

### Requirement: College-attending/Graduated Persons Functionality

**Basic Information:** This test verifies that college-attending/graduated persons can answer questions and read other answers posted on the Q&A forum. Additionally, registered users should not be able to upvote their own answers.

**Test Owner:** Ayushmaan

**Test Date:** 28/03/2024

**Test Results:** The functionality for college-attending/graduated persons was tested comprehensively. Users in this category could answer questions posted on the forum and read other answers provided. Furthermore, the system correctly prevented registered

users from upvoting their own answers, maintaining fairness in the voting system. No significant bugs were encountered during testing, ensuring a seamless user experience.

**Additional Comments:** The Q&A forum interface for college-attending/graduated persons effectively supports answering questions and promotes community engagement while ensuring voting fairness.

## # 3 College Search, general users can filter and sort the colleges according to their interest

**Basic Information:** This test primarily focused on the frontend functionality, simulating the experience of general users who can search colleges based on their interests.

**Test Owner:** Ayushmaan

**Test Date:** 28/03/2024

**Test Results:** The tests were executed successfully without encountering significant issues. Due to thorough unit testing, the number of bugs identified at this stage was minimal. Users could effectively search colleges based on their interests ,ensuring the functionality aligns with the specified requirements.

**Additional Comments:** The frontend functionality for searching colleges meets the expected criteria and operates smoothly, contributing to a positive user experience.

## # 4 Program Predictor

### Requirement: College Predictor Functionality

**Basic Information:** This test ensures that the College Predictor feature accurately predicts colleges and programs based on the user's JEE rank and category. The system should provide a list of colleges and programs for which the user is eligible.

**Test Owner:** Ayushmaan

**Test Date:** 28/03/2024

**Test Results:** The College Predictor functionality was thoroughly tested. Users could input their JEE rank and category, and the system accurately generated a list of colleges and programs for which they are eligible. The predicted colleges and programs matched the expected outcomes based on the provided rank and category. Minimal inaccuracies were observed during testing, ensuring reliable predictions for users.

**Additional Comments:** The College Predictor feature provides valuable information to users by accurately predicting colleges and programs based on their JEE rank and category, thereby aiding them in making informed decisions about their educational pursuits.

## #5 College Compare

**Requirement: College Compare Functionality**

**Basic Information:** This test ensures that the College Compare feature accurately compares colleges based on user input and provides information on establishment, alumni, and courses offered for the selected colleges.

**Test Owner:** Ayushmaan

**Test Date:** 28/03/2024

**Test Results:** The College Compare functionality was thoroughly tested. Users could input the colleges they want to compare, and the system accurately generated comparisons, including establishment details, notable alumni, and courses offered for the selected colleges. The information provided for each college was comprehensive and relevant to the user's comparison needs. No significant discrepancies or inaccuracies were observed during testing, ensuring reliable user comparisons.

**Additional Comments:** The College Compare feature enhances user decision-making by providing detailed comparisons of colleges, including establishment information, notable alumni, and courses offered, facilitating informed choices about educational institutions.

System Testing

## #6 Administrators Management

**Requirement: Manage Reported Posts Functionality**

**Basic Information:** This test ensures that administrators can effectively manage reported posts through the Q&A forum. Administrators should be able to review reported posts, assess their content, and take appropriate actions based on predefined policies such as deleting.

**Test Owner:** Ayushmaan

**Test Date:** 28/03/2024

**Test Results:** The functionality for managing reported posts was thoroughly tested. The system provided clear options for administrators to delete posts as necessary. No significant bugs were encountered during testing, ensuring administrators can effectively manage reported content.

**Additional Comments:** The system's functionality for managing reported posts empowers administrators to maintain platform integrity and enforce community guidelines effectively.

## Non-functional Requirements Testing

**Test Owner:** Ayushmaan

**Test Date:** 28/03/2024

**Test Results:**

1. Performance:

- Login and Signup: 1 second
- Loading pages (homepage, login page, college search, etc.): 1 second

- Processing of functional requests (College Compare, Program Prediction, etc.): 2 second
- Processing of functional requests of Forum Q/A: 3 seconds

**2. Scalability:**

- The system was tested for scalability to determine its ability to handle concurrent users. It was found that the system can accommodate a maximum of 500 concurrent users on average, with performance varying depending on the server capacity.

**3. Reliability:**

- The system operates robustly with expected minimal downtime. Maintenance procedures are smooth and efficient.

**4. Usability:**

- The system is user-friendly and easy to navigate. Clear instructions and error messages facilitate smooth website usage.

**5. Security:**

- Password functionality is working correctly.

**Additional Comments:** Overall, the non-functional requirements of the system were tested comprehensively, highlighting areas of strength as well as areas needing improvement for optimal performance, scalability, usability, reliability, and security.

## 5 Conclusion

### Effectiveness and exhaustiveness of the testing

The web application involved a large number of APIs, where each was responsible for fulfilling a particular requirement. Each of these underwent testing to ensure that they were modifying the database and returning the information when asked to do so. Initial testing allowed the developers to uncover vulnerabilities and bugs, and many of them were rectified. Finding bugs using testing and then improving them ensured that the application completed the expectations in the SRS. The application's key features and services have undergone extensive testing and work robustly, providing a pleasant experience to the user.

### Inadequate testing components:

As far as the stress testing and testing of some functional requirements were concerned we did not have adequate resources for carrying out that testing. For example, to stress test the software, we did not have adequate resources for carrying out that testing as we required many devices and signups.

1. Multiple User Registration simultaneously
2. Multiple posts were added simultaneously.
3. Multiple like/report requests within a short amount of time

These are some of the inadequacies that we faced while testing.

### Difficulties faced during testing:

The main difficulty that we faced while testing was the process of simultaneously developing and testing the software. As we were also improving the software simultaneously, a few test cases needed to be performed again.

### Improvement in the testing process:

The testing process can be enhanced by introducing automated testing to make the process more streamlined. Independent testers, apart from our development team, can also be used for black-box testing.

### Areas requiring improvements

- Instead of one, two alert prompts showed up on the registration page on the event when an already existing email ID was used.
- The link for the homepage in the footer didn't work before the fix.

- The Profile Page for the admin was missing in the front end prior to the testing process.
- The posts in the forum were sorted from oldest to newest, which was reversed in this testing process.

## Appendix A - Group Log

Sl. no.	Date	Timings	Venue	Description
1	22/03/24	4 pm - 5 pm	Google Meet	Discussed various ways to test the website.
2	23/03/24	4 pm - 5 pm	Google Meet	Recap the previous day's discussion and distributed the work related to the testing document and user manual
3	26/03/24	4 pm - 6 pm	Google Meet	Met to track the progress of the members
4	28/03/24	4 pm - 4:45 pm	Google Meet	Met to track the progress of the members.
5	29/03/24	4 pm - 4:15 pm	Google Meet	Reviewed the final documents.