DEVELOPMENT OF A WEB APPLICATION NAMED "Campusian"

BY

Faisal Imroz Heemel

ID: 201-15-3336

This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

Supervised By
Md. Ashraful Islam Talukder
Lecturer
Department of CSE
Daffodil International University

Co-Supervised By
Tanvirul Islam
Lecturer
Department of CSE
Daffodil International University

DAFFODIL INTERNATIONAL UNIVERSITY

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APPROVAL

This Project titled "Design and Development of a Web based Application named "**Campusian**", submitted by Faisal Imroz Heemel, ID No: 201-15-3336 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 26-01-24

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Department of Computer Science and Engineering
Daffodil International University

Internal Examiner

Nazmun Nessa Moon
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Department of Computer Science and Engineering
Daffodil International University

Internal Examiner

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Senior Lecturer
Department of Computer Science and Engineering
Daffodil International University

External Examiner

Dr. Md. Arshad Ali
Professor
Department of Computer Science and Engineering
Hajee Mohammad Danesh Science & Technology University

DECLARATION

I hereby declare that, this project has been done by us under the supervision of **Md. Ashraful Islam Talukder, Lecturer, Department of CSE** Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

Supervised by:

23.01.24

Md. Ashraful Islam Talukder
Lecturer
Department of CSE
Daffodil International University

Co-Supervised by:

Tanvirul Islam
Lecturer
Department of CSE
Daffodil International University

Submitted by:

Faisal Imroz Heemel
ID: 201-15-3336
Department of CSE
Daffodil International University

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ABSTRACT

Campusian is a great resource for students and alumni who need access to revolutionize the university community experience. In response to the challenges of fragmented information, limited knowledge sharing, and inefficient communication within academic institutions, Campusian offers a comprehensive solution. This inclusive platform provides a centralized hub for students facilitating seamless engagement, knowledge exchange, and community building. Key features of Campusian include a dynamic blog and research papers, an interactive events calendar, a centralized news feed, scholarship updates, and a dedicated job board. Users can effortlessly navigate through personalized profiles, contributing to a vibrant ecosystem of information sharing. The platform ensures efficient information dissemination, allowing users to access real-time updates and contribute to a culture of collaboration. Students/Users can also post blog, news, events, scholarship information, job Information and their research paper. Furthermore, Campusian supports career development through features such as a job portal and scholarship news. As Campusian aims to transform the university experience, it focuses on user empowerment, inclusivity, and adaptability to meet evolving user needs. By creating a lasting impact on the academic and personal development of its users, Campusian emerges as a valuable and innovative solution for enhancing connectivity and knowledge exchange within university communities.

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CHAPTER 1
Introduction

1.1 Introduction

Campusian is dynamic and innovative web-based platform designed to foster a vibrant and connected university community. It was created to promote a lively and interconnected campus community. Students can share and access news, blogs, research papers, events, job ads, scholarship possibilities, and more from this central portal. Students can actively participate, exchange knowledge, and support the expansion and improvement of their learning environment on this platform. Campusian enables students to remain informed, interact efficiently, and fully utilize their academic experience by optimizing the distribution of information and fostering student involvement. Its user-friendly user interface makes it simple for students to access and utilize its capabilities. After registering and checking in, users may manage their contributions and keep an eye on interaction from their personalized profiles. It acts as a doorway to increased community involvement and campus engagement. It's not simply a webpage, either. By promoting communication, collaboration, and the sharing of helpful resources, Campusian aims to enhance every student's university experience. It gives a positive vibe about the campus life. This website is only for the students of a specific university. It creates a knowledge sharing atmosphere. It is also centralized the campus related resources. Users can have their own profile in this website. Basically it is a website to share digital content. Set out on a path of community building, knowledge exchange, and connectedness with Campusian, your committed partner in creating a vibrant campus community.

1.2 Motivation

Making a University community website is an excellent way to enhances the overall university experience for students. The motivation behind Campusian was founded is based on the desire to provide a digital environment that serves students practical needs while also fostering a lively and encouraging campus community. The goal to provide a game-changing platform that empowers students, cultivates a vibrant community, and enhances the university's standing may also have inspired the creation of this website. Through the use of technology, this project aims to give students a more voice, encourage teamwork, and offer a comprehensive platform for both academic and personal growth. Additionally, it offers resources to succeed in life.

1.3 Objectives

- Establishing a centralized platform that promotes a lively and interconnected campus community is our primary aim.
- Enable students/user to share and access news, blogs, research papers, events, scholarship opportunities, and job postings.
- Encourage a feeling for community and participation amid students by creating a space set out for interacting, exchanging ideas, and taking part in class discussions.

1.4 Expected Outcome

Following anticipated outcomes for this project:

- Process is easy for post, view research paper and blog.
- Expanded career prospects through job postings and internship opportunities
- This website will be user-friendly.
- Improved student participation, sense of community, and belonging.
- A platform that honors and represents the diversity of the campus community

1.5 Summary

We aim to give our users the best service. It is used to improve student journey's visual appeal. With tools like blogs, research papers, event calendars, and job boards, it hopes to promote intellectual dialogue, facilitate communication, and offer useful resources for professional growth. The project aims to centralize varied campus-related resources, encourage inclusivity, and create an interface that is easy to use. Increased community involvement, effective information sharing, and a favorable influence on campus culture are all anticipated results, which will eventually leave a lasting legacy as an essential component of the university experience.

1.6 Report Layout

Chapter 1: Introduction

Here discussed history, expected outcome

Chapter 2: Background

Here we have discussed the terminology and challenge

Chapter 3: Requirement Specification

We use the Use Cases, ER diagrams for description

Chapter 4: Design Specification

Describe structure

Chapter 5: Implementation and Testing

we have done few test according to our list

CHAPTER 2

Background

2.1 Terminology

Student-generated content will be featured across several pages, encouraging participation and assistance throughout the campus community. It is an extensive website for the university community created to encourage communication between students.

2.1.1 Campusian: The name of the online community-focused platform for universities.

2.1.2 Campus Feed: Users can read and contribute to a variety of content categories, including blogs, research papers, events, news, Scholarships, and job postings, on the Campus Feed.

2.1.3 ScholarHub: The part devoted to updates and news on scholarships.

2.1.4 Job Junction: This section of the platform featured job advertisements and information about careers.

2.1.5 Event Exchange: An area where people may exchange and find out about events at universities.

2.1.6 News Nexus: Campusianians' contributed news pieces are featured here.

2.1.7 Profile Hub: Campusian's user interface for managing posts and personal data.

2.1.8 Admin Panel: The command center that administrators can utilize to handle system configurations and user posts.

2.2 Related Works

like our project. They also provide many features like blogs, news, events, job information, etc. Our project is a combination of many features of these websites. However, our project now includes a unique feature called User Profile. It can be said to be a social media website.

a. **Diu News and Events** [8]. Leveraged the news and events feature from this platform.
b. **Daad** [2]. Integrated scholarship details features sourced from this website.
c. **LinkedIn** [1]. Incorporated job features inspired by the functionality offered on LinkedIn.
d. **Google Scholar** [3]. Adopted the research paper feature from this scholarly platform.
e. **Diu Blog** [6]. Integrated the blog feature based on the functionality found on Diu Blog.

2.3 Comparative Analysis:

Campusian is different from other website. There are some other websites which provide user to post blog, job etc. But our website is a combination of all these all feature. It also provides user a user profile. It is a knowledge hub for the students.

2.4 Scope of the Problem

1. There may not be internet access everywhere.
2. Making certain that the platform can grow to meet the needs of an expanding user base and more content.
3. It will be difficult to get information that is regularly updated.
4. The challenge of promoting student involvement and active participation in a disjointed university setting.
5. Limited availability of research papers for students.

2.5 Challenges

Although Campusian project a lot promise to improve campus life, there are a number of obstacles to overcome in its creation and execution. Overcoming technological obstacles, such as making sure the platform is secure and scalable. The Campusian initiative can improve its prospects of implementation and benefit the university community by taking proactive measures to address these issues. The website is only for student of a specific university. It will be challenging to engage the university students. But we believe that we will be able for complete task inshallah.

CHAPTER 3

Requirement Specification

3.1 Requirement Specification

Plan Campusian website our primary necessity. It's important to understand the technical terms used in the development, like Tailwind, and JS. They are often called the building blocks of the web. In web development, the three primary tools are JavaScript. A programmer can use multiple frameworks to process the system. It needs to be shown how an old-fashioned electronic web-based trip framework works with elements that let users know how happy they are. Upon gathering a significant quantity of project-related information, we had to determine each and every requirement for the project's accomplishment.

3.2 Post adding requirement

1. In order to post anything, you must first register.
2. Select your category
3. Draft the headings.
4. Compose your content.
5. Choose a Cover photo
6. Upload the file (if needed)

3.3 Requirement Collection

Prior to beginning, we have to consider the requirements of software and hardware. There are some requirements in order to guarantee the smooth operation of this program.

- Visual Studio Code.
- Node.Js, React are the library.
- Tailwind, DaisyUI
- MongoDB.

3.4 Use Case Diagram

Three key components:

•Actors: Actors exchange information with the system remotely

• System: The system's functional requirements define the intended action.

•Goals: Motivations guiding how users and systems communicate.

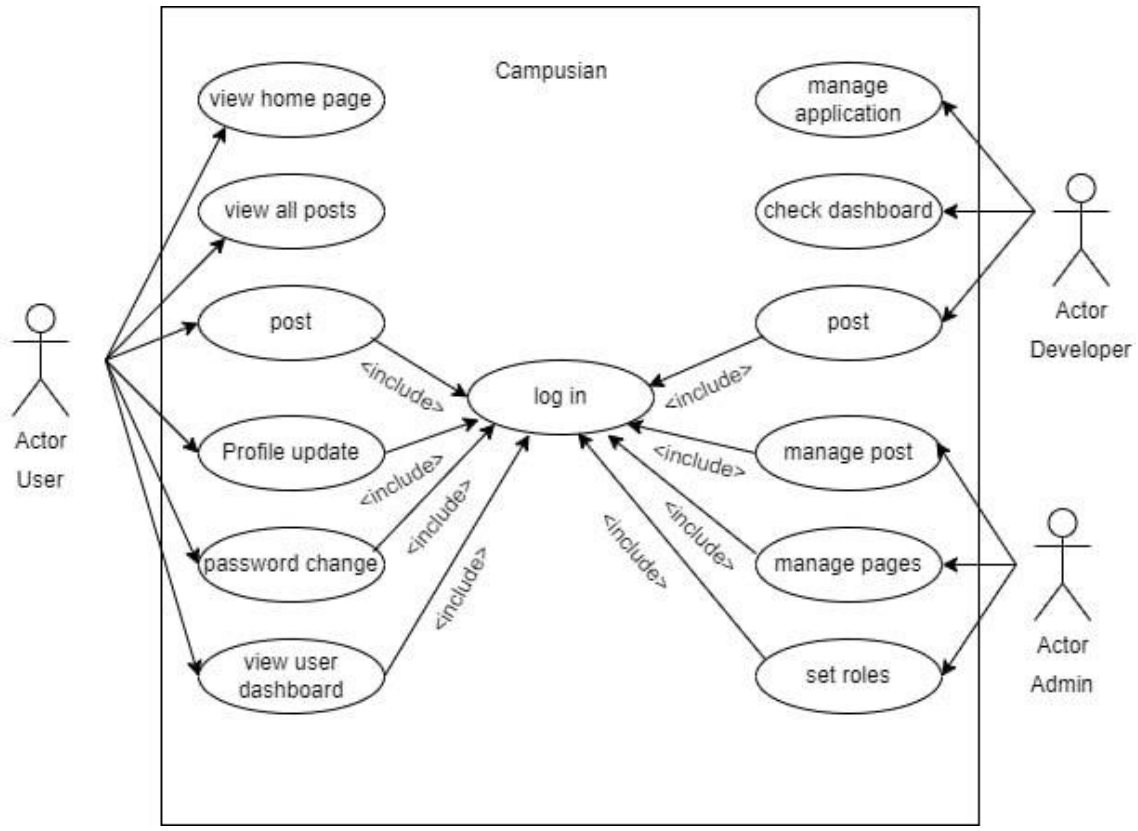

Fig 3.4: Use Case Diagram

3.5 Description of Use case diagram

User: User several benefits, such as:

1. Login
2. Post
3. See Post
4. Update Profile
5. View Dashboard

Use Case Diagram depicts the action of project users. They are able to access the internet swiftly and then view or post about the specific category. This gives the user a thorough understanding of the project and teaches them how to use it If the user opens the browser and searches by typing Daffodil Student community, Campusian, Diu community etc. Users can Sign in or login to the website and view the website.

3.6 Entity:

There are four entities, four relation and nine attribute describes the whole project.

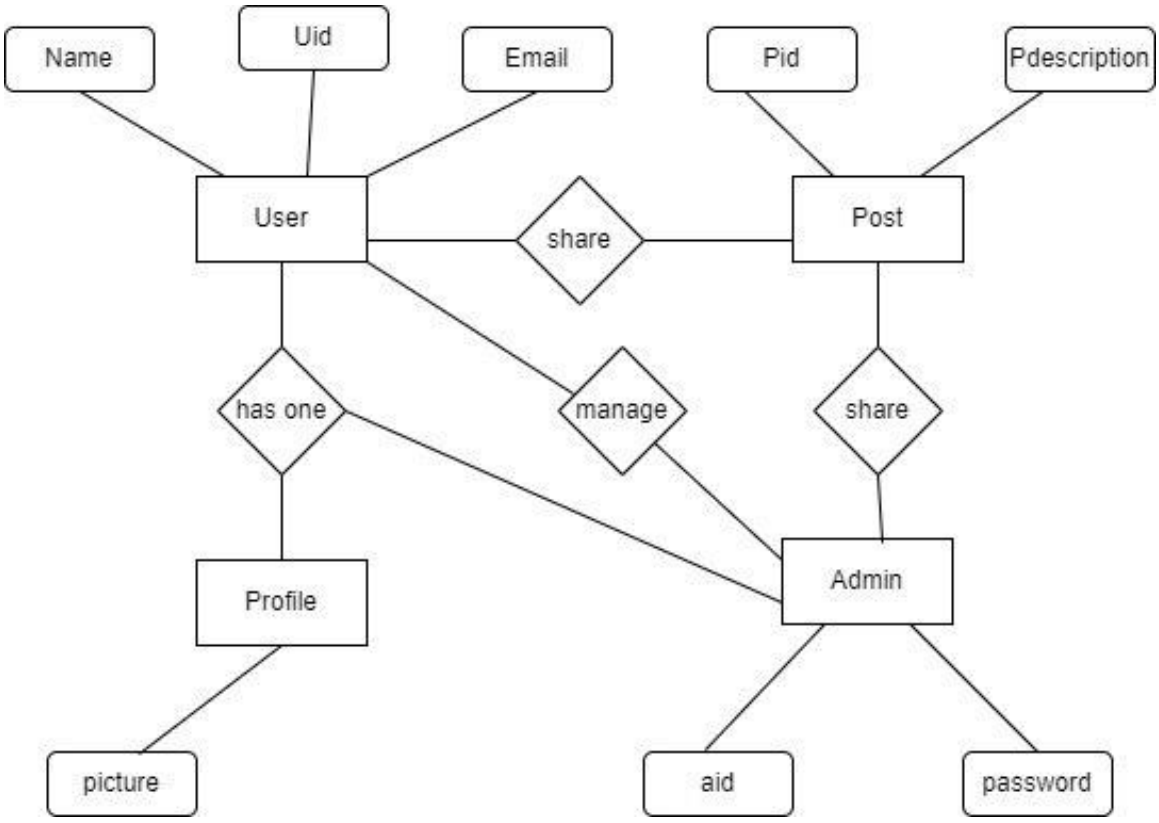

Fig 3.6:

3.7 Class Diagram

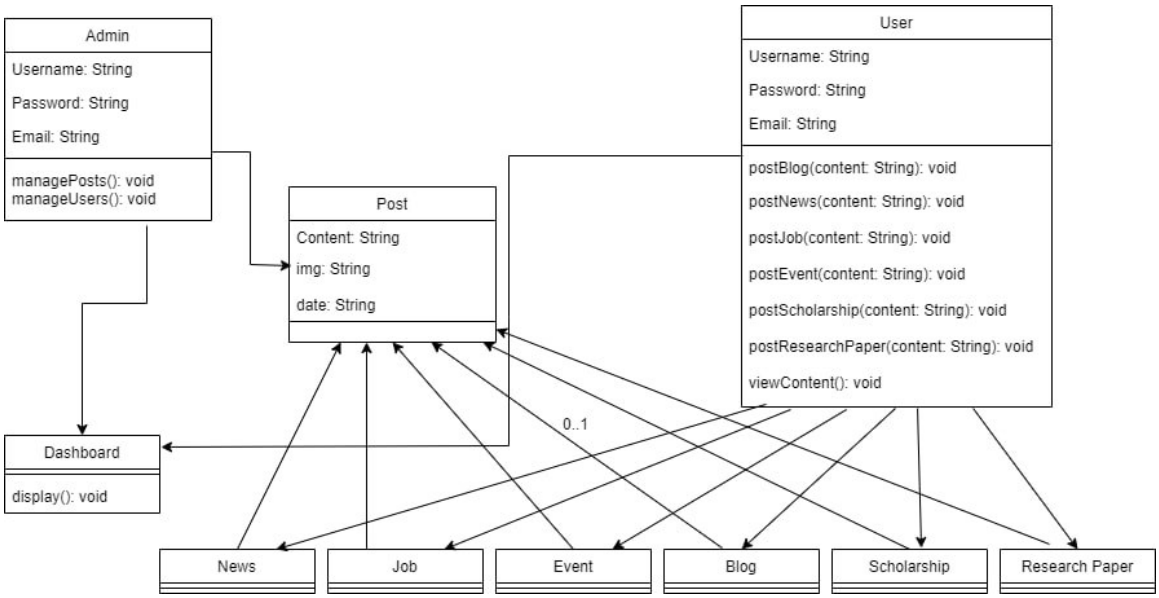

Fig 3.7: Class Diagram

CHAPTER 4

Design Specification

4.1 Design Specification

These two components developed by different teams. Front-end developers use code to create the stunning images, simple interfaces, and animations that we see on our screens. Meanwhile, their server-side counterparts work relentlessly to construct complex logic, solid databases, and secure systems that keep everything running

4.2 Front end design

It is in charge of selecting the general look and feeling of the experience of online. The majority of the technical work was done on the user interfaces for each of them using web languages including HTML, CSS, and JavaScript.

Although they are clearly different, "user interface" and "user experience" are interchangeable terms that have a big impact on a project's outcome.

Front-End

1. Tailwind
2. DaisyUI

4.3 User Registration Design

The Students have to finish the registration to engage themselves with our website. After the completion of registration process the user can have their own profile.

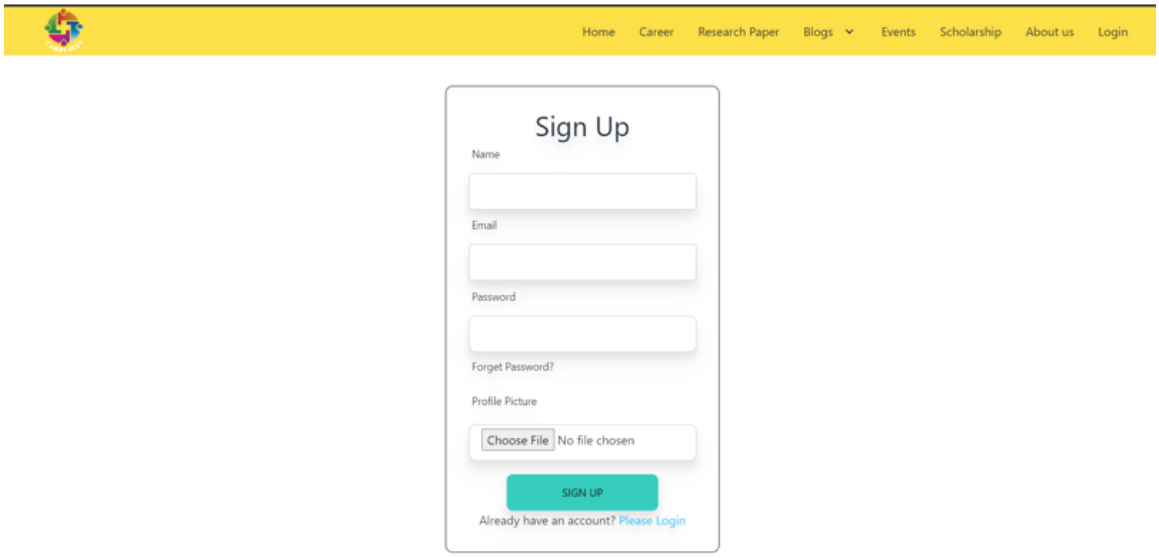

Fig 4.3: User registration Design

4.4 User Login Design when a user register the website successfully, a student can log in to visit the website or post something. He can also view his profile.

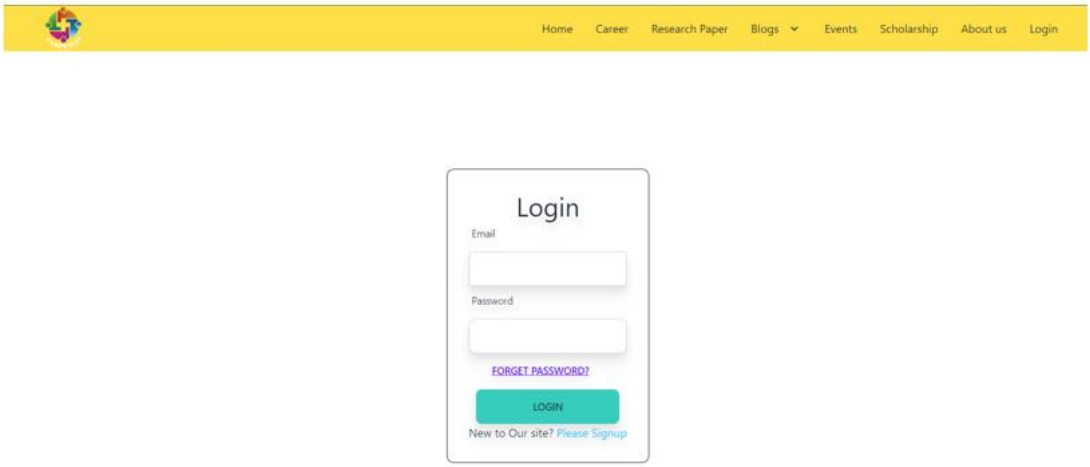

Fig 4.4: User

4.5 Admin Login

The admin can manage users and posts. The admin can delete post of different category. The admin can also manage the users. He can delete or set role of the user. He can make admin to a user. The admin panel is different from the user profile. It has more features.

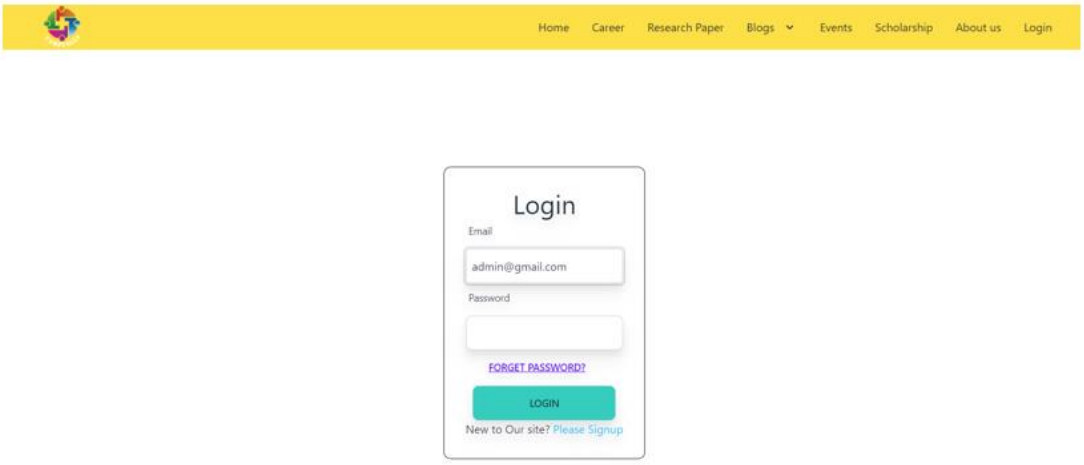

Fig 4.5:

4.6 Home Page Design

H the Home page of our website. Students will view the page when they access the website. The user can navigate to the different page.

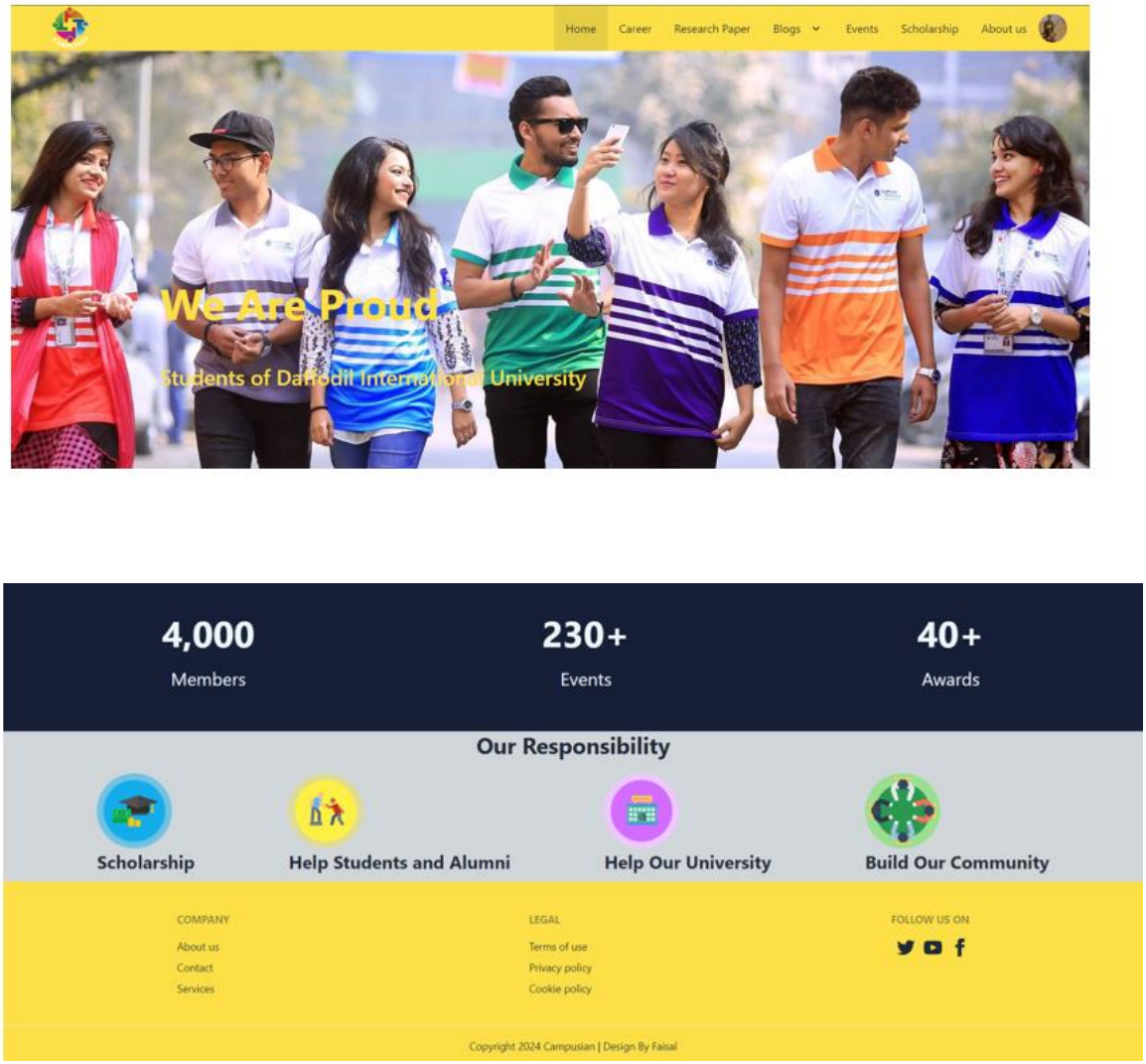

Fig 4.6: Home Page Design

4.7 Blog Page

Students can view different blogs in this section. They can also search about different topics. User can also share the blog in social media like facebook, twitter and linedIn. Through this the traffic of the website will increase. It will also encourage the students to post Blogs.

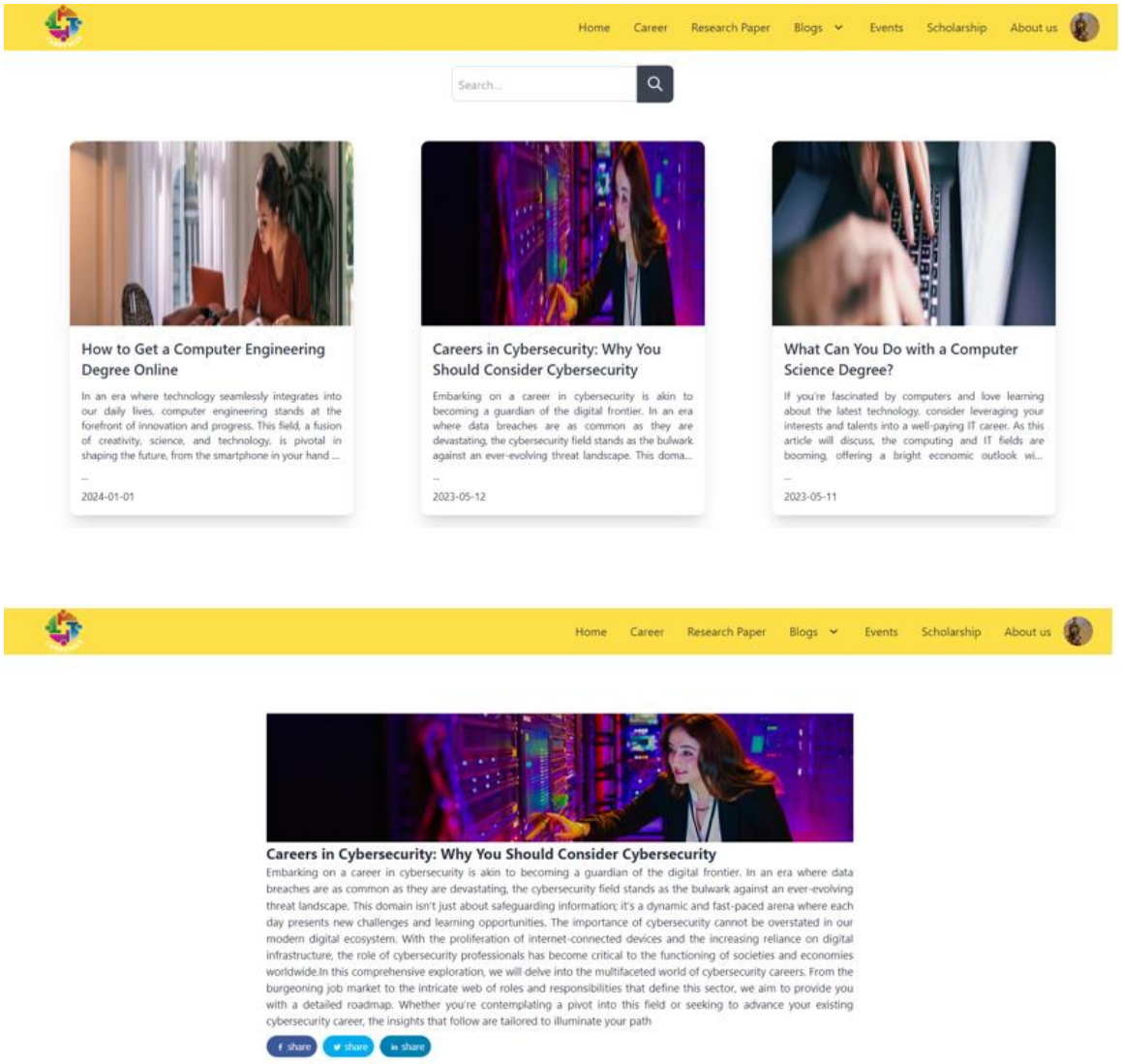

Fig 4.7: Blog Page

4.8 Event Page

Students can view Upcoming Events. They can also search about specific seminar or events. The events can be shared in the social media. We can promote our events and seminar in social media.

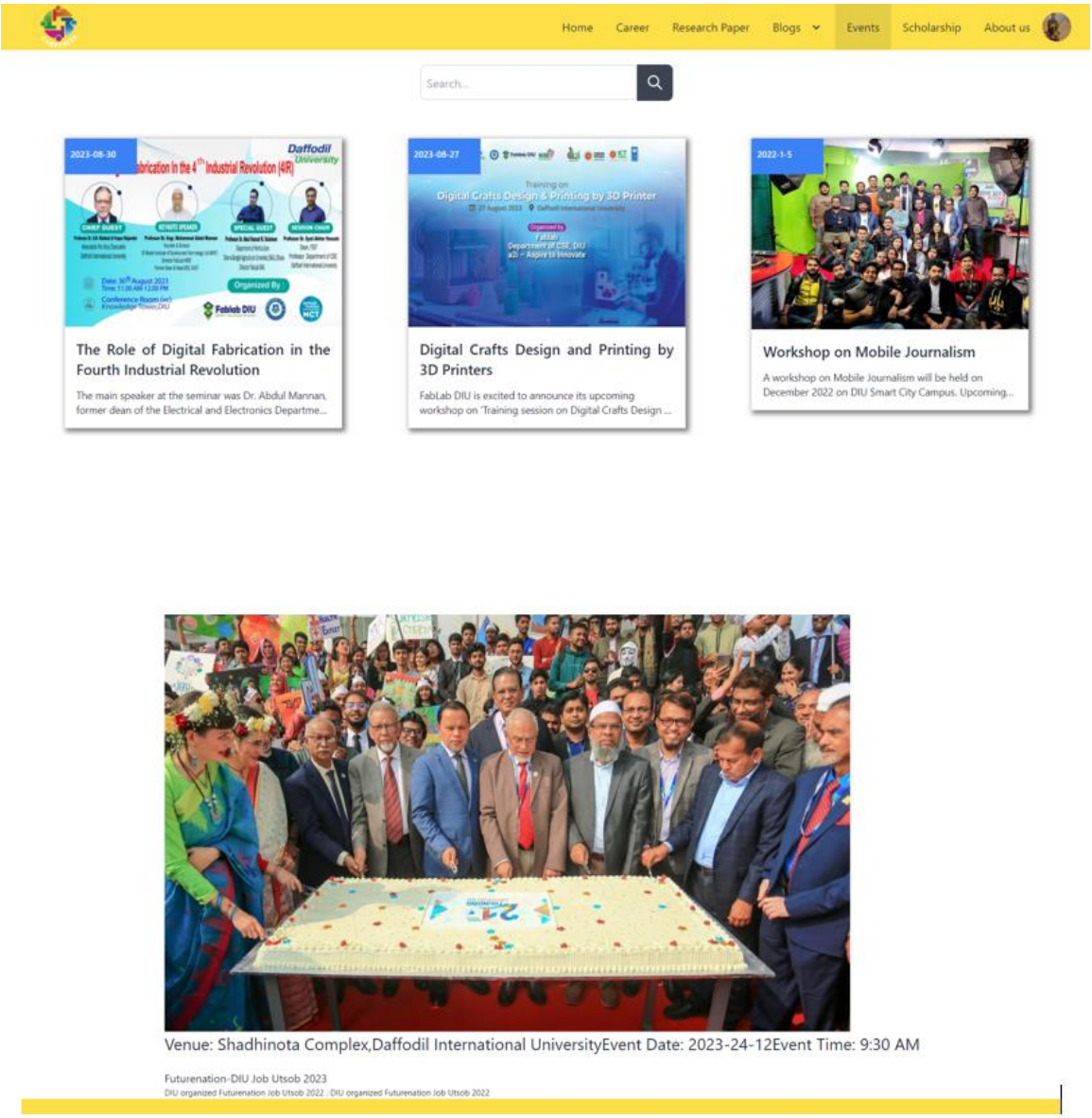

Fig 4.8: Event Page

4.9 Research Paper Page

Students can view or search for research papers here. The research paper is a knowledge hub for the students of a university. The students will get to know about different topics. The research paper author should be the university student or faculty.

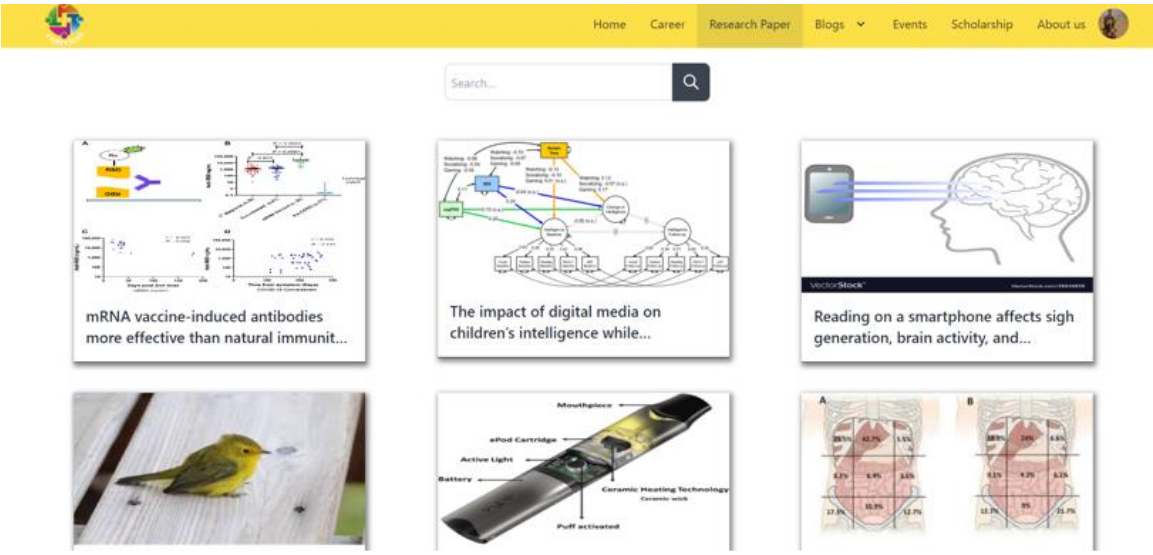

Fig 4.9: Research Paper Page

4.10 Scholarship Page

Students can peruse the website's contents and submit an application based on their preferences in this section. The scholarship information is very important for a university student. They can also compare the price and facilities. It will help them to choose their preferred university.

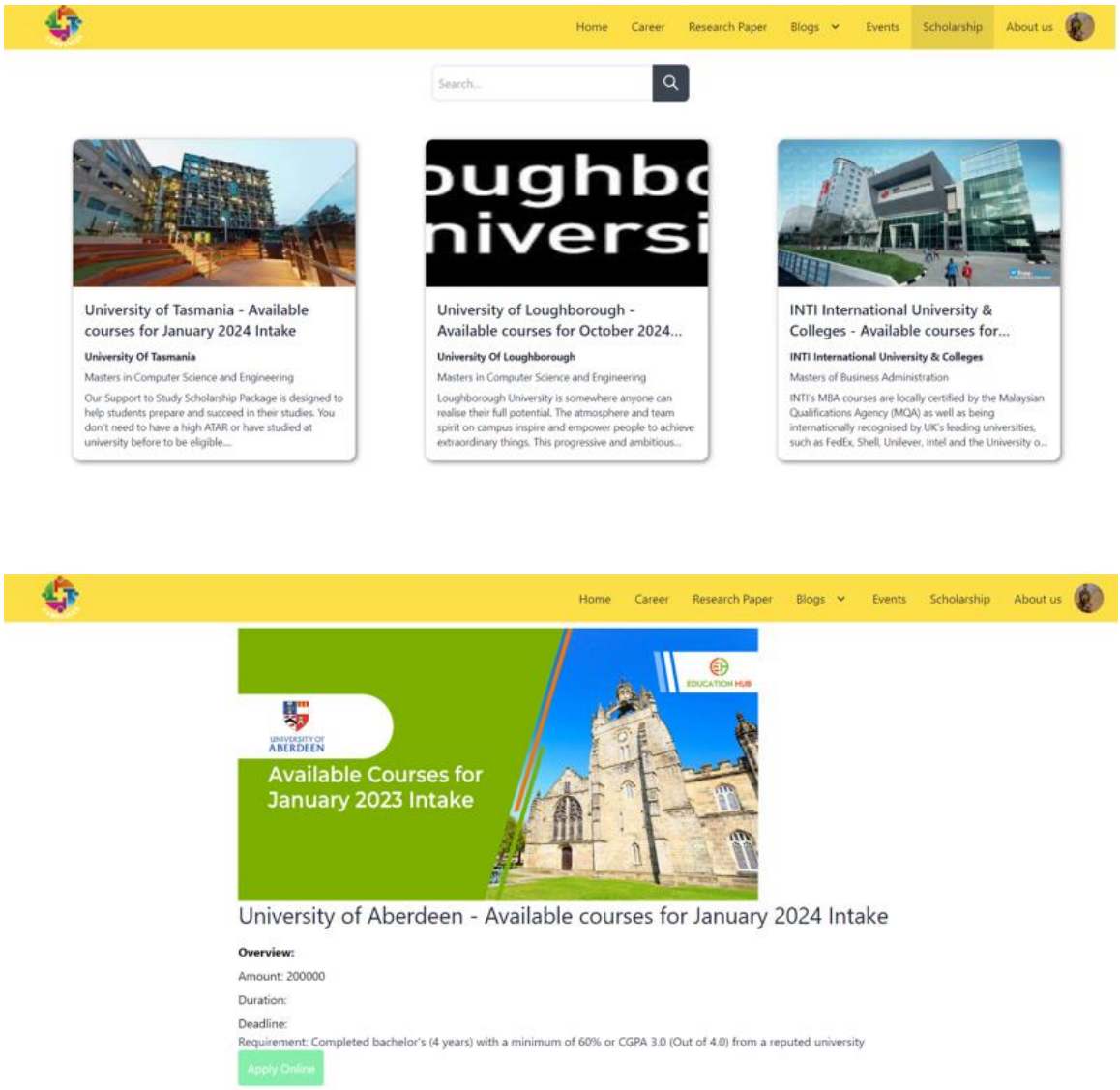

Fig 4.10: Scholarship

4.11 Jobs Page

The Students search for jobs in this section and apply based on their preferences. It helps the students a lot to build their career.

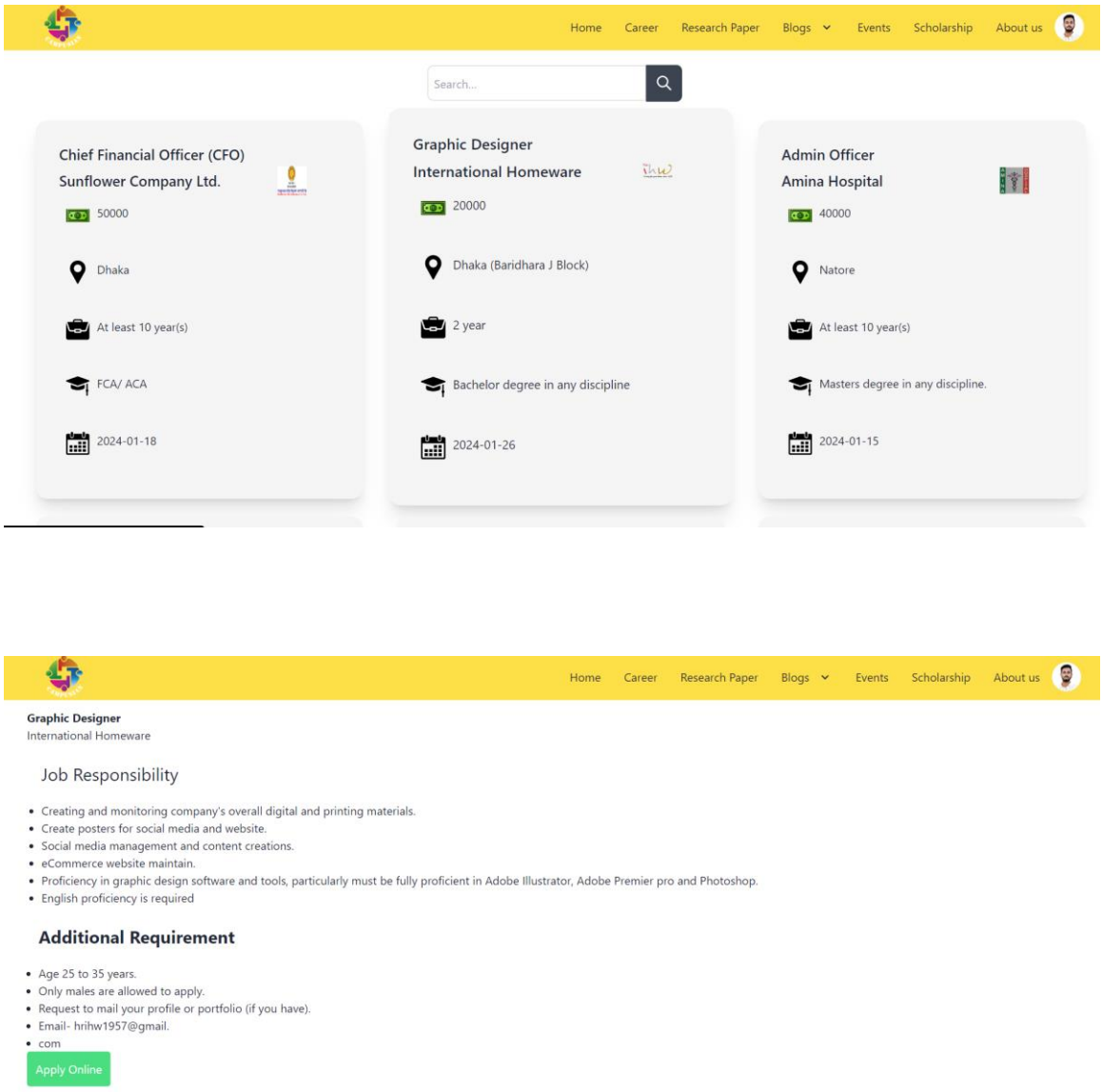

Fig 4.11: Jobs Page

4.12 News Page

Students can find news about the university and new technology. They can get to know many things about the campus. It helps them to be updated.

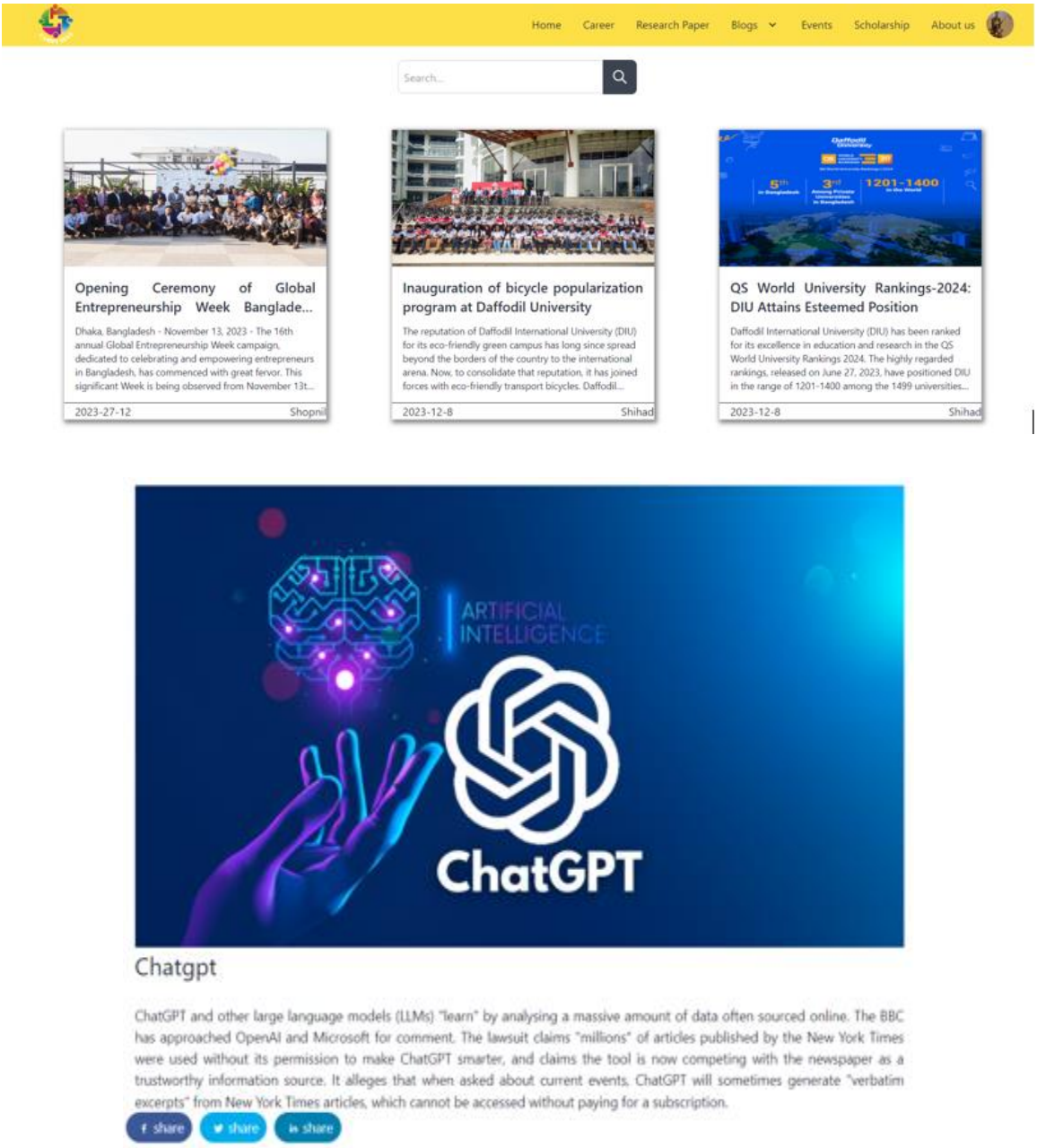

Fig 4.12: News Page

4.13 Admin Dashboard

Admin has power to manage everything. He can make admin or delete user. He can also Post about different category. He has the access in database also. He can also see the total number of posts

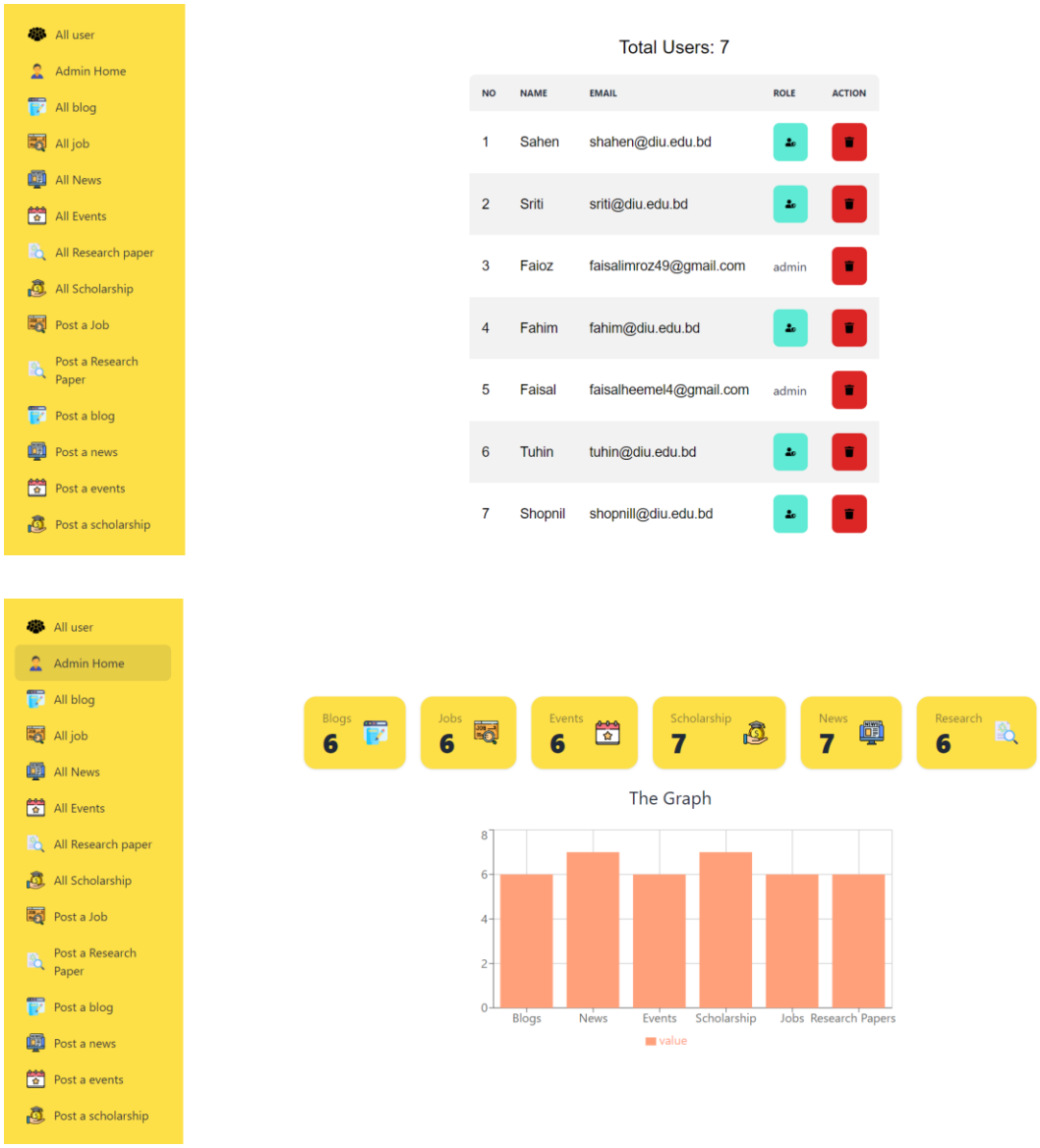

Fig 4.13: Admin Dashboard

4.14 User Dashboard

The user dashboard is visible once they have logged in as themselves.

Certain tools will be available to the user in the dashboard:

1. User Profile
2. Post blogs
3. Post Research Paper
4. Post Information
5. Post news
6. Post Scholarship Information
7. Post Events

In the below section Students can post blog about their different topics. They can share their thoughts and experiences in the blog

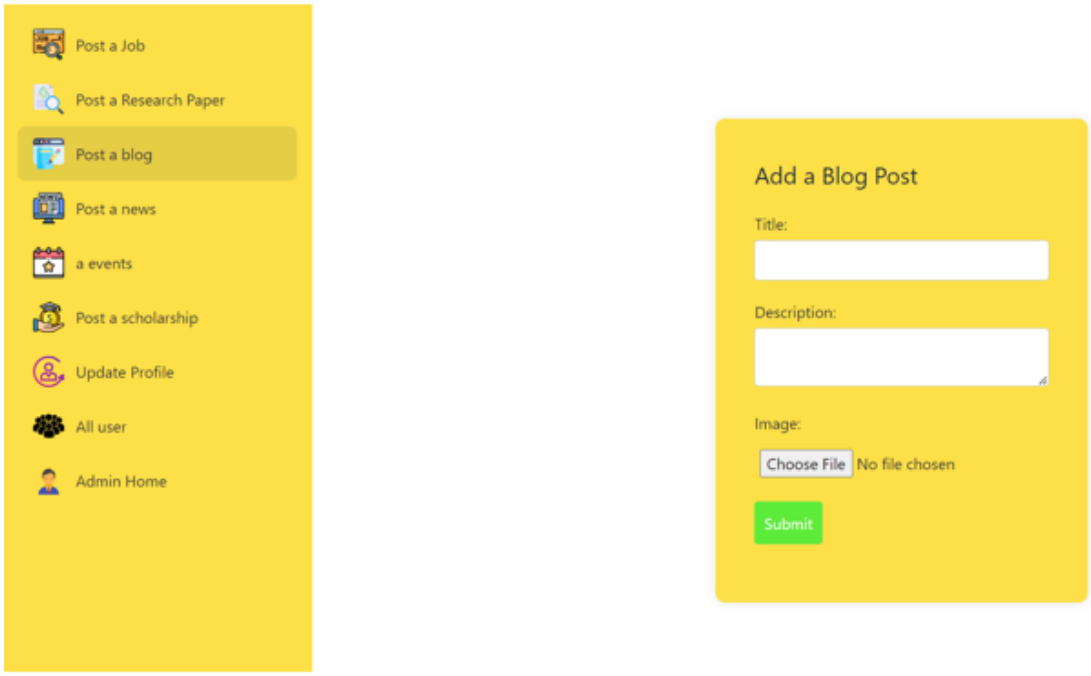

Fig 4.14.1: Post Blog

Students Can Post about News of the university. The news can be about new technology, innovation and campus news.

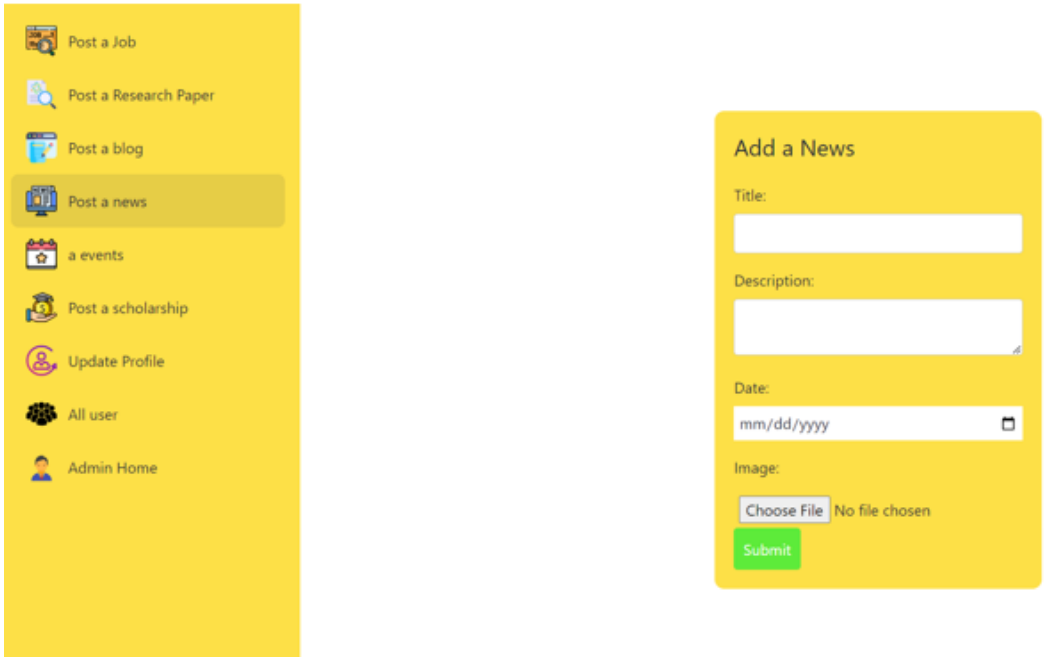

Fig 4.14.2: News of University

Students Can Post about upcoming Events. The event includes seminar, webinar etc.

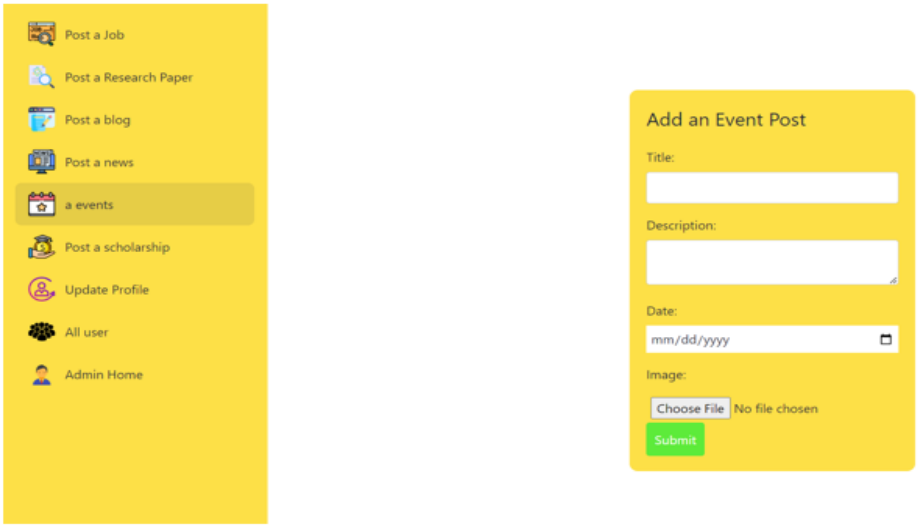

Fig 4.14.3: Post Upcoming Events

User Can view their user profile and their contribution. As It is a kind of social media so it will encourage them to contribute more to the community.

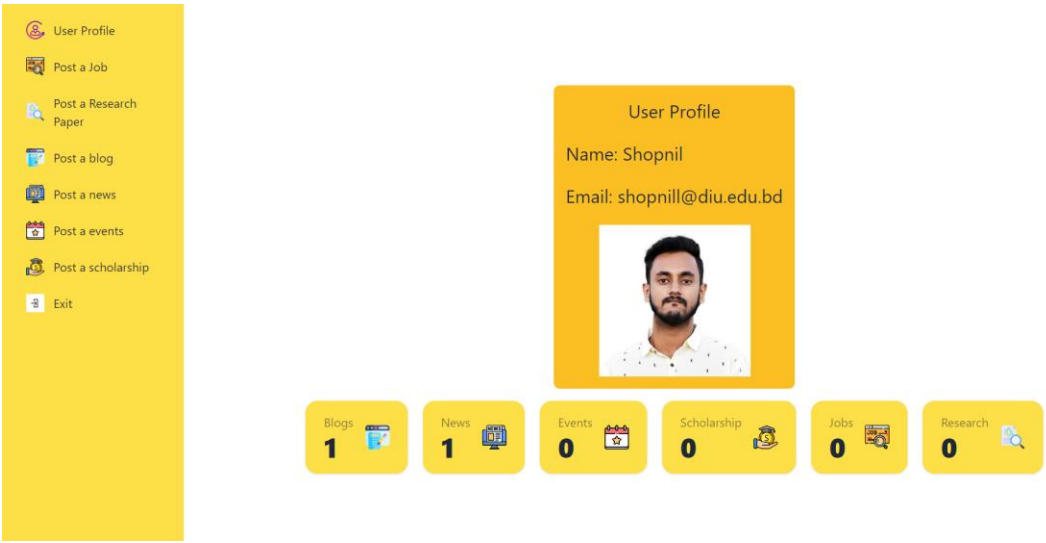

Fig 4.14.5: Update Profile

CHAPTER 5

Implementation and Testing

5.1 Test

During testing ,I looked to find bugs in my project. If there are no problems, the software works fine; but, if there are faults, we must use particular techniques to resolve them. We may test our project several times before implementing it in its final form. The ultimate output of the system could not be developed without testing. Thus, it is an essential and crucial step in the project development process. We tested following the implementation of every feature. We obtain error-free functionalities in our code after multiple tests. We ran our program through a Windows 10 test to make sure we were headed in the correct path.

5.2 List of Tests

5.2.1 API testing: We have done the functionality testing. The API functions as expected. It validates the input and output API calls.

5.2.2 Testing of Security: We give an authentication token when someone enters the database. So the security is good.

5.2.3 Database testing: We have done the database testing. The data retrieved from the database showed correctly on our website. We didn't find any errors while executing the queries.

5.2.4 Interface testing: In this part, we have tested the Application and Database server. The request from the client sent successfully and the output is displayed correctly

5.2.5 Performance Testing: We have checked the responsiveness and the overall performance of the web page.

5.3 Result

We completed our website by comparing test results. On our hardware, the web application's functionality and user interface works well and are easy to use. On every device, the online application functions flawlessly. We test our web application on Windows 10, the most recent version of Windows, to ensure easy use. On all devices, our online application activity functions flawlessly.

5.4 Database The database includes the blog, event, job, news, research and scholarship information. When a student signup to the website his information including including image is saved to the database.

campusian

LOGICAL DATA SIZE: 29.29KB STORAGE SIZE: 244KB INDEX SIZE: 236KB TOTAL COLLECTIONS: 7

CREATE COLLECTION

Collection Name	Documents	Logical Data Size	Avg Document Size	Storage Size	Indexes	Index Size	Avg Index Size
blog	6	6.97KB	1.16KB	44KB	1	36KB	36KB
event	6	2.15KB	367B	36KB	1	36KB	36KB
job	6	6.02KB	1KB	36KB	1	36KB	36KB
news	6	5.59KB	955B	36KB	1	36KB	36KB
research	6	1.62KB	277B	36KB	1	36KB	36KB
scholarship	7	6.43KB	941B	20KB	1	20KB	20KB
users	7	524B	75B	36KB	1	36KB	36KB

CHAPTER 6

Impact on Society, Environment and Sustainability

6.1 Impact on Society

This website is good for student is positive. It has the potential to enhance career development and increase employability.

6.2 Impact on Environment

It doesn't negatively impact the environment. By offering a venue for the sharing of digital content, it also lessens the need for paper documents and tangible copies. In addition, we made an effort to design campusian with the goal for resolving environmental problems for people.

6.3 Ethical Aspects

There are no ethical laws broken by the online application. The initiative is appropriate for a wide range of individuals and communities worldwide. By changing a few obvious feature levels, it is more acceptable to every organization which use the website.

6.4 Sustainability Plan

Campusian is designed to maintain a high level of sustainability over time. Modern technology was used to implement some of the features in our project, thus there is less possibility that these features would become outdated over time. The project is more beneficial and long-lasting. It is simply updated in whichever format is needed.

CHAPTER 7

Conclusion and Future Scope

7.1 Conclusion

Campusian project is cutting-edge initiative that aims to transform the university experience by encouraging professional development, communication, and community engagement. Through tackling the issues of dispersed data, restricted knowledge exchange, and ineffective communication among academic communities, Campusian hopes to establish a centralized, easily navigable platform that gives students more authority. The goals of the initiative, which include improving information accessibility, empowering student voices, and promoting communication, are in line with the goal of creating a more cohesive and encouraging academic environment. Expected results highlight the potential benefits of Campusian on university culture, including better professional development possibilities, higher involvement in campus events, and increased community engagement. It gives users the chance to swiftly and simply access resources.

7.2 Future Plan

1. More features will soon be added to our website.
2. We'll launch an Android application on our website.
3. A like and comment option will be placed here.
4. An online chat system will be available.
5. Establishing partnerships with other university departments, student organizations, or external entities to broaden the scope of Campusian
6. We will also add a fund raising feature in our website for our student community.

7.3 Limitation

Although the "Campusian" project provides useful elements for academic communities, it is important to recognize its limitations. The following are some possible restrictions:

1. Limited Scope: It might not be possible for the project to address every facet of the university community. It's possible that some specialized requirements or community niches aren't completely met.
2. Dependency on User Participation: User participation is crucial to the platform's success. The platform might not function to its full potential if students don't actively participate.
3. Data Accuracy: User input determines how accurate the information is shared, particularly in areas like job postings and scholarship updates. If information is not carefully controlled, it could be shared that is out of date or inaccurate.

References:

[1] "Log in or sign up," LinkedIn, https://www.linkedin.com/ (accessed Jan. 25, 2024).

[2] "German Academic Exchange Service," www.daad.de, https://www.daad.de/en (accessed Jan. 25, 2024).

[3] "Get the research paper," Google scholar, https://scholar.google.com/ (accessed Jan. 25, 2024).

[4] "Post jobs, Recruit employees," Bdjobs.com, https://www.bdjobs.com/ (accessed Jan. 25, 2024).

[5] "Skill jobs: Largest job portal in Bangladesh," Skill Jobs: Find Recent Job Circular, a Job Application Site, https://skill.jobs/ (accessed Jan. 25, 2024).

[6] Y. Chowdhury, Ishaque, and S. Ansary, "Diu Blog," DIU Blog, https://blog.daffodilvarsity.edu.bd/ (accessed Jan. 25, 2024).

[7] "Explore scientific, technical, and medical research on ScienceDirect," ScienceDirect.com | Science, health and medical journals, full text articles and books., https://www.sciencedirect.com/ (accessed Jan. 25, 2024).

[8] "Explore scientific, technical, and medical research on ScienceDirect," ScienceDirect.com | Science, health and medical journals, full text articles and books., https://www.sciencedirect.com/ (accessed Jan. 25, 2024).

[9] "Campus blog," Campus Blog, https://www.campusedu.com/blog (accessed Jan. 25, 2024).

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