Software Engineering Laboratory (CSE 3422) (D)
Project Name: Shohayok

Submitted To:
Tapotosh Ghosh
United International University, Dhaka

Submitted By:
Syed Abu Ammar Muhammad Zarif (011202009)
Md. Sadat Rahman (011202063)
Mir Rezowan Ahmend (011202025)
Rafin Haque Leeon (011201175)
Samira Raisha Ferdous (011201334)

Submission Date: 10/06/2023

Introduction

Shohayok is a website built around the idea of catering towards the needs of students. It is said that about 1/5th of the world's population are students. According to a recent survey conducted in 2020, there are over 43 lac students in Bangladesh. Shohayok aims to make the lives of these students easier.

Shohayok provides the facility of uploading and downloading lectures, notes, tips and tricks, suggestions, notices etc. which are posted on the website newsfeed for all the other users to see. Moreover, it also provides the opportunity for making new acquaintances over the internet. Not only this, Shohayok works as a channel for communication and venting for the students among themselves, in turn potentially improving their social lives and enabling them to maintain a sound mental health. In short, Shohayok is the all-in-one student hub for students all across the world, especially in Bangladesh.

Features

1. **Upload, Download and View Academic Contents:** As previously mentioned, the main user demographic for the project is students across different institutions. They will be able to upload any academic content on the website, be it a lecture note, or a PDF file of a textbook, a lecture video etc. On the other hand, students who are interested in learning the specific contents that are being uploaded, can either view them online or download them for studying later.

   It is a common practice among students to share notes. Our website would make this task more seamless, where the students will have an all-in-one platform to share their academic notes and contents which would in turn help hundreds, if not thousands of other students all across the world.

2. **Search and Filter Through Relevant Content:** Shohayok will provide the users with an intuitive search bar, using which they can filter through the content relevant to them. Moreover, they can search for specific items, or users registered on the website.

3. **Optional Subscription Plan for Content Creators:** In order to give the students an incentive to upload more content, our website will have a subscription plan, where other students will be able to subscribe to a monthly plan, paying a small amount as a token of appreciation for all the content that the specific user is uploading. This however, will be completely optional, as the website with all its functionalities will be mostly free of cost to avail. Moreover, the said amount of payment would be rather small, in turn diminishing the financial burden of paying a large sum of money for academic materials. The idea here is that the consumers of the content will pay a small sum of money to the content creator on the website in order to motivate them to keep uploading frequently.

4. **Notifications:** Shohayok enables automated notifications for their users for any new posts or from the courses that they are enrolled in. This way, the users will always stay on top of whatever is going on in their feed.

5. **Tutoring Via Course Taking and Enrollment:** Shohayok enables the qualified users to take classes as the means of courses in the website. The courses may be free or paind, depending on the course taker and the complexity of the course. Interested users may enroll themselves to the courses, which would enable them to view all the contents that are uploaded by the course

teacher, and also get timely notifications. The course takers may also post advertisements for their courses on the newsfeed.

6. **Content Repository:** The content uploaders can create repositories for the content that they are uploading to the website. The repositories may contain any previous lecture videos, notes etc. Other users will be able to gain access to the repositories after the owner grants them the permission to do so.

7. **Find People from the Same Institution:** The website will filter through different institutions from the information gathered during sign up. This way, each user will be able to see all the other registered users from the same institute, reach out to them and potentially make new friends. The users from the same university can come forward in each other's needs and provide relevant information as well.

8. **Medium for Sharing Problems With Like-Minded People:** Students who lack social skills and are suffering from different kinds of problems in their personal life can talk to like-minded people from the same age group and potentially the same institution as well. This would in turn work as a channel for venting out problems which they would normally not feel comfortable enough sharing with their family.

9. **Intuitive Newsfeed:** The users will be greeted with a personalized newsfeed once they register to the website. They can either post any piece of relevant information, or view the information posted by others. Users can post status updates, general news, seek help regarding any topic, post content etc. and all of these will be available for all the other registered users to see on their newsfeed. In other words, the newsfeed will serve the purpose of an at-a-glance communication medium.

10. **Real-Time Chatting:** The website will provide the functionality of real-time live chatting among the users. This way, users can reach out to other users to seek academic help in any topic, ask for suggestions or just chat and build friendships. The website will work as a complete social media dedicated towards the students from different institutions.

11. **Admin/Moderator Panel:** The website will be moderated by a group of assigned admins, who would have access to the admin panel. They will be able to monitor all the activity on the website, filter through problematic posts, respond to queries, assist users in different activities etc.
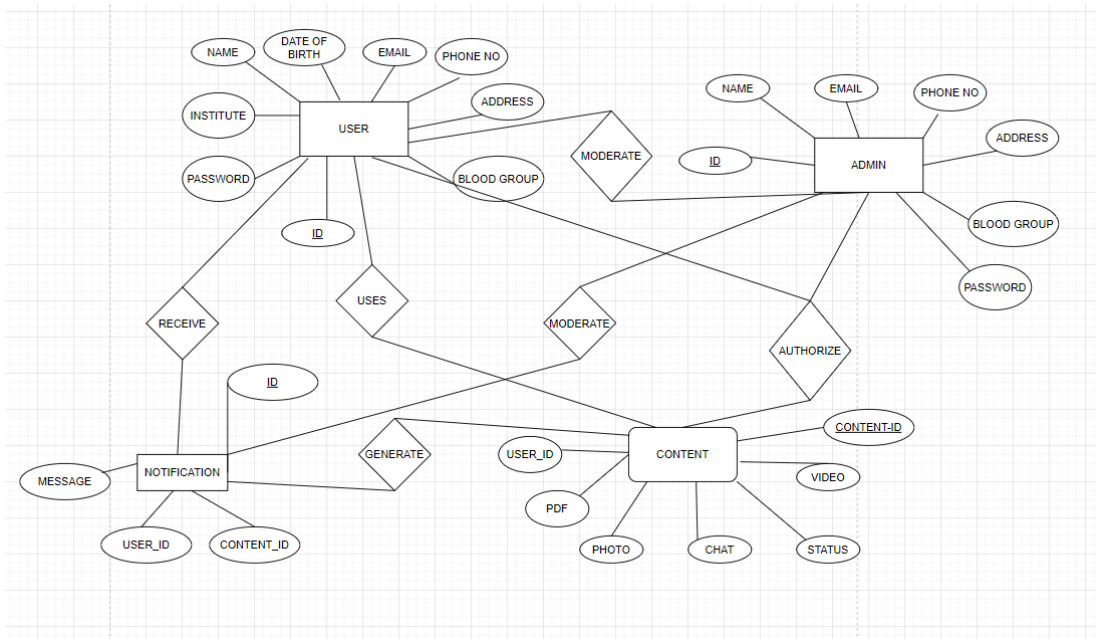
UML Diagrams

1. ER Diagram

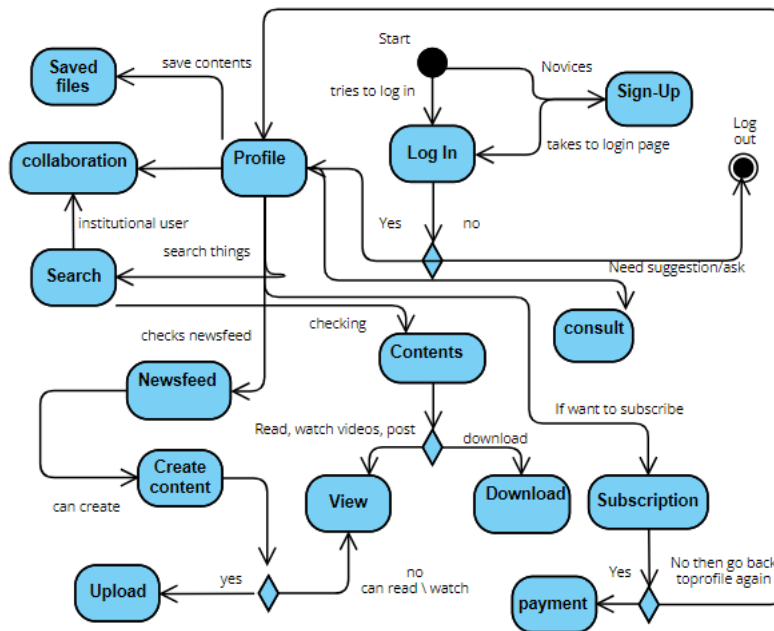

Fig.1 ER Diagram

2. Activity Diagram

Fig.2 Activity Diagram

3. Class Diagram
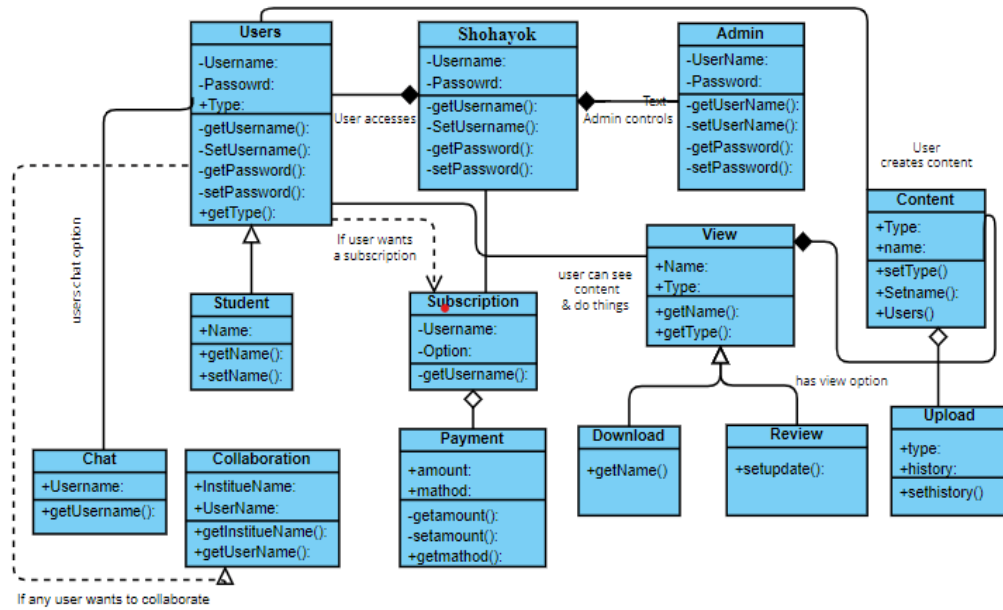

Fig.3 Class Diagram
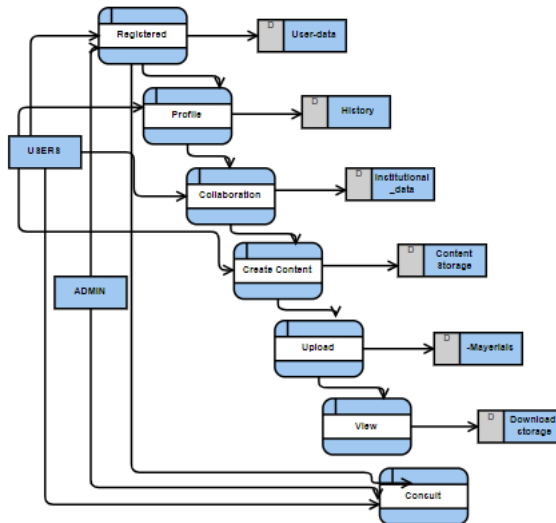
4. Data Flow Diagram

Fig.4 Data Flow Diagram

5. Use Case Diagram
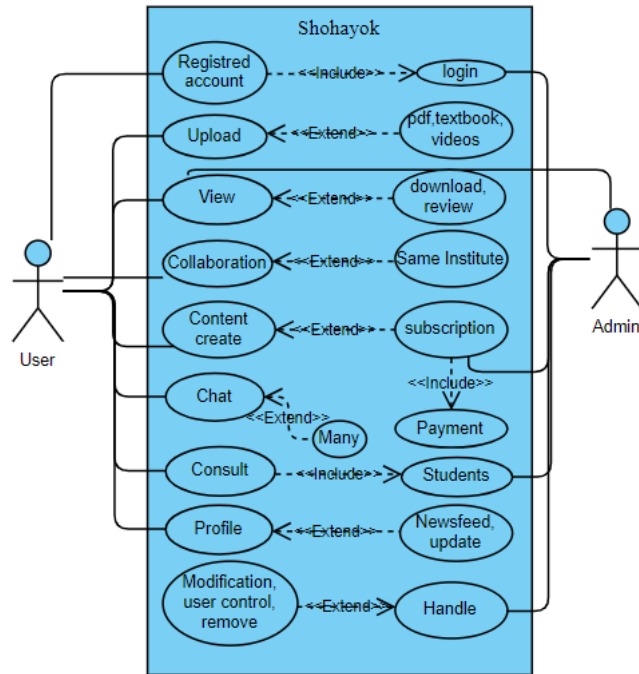

Fig.5 Use Case Diagram

6. Sequence Diagram

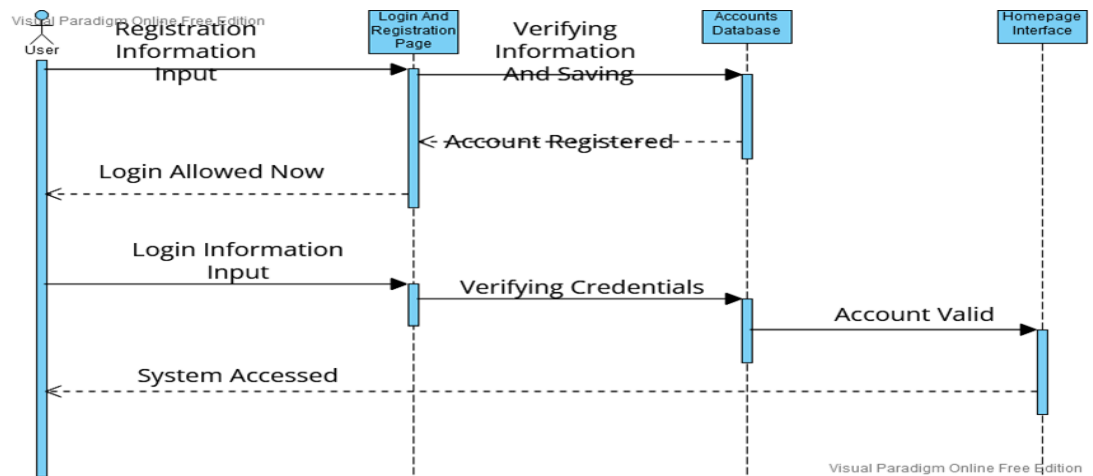### a) Login
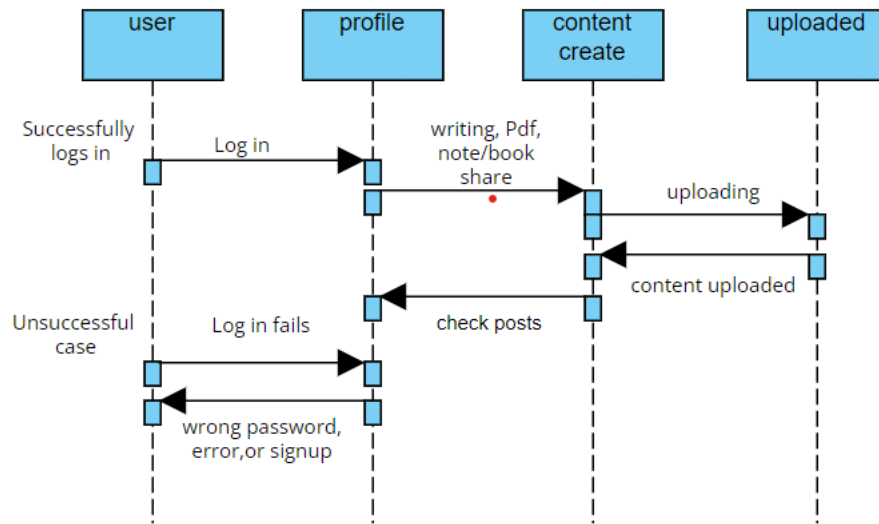

Fig.6 Sequence Diagram (Login)

b) Upload Content

Fig.7 Sequence Diagram (Upload Content)

7. State Diagram
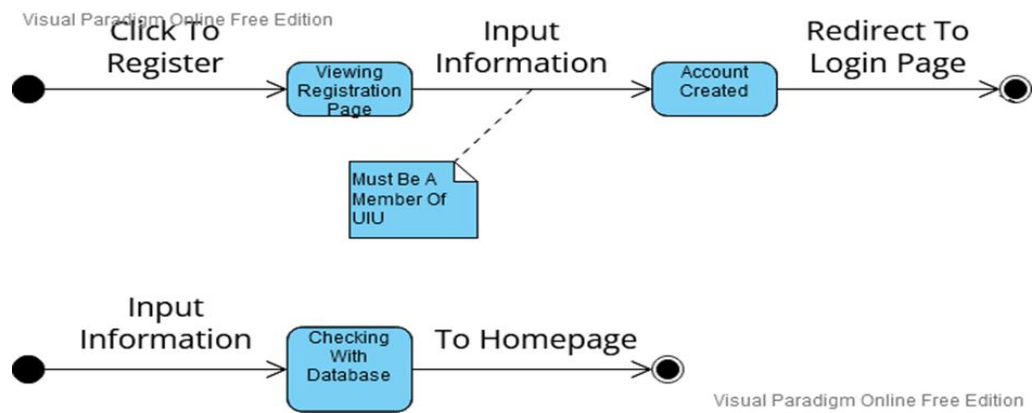
a) Login

Fig.8 State Diagram (Login)
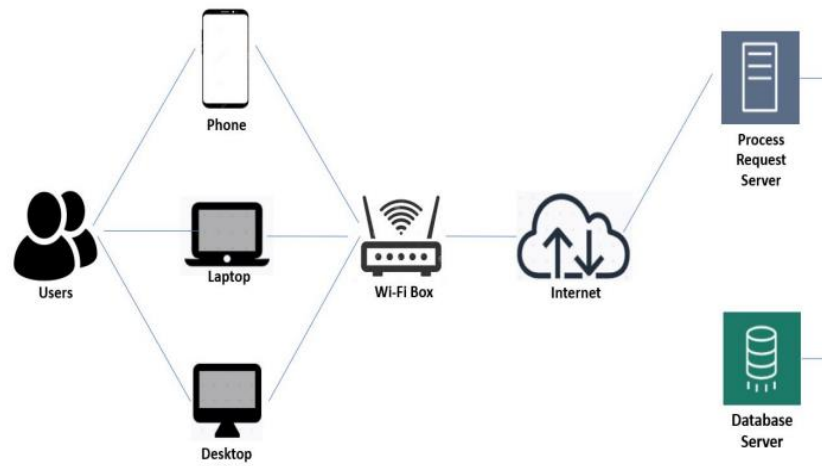
8.   **<u>Deployment Diagram</u>**

Fig.9: Deployment Diagram

Benchmark Analysis

The benchmark analysis depicts a comparison between similar websites that exist in the current market with our proposed project, Shohayok.

Features/Websites	Quora	Stack Overflow	eLMS (UIU)	Reddit	Facebook	Canvas (NSU)	Google Classroom	Proposed Project (Shohayok)
Previous Questions/Answers Upload	✗	✗	✓	✗	✓	✓	✓	✓
Download Content	✗	✗	✓	✓	✓	✓	✓	✓
Lecture Notes Upload (From Students)	✓	✓	✗	✓	✓	✗	✓	✓
Chat	✗	✗	✓	✗	✓	✗	✗	✓
Find Friends Over The Internet	✗	✗	✗	✗	✓	✗	✗	✓
Subscription	✗	✗	✗	✗	✗	✗	✗	✓
Mental Health Aid Through Like-Minded People	✗	✗	✗	✗	✓	✗	✗	✓
Find People From Same Institution	✗	✗	✓	✗	✓	✓	✓	✓
Post Query/Question	✓	✓	✗	✓	✓	✗	✓	✓
Create Personal Account	✓	✓	✓	✓	✓	✓	✓	✓
Automated Reminder For Due Assignments	✗	✗	✓	✗	✗	✓	✓	✗
Direct Integration With Institution and Faculties	✗	✗	✓	✗	✗	✓	✓	✗
Personalized Newsfeed	✓	✗	✗	✓	✓	✗	✗	✓

Table.1 Benchmark Analysis

Flowchart

The flowchart depicts all the operations a user can perform in the system, starting from creating an account or logging in to uploading content on the website.
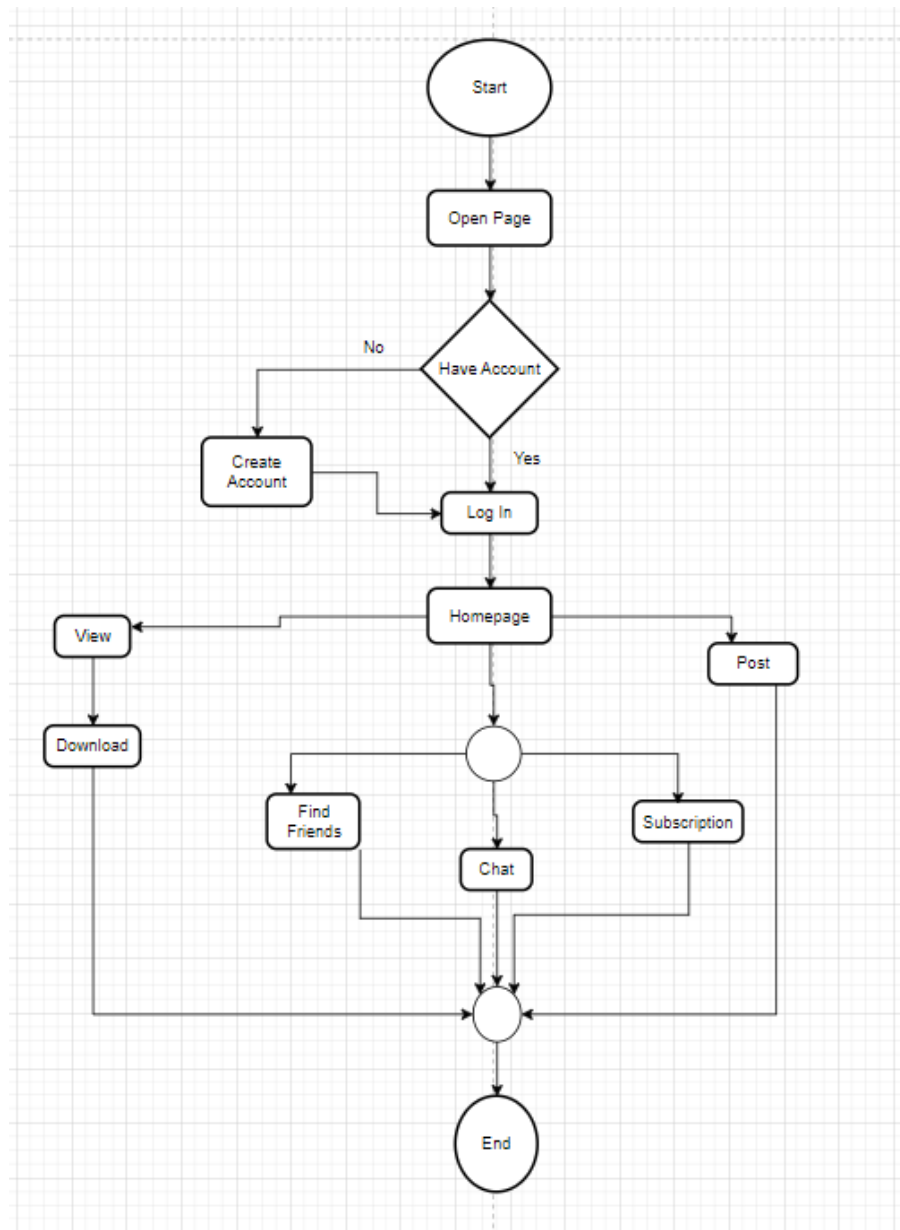

Fig.10: Flowchart

Low Fidelity UI Design

The following UI designs represent some of the main pages for Shohayok. The prototype is made entirely using Figma.
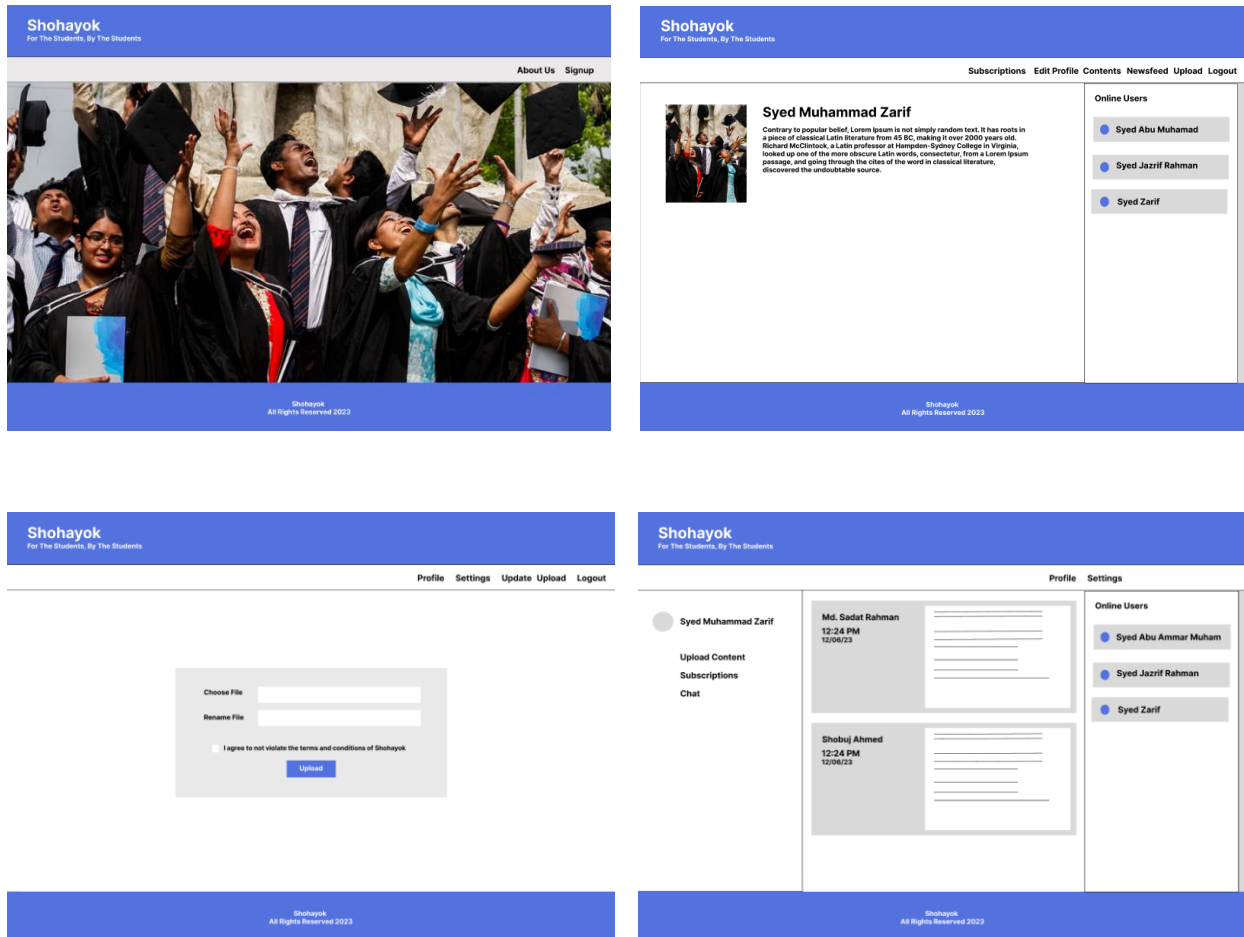

Fig.11 Homepage (Top Left), Profile (Top Right), Upload Content (Bottom Left) and Newsfeed (Bottom Right)

Backlogs

The following backlogs will be maintained throughout the timespan of the project development. The status of each task will be updated accordingly.

ID	Task Name	Sprint	Contributor	Status
1	Homepage Design	S1	Samira Raisha Ferdous, Md. Sadat Rahman	Yet to be started
2	Authentication (Login/Signup)	S1	Syed Abu Ammar Muhammad Zarif, Rafin Haque Leeon	Yet to be started
3	User Profile Page with Update Information	S2	Mir Rezowan Ahmed, Samira Raisha Ferdous	Yet to be started
4	Admin Profile Page with Update Information	S2	Mir Rezowan Ahmed, Samira Raisha Ferdous	Yet to be started
5	Upload Content Page Design Frontend Only	S2	Syed Abu Ammar Muhammad Zarif, Md. Sadat Rahman	Yet to be started
6	Upload Content Backend	S3	Syed Abu Ammar Muhammad Zarif, Mir Rezowan Ahmed, Rafin Haque Leeon	Yet to be started
7	Newsfeed Design	S3	Md. Sadat Rahman, Mir Rezowan Ahmed, Rafin Haque Leeon	Yet to be started
8	Chatting Feature Handle	S4	Rafin Haque Leeon, Samira Raisha Ferdous, Mir Rezowan Ahmed	Yet to be started
9	Subscription and Payment Handle	S4	Syed Abu Ammar Muhammad Zarif, Rafin Haque Leeon	Yet to be started
10	Integration	S4	Syed Abu Ammar Muhammad Zarif, Mir Rezowan Ahmed	Yet to be started

Table.2 Backlogs for Shohayok