

# Master Team Project Summer 2024

## “Eduly”

Milestone 2

### Team 2

Keshav Upadhyaya (keshav-dineswara.upadhyaya@informatik.hs-fulda.de)	Team Lead
Sagnik Bhattacharya	GitHub Master
Aashay Ajay Markale	Backend Lead
Advaith Hari Raj Lakshmi	Frontend Developer
Ayush Pravin Shetty	Backend Developer
Ammar Ansari	Frontend Lead

Date: 02.06.2024

Date Submitted	Date Revised
02.06.2024	06.06.2024

# Functional Requirements

## Priority 1

The app should allow an **administrator** to:

1. View the list of tutors' profile image, intro video & CV where approval is pending.
2. View the list students' and their profile images where approval is pending.
3. Approve / delete the above content before going live.
4. Ban malicious users.

The app should allow a **visitor** to:

5. Search for tutors and view their details like how a student would.
6. View community forums.
7. Register as a tutor or a student with their Fulda University email address.

The app should allow a **student** to:

8. Log in to the application.
9. Search for tutors based on various parameters such as pricing, ratings, availability (days of the week, hours), topic and language of instruction.
10. Sort the tutors based on pricing, ratings or popularity.
11. View the introductory video of the tutor, CV, reviews and calendar.
12. Book sessions by selecting the date and time (the first session is trial).
13. Send/read messages to/from a tutor.
14. Access the tutor's BigBlueButton personal meeting room link on the specified date and time to join the meeting.
15. Write a review & rate the tutor.
16. Edit profile image.

The app should allow a **tutor** to:

17. Sign up or log in to the application.
18. Create a profile with all the necessary information like topics, schedule, CV, intro/teaser video, intro text, pricing, language of instruction & BigBlueButton(webconf.hs-fulda.de) personal meeting room link.
19. Edit their profile details.

20. View upcoming tutoring or trial session appointments & join meeting with BigBlueButton.
21. Send/read messages to/from a student.

The app should allow **students and tutors** to:

22. Ask questions in the community forum.
23. Answer others' questions.
24. View questions and answers.

## Priority 2

The app should allow an **administrator** to:

1. Search students / tutors by name.
2. Block offenders from re-registering on the website.

The app should allow a **tutor** to:

3. View the number of students registered for each topic and session and other insights.
4. Reschedule or cancel sessions.

The app should allow **students and tutors** to:

5. Participate in a video conference.
6. Receive in-app reminders/notifications of their upcoming meetings.
7. Upvote others' answers or questions.
8. Edit their questions or answers.
9. Delete their profile.

## Priority 3

The app should allow an **administrator** to:

1. View and delete messages from community forums.

The app should allow a **student** to:

2. Set preferences for topics and other parameters mentioned below.

3. View recommended tutors/topics on the home page.
4. Book and attend offline tutoring sessions.

The app should allow a **tutor** to:

5. Post file/video content (assignments/study material ). (P3) *Note: This is P3 since it also involves controlling who can access the content uploaded and classifying content as study material or assignments. Things like whether the content should be accessible to the entire group or a single student in a 1:1 session must be considered.*
6. Make a private forum for only their students. (P3)
7. Handle group sessions. (P3)

## Use Cases

### Use Case 1 – Student (Juan)

Juan wants to learn C# since he wants to be a game developer.

- He opens the “eduly” website.
- He searches for C#.
- He is presented with a list of tutors.
- He has a budget of 20 Euros and prefers to take classes on Monday. So, he filters the tutors based on these criteria.
- After browsing, he finds a tutor who seems to fit his needs.
- He is impressed by the tutor’s intro video and reviews.
- He tries to contact the tutor by messaging him for a few clarifications.
- He is then asked to create an account with “eduly”.
- He enters his name, email and password and successfully creates an account.
- He then chats with the tutor to get more information.
- He then books a trial session with the tutor by selecting a specific date and time.
- On that date, he navigates to his profile page to see his upcoming meetings and join his session (via BigBlueButton[<https://webconf.hs-fulda.de/>] since all who log in belong to Fulda University).
- He seems to be happy with the tutor and books further appointments.
- He also leaves a 5-star rating and a positive review.

## Use Case 2 – Tutor (Mr. Mueller)

Mr. Mueller wants to teach Physics.

- Mr Mueller opens the "eduly" website and signs up as a tutor.
- He completes his profile page with his topics, availability, CV, intro/teaser video, pricing, language of instruction, BigBlueButton[webconf.hs-fulda.de] personal meeting room link and profile image.
- After registration, he submits his profile for admin approval.
- Once approved, his profile goes live on the platform.
- He replies to a few queries from prospective students via messages.
- On his profile page, he views his upcoming appointments.
- On the scheduled appointment date, he joins the meeting by going to his BigBlueButton meeting link.
- He then uploads a new intro video to attract more students.

## Use Case 3 – Guest (Jane)

Jane wants to explore the “eduly” app.

- Jane opens the “eduly” website.
- She navigates through the homepage to understand the app's features.
- She searches for Spanish tutors to see the available options.
- Jane browses through the list of tutors and checks out a few profiles.
- She uses filters to refine her search by location, minimum and maximum prices, ratings, etc.
- Jane watches a couple of introduction videos to get a sense of the tutors' teaching styles.
- She reads the reviews and ratings left by other students.
- Jane tries to contact a tutor for more information and is prompted to create an account.
- She decides to explore the community forum to see what kind of discussions are happening.
- Jane looks at some of the questions and answers in the forum to understand the community.
- Satisfied with her exploration, Jane decides she will come back to register later.

## Use Case 4 – Admin (Tim)

Tim wants to moderate all the content within “eduly” app

- Tim logs in to Eduly's admin dashboard
- He examines and accordingly approves the pending tutor requests on his dashboard.
- Then he proceeds to approve the pending profile picture requests from registered students.
- He finds one of the pictures offensive and decides to ban the student. This student's profile will now be locked until the ban is lifted. To unban he can visit view students -> search for student -> unban student.
- Tim also must approve the uploaded tutors' content. He goes to "Approve Tutor Content" which has 3 tabs – Profile Picture Uploads, Content Upload, Intro Video Upload. Tim can accordingly approve, reject or ban the tutor.

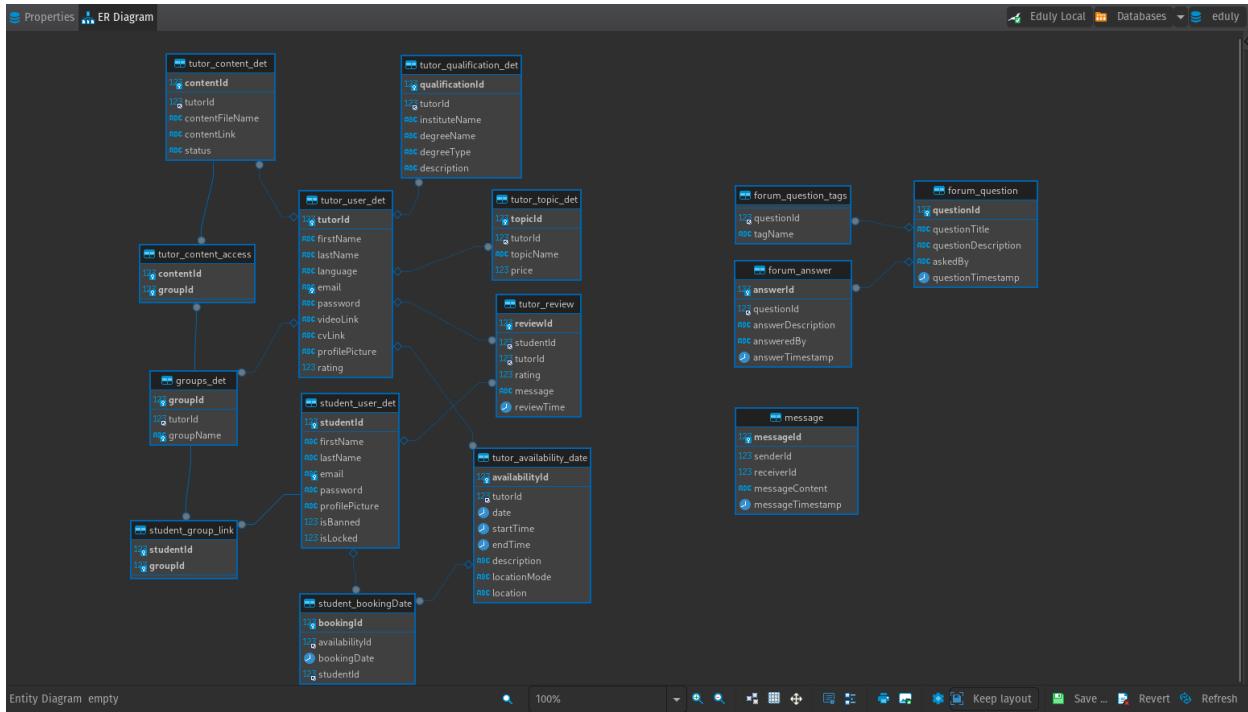
## List of main data items and entities

1. Tutor:
  - a. Profile information (name, contact details, bio, CV)
  - b. Pricing information
  - c. Availability Schedule
  - d. Uploaded content (images, videos, audio recordings)
  - e. Reviews and ratings
2. Student:
  - a. Profile information (name, email, password)
  - b. Preferences (preferred subjects, learning goals)
3. Administrator:
  - a. Dashboard access
  - b. Approval status for tutor profiles
  - c. Can read/update/delete any post
4. Community Forums:
  - a. Discussion threads
  - b. User posts (Questions and Answers)
5. Messaging System:
  - a. Messages between users and tutors

## UI Mockups and Storyboards

Can be found attached at the end of the document.

# High-level architecture, Database Organization



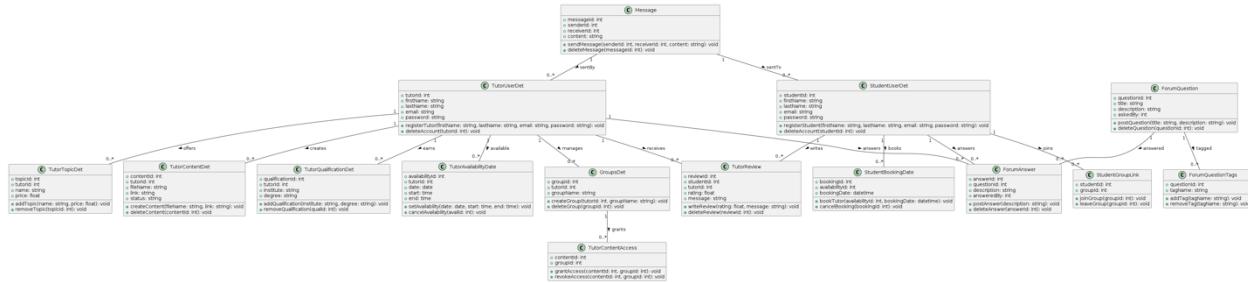
## Search and Filter Algorithm

Jakarta persistence EntityManager will be used to connect our database with the backend application to handle database queries based on optional request parameters such as topic, pricingMin, pricingMax, and rating. We will execute a native SQL query and the returned rows from the DB will be sent to the frontend based on an agreed JSON format.

## Storage

Actual content such as images, PDFs, and videos will be stored in Azure Blob Storage. The metadata to store and access information will be stored in the database.

# High-Level UML Diagram



## Key Risks

### Skills Risks

Risk: Some team members lack experience in technologies like Spring Boot/React/Azure.

Mitigation: Use online resources and tutorials to accelerate learning. Help each other as required.

### Schedule Risks

Risk: Uncertainty in meeting deadlines due to varied skill levels and learning curves / some member falls ill.

Mitigation: Implement a detailed project timeline with buffer periods for unforeseen delays. Conduct regular progress check-ins to ensure milestones are met.

### Technical Risks

Risk: Potential technical challenges with integrating React with backend systems or other tools. For example, there might be a mismatch in the interfaces for the front-end and back-end.

Mitigation: Build a prototype to identify and resolve technical issues early. Allocate time for debugging and problem-solving in the project plan.

## Teamwork Risks

Risk: Potential miscommunication or collaboration issues among team members with different skill sets and experiences.

Mitigation: Establish clear communication channels and regular meetings. Use collaborative tools (e.g., WhatsApp, Microsoft Teams, and GitHub Projects) to track tasks and ensure everyone is aligned.

## Legal/Content Risks

Risk: Challenges in obtaining legally compliant content and software with proper licensing and copyright (e.g. images, videos, libraries/tools etc.).

Mitigation: Verify all content sources and software licenses before use.

## Project Management

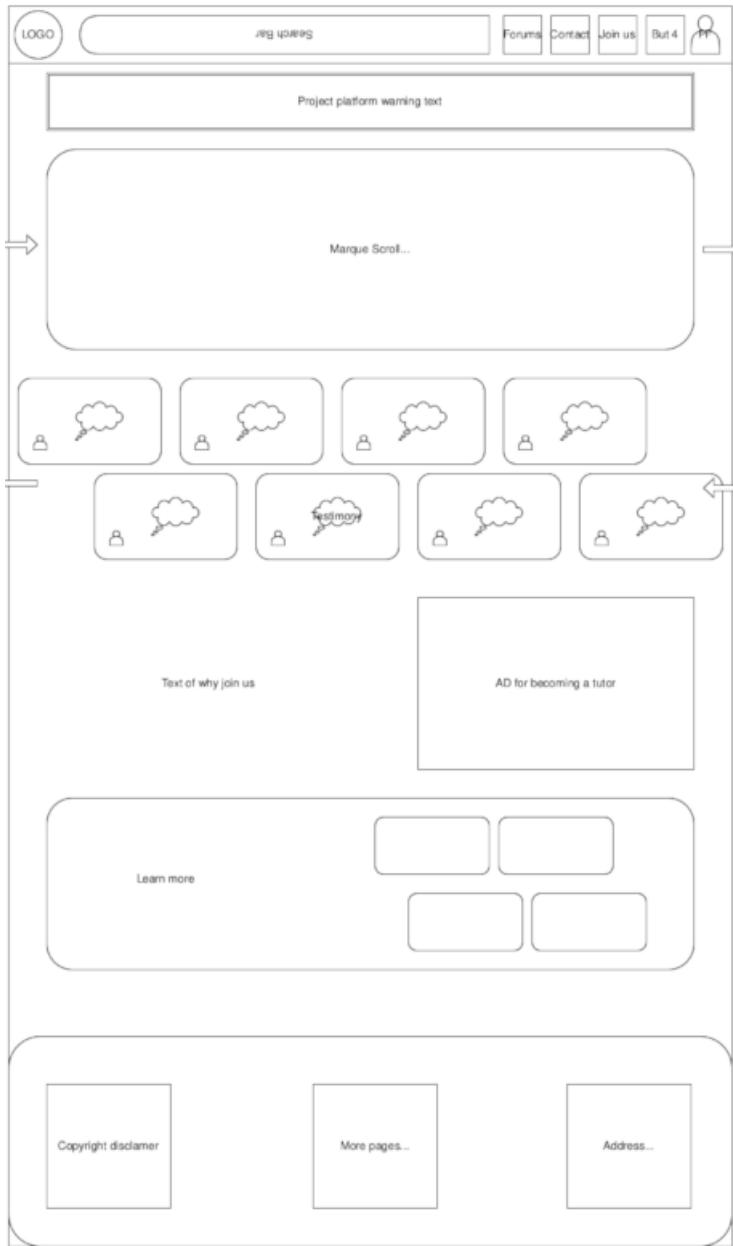
To effectively organize our tasks and work, we plan to utilize GitHub Projects. This tool allows us to create a project board where we can define and categorize tasks using columns such as "To Do," "In Progress," and "Done." Each task will be represented as an issue or a card, providing a clear overview of our workflow. By assigning tasks to team members and setting due dates, we can ensure accountability and track progress. Additionally, GitHub Projects integrates seamlessly with our repositories, enabling us to link code commits and pull requests directly to specific tasks, ensuring transparency and facilitating collaboration. Regular updates and reviews during our team meetings will help us stay on track and adapt to any changes or challenges that arise.

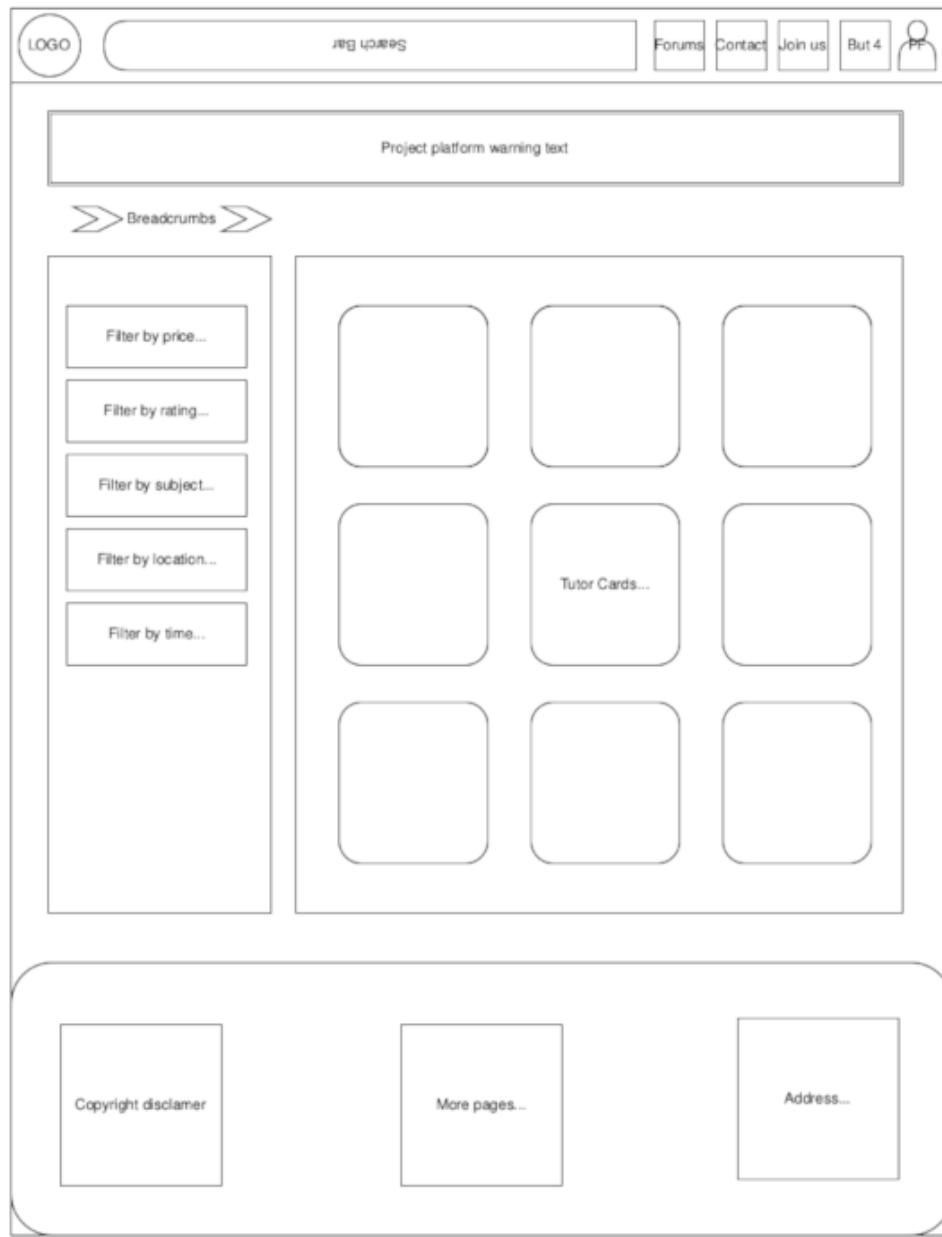
Distribution of work:

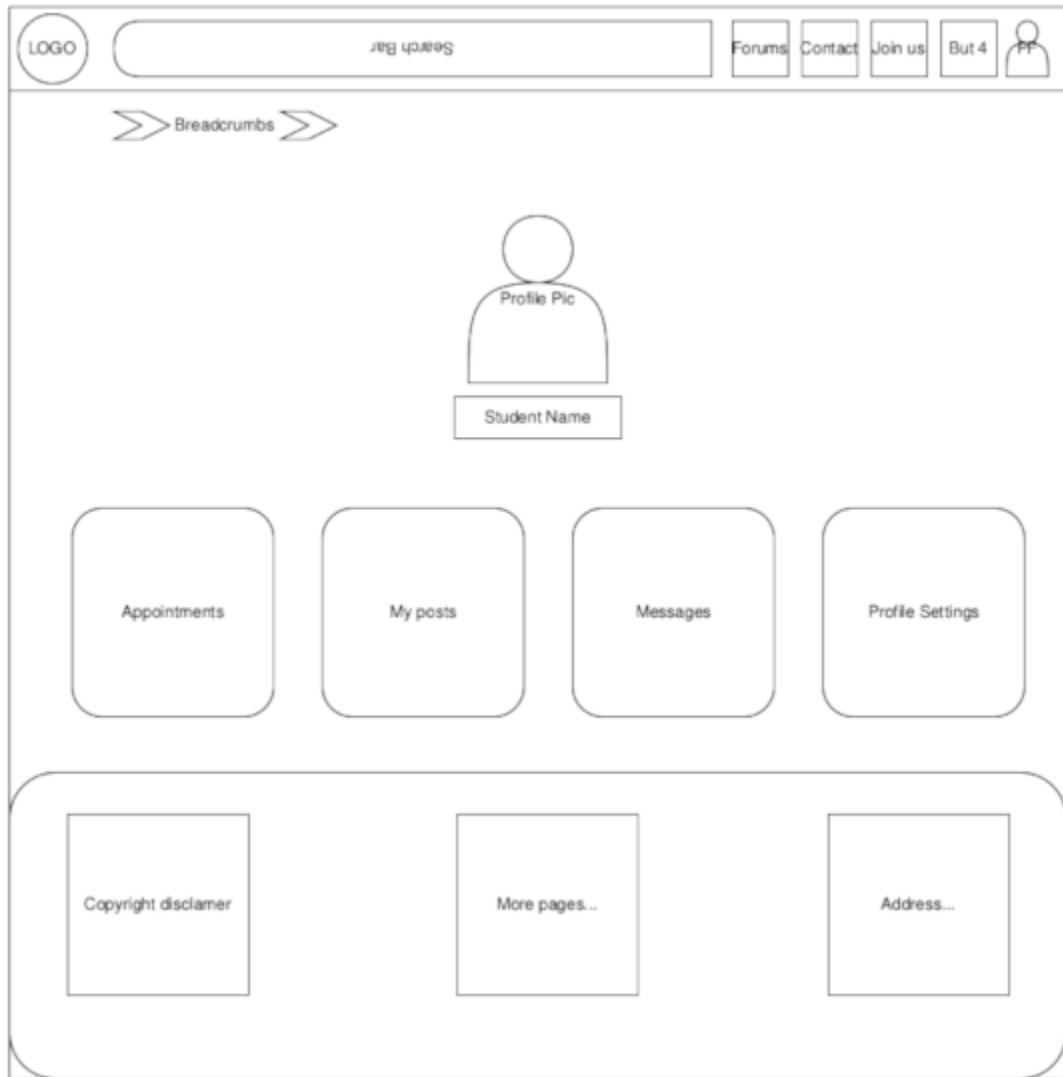
- Keshav: UI Mockups, Key Risks, Project Management
- Sagnik: UI Mockups, Database Design, UML
- Advaith: UI Mockups
- Ayush: UI Mockups, Database Design, UML
- Aashay: UI Mockups, Data Items & Entities, Database Design, UML
- Ammar: UI Mockups

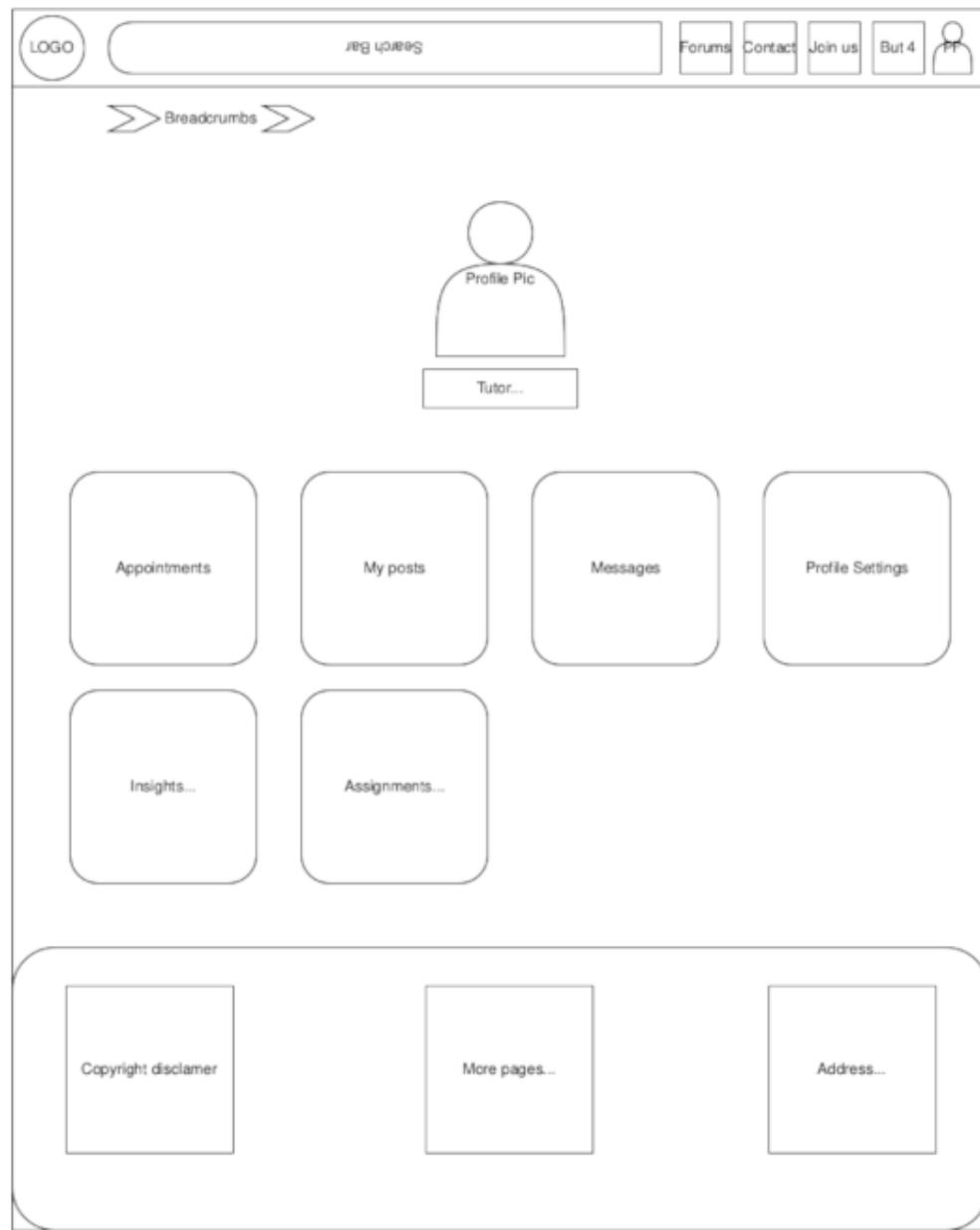
# UI Mockups

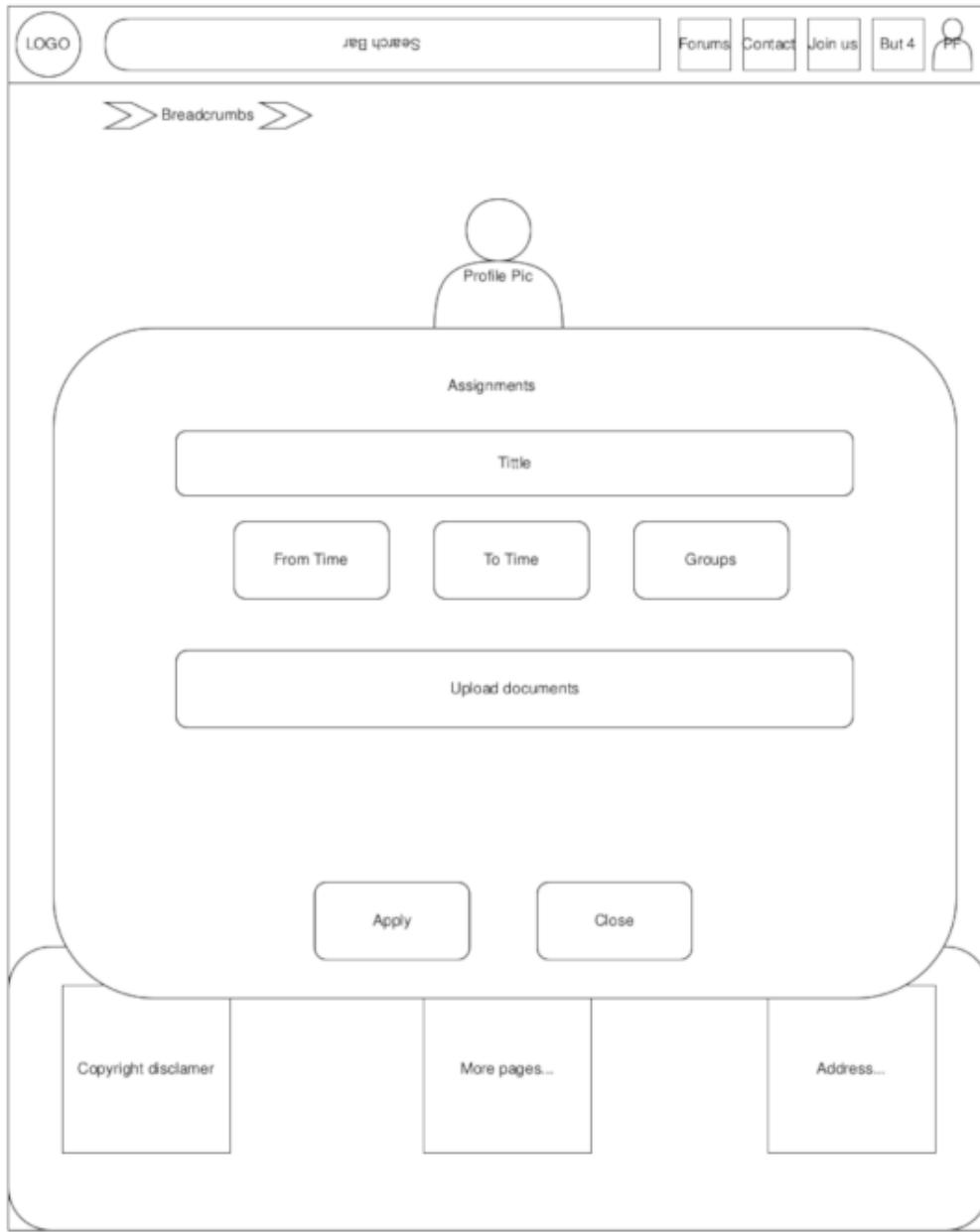
## Common Pages



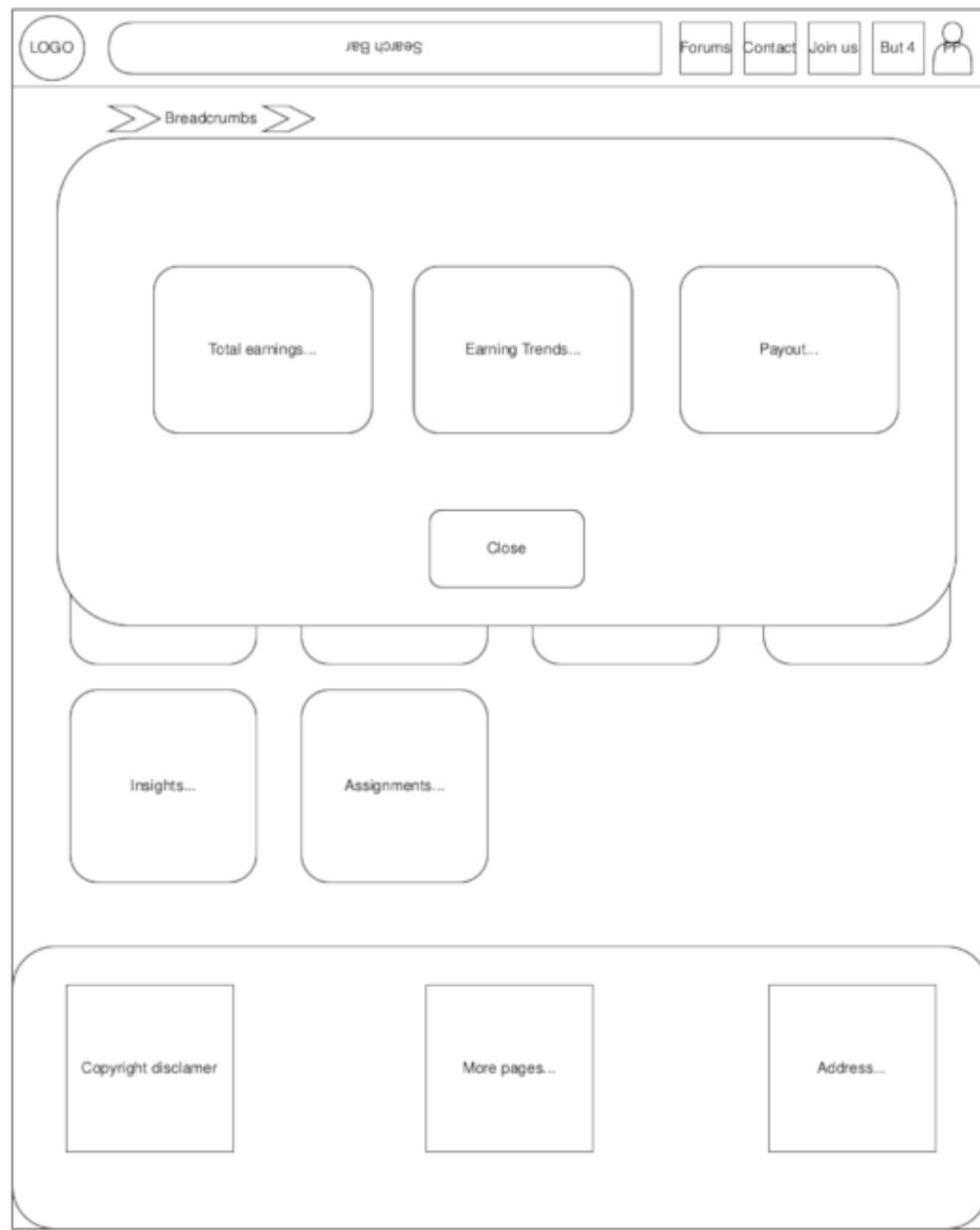


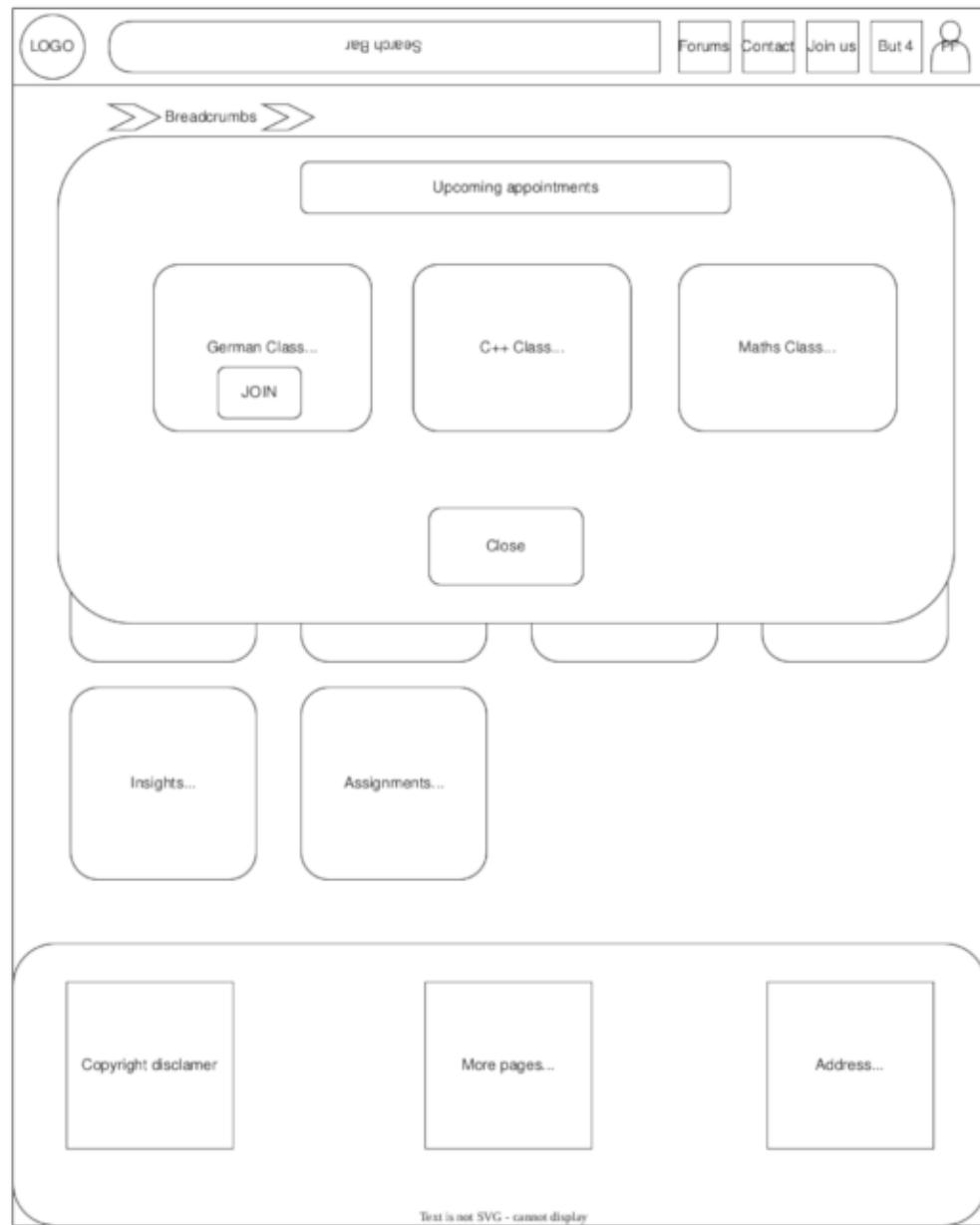


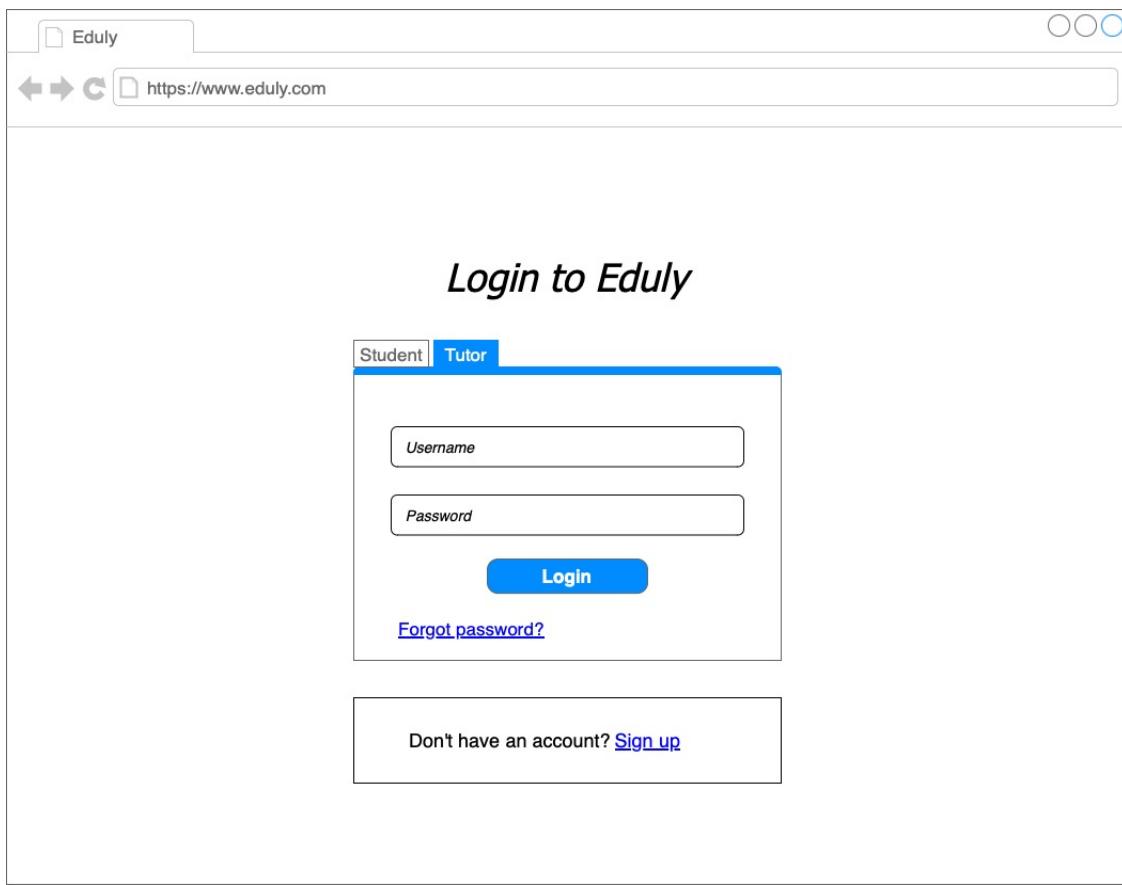












Eduly https://www.eduly.com

**Profile**

Students  
Contents  
Forums  
Settings



**Dr. Jane Doe**

Email: [jane.doe@domain.com](mailto:jane.doe@domain.com)

Topics: particle physics, astronomy, quantum mechanics

Online Timings: Every Tue, Thu from 21:00 to 22:00

Offline Timings: Every Sat from 14:00 to 17:00

CV: [CV.pdf \(2 MB\)](#)

Intro video: [intro.mp4 \(15 MB\)](#)

Qualifications:

- > Ph.D. from MIT in Physics.
- > 50+ papers on quantum mechanics.
- > Stanford Professor; ex-CERN Scientist.
- > Breakthrough and Kavli Prize winner.
- > Leads DUNE and EHT projects.

**Appointments**

October 2014

Mo	Tu	We	Th	Fr	Sa	Su
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4
5	6	7	8	9	10	11

**Update profile**

Eduly https://www.eduly.com

**Profile**

**Students**

Contents  
Forums  
Settings

Student ID	Name	Groups
ed1001	Alex Johnson	group1, individual1
ed1002	Priya Kumar	group1
ed1003	Emily Chen	individual2

[Add student](#)  
[Add group](#)  
[Delete group](#)  
[Link student to group](#)

Eduly https://www.eduly.com

Profile Students Contents Forums Settings

Student ID	Name	Groups
ed1001	Alex Johnson	group1, individual1
ed1002	Priya Kumar	group1
ed1003	Emily Chen	individual2

Add student Add group Delete group Link student

Add student

Student ID: Option 1

Group: individual

Cancel OK

Eduly https://www.eduly.com

Profile Students Contents Forums Settings

Student ID	Name	Groups
ed1001	Alex Johnson	group1, individual1
ed1002	Priya Kumar	group1
ed1003	Emily Chen	individual2

Add student Add group Delete group Link student

Add group

Enter name of the group

Cancel OK

Eduly https://www.eduly.com

Profile Students Contents Forums Settings

Student ID	Name	Groups
ed1001	Alex Johnson	group1, individual1
ed1002	Priya Kumar	group1
ed1003	Emily Chen	individual2

Add student Add group Delete group Link student

Delete group

Select the group to delete

group1

Cancel OK

Eduly https://www.eduly.com

Profile Students Contents Forums Settings

Student ID	Name	Groups
ed1001	Alex Johnson	group1, individual1
ed1002	Priya Kumar	group1
ed1003	Emily Chen	individual2

Add student Add group Delete group Link student

Link student to group

Student ID: Option 1

Linked groups:

group1  
group2  
 group3  
individual

Cancel OK

Eduly https://www.eduly.com

Profile Students **Contents** Forums Settings

### Uploaded content

Content	Groups	Moderation status	
video1.mp4	group1, individual1	Approved	<a href="#">Modify access</a> <a href="#">Delete</a>
book1.pdf	group3	Approved	<a href="#">Modify access</a> <a href="#">Delete</a>
program.exe	NONE	Pending	<a href="#">Delete</a>

[Upload new content](#)

Eduly https://www.eduly.com

Profile Students **Contents** Forums Settings

### Uploaded content

Content	Groups	Moderation status	
video1.mp4	group1, individual1	Approved	<a href="#">Modify access</a> <a href="#">Delete</a>
book1.pdf	group3	Approved	<a href="#">Modify access</a> <a href="#">Delete</a>
program.exe	NONE	Pending	<a href="#">Delete</a>

[Upload new content](#)

Modify access to video1.mp4

Select groups to grant access:

group1  
 group2  
 group3  
 individual

Cancel OK

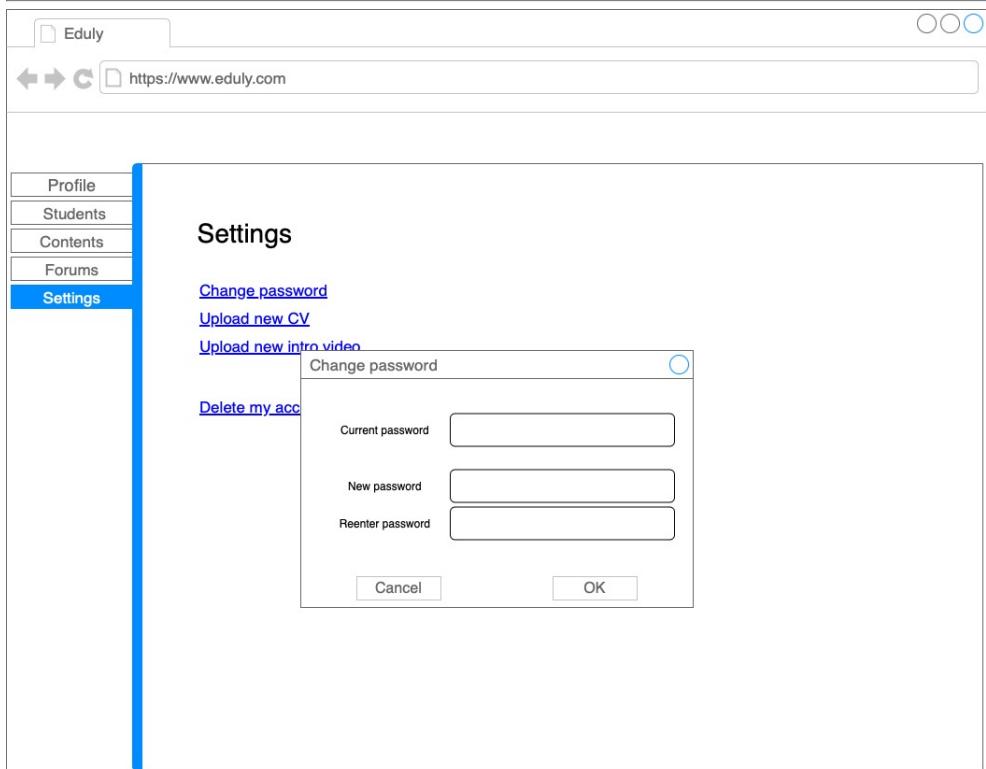
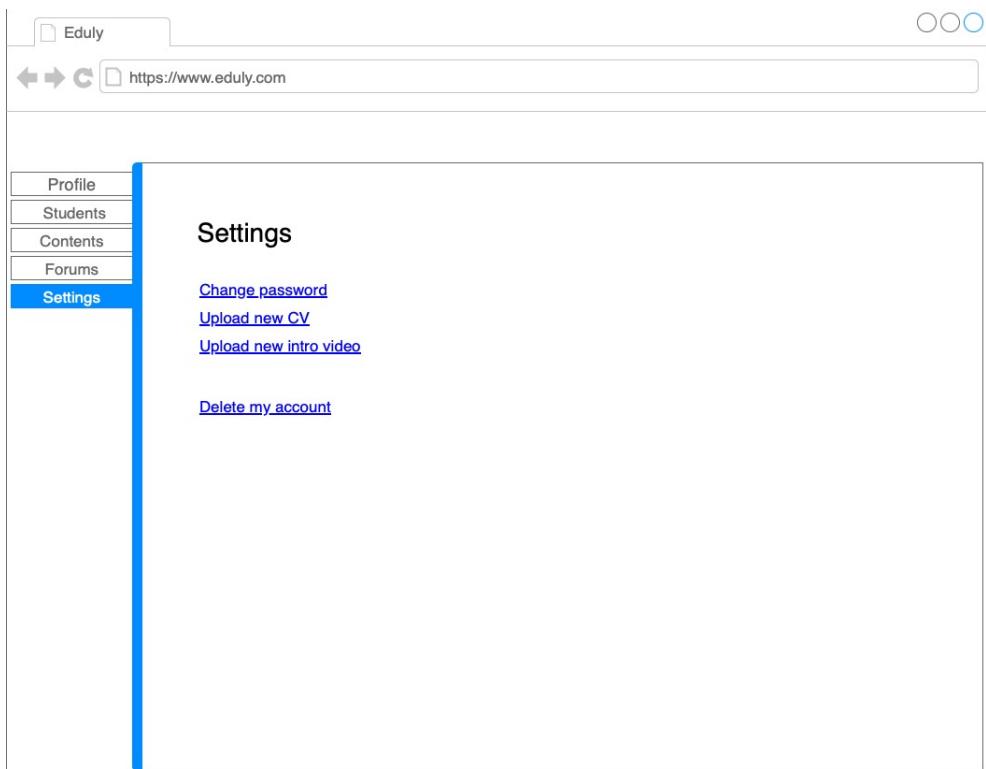
The screenshot shows the 'Uploaded content' page on the Eduly website. The left sidebar has 'Contents' selected. The main area displays a table of uploaded files:

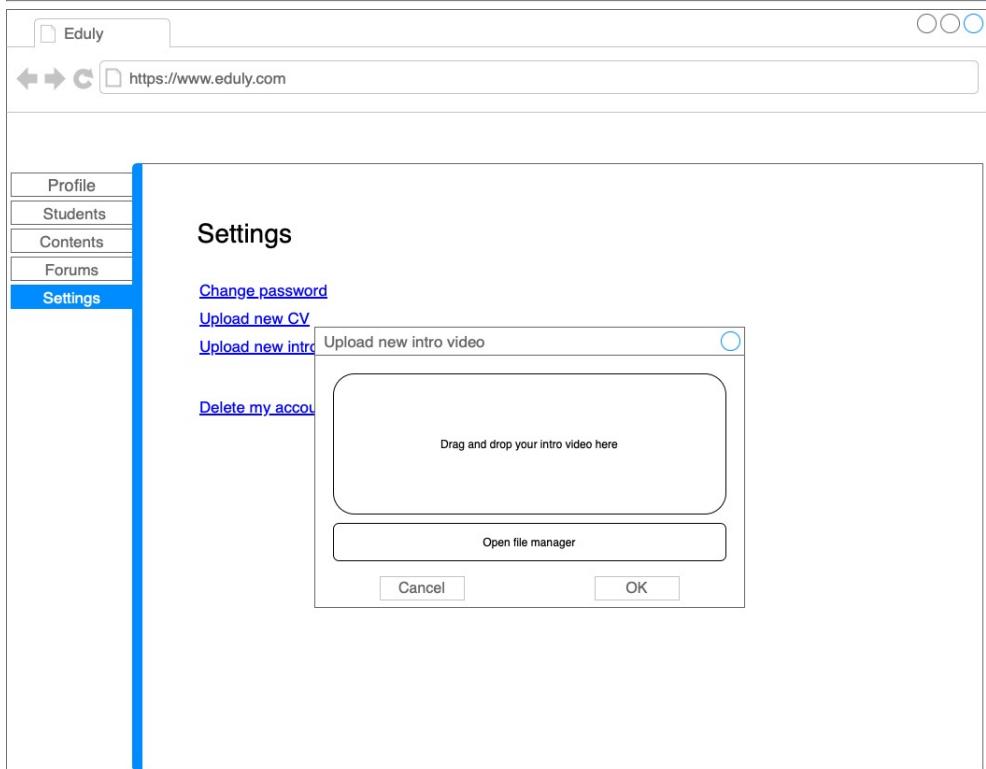
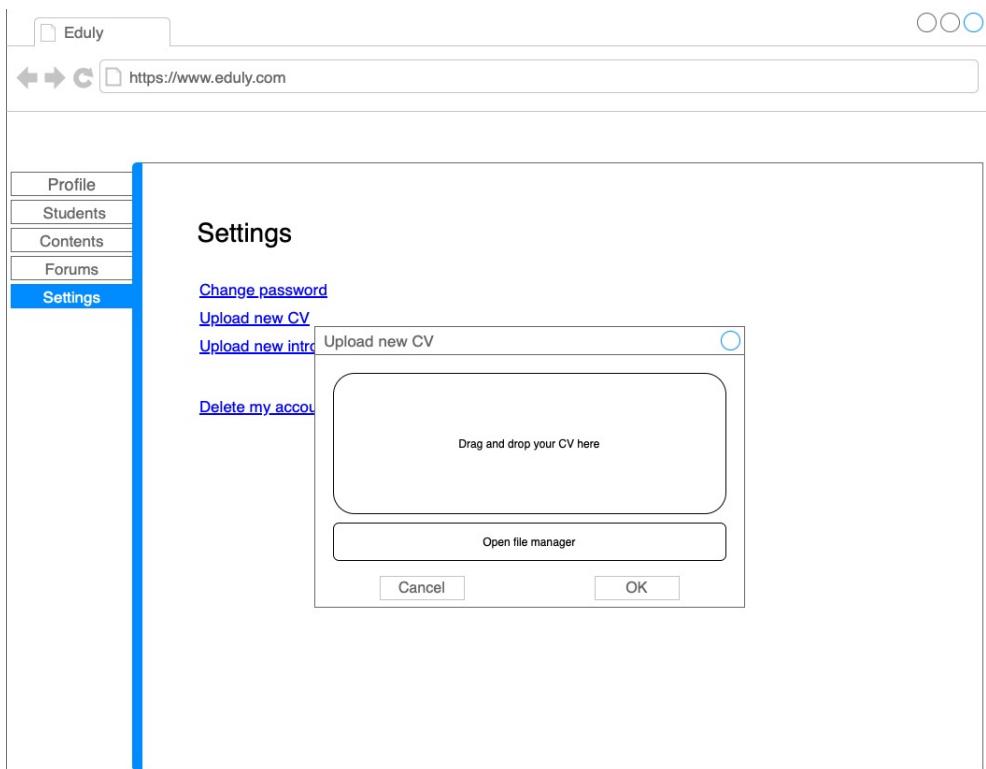
Content	Groups	Moderation status
video1.mp4	group1, individual1	Approved
book1.pdf	group3	Approved
program.exe	NONE	Pending

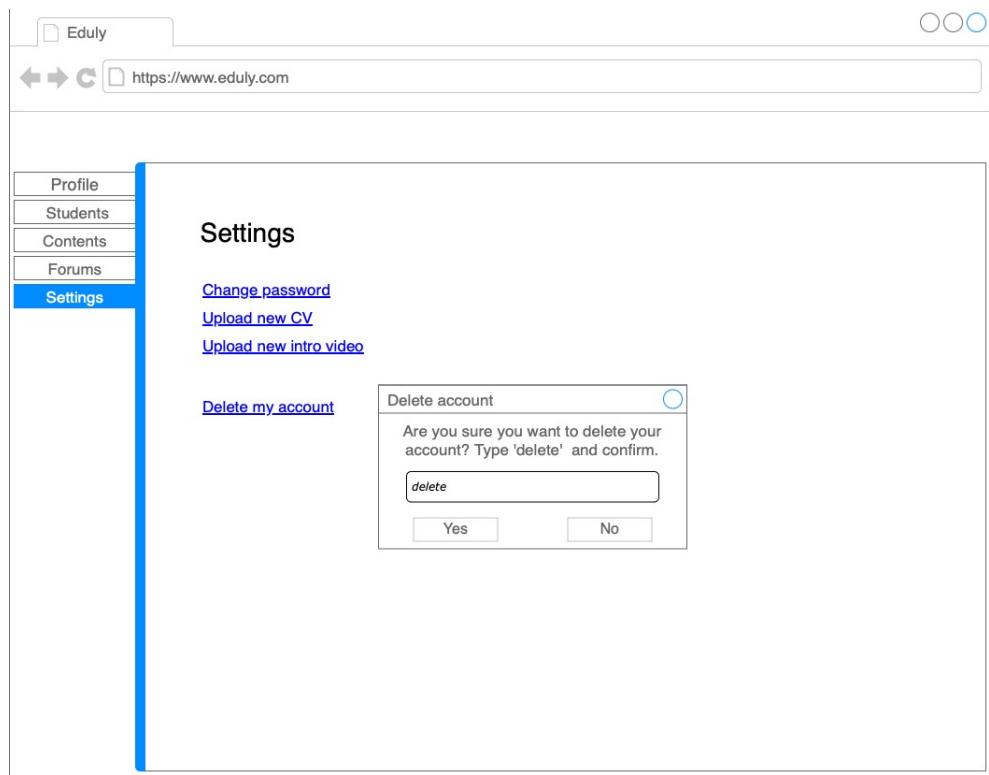
Below the table, there is a link 'Upload new content' and a delete confirmation dialog box:

Delete video1.mp4  
Are you sure?  
Yes No

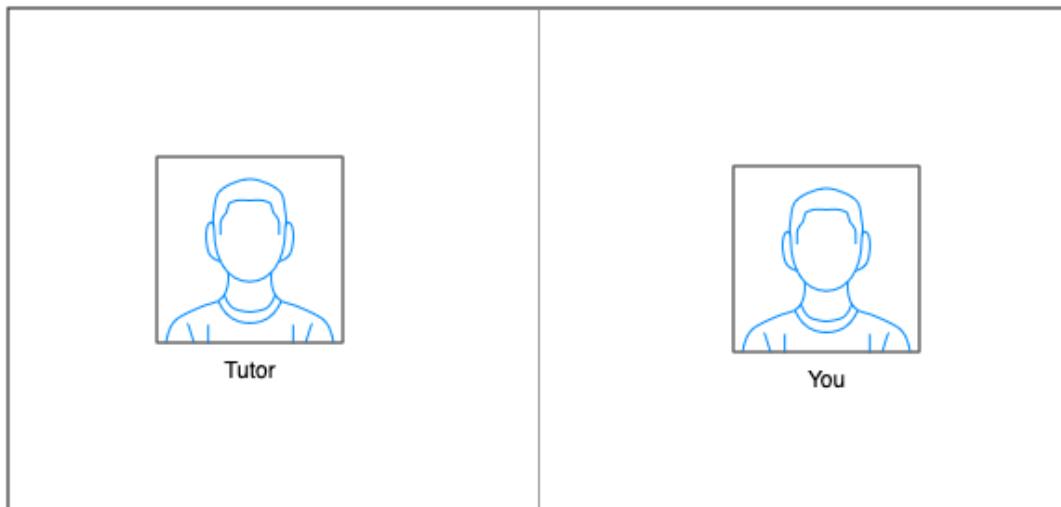
The screenshot shows the 'Upload new content' dialog box. It contains a file upload interface with a placeholder 'Drag and drop your content here' and a 'Open file manager' button. At the bottom are 'Cancel' and 'OK' buttons.







Meeting



Mic



Video

**Leave meeting**

## Student Pages

### Sign up – Student

HEADER

READY TO LEARN ?

Email

Password

Verify Password

By signing up, you agree to our [Terms of Service] and [Privacy Policy].

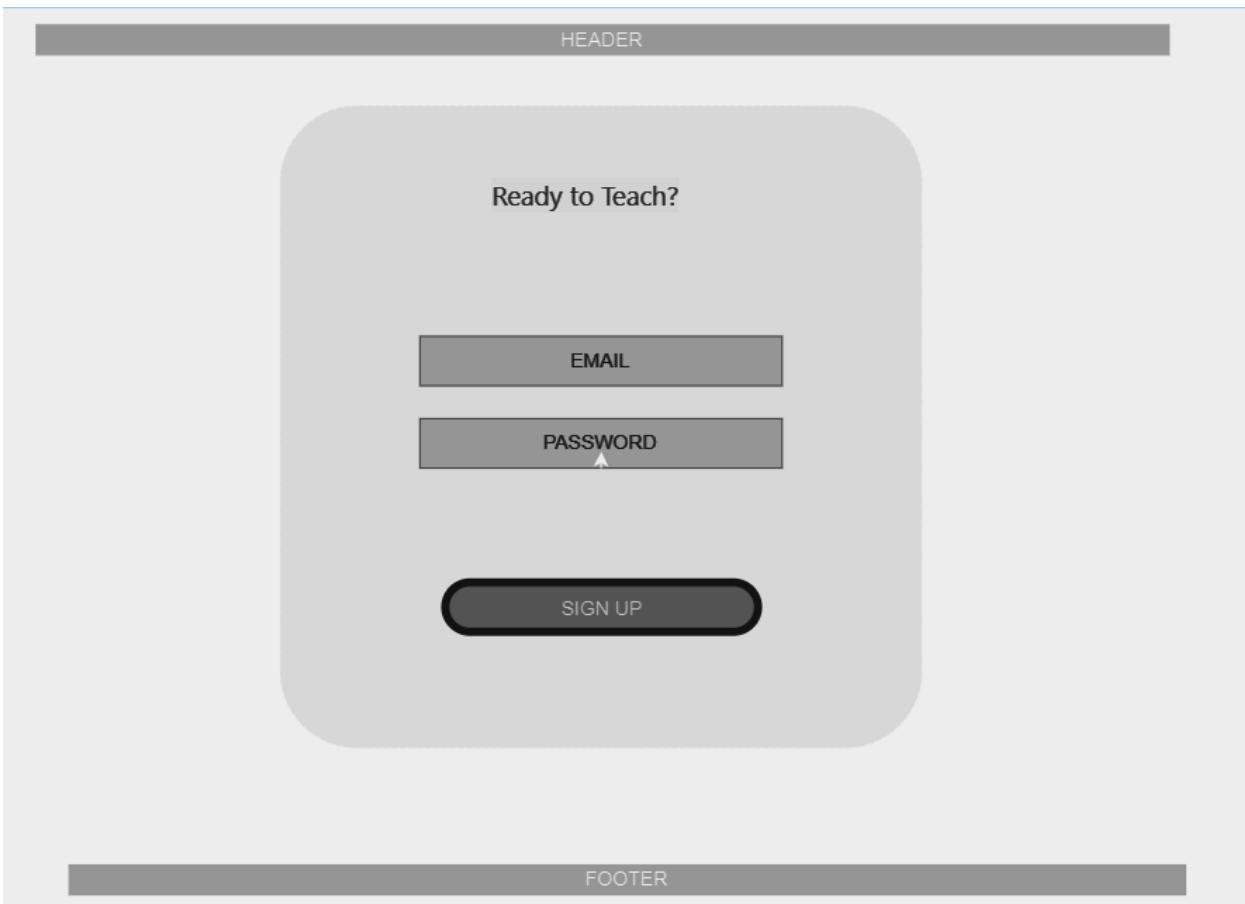
why choose eduly?

why choose eduly?

why choose eduly?

FOOTER

## Sign up-TUTOR



EDULY LOGO

ABOUT > PHOTO > EDUCATION > AVAILABILITY > PRICING

## About

creating your public tutor profile. Your progress will be automatically saved as you complete each section.

FIRST NAME

LAST NAME

SUBJECT TAUGHT ▾

LANGUAGE LEVEL ▾

PHONE NUMBER

I confirm I'm over 18

SAVE & continue

EDULY LOGO

ABOUT > PHOTO > EDUCATION > AVAILABILITY > PRICING

## Profile photo

Choose a photo

What your photo needs

UPLOAD PHOTO

BACK

SAVE & continue



ABOUT > PHOTO > EDUCATION > AVAILABILITY > PRICING

## EDUCATION

I dont have University Education

UNIVERSITY NAME

DEGREE

DEGREE TYPE ▼

UPLOAD

BACK

SAVE & continue



ABOUT > PHOTO > EDUCATION > AVAILABILITY > PRICING

## AVAILABILITY

CHOOSE YOUR TIMEZONE



SET YOUR AVAILABILITY

MONDAY

FROM

15:00

TO

21:00

[ADD ANOTHER TIMESHEET](#)

TUESDAY

FROM

15:00

TO

21:00

[ADD ANOTHER TIMESHEET](#)

[BACK](#)

[SAVE & continue](#)

EDULY LOGO

ABOUT > PHOTO > EDUCATION > AVAILABILITY > PRICING

## SET YOUR HOURLY RATE

RATE

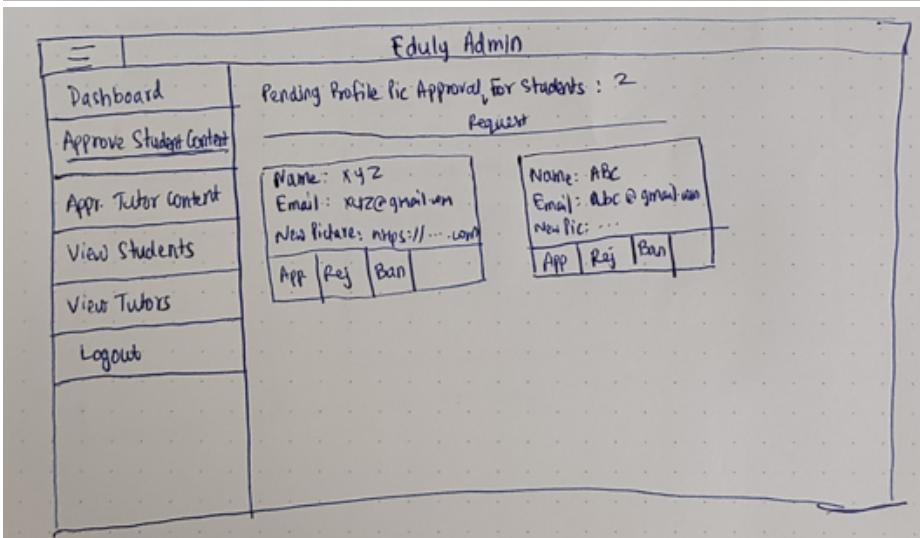
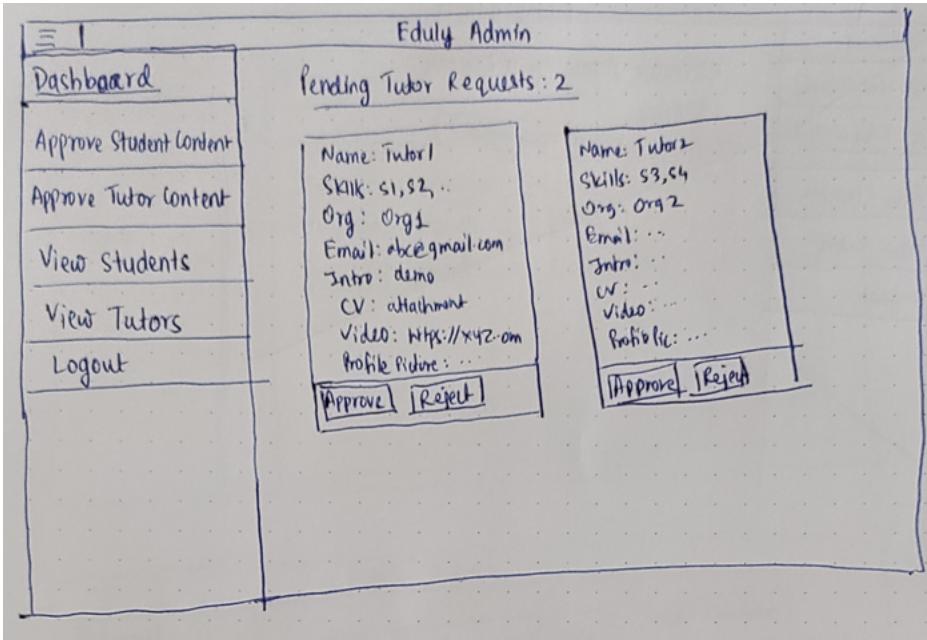
PRICE IN EUROS

COMISSION DETAILS

BACK

REGISTER

## Admin Pages



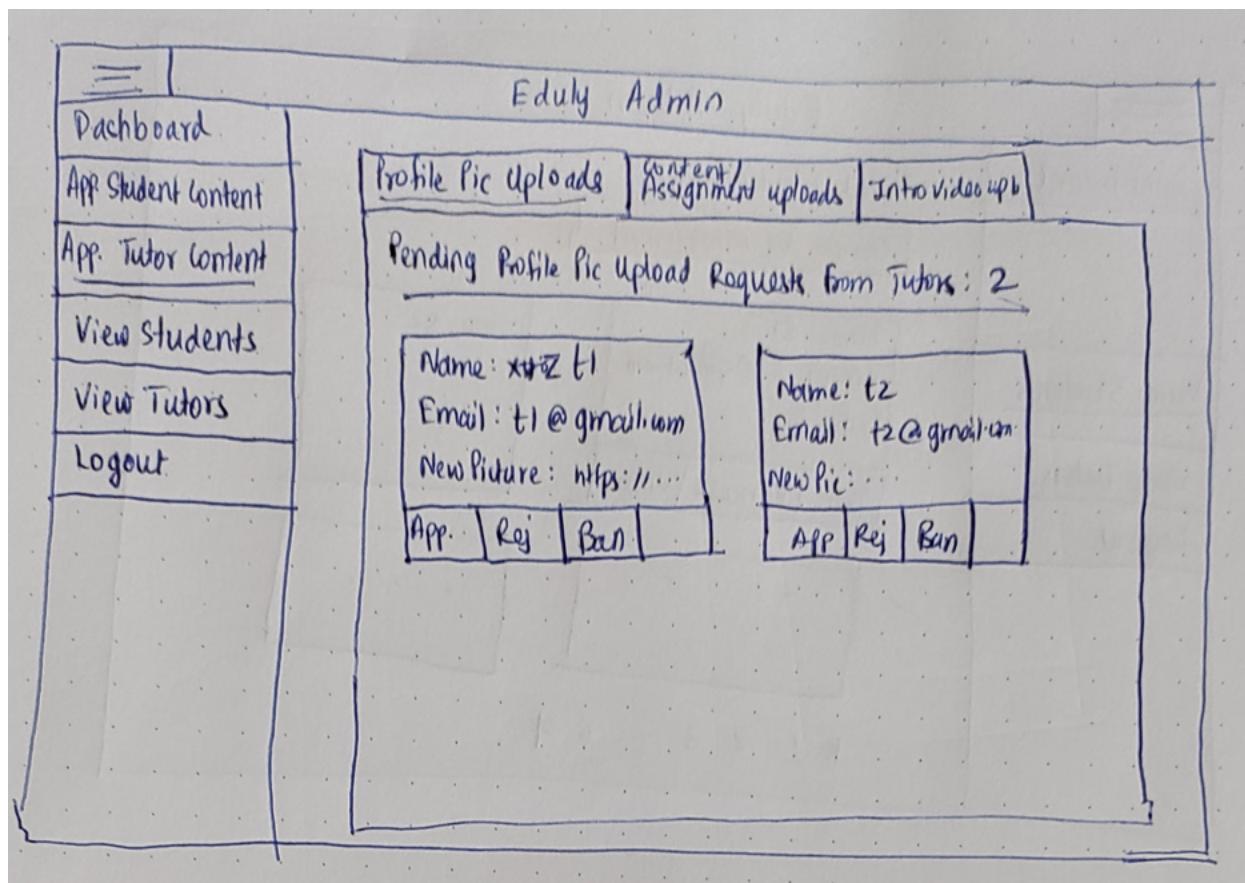
Eduly Admin

<p>Dashboard</p> <p>;</p> <p>;</p> <p>;</p>	<p>Total Students: 25</p> <p>Search by name/email</p> <p>Name: S1 Email: s1@gmail.com Profile Pic: ...</p> <p>Ban   Remove   Unban</p> <p>;</p> <p>;</p>	<p>Name: S2</p> <p>;</p> <p>;</p>
<p>View Students</p> <p>;</p> <p>;</p> <p>;</p>	<p>;</p> <p>;</p>	<p>;</p> <p>;</p>
<p>View Tutors</p> <p>;</p> <p>;</p> <p>;</p>	<p>;</p> <p>;</p>	<p>;</p> <p>;</p>
<p>Logout</p>		

← 1 2 3 ... 6 →

Eduly Admin

<p>Dashboard</p> <p>;</p> <p>;</p> <p>;</p>	<p>Total Tutors: 25</p> <p>Search by name/email</p> <p>Name: t1 Email: ... Org: ... CV: ... Video: ... Profilepic: ...</p> <p>Ban   Remove   Unban</p> <p>;</p> <p>;</p>	<p>;</p> <p>;</p>
<p>View Students</p> <p>;</p> <p>;</p> <p>;</p>	<p>;</p> <p>;</p>	<p>;</p> <p>;</p>
<p>View Tutors</p> <p>;</p> <p>;</p> <p>;</p>	<p>;</p> <p>;</p>	<p>;</p> <p>;</p>
<p>Logout</p>		



## Community Forum Pages

The screenshot shows a web browser window with the following elements:

- Address Bar:** Shows the URL <https://www.eduly.com>.
- Header / Navbar:** A light gray header bar.
- Search Bar:** Contains the tag "#carbon" and a magnifying glass icon.
- Community Forums Section:** A blue button labeled "Community Forums".
- Ask a question:** A blue button with white text.
- Post 1 Content:**
  - Question:** "Why is carbon so versatile in forming a variety of organic compounds?"
  - Description:** "Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua."
  - Tags:** "#organic-chemistry #carbon", "Asked by: john"
  - Buttons:** "Answer" and "View Answers (8)"
- Post 2 Content:**
  - Question:** "Why is carbon so versatile in forming a variety of organic compounds?"
  - Description:** "Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua."
  - Tags:** "#organic-chemistry #carbon", "Aksed by: john"
  - Buttons:** "Answer" and "View Answers (2)"

The screenshot shows a web browser window for the Eduly website (<https://www.eduly.com>). The page title is "Eduly". The main content area displays a "New Question" form. On the left, there is a sidebar with sections for "#carbon", "Why", "Loren", and "Tags", each with a blue "Add" button. The main form has fields for "Title" (Inflation), "Tags" (#economics #banks), and "Description" (Why do central banks use interest rates to control inflation, and how does this mechanism work in practice?). A large blue "Submit" button is at the bottom right. The top right corner of the form has a blue rounded rectangle containing the word "question". The background of the main content area has placeholder text "magna aliqua." repeated twice.

Header / Navbar

New Question

#carbon

Why

Loren

Tags

Add

Why

Loren

Tags

Add

Title

Tags

Description

Submit

question

The screenshot shows a web browser window for the Eduly website (<https://www.eduly.com>). The header includes the Eduly logo, navigation icons, and a search bar. Below the header is a "Header / Navbar" section. The main content area features a search bar (#carbon) and a "Community Forums" section. A modal dialog box is open, displaying a message: "Message Submitted Successfully!" with an "OK" button. The forums section contains a post titled "Why is carbon so versatile in forming a variety of organic compounds?". The post has placeholder text and tags: #organic-chemistry #carbon. It includes "Answer" and "View Answers (2)" buttons. A large blue "Submit" button is visible at the bottom right of the page.

Eduly

https://www.eduly.com

Header / Navbar

#carbon

Community Forums

Ask a question

Why is carbon so versatile in forming a variety of organic compounds?

Submitted Successfully!

OK

Message

Why is carbon so versatile in forming a variety of organic compounds?

Submitted Successfully!

OK

Answer

View Answers (2)

Submit

The screenshot shows a web browser window for the Eduly website (<https://www.eduly.com>). The header includes the Eduly logo, navigation icons, and a search bar. Below the header is a "Header / Navbar" section. The main content area features a question titled "Why is carbon so versatile in forming a variety of organic compounds?". The question text is: "Carbon has four electrons in its outer shell, allowing it to form four covalent bonds with other atoms. This tetravalency enables carbon to create a vast array of structures, including long chains, branched chains, and rings." A green box indicates the answer was provided by Amar. Another box below states: "Carbon-carbon bonds are strong and stable, which is essential for forming the backbone of complex organic molecules. The stability of these bonds ensures that the molecules can withstand various chemical reactions without breaking down easily." A blue button at the bottom says "Add your answer".

Eduly

https://www.eduly.com

Header / Navbar

#carbon

**Community Forums**

**Ask a question**

**Why is carbon so versatile in forming a variety of organic compounds?**

Carbon has four electrons in its outer shell, allowing it to form four covalent bonds with other atoms. This tetravalency enables carbon to create a vast array of structures, including long chains, branched chains, and rings.

Answered by: Amar

Carbon-carbon bonds are strong and stable, which is essential for forming the backbone of complex organic molecules. The stability of these bonds ensures that the molecules can withstand various chemical reactions without breaking down easily.

**Add your answer**

The screenshot shows a web browser window with the URL <https://www.eduly.com>. The page has a header/navbar at the top. Below it, there's a sidebar on the left with a vertical list of items: #carbon, Why, Lorer, Tags, and three blue 'Answer' buttons. The main content area on the right has a title 'Answer' and a large text box containing the following text:

Carbon-carbon bonds are strong and stable, which is essential for forming the backbone of complex organic molecules. The stability of these bonds ensures that the molecules can withstand various chemical reactions without breaking down easily.

To the right of the text box is a blue button labeled 'Submit'. At the very bottom right of the page is the word 'question'.

## Forgot and Reset password

Forgot password?

Please enter your email address to reset your password

**Send reset link**

If an account exists for this email address, a reset link will be sent

Need help? [\[Contact Us\]](#)

Reset password

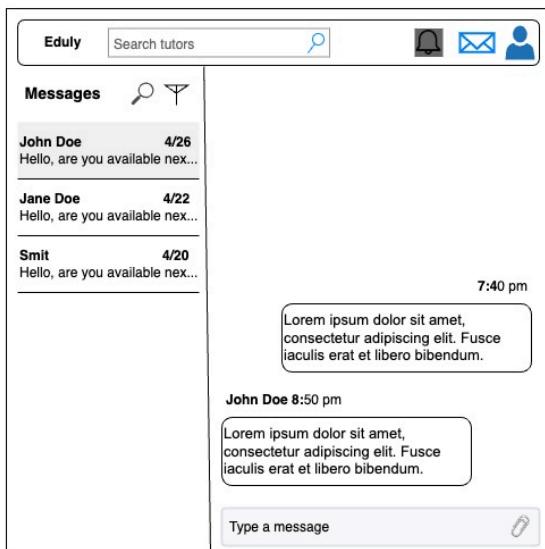
New password:

Repeat password:

**Reset**

Need help? [\[Contact Us\]](#)

## Messages



## Notification

