

Master Team Project Summer 2024

“Eduly”

Milestone 1

Team 2

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Executive Summary

Motivation and Importance:

Eduly meets the modern demand for tailored and accessible education, enabling students to connect with tutors anytime, anywhere. This platform offers a personalized learning experience, addressing the unique needs of each student and eliminating geographical and financial barriers to education.

Functions and Services:

Eduly facilitates a seamless connection between students and tutors, enabling students to find tutors based on specific criteria such as expertise, availability, and learning goals. The platform features tutor profiles, real-time messaging for instant communication, and a community forum where both students and tutors can engage in broader educational discussions. These key functionalities are designed to enhance user interaction and support the educational process effectively.

Uniqueness and Value:

Eduly stands out due to its robust set of features designed to enhance the educational experience. The platform offers advanced search capabilities, allowing students to find tutors based on a variety of detailed filters such as expertise, availability, ratings, and hourly charges. Unique to Eduly are the live face-to-face sessions, community forums for broader interaction, free trial sessions to assess tutor compatibility, and discounts on group sessions, making learning both accessible and community oriented.

About the Team:

Developed by a team of six skilled software engineers, each specializing in various aspects of the project, Eduly leverages our deep understanding of technology and education. We are committed to revolutionizing the educational landscape, making learning more engaging and effective.

By investing in Eduly, you are supporting a visionary project set to redefine educational engagement and accessibility. Our platform promises to deliver significant educational benefits, meet evolving learning demands, and offer a valuable resource for both learners and educators. Join us in shaping the future of education, making it more personalized, accessible, and in tune with the needs of today's digital world.

Personae and Main Use Cases

Personae:

Student Persona - Juan Casillas

- Characteristics: Juan is a master's student studying Angewandte Informatik at Hochschule Fulda. He is also part of a team that developed the game Duck Paradox, available on Steam.
- Goals: Juan aims to enhance his knowledge of Unity and C# programming to improve Duck Paradox.
- Skills: Basic skills in Unity and C# programming, some experience in game development.
- Pain Points: Juan's busy schedule with studies and a part-time job limits his time for skill improvement despite having the resources.

Tutor Persona - Mr. Muller

- Characteristics: Mr. Muller is a teacher at Hochschule Fulda with expertise in Economics, targeting master's students.
- Goals: He seeks a platform to display his expertise and connect with students globally.
- Skills: Experienced educator with 15 years of teaching.
- Pain Points: Mr. Muller struggles with visibility and schedule management to attract new students to his tutoring services.

Student Persona - Divya

- Characteristics: Divya is a proactive computer science student who enjoys learning new skills and seeks personalized support.
- Goals: Deepen understanding in computer science topics, stay ahead in coursework, and access live sessions with tutors.
- Skills: Tech-savvy and proactive in seeking resources.
- Pain Points: Divya faces challenges in grasping complex concepts and requires personalized guidance for better comprehension.

Guest Persona

- Characteristics: As a guest, the user is interested in finding tutoring services but has not registered on the platform yet.

- Goals: To explore available tutors and services offered on the platform without committing to a registration.
- Skills: Basic internet navigation skills.
- Pain Points: Limited access to certain features and inability to fully engage with tutors without creating an account.

Administrator Persona

- Characteristics: The administrator manages the Eduly platform, focusing on smooth operation and user satisfaction.
- Goals: Maintain a high-quality learning environment, resolve user issues promptly.
- Skills: Proficient in platform management tools, effective communication, and problem-solving.
- Pain Points: Balancing user needs while upholding platform standards, addressing technical issues, and managing user inquiries efficiently.

Main Use Cases:

- **Use Case 1 - Student (Flexible Tutors)**

Juan explores the Eduly platform, seeking tutors who specialize in Unity and C# programming and offer flexible scheduling options to accommodate his busy lifestyle.

He compares the pricing and availability of various tutors listed on the platform, ensuring they fit within his budget and can work around his college and work commitments.

- **Use Case 2 - Tutor (Adding Teaching Teaser Videos)**

Mr. Muller, eager to attract more students to his tutoring services, logs onto the Eduly platform. He navigates to his profile settings and finds the option to add teaching teaser videos.

Utilizing his teaching experience, Mr. Muller records short videos demonstrating his teaching style. He ensures the videos are engaging and informative, providing potential students with a glimpse of his teaching approach.

Prospective students visiting his profile can now watch these teaser videos to better understand Mr. Muller's teaching methods

- **Use Case 3 - Student (Finding a Tutor and live session)**

Divya, determined to find a suitable tutor for her computer science studies, visits the Eduly platform. She browses through the list of available tutors and notices that each tutor's profile includes ratings and reviews from past students.

Divya clicks on a tutor's profile who offers tutoring in this subject and watches the teaser videos they have uploaded. Impressed by the teaser videos, Divya feels confident that the tutor's teaching style aligns with her learning preferences. She proceeds to schedule a live session with the tutor.

- **Use Case 4 - Guest (Exploring Available Tutors)**

The guest user visits the Eduly platform to explore tutoring services. Utilizing basic internet navigation skills, they filter tutors based on subjects and read descriptions to understand their teaching styles.

The guest user examines ratings and reviews left by previous students to gauge the quality of tutoring services. Despite being unable to fully engage with tutors or access all features without registering, the guest gains valuable insight into the platform's offerings.

- **Use Case 5 - Administrator (Platform Management and Support)**

The administrator monitors platform activities and user interactions to ensure compliance with guidelines. They handle user inquiries and technical issues promptly, providing support to maintain user satisfaction.

Utilizing platform tools, the administrator verifies tutor credentials and approves new tutor registrations. Implementing updates and optimizations, they enhance the platform's functionality to provide a better user experience.

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
 - f. Polls where students request a course

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

List of initial functional requirements

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

1. View the list of tutor profiles pending approval.
2. Approve tutor profiles before going live.
3. View the list of all the tutors, students, and all the content uploaded by them including images, messages, and other documents.
4. Delete inappropriate content or users.
5. Block offenders from re-registering on the website.

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

1. View the home page (with listed tutors and their info).
2. Register as a tutor or a student with their Fulda University email address.

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

1. Log in to the application.
2. Set preferences for topics and other parameters mentioned below.
3. View recommended tutors/topics on the home page.
4. Search for tutors based on various parameters such as location, pricing, ratings, availability (days of the week, hours), topic, language of instruction, experience, and number of active students.
5. Sort the tutors based on the above parameters as well.
6. View the introductory video of the tutor.

7. Book a free trial session by selecting the date, time, location (online / in-person).
8. Buy further tutor sessions.
9. Write a review & rate the tutor.
10. Delete their student profile.

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

1. Log in to the application.
2. Create a profile with all the necessary information like topics, schedule, experience, CV, intro / teaser video.
3. View the number of students registered for each topic and session.
4. View upcoming tutoring or trial session appointments.
5. Reschedule or cancel sessions.
6. Post pre-recorded content.
7. Make a private forum for only their students.
8. Delete their tutor profile.

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

1. Participate in a video conference directly from the app without needing a third-party application.
2. Receive in-app reminders/notifications of their upcoming meetings.
3. Communicate with each other via asynchronous messaging.
4. Chat live with each other.
5. Ask questions in the community forum.
6. Answer others' questions.
7. Upvote others' answers or questions.
8. Edit their questions or answers.

List of non-functional requirements

1. Application shall be developed, tested, and deployed using tools and servers approved by Class CTO and as agreed in M0 (some may be provided in the class, some may be chosen by the student team, but all tools and servers have to be approved by Class CTO).
2. Application shall be optimized for standard desktop/laptop browsers e.g., must render correctly on the two latest versions of two major browsers.

3. All or selected application functions must render well on mobile devices.
4. Data shall be stored in the database on the team's deployment server.
5. No more than 50 concurrent users shall be accessing the application at any time.
6. The privacy of users shall be protected, and all privacy policies will be appropriately communicated to the users.
7. The language used shall be English (no localization needed).
8. The application shall be very easy to use and intuitive.
9. Application should follow established architecture patterns.
10. Application code and its repository shall be easy to inspect and maintain.
11. Google Analytics shall be used (optional).
12. No e-mail clients shall be allowed. Interested users can only message to sellers via in-site messaging.
13. Pay functionality, if any (e.g., paying for goods and services) shall not be implemented nor simulated in UI.
14. Site security: basic best practices shall be applied (as covered in the class) for main data items.
15. Media formats shall be standard as used in the market today.
16. Modern SE processes and practices shall be used as specified in the class, including collaborative and continuous SW development.
17. The application UI (WWW and mobile) shall prominently display the following exact text on all pages "Fulda University Software Engineering Project Summer 2024. For Demonstration Only" at the top of the WWW page. (Important to not confuse this with a real application).

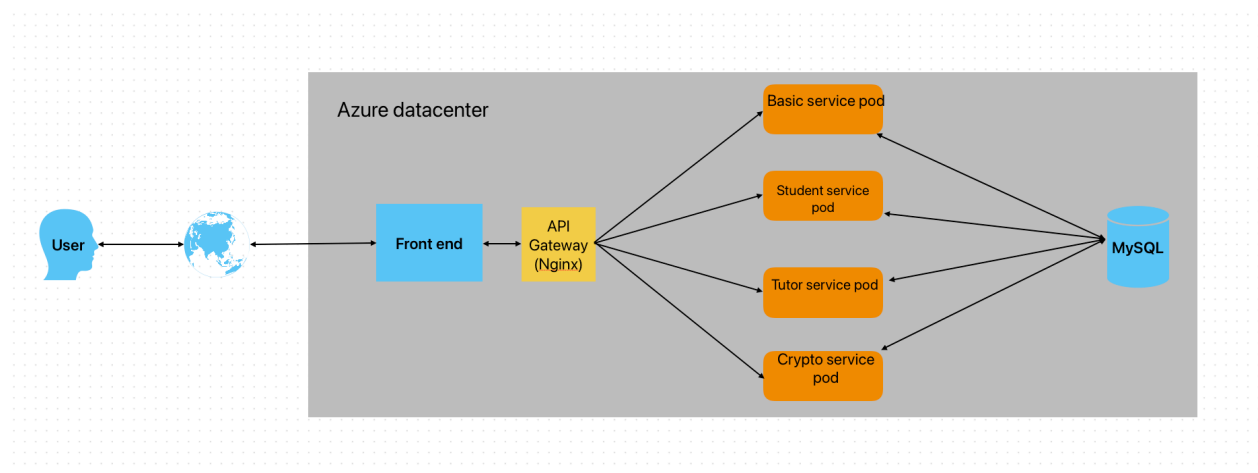
Competitive analysis

Categories	Features	Eduly	Wyzant	Preply	MyTutor	TutorMe	Skooli
Discovery	Search	Versatile	Yes	Yes	Limited	Limited	Limited
	Tutor intro video	Yes	Yes	Yes	No	No	No
	Ratings	Yes	Yes	Yes	Yes	Yes	Yes
	Trial session	Yes	Yes	Yes	Limited	No	No
	In-person meetings	Yes	Yes	No	No	No	No
Interactivity	Forums	Yes	Yes	No	No	No	No
	Live sessions	Yes	Yes	Yes	Yes	Yes	Yes

	Live chat	Yes	Yes	Yes	Yes	Yes	Yes
	Group sessions	Yes	No	No	No	No	No
Payments	Structure	Hourly	Hourly	Per lesson	Hourly	Salary	Per plan
	Group session discount	Yes	N/A	N/A	N/A	N/A	N/A

Our market analysis shows that Eduly stands out in the market as the only platform which offers **all** the best features offered by other competitors. With industry-leading features like *Forums* and *Group sessions*, Eduly sweeps out the competition by a large margin. Our *Search* function cements Eduly's strong focus on building student-tutor connections in a versatile but pragmatic way. Eduly takes tutoring a step further with *In-person meetings* as it eliminates the confines of the digital screen, leading to better student-tutor connections and making learning and tutoring even more interactive and fun!

High-level system architecture and technologies used



- Server Host: Azure Linux VM B1s (1 vCPU, 1 GB RAM)
- Operating System: Ubuntu 22.04 Server
- Database: MySQL v8.3.0
- Web Server: NGINX v1.20.1
- Server-Side Language: Java
- Backend framework: Spring
- Frontend framework: React + TypeScript

Supported browsers: Google Chrome, Mozilla Firefox

Team and Roles

Name	Role
Keshav Upadhyaya	Team Lead / Frontend Developer
Sagnik Bhattacharya	GitHub Master / Backend Developer
Aashay Ajay Markale	Backend Lead
Advaith Hari Raj Lakshmi	Frontend Developer
Ayush Pravin Shetty	Backend Developer
Ammar Ansari	Frontend Lead

Checklist

- The team found a time slot to meet (online) outside of the class. **DONE**
- GitHub master chosen. **DONE**
- The team decided and agreed together on using the listed SW tools and deployment server. **DONE**
- Team ready and able to use the chosen back and front-end frameworks and those who need to learn are working on learning and practicing. **ON TRACK**
- The team lead ensured that all team members read the final M1 and agreed/understood it before submission. **DONE**
- GitHub is organized as discussed in class. **DONE**