

Master Team Project WiSe 2021/2022

Pick-A-Tutor

Milestone 1

GDSD Project Team A

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Revision History

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1 Executive Summary

Some students need more attention for their academic development than others. For that they seek help on the internet and in their hometowns, spending valuable time on searching for the right person to aid them, when instead they could get help from other students or trained teachers that have a direct connection to the students' school or university. That's when Pick-A-Tutor comes into place.

Pick-A-Tutor is a website where students from Fulda University of Applied Sciences can find someone to help them with their studies. For this, they only need to search for or browse through the subjects or tutors that are relevant to them. Once they get an overview over the available tutors, they can compare them by looking at their profiles, which contain their profile picture, prices, reviews, CV and even possible video or audio files related to their teaching. When they decide on a tutor, they can initiate a conversation to get the tutoring going. If both parties agree on it, the student will be enrolled to the tutor and able to write a review about the tutor once the tutoring has started.

A tutor can be another student that already passed a certain course, just feels comfortable with the subject in question or even is a trained teacher. So, anyone can register as long as they get approved by the administrator, who will take a look at their profile and CV. If tutors should ever receive inappropriate reviews, they can report those to the administrator.

To put it in a nutshell, Pick-A-Tutor not only allows students from the university to quickly find suitable guidance, but also gives students and teachers a platform to advertise themselves, collect further teaching experience and earn a living.

One thing that makes Pick-A-Tutor unique, is that all the tutors on the website are either current or previous members of Hochschule Fulda, which ensures that tutors are actually familiar with the students' current curriculums and subjects. Also, Pick-A-Tutor will showcase a "tutor of the month" based on their rating and amount of reviews, rewarding and promoting sympathetic and dedicated tutors.

Now only one question is left: who are the people behind Pick-A-Tutor? We are an international team of six developers originating from five different countries and three different continents, united in our passion for high-quality software and divided only by our strengths and weaknesses which we successfully use to our advantage. In just a couple of months we will make Pick-A-Tutor the tool no one knew they missed.

2 Personas and main Use Cases

Personas

Inderjeet Singh

He is 25 years old, comes from India, and has a bachelor's degree (B.Technology). He is employed as a working student and has previously worked as a UI/UX designer in India. For his daily needs he uses a mobile phone and laptop, since he is always travelling between his job and the university. He does not speak German, but converses well in english. He faces many issues because of the communication gap. His goal is to connect to somebody who can teach him German and has a similar background, so that he can better grow.

Anna Jorinde

She is 30 years old, comes from Germany, and has a masters degree in Intercultural Communication and European Studies. She speaks many languages including German, Spanish, French, Italian, English, and Polish. She works as a research assistant at Goethe University Frankfurt, but lives in Fulda. She mostly uses a phone and laptop for her daily use and spends most of her time in the home office. She has always enjoyed the gift of teaching and has always taught her peers well. Her pain point is that she wants to teach flexibly and wants to design her own working hours.

Main use cases

Use case 1:

ID	1-Non-Registered-Browsing
Title	Browse through the courses and tutors
Basic Flow	When anyone simply wants to browse through the courses or tutors at Pick-A-Tutor, they have to click on the "Browse" button. Then they have to choose if they want to browse the courses or tutors. Afterwards they will be presented with a list of the available options of their choice.

Use case 2:

ID	2-User-Register-Account
Title	Register an account
Basic Flow	When current or former members of Fulda University of Applied Sciences want to join Pick-A-Tutor, they need to visit the website and click on the "Register" button. After filling out their first and last name, email address and password, they decide whether they want to register as a student or as a tutor.

Use case 3:

ID	3-Tutor-Upload-Profile
Title	Upload a tutor profile
Basic Flow	When users who registered as a tutor want to start offering their services, they need to login into their account. Then they fill out their tutor profile, which will stay private until it has been approved.

Use case 4:

ID	4-Student-Request-Tutor
Title	Request to be taught by a tutor
Basic Flow	When students want to be taught by a tutor, they login into their account. Then they search for the course they want to be taught in or directly search for the tutor by name. Afterwards they look at the search results. The next step is to click on the “Request” button next to the tutor they decided on. While they wait for the tutor to reply, they can optionally send a message to that tutor.

Use case 5:

ID	5-Admin-Approve-Profile
Title	Approve tutor profiles as an admin
Basic Flow	When tutors upload or update their profile, admins have to approve them before they are visible to everyone. For this, they first have to login. Then they navigate to a page where they can see all the profiles that have to be approved. They take a look at the profiles and click on the “Approve” button, which makes the profile visible.

3 List of main data items and entities

1. Students: A group of registered users who can view available courses and tutors, start conversations with tutors, register to courses, and review courses they have taken.
2. Tutors: A group of registered users who can teach courses, upload files corresponding to their taught courses, and reply to student messages.
3. Administrators: A group of users who moderate the website. They can start conversations with any other user, approve uploaded or updated profiles, view and act on reported reviews, and lock or completely ban rule violating users.

4. Anonymous users: Users that did not register and are only able to browse, but not contact anyone.
5. Courses (taught by tutors): The set of material explained by tutors to students.
6. Pricing: The course prices set by each tutor for his taught courses.
7. Review: The optional rating and comment given by the student to the tutor after the start of a course.
8. Approval: The admin permission for content to be viewed by all users.

4 Initial list of functional requirements

General:

1. Anonymous users, students, tutors or administrators should be able to browse through the available tutors and corresponding courses.
2. Anonymous users, students, tutors or administrators should be able to browse through the available courses and corresponding tutors who are offering those courses.
3. Any Fulda university member (whose email suffix string has “hs-fulda.de”) should be allowed to register with details such as first name, last name, email and password.
4. Students, tutors, or administrators should be able to log in to Pick-A-Tutor based on their assigned role (student, tutor or administrator). If a registered user is both a student and a tutor then a switch will be presented during login to select the appropriate view (either a student view or tutor view) of the website.
5. Pick-A-Tutor will showcase the tutor with the highest rating based on the students’ ratings and reviews.

Students:

6. Students should be able to view the reviews about a tutor.
7. Students or tutors should be able to reset their password by clicking on the “forgot password” option on the login page.
8. Students or tutors who would like to soft delete their account from this website should be allowed to delete it if they are already logged in.

9. Students should be able to contact a tutor or an administrator via on-site messaging. The messages will persist for the tutor or administrator to view or reply.
10. Students should be able to write reviews and provide ratings about a tutor who teaches them. These reviews will be shown on the tutor's page.
11. Students should be able to delete their reviews.

Tutors:

12. Tutors should be allowed to add or update their name, description, additional information, and pricing.
13. Tutors should be able to upload or delete their CV.
14. Tutors must upload and should be able to replace a profile picture.
15. Tutors should be able to upload or delete files (audio, video, images or documents). These files should be available for download to the students.
16. Tutors should be able to reply to messages they received from students.
17. Tutors should be able to write new messages or reply to the messages received from an administrator.
18. Tutors should be able to report inappropriate reviews.

Administrators:

19. Administrators should be able to write new messages or reply to messages.
20. Administrators should be able to approve a student's or tutor's profile picture. Also, administrators should be able to approve a tutor's profile and the included files.
21. Administrators should be able to block or unblock students or tutors.
22. Administrators should be able to delete tutor or student accounts.
23. Administrators should be able to view or delete reported reviews.

5 List of non-functional requirements

1. The Application shall be developed, tested and deployed using tools and servers approved by the Class CTO and as agreed in Milestone 0. The Application delivery shall be from the chosen cloud server.
2. The Application shall be optimized for standard desktop/laptop browsers, i.e. 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 cloud server.
5. No more than 50 concurrent students shall be accessing the application at any time.
6. The privacy of students shall be protected and all privacy policies will be appropriately communicated to the students.
7. The language used shall be English (no localization needed).
8. The application shall be very easy to use and intuitive.
9. The application should follow established architecture patterns.
10. The application code and its repository shall be easy to inspect and maintain.
11. No email clients shall be allowed.
12. Pay functionality, if any (e.g. paying for goods and services) shall not be implemented nor simulated in UI.
13. Site security: basic best practices shall be applied (as covered in the class) for main data items.
14. The application shall be media rich (images, video, etc.). Media formats shall be standard as used in the market today.
15. Modern SE processes and practices shall be used as specified in the class, including collaborative and continuous SW development.
16. For code development and management, as well as documentation like formal milestones required in the class, each team shall use their own GitHub to be set-up by class instructors and started by each team during Milestone 0.
17. The application UI (WWW and mobile) shall prominently display the following exact text on all pages "Fulda University of Applied Sciences Software Engineering Project, Fall 2021 For Demonstration Only" at the top of the WWW page. (Important so as to not confuse this with a real application).

6 Competitive analysis

Feature	Pick-A-Tutor	Chegg .com	italki .com	Fiverr .com	erste nachhilfe .de	nachhilfe -team .net	findmytutor .com
Only Fulda users	✓	✗	✗	✗	✗	✗	✗
Tutor of the month	✓	✗	✗	✗	✗	✗	✗
On-site messaging	✓	✗	✓	✓	✓	✗	✓
Tutor reviews	✓	✗	✗	✓	✗	✓	✗
Search for courses	✓	✓	✓	✓	✓	✓	✗
Search for tutors	✓	✗	✓	✗	✗	✗	✗
Register as a tutor	✓	✓	✓	✓	✗	✗	✗
Report abuse	✓	✓	✓	✓	✗	✗	✓
Diverse courses	✓	✓	✗	✓	✓	✓	✓
Pay as you go	✗	✗	✓	✓	✓	✓	✓
Extended filters	✗	✓	✓	✗	✓	✗	✓
Search by PLZ	✗	✗	✓	✗	✓	✓	✗

Pick-a-Tutor is a tutoring website tailored for Fulda University of Applied Sciences. All the tutors on the website are either current or previous members of the university, which ensures that they are familiar with the students' current curriculums and subjects, and since there is a small community of students, they might recommend tutors they like to other students. Pick-a-tutor has features that our competitors lack: it allows students to review tutors, and provides the feature to search for courses and tutors and apply filters.

7 High-level system architecture and technologies used

System architecture

This web application uses three tier client server architecture. The client's (laptop, computer, mobile, tablet) internet browser is a presentation layer, whereas application and database will be hosted on the server.

Technologies used

Supported browsers: Chrome and Firefox

Deployment Environment: MS Azure

Operating System: Ubuntu 20.04 Server

Database: MySQL v: 8.0

Web Server: NGINX 1.18.0

Server-Side Language: node.js

Web Framework: Express

IDE: WebStorm, Visual Studio Code

8 Team and roles

Name	Role
Alexander Wiegel	Team Lead and Frontend Developer
Rakesh Kumar	Backend Lead
Abdullah Butt	Backend Developer
Chahat Soni	Frontend Lead
Maksim Kanushin	Github Master and Backend Developer
Ziad Khaled	Frontend Developer

9 Checklist

Activity	Status (Done/OnTrack)
Team found a time slot to meet (online) outside of the class	Done
GitHub master chosen	Done
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	Done
Team lead ensured that all team members read the final M1 and agree/understand it before submission	Done
GitHub organized as discussed in class (e.g. master branch, development branch, folder for milestone documents)	Done