

# Master Team Project WiSe 2021/2022

## Pick-A-Tutor

### Milestone 2

#### GDSD Project Team A (local team)

09.12.2021

#### Team Members

Name	Email ID	Special role
Alexander Wiegel	alexander.wiegel@ai.hs-fulda.de	Team Lead
Rakesh Kumar	rakesh.kumar@ai.hs-fulda.de	Backend Lead
Abdullah Butt	abdullah.butt@ai.hs-fulda.de	
Chahat Soni	chahat.soni@ai.hs-fulda.de	Frontend Lead
Maksim Kanushin	maksim.kanushin@ai.hs-fulda.de	Github Master
Ziad Khaled	ziad.khaled-mohamed@ai.hs-fulda.de	

#### Revision History

Revision	Date Submitted	Date Revision	Changes

## **Table of contents**

1 Functional requirements	<b>3</b>
2 List of main data items and entities	<b>5</b>
3 UI Mockups and Storyboards	<b>6</b>
4 High-level architecture and DB organization	<b>15</b>
5 High-level UML diagrams	<b>16</b>
6 Key risks for the project	<b>18</b>
7 Project management	<b>20</b>

# 1 Functional requirements

## 1-Must have

1. **Browse courses or tutors:** Anonymous users, students and tutors should be able to browse through the available courses or tutors.
2. **Search courses or tutors:** Anonymous users, students and tutors should be able to search the available courses or tutors.
3. **Register:** Any Fulda university member (whose email suffix string has "hs-fulda.de") should be allowed to register with their first and last name, email, password, date of birth and gender.
4. **Login:** Students, tutors and administrators should be able to log in to Pick-A-Tutor based on their respective role. If a registered user is both a student and a tutor then a switch will be presented after login to select the appropriate view (either a student or tutor view) of the website.
6. **View review:** Students and tutors should be able to read the reviews for a course.
9. **Send message:** 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 to.
10. **Write review:** Students should be able to write reviews and provide ratings for a course they are taking. These reviews will be shown on the detail page of the respective course.
12. **Modify profile:** Tutors should be allowed to add or update their name, description and pricing.
14. **Modify profile image:** Tutors must upload and should be able to replace a profile picture, which then has to be approved by the admin.
15. **Modify and uploads:** Tutors should be able to upload or delete files (audio, video, images or documents), which then have to be approved by the admin. Afterwards, these files should be visible and available for download.
16. **Reply message:** Tutors should be able to reply to messages they received from students or admins.
17. **Write message as tutor:** Tutors should be able to write new messages to an admin.
19. **Write message as admin:** Administrators should be able to write new messages to students or tutors or reply to messages.

20. **Approval:** Administrators should be able to approve any files a tutor uploads in his profile or for a course.

## **2-Desired**

5. **Rate a tutor:** Pick-A-Tutor will showcase the tutor with the highest rating based on the students' ratings on the tutors' courses.

7. **Reset password:** Students or tutors should be able to reset their password by clicking on the "forgot password" option on the login page.

8. **Delete account:** 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.

11. **Delete review:** Students should be able to delete their reviews.

## **3-Opportunistic**

18. **Report review:** Students and tutors should be able to report inappropriate reviews.

21. **Block-unblock user:** Administrators should be able to block or unblock students or tutors.

22. **Delete account:** Administrators should be able to delete tutor or student accounts.

23. **Delete-reject review:** Administrators should be able to read reported reviews and either delete the review or reject the report.

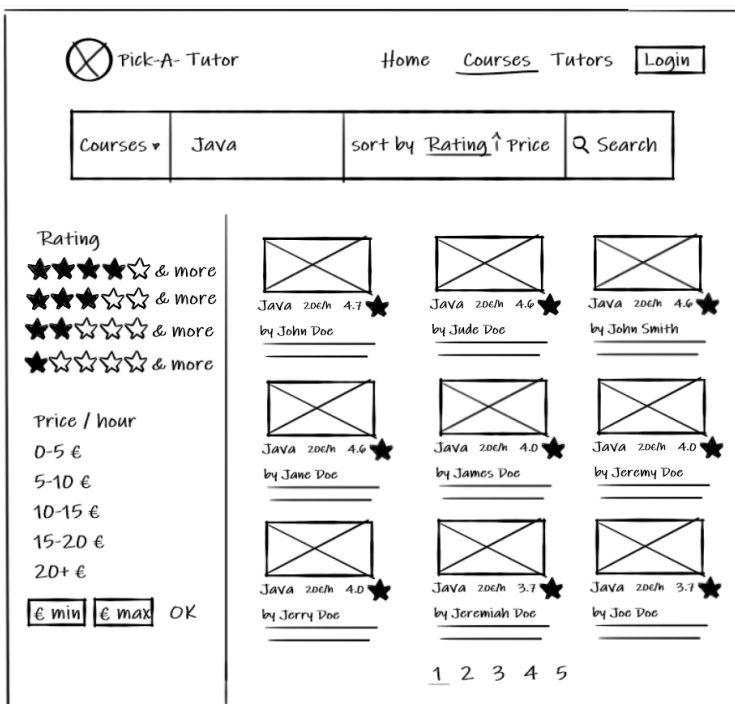
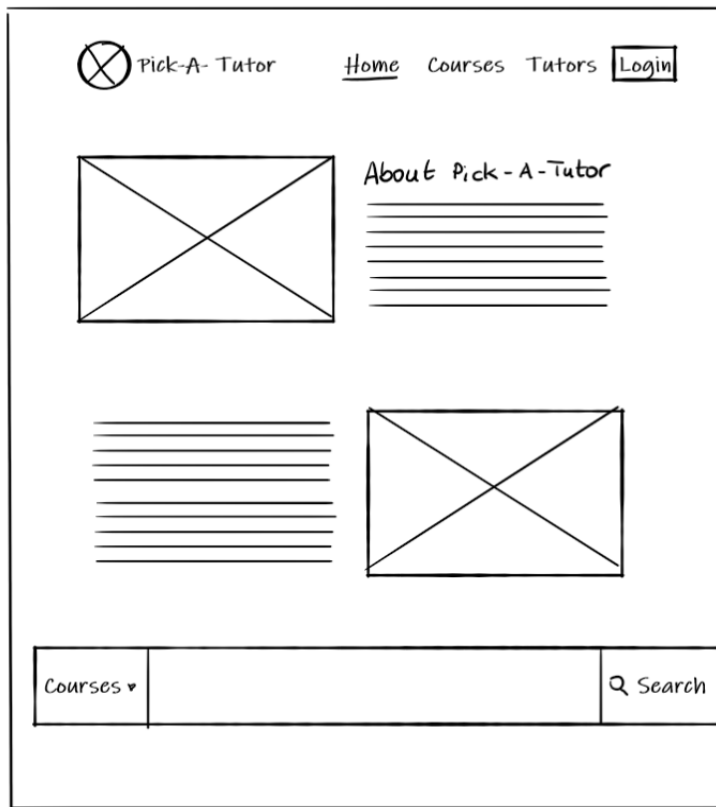
## 2 List of main data items and entities

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 are taking.
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 files, 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 rating and optional comment students can give a course they are taking.
8. Approval: The admin permission for content to be viewed by all users.

# 3 UI Mockups and Storyboards


## Use case 1

When anyone simply wants to browse through the courses at Pick-A-Tutor, they have to click on the “Courses” button on the landing page. Afterwards they will be presented with a list of the available courses.



## Use case 2

When students want to write a review for a course they are taking, they need to visit the website and click on the “Login” button. On “Home” they have to click on the respective course under “My courses”, which takes them to the detail page of that course. At the bottom of the detail page, they can click on “Write a review”, which opens a text field. After deciding on a rating and optionally writing a comment, they can click on “Review” to publish their review.



### Sign in to Pick-A-Tutor

Email address

Password

Forgot password?

Sign in

New to Pick-A-Tutor? Create an account.

 Pick-A-Tutor

[Home](#)

[Courses](#)

[Tutors](#)

[Messages](#)

[Logout](#)

Courses ▾

Java

Search

  
C 20€/h 4.7★  
by John Doe

  
Dutch 20€/h 4.7★  
by Jane Doe

  
Prolog 20€/h 4.7★  
by John Doe

  
Python 20€/h 4.7★  
by John Doe

  
C++ 20€/h 4.7★  
by John Doe

  
C# 20€/h 4.7★  
by John Doe

  
PHP 20€/h 4.7★  
by John Doe

  
Dart 20€/h 4.7★  
by John Doe

  
Ruby 20€/h 4.7★  
by John Doe



Pick-A-Tutor

[Home](#)

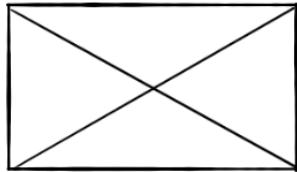
[Courses](#)

[Tutors](#)

[Messages](#)

2

[Logout](#)



C

by John Doe

20 €/h 4.0 ★

Description

Files

ExampleSession.mp4  
ExampleSlides.pdf

Reviews

[Write a review](#)

Jane Doe 13.12.2021 [Report](#)



Good course, but very slow.

James Doe 12.12.2021 [Report](#)



Too expensive for 5 stars!



Pick-A-Tutor

[Home](#)

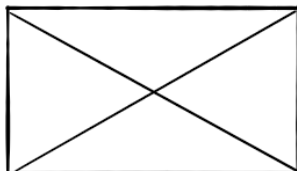
[Courses](#)

[Tutors](#)

[Messages](#)

2

[Logout](#)



C

by John Doe

20 €/h 4.0 ★

Description

Files

ExampleSession.mp4  
ExampleSlides.pdf

Reviews



Please provide an explanation (optional).

[Cancel](#) [Review](#)

Jane Doe 13.12.2021 [Report](#)




Good course, but very slow.



### Use case 3

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.




## Sign in to Pick-A-Tutor

Email address

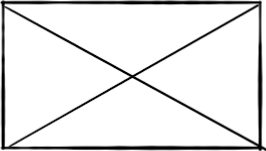
Password

[Forgot password?](#)

New to Pick-A-Tutor? [Create an account.](#)

 Pick-A-Tutor

[Home](#) [Courses](#) [Tutors](#) [Messages](#) [Logout](#)




Your name

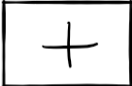
Description

Tell us something about yourself

Files




Courses



## Use case 4

When students want to find a tutor for a certain course, they login into their account. Then they search for the course they want to learn. After looking at the search results, they click on the “Request” button next to the course they decided on. While they wait for the tutor to reply, they can optionally send a message to that tutor.



### Sign in to Pick-A-Tutor


Email address

Password

Forgot password?

Sign in

New to Pick-A-Tutor? Create an account.

 Pick-A-Tutor


[Home](#) [Courses](#) [Tutors](#) [Messages](#) [Logout](#)

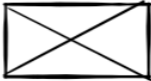
Courses ▾

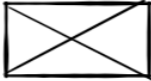
Java

Search

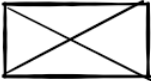
#### My Courses


  
C 20€/m 4.7 ★  
by John Doe


  
Dutch 20€/m 4.7 ★  
by Jane Doe

  
Prolog 20€/m 4.7 ★  
by John Doe


#### Recommended Courses


  
Python 20€/m 4.7 ★  
by John Doe


  
C++ 20€/m 4.7 ★  
by John Doe

  
C# 20€/m 4.7 ★  
by John Doe

#### Recently added

  
PHP 20€/m 4.7 ★  
by John Doe

  
Dart 20€/m 4.7 ★  
by John Doe

  
Ruby 20€/m 4.7 ★  
by John Doe



Pick-A-Tutor

[Home](#)

[Courses](#)

[Tutors](#)

[Messages](#)

2

[Logout](#)

Courses ▾	Java	sort by <u>Rating</u> ↑ Price	Q Search
-----------	------	-------------------------------	----------

Rating

★★★★★ & more

★★★★☆ & more

★★★☆☆ & more

★★☆☆☆ & more

Price / hour

0-5 €

5-10 €

10-15 €

15-20 €

20+ €

OK



Java 20€/h 4.7 ★

by John Doe

[Request](#)  
[Contact](#)



Java 20€/h 4.6 ★

by Jane Doe

[Request](#)  
[Contact](#)



Java 20€/h 4.0 ★

by Jerry Doe

[Request](#)  
[Contact](#)



Java 20€/h 4.6 ★

by Jude Doe

[Request](#)  
[Contact](#)



Java 20€/h 4.0 ★

by James Doe

[Request](#)  
[Contact](#)



Java 20€/h 3.7 ★

by Jeremiah Doe

[Request](#)  
[Contact](#)



Java 20€/h 4.6 ★

by John Smith

[Request](#)  
[Contact](#)



Java 20€/h 4.0 ★

by Jeremy Doe

[Request](#)  
[Contact](#)



Java 20€/h 3.7 ★

by Joe Doe

[Request](#)  
[Contact](#)

[1](#) [2](#) [3](#) [4](#) [5](#)



Pick-A-Tutor

Home

Courses

Tutors

Messages

2

Logout

Courses ▾	Java	sort by <u>Rating</u> ↑ Price	Q Search
-----------	------	-------------------------------	----------

Rating

★★★★★ & more

★★★★☆ & more

★★★☆☆ & more

★★☆☆☆ & more

Price / hour

0-5 €

5-10 €

10-15 €

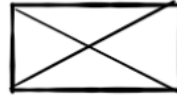
15-20 €

20+ €

€ min € max OK



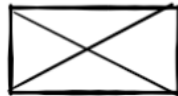
Java 20€/h 4.7 ★  
by John Doe Request Contact



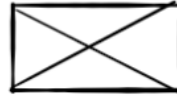
Java 20€/h 4.6 ★  
by Jude Doe Request Contact



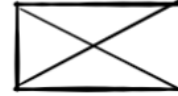
Java 20€/h 4.6 ★  
by John Smith Request Contact



Java 20€/h 4.6 ★  
by Jane Doe Request Contact



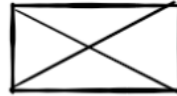
Java 20€/h 4.0 ★  
by James Doe Request Contact



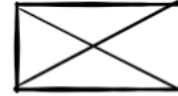
Java 20€/h 4.0 ★  
by Jeremy Doe Request Contact



Java 20€/h 4.0 ★  
by Jerry Doe Request Contact



Java 20€/h 3.7 ★  
by Jeremiah Doe Request Contact



Java 20€/h 3.7 ★  
by Joe Doe Request Contact

1 2 3 4 5



< John Doe

You

01.12.2021 13:00

Lorem ipsum dolor sit amet, consetetur  
sailpising elitr, sed diam nonumy eirmod tempor  
invidunt ut labore et dolore magna aliquyam  
erat, sed diam voluptua.

John Doe

01.12.2021 13:00

Lorem ipsum dolor sit amet, consetetur  
sailpising elitr, sed diam nonumy eirmod tempor  
invidunt ut labore et dolore magna aliquyam  
erat, sed diam voluptua.

You

01.12.2021 13:00


Lorem ipsum dolor sit amet, consetetur  
sailpising elitr, sed diam nonumy eirmod tempor  
invidunt ut labore et dolore magna aliquyam  
erat, sed diam voluptua.

Write message...

Send

## Use case 5

When tutors upload or update files in their profile or courses, admins have to approve them before they are visible to everyone. For this, they first have to login. Then they navigate to the “Approvals” page. They take a look at the files and click on the “Approve” button, which makes the changes visible.



### Sign in to Pick-A-Tutor

Email address

Password

Forgot password?

Sign in

New to Pick-A-Tutor? Create an account.

 Pick-A-Tutor

Users

Approvals

Messages<sup>2</sup>

Logout

Files

Reported Reviews

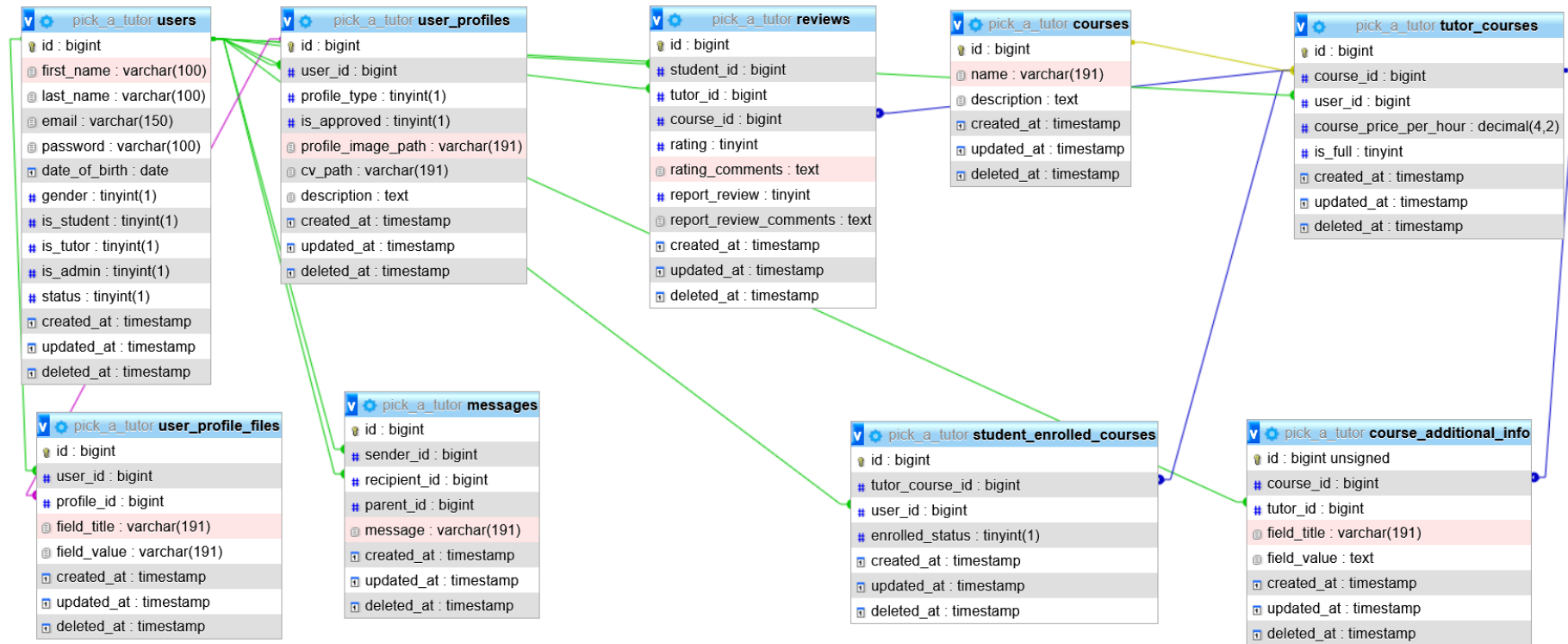
ExampleCode.java  
ExampleSlides.pdf

Contact Approve

ProfilePic.jpg  
ExampleAudio.mp3

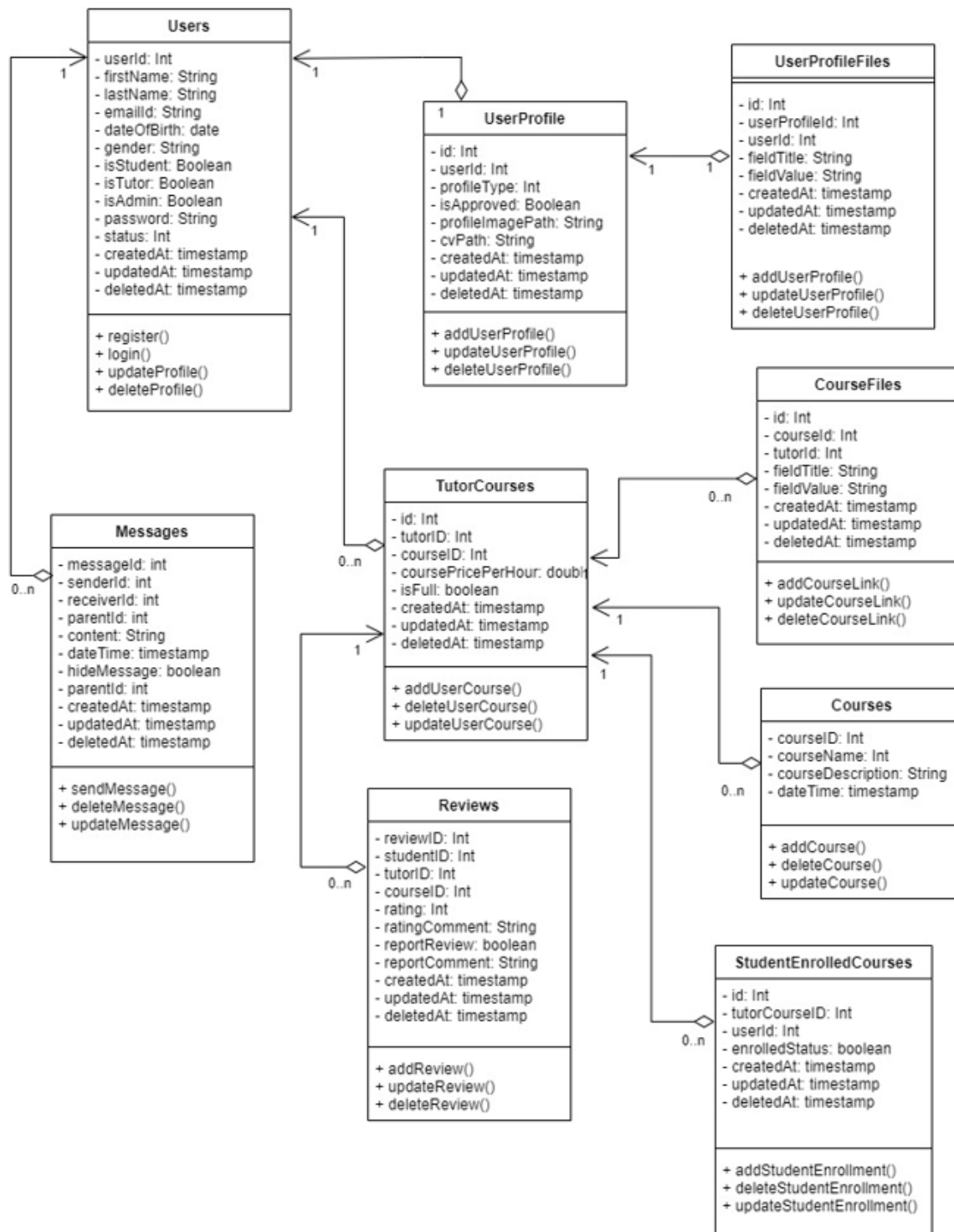
Contact Approve

## 4 High-level architecture and DB organization



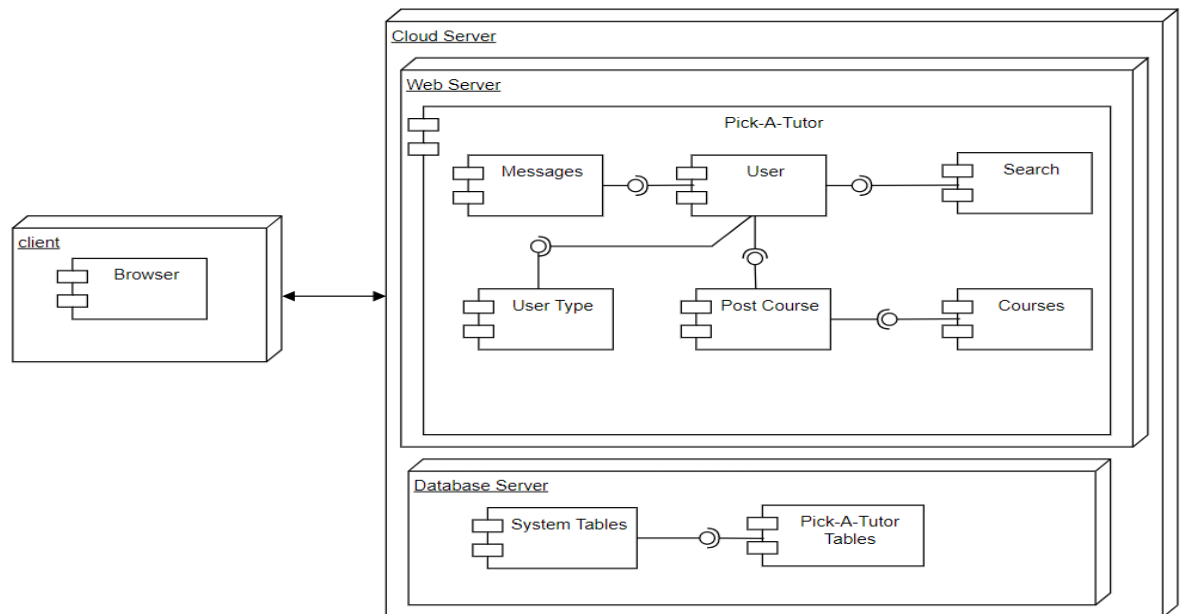
## 5 High-level UML diagrams

### a) Class Diagram





b) Component and Deployment Diagram



## 6 Key risks for the project

### Skills risks

- The technology stack is new to the team members. All the team members have been learning the needed technology stack.
- We don't have any members who are experts in the stack. We will rely on available resources like stackoverflow and help from the professor if we get stuck. Furthermore, we will rely on standard architecture to rely on the team members' previous experiences.
- As all the members are starting to learn the technology stack and there is a good learning curve, team members can be pigeonholed to small parts of the system and of the technology stack, but at the same time it is not feasible to have a deep understanding of the entire stack. To avoid that, the team members will deeply learn the needed technology for their assigned tasks but all members are required to be familiar with the entire stack and all the system parts.
- Team members might not be on the same skill level after self learning. Some may become better in a tech stack and some may lag behind a bit and can have issues in completing the project on time.
- If the skill set developed is not on the same level, there can be issues with code quality.

### Schedule risks

- Meeting the deadlines and finishing the tasks can become hard as the semester progresses. We have weekly team meetings to follow up the tasks and to adjust to any problem that rises.
- We also have other subjects, projects, assignments, quizzes and midterm exams and some students have student jobs which can cause hindrance in meeting the deadlines.

### Technical risks

- Managing the code repository can be a problem. As we contribute to the project we need to make sure that there will be a stable codebase. Currently, we have a git workflow for commits and there are two github masters who review the pull requests. We are also keeping separate branches for each milestone.

### Teamwork risks

- Not equally distributed workload can harm the relations between team members. We meet each week to distribute the milestone tasks between members and we use Trello to transparently keep track of each member's tasks.

- Some team members are taking more courses than others and some are also doing student jobs. Even in equal task distribution, a team member can have problems delivering his part of the tasks affecting the whole team's work and deadlines.

**Legal/content risks**

- People can mistake our website as a real application. We have a disclaimer that this project is just for a course.
- We use copyleft media and open source frameworks to avoid licensing problems.

## 7 Project management

Currently our project management is built on four different pillars.

Firstly, **weekly team meetings** to discuss the team progress, define what we are going to do each week and assign tasks to each member.

Secondly, **Discord**, which we use to communicate outside of weekly team meetings. It allows us to discuss any problem that arises during the week and to arrange our next steps. Sometimes we also use it to have online meetings.

Thirdly, we use **Trello** to track the tasks defined in the weekly meetings. Each team member can view what tasks he needs to do this week and what deadlines he should meet. Furthermore it allows us to create reminders for the tasks.

At the moment we also use pull requests when working with **Github**. Team members have to open new pull requests to add any changes into the codebase. Team members can discuss those changes and pull requests can be rejected if they don't meet the project standards or contain any errors.

In the future, as the project implementation speeds up, we could also use Github Issues to track bugs, suggestions, and feature requests close to the code. Team members can open an issue when they find a bug in the code and other team members can comment on the respective issue to discuss the bug and possible solutions. Using Github Issues allows us to easily reference different parts of the project's code and other issues.

The biggest benefit of using Github issues and pull requests is that we can track issues and collaborate on the code from the same place as our project repository. We won't need to use external tools to reference bugs in the codebase, and we will be able to discuss new changes to it and come back to those later on if necessary.