

SW Engineering CSC648/848 Fall 2021

Project Title : TutorPal

Team Number : 03

Names of Students:

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Milestone : 2

Date : 10/28/2021

History Table :

Date	Revision
10/28/2021	1 st Version
11/07/2021	2 nd Version

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1. Executive Summary

TutorPal aims to solve one of the largest roadblocks that SFSU students face - the inability to learn on-demand, at their own pace, on subjects specific to SFSU. This web application is developed by SFSU students for SFSU students, meaning the developers have an understanding of what SFSU students need that other tutoring websites cannot satisfy.

One of the biggest advantages TutorPal has over competing for tutoring websites is that it is tailored for SFSU students and tutors. The website is laid out so that SFSU students can filter by their specific class, discover topics that each class explores and search for tutors based on those topics. Other websites do not know the class listing and specific topics of each class in SFSU, whereas TutorPal does. TutorPal sports a user-friendly experience that allows users to browse tutors and classes before registering so that they have a reason to register in the first place. The registration screen will not appear until after the user selects on “schedule appointment”, that way they will have already set aside a time and date for their session – which helps retainability. Communication is one of this web application’s strong suits, allowing students to connect to tutors with a simple messaging form and contact system.

Our startup team is excited to bring you TutorPal – an immersive web application that focuses on delivering the most concise interface between tutors and those seeking a tutor. We are a group of undergraduates and graduate students who strive to see TutorPal thrive because we share an understanding for those students who also seek assistance on various subjects specific to SFSU.

2. Data Items and Entities

i. User

- Users will be required to have a valid SFSU email.
- Users will be able to utilize the web application to purchase courses they need or post questions they wish to ask on the website. The three types of users include:
 - Unregistered (Students/Tutors)
 - Registered (Students/Tutors)
 - Admin Users
- Unregistered users will be able to browse through the courses but have to sign in before registering for them.
- Registered users will have full access to register for the courses and connect to the website for queries.
- Admin will have full access to the system, they will be able to approve or reject the posts based on the content.
- Below are the basic components for each user's registration record
 - Username (unique username in string format)
 - Password (encrypted for safety)
 - Email (email address ended with "@mail.sfsu.edu" in order to be validated as a sfsu user)
 - Userid
 - Major
 - Name

ii. Tutoring Record

- Tutoring Items:
 - CV (Resume)
 - Video Optional
 - Name of Tutor
 - Image of Tutor
- Users will be able to access a Tutor's past record with other students. This includes:
 - Name of Tutor
 - Reviews along with the subject taken with a said tutor
 - Background (what the tutor specializes in)

iii. Courses

- Courses will refer to the topics/subjects that users will purchase on the website. Each course will have a list of tutors, along with a description of the tutor and their experience with the course.
- Courses will be divided based on subjects, tutors, with easy access to the students.
- Some basic components of each item:
 - Subject (Subject to which topic the tutor/question belongs)
 - Title (title of the topic/subject posted on the website)
 - Description (short introduction and related details to the topic)
 - Banner_img (picture/image to visualize the course)

iv. Category

- There will be a list of majors to select from.
- Users may browse the list of all tutors at first and then narrow down the results by using different subjects/years of experience/year. Below are some basic components for each tutor.
 - § id (unique numeric value for each category)
 - § title (title)
 - § Subject/Major (tag of the category)
 - § Year (Freshman/Sophomore/Junior/Senior)
 - § Instructor (who is teaching the courses)

v.. Image

- This will be used to give any users on the website the impression of the tutor they have selected.
- If the user clicks on the title image, they will be redirected to another webpage which will include other details that will feature other images displayed along with that tutor.

vi. Messages

- Users will be able to message one another
- There will be a different icon when there are unread/new messages
- Messages will be ordered chronologically with the newest first
- Messages will be in the status bar (always visible regardless of which page the user is on)

§ MessageID
§ Date/Time
§ Text

3. Functional requirements

Priority 1:

Unregistered Users

1. Unregistered students shall be able to browse and search for available tutors on the site by course or major.
2. Unregistered students shall be able to register.
3. Unregistered students shall be able to view tutor details, pricing and read reviews without registering.

Registered Users

4. A student shall register with his/her first and last name and student ID.
5. A student shall be able to message tutors about potential tutoring.
6. Tutors shall apply to be a tutor after registering.
7. Tutors shall be able create a profile page with their qualifications.
8. Tutors shall be able to select what courses they tutor.
9. Tutors shall post available time slots for tutoring.
10. Tutors shall be able to message students regarding tutoring sessions.

Admin

11. Admins shall approve tutor posts and applications before they officially go live on the site.

Priority 2:

Registered Users

12. A student shall be able to begin posting a review of a tutor before logging in.

13. A student shall be able to book an appointment with a tutor for a time period
14. Tutors shall upload personalized videos to introduce themselves to potential students.

Admin

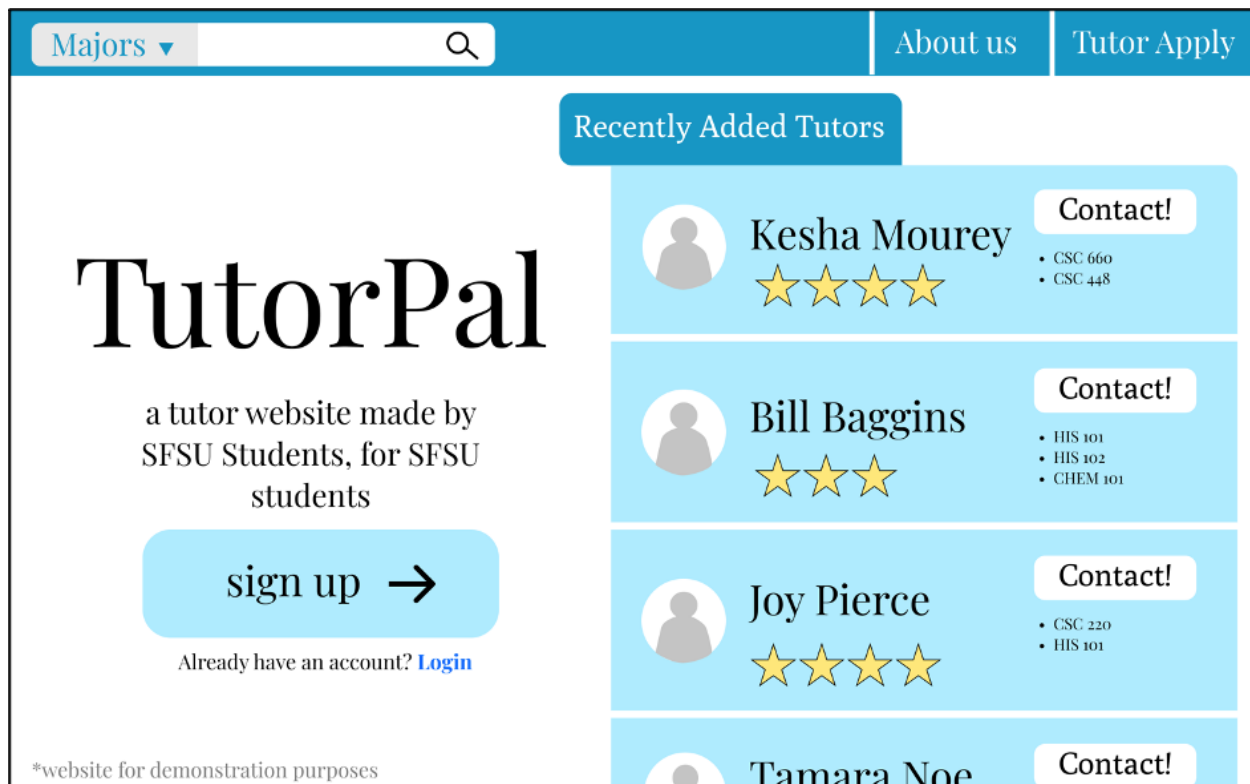
15. Admins shall approve student reviews of tutors before they go live on the website.

4. UI Storyboards

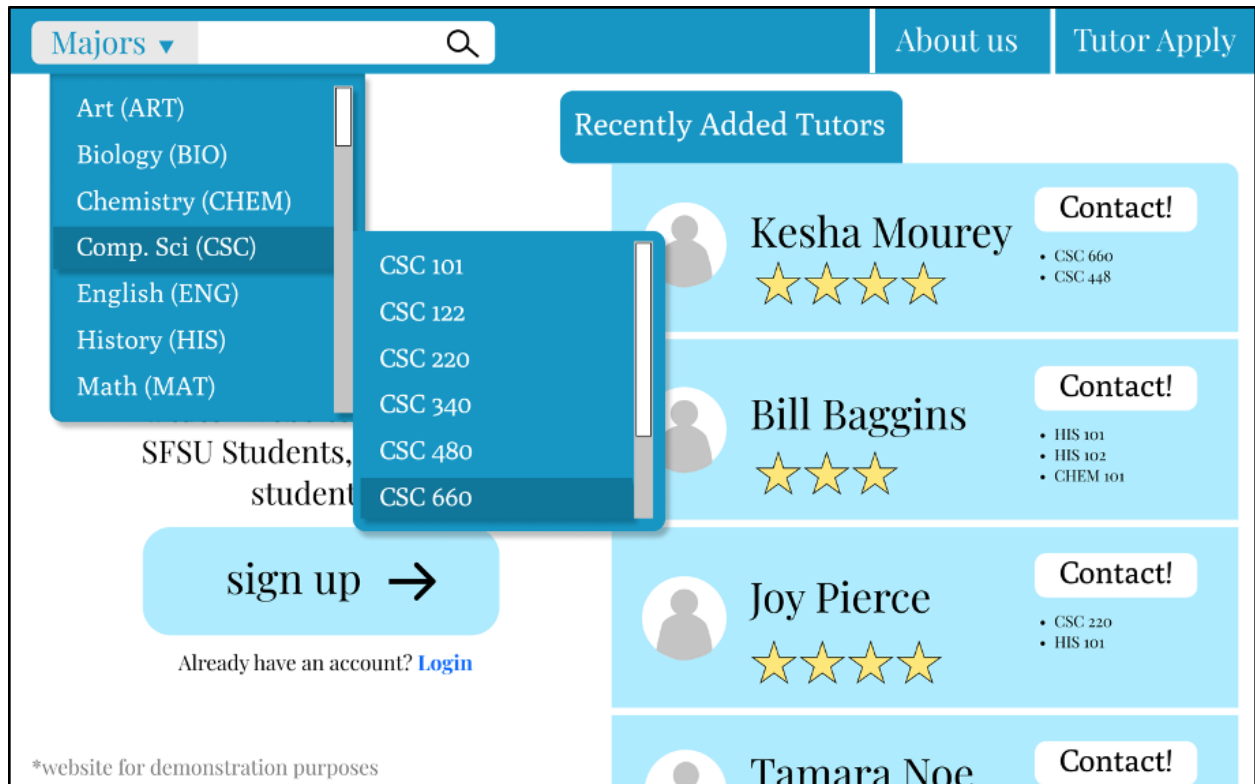
1) Use Case 1:

(1) Steven heard that there was a new tutoring service for SFSU students. He is worried about whether he can handle his upper division courses and decides to hire a tutor. (2) Steven goes to the website and looks for tutors that teach the courses he is taking. (3) After finding the tutors, he looks at the descriptions of each tutor to help decide which one he wants to hire. He decides to contact Kesha Mourey. (4) When he tries to contact the tutor to hire them, he gets a notification telling him to log in before continuing. He registers as a new student, and is (5) taken to the dashboard.

(1)



(2)



(3)

Majors ▼

About us

Tutor Apply

Art (ART)
Biology (BIO)
Chemistry (CHEM)
Comp. Sci (CSC)
English (ENG)
History (HIS)
Math (MAT)

CSC 101
CSC 122
CSC 220
CSC 340
CSC 480
CSC 660

Recently Added Tutors

Kesha Mourey

★★★★

Contact!

CSC 660
CSC 448

Bill Baggins

★★★

Contact!

HIS 101
HIS 102
CHEM 101

Joy Pierce

★★★★

Contact!

CSC 220
HIS 101

Tamara Noe

Contact!

sign up →

Already have an account? [Login](#)

SFSU Students,
student

*website for demonstration purposes

Majors ▼

About us

Tutor Apply

←

★★★★

Courses

CSC 660
CSC 340

Kesha Mourey

Description

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

Passions

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad

Contact!

Hi Kesha, I am a senior at SFSU and am taking CSC 660. I am struggling quite a bit and was wondering if you could tutor me. Thank you and have a good day,
Stephen |

send message

\$60

Majors ▼

About usTutor Apply

Register

←

name *

SFSU email *

password *

verify password *

☐ opt in for [terms](#) *


Continue →

Already have an account? [Login](#)

*website for demonstration purposes

(5)

Majors ▼


Hi Stephen

My Dashboard

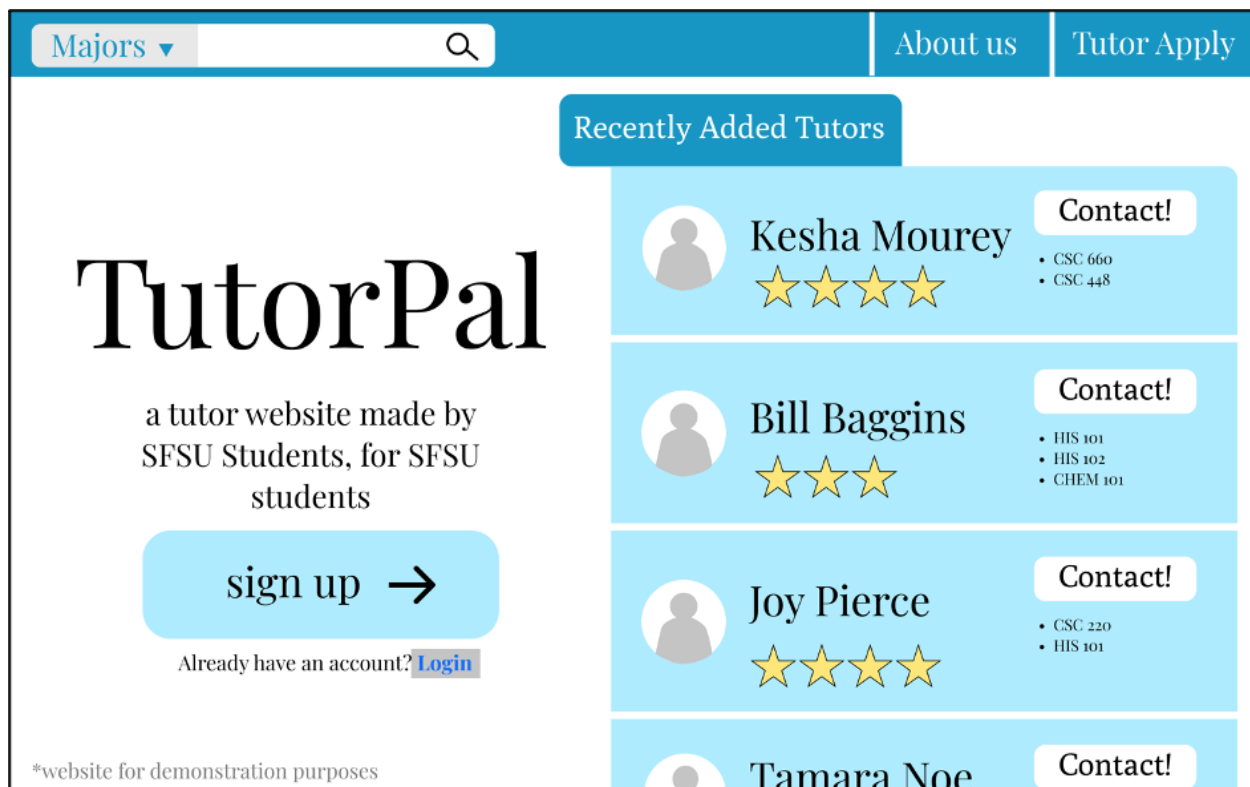
My Tutors	My Messages		
Tutor Name	Message	Date/Time	Status
Kesha Mourey	Hi Kesha, I am a senior at SFSU and am taking...	10/27/2021 10:00 AM	Sent

*website for demonstration purposes

2) Use Case 2:

Steven successfully passes his classes and wants to write a good review to Kesha to thank them. He doesn't want to have to login every time to review his tutor though, so he (1) navigates to his tutor through TutorPal. (2) Once finding Kesha, he clicks on "Review". (3) After leaving his review and rating, he clicks on "Submit". (4) He is met with a window that prompts him to login, and after doing so, he is (5) taken to his dashboard. A notification appears at the bottom of the screen confirming that his review was submitted and he is able to edit his review from the dashboard.

(1)




(2)

Majors ▼


Login
Sign Up
Tutor Apply

←
CSC 660 Tutors




Kesha Mourey

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud




Bill Baggins

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud



Joy Pierce

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud



Tamara Noe


*website for demonstration purposes

(3)

Majors ▼

Login
Sign Up
Tutor Apply

←



Kesha Mourey

Comments

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud

Leave a Rating

Courses

- CSC 660
- CSC 340

*website for demonstration purposes


(4)

Majors ▼


Q

Tutor Apply

Login



 | Username

 | *****



☐ Remember Me [Forgot Password?](#)

Login

Do not have account? [register here](#)

*website for demonstration purposes

(5)

Majors ▼


Hi Stephen

My Dashboard

My Tutors		My Messages	
Tutor Name	Actions		
Kesha Mourey	<button>Edit Review</button>	<button>Contact</button>	
Tamara Lo	<button>Leave Review</button>	<button>Contact</button>	

Review submitted!

3) Use Case 3:


(1) Kesha signs up for TutorPal using the “Tutor Apply” button at top right of window. (2) She fills in all her information, including what classes she would like to tutor. (3) She is taken to her dashboard which shows one tab for “My Messages” and one tab for “My Reviews”. (4) She clicks on “My Messages” a week later and sees that she has one message from Stephen who is seeking a tutor. They are successfully able to connect via email because he provided that information.

(1)

(3)

Majors ▼

Q

 Hi Kesha

My Dashboard

My Reviews

My Messages


Student Name	Comment	Date/Time

*website for demonstration purposes

(4)

Majors ▼

Q

 Hi Kesha

My Dashboard

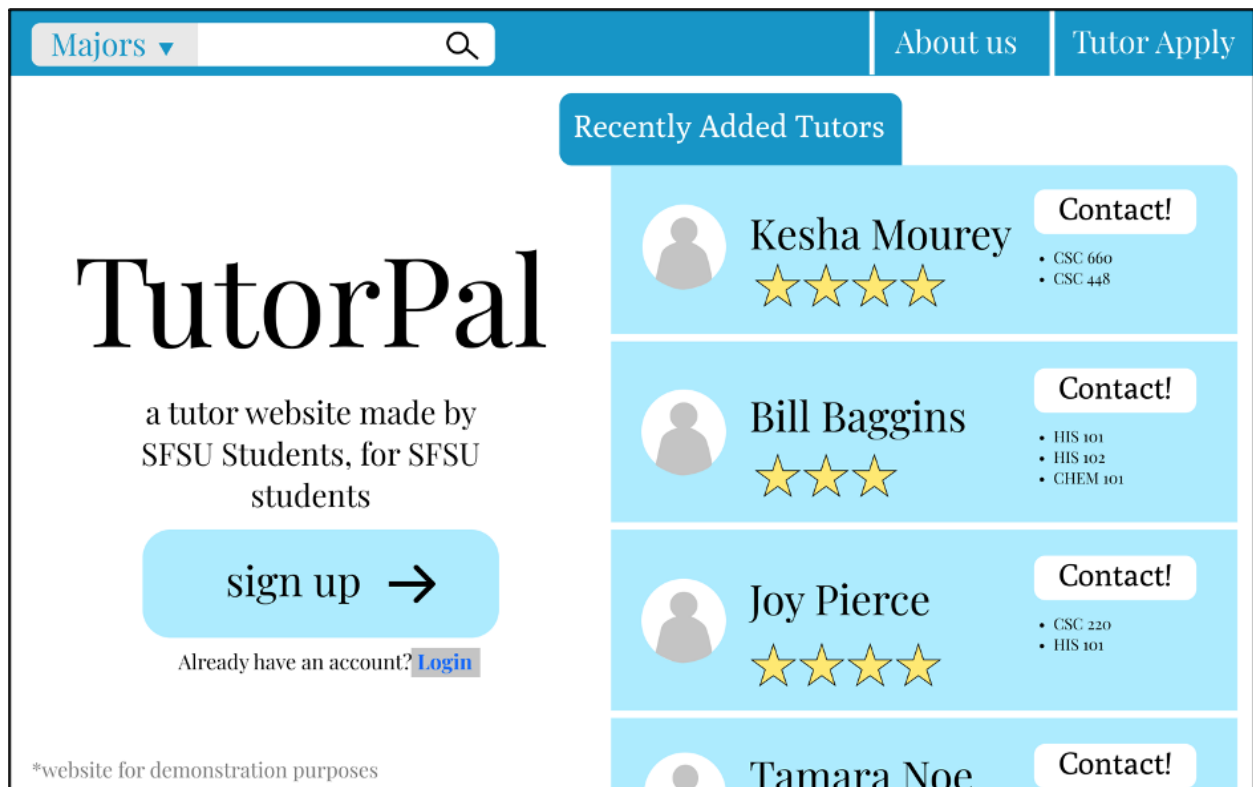
My Reviews	My Messages		
Student Name	Message	Date/Time	Status
Kesha Mourey	Hi Kesha, I am a senior at SFSU and am taking...	10/27/2021 10:00 AM	Received

*website for demonstration purposes

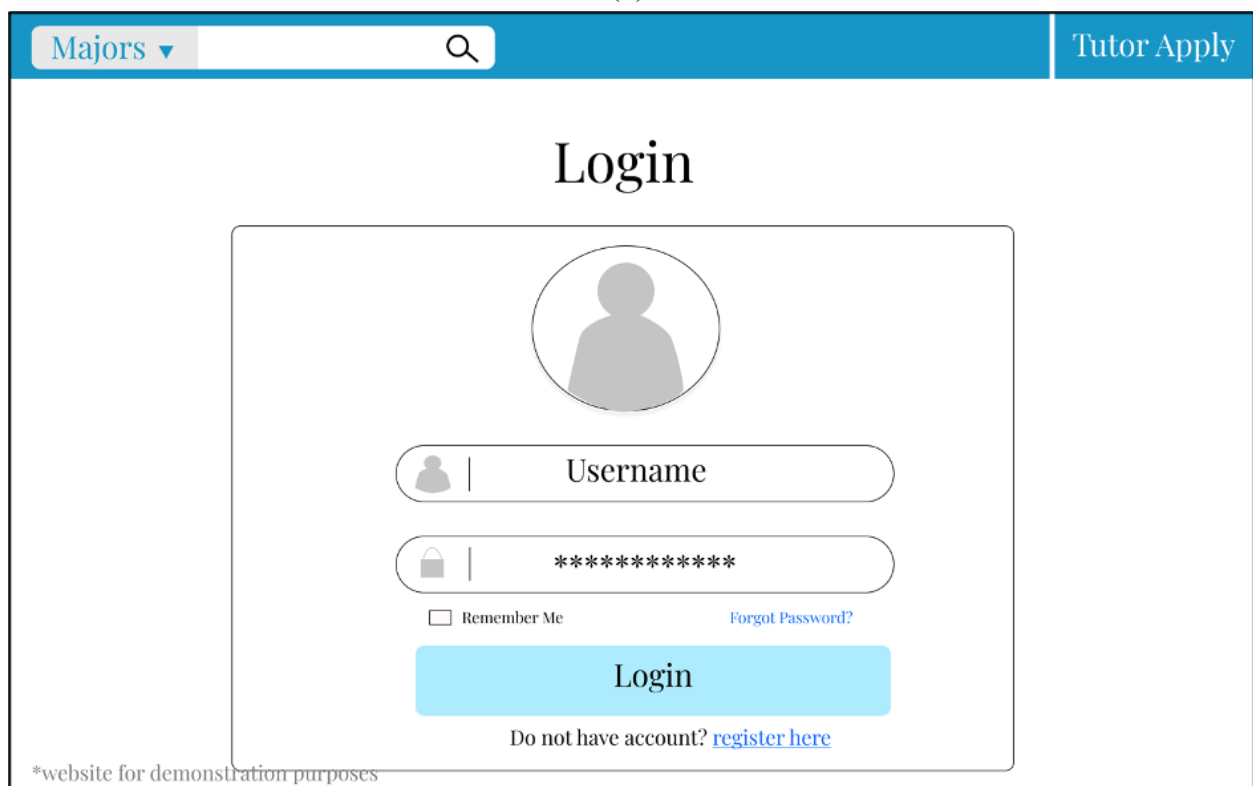
4) Use Case 4:

Kesha has finished tutoring Stephen and wants to know how he did, so she wants to check up on her reviews. However she doesn't want to have to login to do so. (1) She navigates through TutorPal to find her reviews. She sees that she was given five stars! (2) She wants to check if she has gotten any other reviews, so she logs in. (3) She is taken to her dashboard and clicks on the "My Reviews" tab. (4) She sees that she has gotten one good review from Stephen and one good review from another student that she also tutored.

(1)




(2)



(3)

Majors ▼

Q

 Hi Kesha

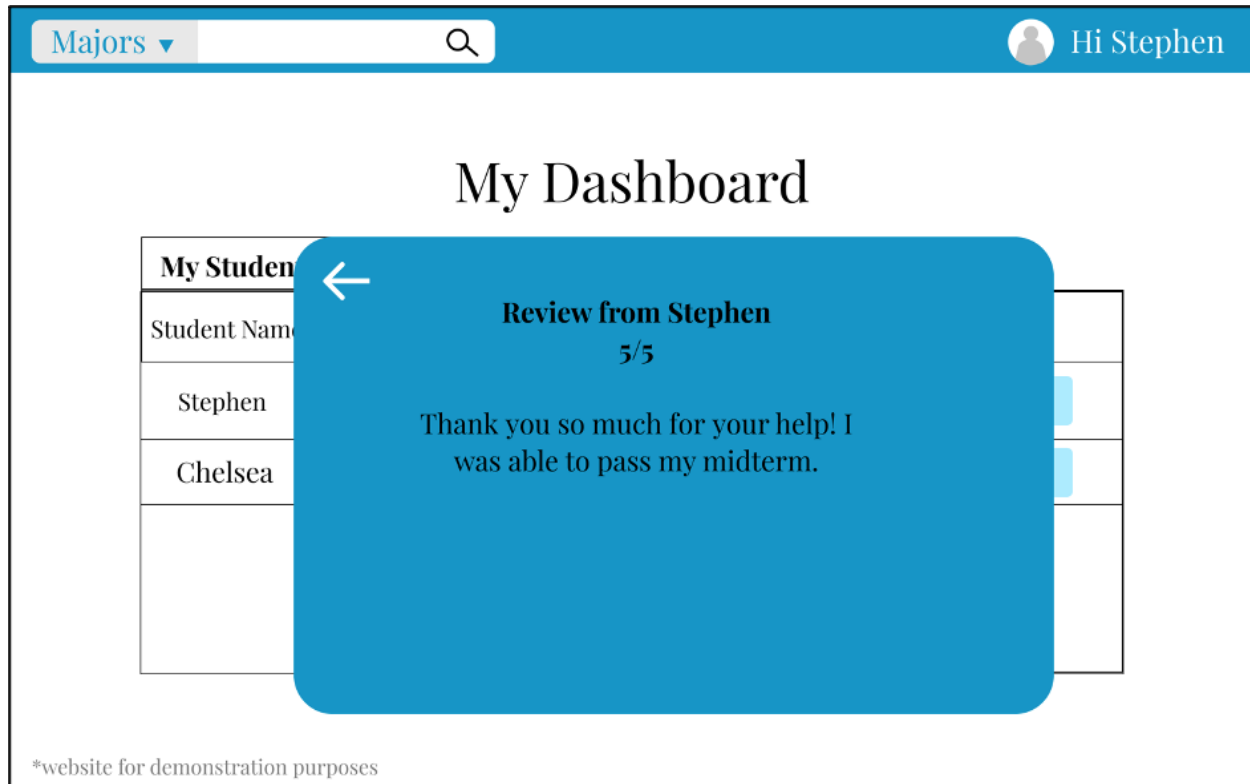
My Dashboard

My Reviews

My Messages

Student Name	Actions	
Stephen	<div>View Review</div>	<div>Contact</div>
Chelsea	<div>View Review</div>	<div>Contact</div>

(4)



5) Use Case 5:


Mark likes quick and active communication, so he turns on notifications in his email regarding this tutoring application and its activity. He knows that once the semester starts he will get an influx of messages that need to be moderated. Once receiving such emails, (1) he logs on to the tutoring app. (2) He is taken to the admin dashboard which displays pending messages and reviews. (3) After clicking on one review from a student named Stephen to a tutor named Kesha and seeing that passes review guidelines, he clicks on approve. (5) Review is successfully approved and a notification appears saying that it has been posted.


(1)


Majors ▼

Tutor Apply

Login







☐ Remember Me
[Forgot Password?](#)


Login

Do not have account? [register here](#)

*website for demonstration purposes

(2)

Majors ▼


Hi Stephen

My Dashboard

Pending Reviews		Pending Messages		
From	To	Actions		
Stephen	Kesha	<input type="button" value="View Review"/>	<input type="button" value="Approve"/>	<input type="button" value="Remove"/>
Chelsea	Bill	<input type="button" value="View Review"/>	<input type="button" value="Approve"/>	<input type="button" value="Remove"/>

(3)

Majors ▼

Hi Stephen

My Dashboard

Pending	
From	
Stephen	Remove
Chelsea	Remove

←

Review from Stephen

5/5

Thank you so much for your help! I was able to pass my midterm.

ApproveRemove

(4)



My Dashboard

Pending Reviews		Pending Messages	
From	To	Actions	
Stephen	Kesha	View Review	Edit
Chelsea	Bill	View Review	Approve Remove

Review approved!

5. High-level system architecture and Database Organization

A. DB Organization:

i. Users

- user_id (Primary Key)
- username
- email
- password_hashed
- password_salt
- first_name
- last_name
- major (Foreign Key)

ii. Tutors

- tutor_id (Primary Key)
- user_id (Foreign Key)
- image
- rating
- tutor_cv

iii. tutors_tutoring_courses

- tutor_id (Foreign Key)
- course_id (Foreign Key)

iv. Admin

- admin_id (Primary Key)
- admin_user_id (Foreign Key)

v. Reviews

- review_id (Primary Key)
- review_of_tutor_id (Foreign Key)
- review_by_user_id (Foreign Key)
- review_text
- review_rating

vi. Courses

- course_id (Primary Key)

- major (Foreign Key)
- course_number
- title
- description
- image

vii. Major

- major_id (Primary Key)
- major_short_name
- major_long_name

viii. Messages

- message_id (Primary Key)
- date_sent
- message_text
- to_user (Foreign Key)
- from_user (Foreign Key)
- is_unread

B. Media Storage

All non-standard data will be stored in the database using the BLOB format.

C. Search/Filter architecture and Implementation

The user will use search terms that will use the %LIKE implementation to search the necessary columns. Filters will be defined in the database and rendered to the web page. When the user selects a filter the database will only return the results in the proper category using the WHERE modifier.

D. High Level API

i. validateUser

This function will use the supplied username and password and attempt to authenticate the user in the database. Only returning a valid login attempt when the user supplies the proper password for the username.

ii. registerUser

registerUser will be used when a user creates a new account and will properly handle storing the new user into the database and logging the user into the site after returning.

6. Key Risks

- **Skills risks**

One potential skill risk is that our group is not familiar or comfortable with the tools needed for our project such as Bootstrap, MySQL, and so on. In order to minimize this risk, we have split the group into front-end and back-end teams with the team lead and GitHub master helping whichever team needs help at the time. This makes it easier for people to learn because they can focus on the tools relevant to their work rather than needing to understand how to create the whole project. Another solution we have come up with is to reduce our scope to a manageable P1 list so that we will have a working product to show by the deadline.

- **Schedule risks**

One potential schedule risk is our group members being too busy and unable to complete their work. We have taken steps to solve this problem by splitting up the work and people who finish early can help those who are still working on their parts. Another solution is to trim our P1 list to a viable minimum so that we can finish our product by the deadline.

- **Technical risks**

One technical risk is figuring out what to do for the vertical prototype. Most of the members in our group have limited experience with databases which meant having to find tutorials to learn from. In order to create the vertical prototype, our backend lead looked up guides on how to set it up.

- **Teamwork risks**

One potential teamwork risk that could occur during this time is lack of communication. In order to prevent communication issues, we have set time periods when everyone can meet on Wednesday and Friday. Because we have fixed time periods to meet, people can plan their schedules around our meeting times. If they cannot, they can let the group know ahead of time and ask for a summary of our meeting.

Another teamwork risk is people becoming stressed and frustrated due to their workload or other real-life issues. To solve this problem, we have reached an understanding where

people can feel comfortable asking for help if they are struggling. People can also let the group know that they need to take a break for a couple of days so they take their break after finishing their portion of work. We have also reduced the P1 scope of our project so that our members will not be overwhelmed.

- **Legal/content risks**

One potential legal risk is using images that are copyrighted without permission. This may result in us being forced to pay the owner of the images. In order to solve this issue, we used images from a website called Pexels which contains millions of free stock photos.

7. Project Management

To complete Milestone 2, our team had scheduled to meet every Friday and Wednesday with updates on the tasks assigned to everyone. We discuss the milestone progress and plan on how to finish our milestone and take the required steps. We have created a Discord server where connect with each other to discuss our queries and share the content created by the team. Also, we are using trello.com which has made it easier for us to track our task list and work progress. The team is available whenever anyone has issues helping us to maintain consistent progress towards the completion of Milestone 2.