

# SW Engineering CSC648-848 Fall 2025

## GatorGuides

### Team 09

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### Milestone 2 Part 1

Submission Date	Revised Date
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## Executive Summary

GatorGuides is a tutoring platform built by and for student of San Francisco State. We help simplify connecting tutors and students by eliminating the need to schedule in person, as well as providing students with a rating system to understand the tutor's teaching styles and overall feedback.

Tutors will have their own page that they can customize with a biography, the subjects they tutor, as well as a background/text color(tentative). Tutors can select days and time ranges in which they are open for appointments. These pages will be visible without any authentication, but scheduling will be restricted to users that are signed in.

Students will be able to filter subjects to be tutored in, which tutor they want, as well as a time frame, and be shown relevant results in a clean way. Students can look at reviews and their experiences with the tutor from previous students and decide who they want to select. If they do not care about which tutor or timeframe they want, they will be presented with a list of the soonest appointments to select from. After a tutoring session has concluded, the user will be given a notification asking them to leave a review on the tutor for themselves.

Our team of students is committed to providing an easy to use and hassle-free tutoring service for the students of SFSU. We aim to provide this ease-of-use without compromising looks, something that seems to be ever more common inside the world of educational software. Being students ourselves, we have unique insights and views on what other students would want out of a service like ours, giving us an advantage over existing solutions.

## List of main data items and entities

1. Admin – User that holds control over the registered users in the system; allows for the additions, deletion, and alterations of the website
2. Visitor – Person that has not made an account or not logged in; allows for browsing of tutors, but not allowed to schedule an appointment
3. User – Person that has made an account and is logged into; allows for browsing of tutors, scheduling, and calendar functions
4. Tutor – User approved for mentorship; allows for creation of the tutor profile, appointments, and hourly fees
5. Tutor authentication – Verification for tutors; Confirmation of SFSU attendance—email and ID—and peer review of teaching ability
6. Session – Allotted time determined by tutor for study
7. Glossary – List of all tutors, subjects, and topics available
8. Course – Class and instructor users is enrolled in
9. Calendar – Showcases all available tutoring sessions on a weekly or monthly format
10. Tags – List of subjects or topics taught by the tutor
11. Bio – User written description of themselves
12. Browsing – Allows for searching of glossary

- 13. Scheduling – Registered user’s reserving a tutoring session
- 14. Boolean search – Allows for AND, OR, and NOT in filtered searches
- 15. Fees – Priced determined by tutors for teaching services
- 16. Coursing tracking – Provides the user the ability input courses under their profile, allowing for better filtering when searching for tutors
- 17. User Dashboard – Board that shows all attending appointments and courses
- 18. Tutor Dashboard – Board that shows appointments that are either listed or currently taken
- 19. User Profile – Contain information: Portrait (optional), name, & bio (optional)
- 20. Tutor Profile – Contain information: Portrait, name, tags, bio, contact info, reviews, & schedule
- 21. Tutor Card – Tutor portrait, tags, bio
- 22. Review – Numerical rating (1.0-5.0) and info of tutor experiences

## Functional Requirements

### Priority 1

#### Visitor (Unregistered)

- 1. The system shall enable visitors to view a list of all active tutors without any form of verification, with the glossary displaying tutor name, subjects, and limited availability.
- 2. Visitors shall be capable of searching the glossary for a certain subject or tutor using a search bar that allows narrowing the search to a specific subject area (e.g., Mathematics, Biology, Computer Science), enables tutor name filtering (partial and full name match), and dynamically updates results without requiring page refresh.

3. The system shall have the ability to create an account with a registration form requiring SFSU email address (@sfsu.edu or mail.sfsu.edu), first name, last name, and secure password, with the system authenticating the SFSU email domain.

10. Users shall be able to create a tutor account by requesting tutor status on their profile through an application containing subjects to be taught, qualifications, and availability, submitting evidence of competency (transcript, certification, etc.), with tutor account activation not allowed without administrator approval.

## User (Registered Student)

6. A user shall be logged in to book a tutoring session, with the scheduling button redirecting to the login page for non-authenticated users, then redirecting to the scheduling page after login, with session booking requiring an active and validated account.

11. To become an Admin, users shall be required to verify their SFSU status through manual verification conducted by an authorized administrator by presenting legitimate SFSU identification (student ID or staff ID) during an in-person or virtual meeting without the system storing or processing ID images or personal identification data, with the verification process confirming eligibility to access administrative features and the system recording a verified SFSU status flag on the user's profile to indicate administrative authorization.

## Tutor

12. Tutor accounts shall be in a position to make lists of their services by developing at least one service listing containing subjects on offer and timing to make it visible in the glossary, with listings not achieving publicity without administrator approval, and tutors able to make various listings regarding various subjects.

15. Tutors shall be in a position to view the sessions scheduled with them through a dashboard showing all subsequent meetings in chronological order, with every session indicating student name, subject, session time and place, the system providing email notifications per new booking, and tutors able to see session details by clicking on the session.

## Admin

18. Admin shall be in a position to cancel user and tutor accounts with access to a user management dashboard, account termination offering reason selection from a predefined list, the system providing termination notification emails to affected users, and terminated accounts not deleted from the database but listed as inactive.

## Priority 2 (Desired)

### User (Registered Student)

4. The user shall only be permitted to create a single account, with the system verifying other accounts with the same SFSU email, repeated registrations showing the error message "Account already exists with this email," and the system having an option for forgotten password for existing accounts.

5. When out of the system, the user shall not access the calendar, with the calendar page verifying authentication status before loading, unauthenticated access attempts redirected to the login page with a message, and the system not changing the intended destination URL on post-login redirect.

7. A single user shall have the ability to create several sessions, with the system checking whether SFSU emails from the same student are present in the database, users able to book multiple sessions with the same provider or different providers as needed, email

confirmation sent to both the booking user and session provider, and users able to access and maintain all sessions they have booked.

8. Any sessions scheduled before the date shall be correctly reflected in the calendar, with the calendar showing all confirmed sessions in real-time, past sessions automatically marked as completed, the calendar indicating session status (Upcoming, In Progress, Completed, Cancelled), and the system maintaining session history for not less than one academic year.

9. Users shall be in a position to cancel sessions and reflect the same to the tutor, with users able to cancel sessions at least 24 hours beforehand, cancellation sending instant email notifications to the tutor, cancelled time slots made available to other users on demand, and the system monitoring historical cancellation and cancellation reasons.

## Tutor

13. Tutors shall have the option of editing their page whenever they want by going to edit mode on their profile dashboard, with profile fields not changed to something other than verification status, amendments stored and updated on the public profile, and the system maintaining an audit record of all profile changes.

14. Tutors shall have the ability to insert tags and bio on their page, being presented with a predefined list of subject tags from which they need to choose at least 3, capable of selecting up to 10 subject/skill tags, with tags searchable on the glossary search feature.

16. Tutors shall also be capable of canceling the session and showing it to the user, being required to give a 12-hour minimum notice of cancellation, with cancellation conditioned upon a choice of reasons (emergency, illness, etc.), users provided with instant email and in-app notification, and the system providing the option to reschedule with the same or a different tutor.

## Admin

20. Admin shall have the potential to communicate with users and tutors through an incorporated message system for all platform users, being in a position to send individual and broadcast messages, with message history kept for not less than 90 days, and admin capable of having discussions with any user.

## Priority 3

### Tutor

17. Tutors shall not be permitted to send messages to users prior to a session having been scheduled, with the default messaging feature between tutor and user disabled, messaging enabled 48 hours prior to scheduled session, the system not allowing any effort to thwart messaging restrictions, and users capable of reporting any inappropriate messaging attempts.

## Admin

19. Admin shall have the capability of deleting posts, having the capability of deleting improper tutor listings, having the ability to remove harsh comments or reviews, with deletion needing reason selection and being recorded in the system, and original posters receiving reasoned content removal notification.

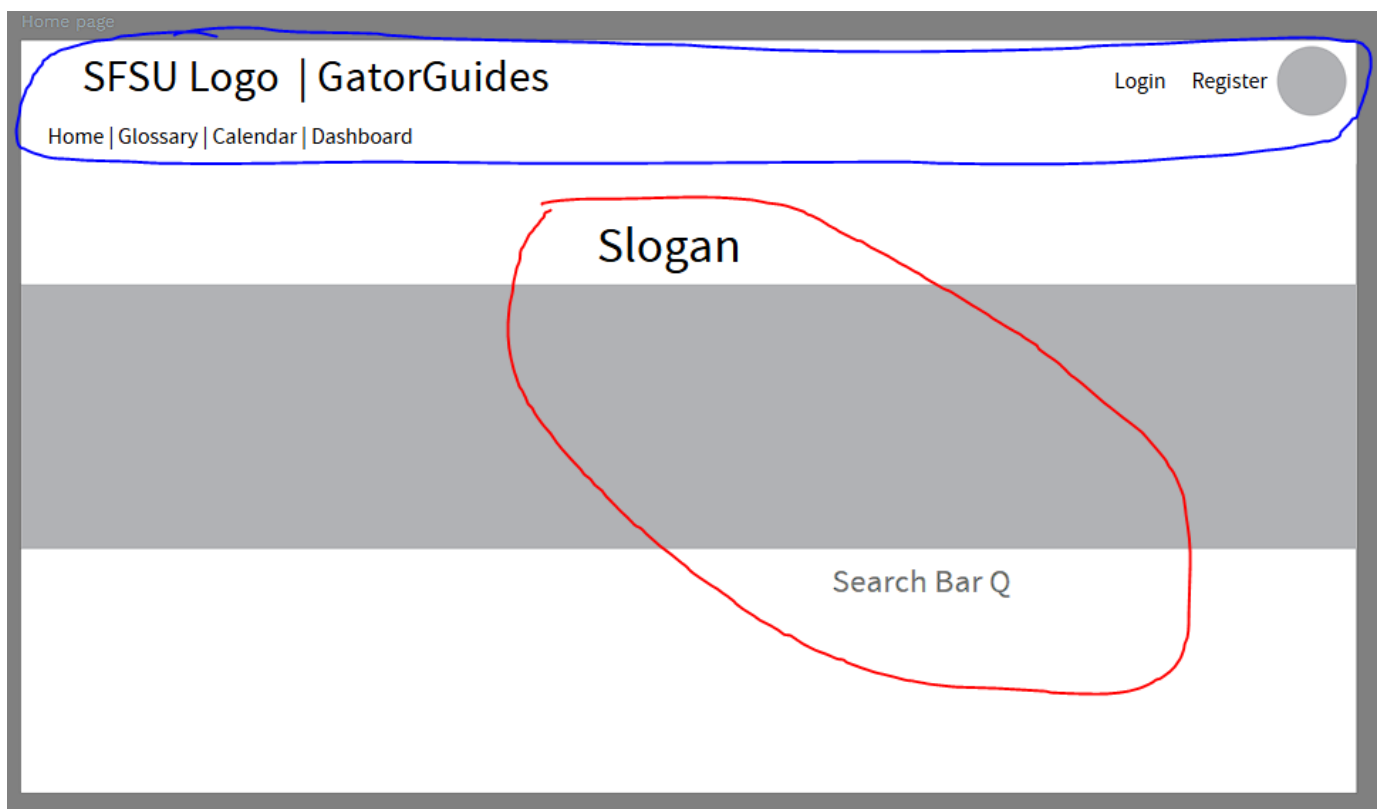


## Justification Notes:

1. Priority 1 is concerned with the basic functionality required to operate the platform.
2. Priority 1 to verify platform integrity is SFSU verification (Requirement 11).
3. Important features that can be used to increase user experience are found in Priority 2.
4. Priority 3 has nice-to-have features that can be introduced in case of time.
5. Each requirement is traceable to initial high-level requirements.

## UI Mockups

### Home page

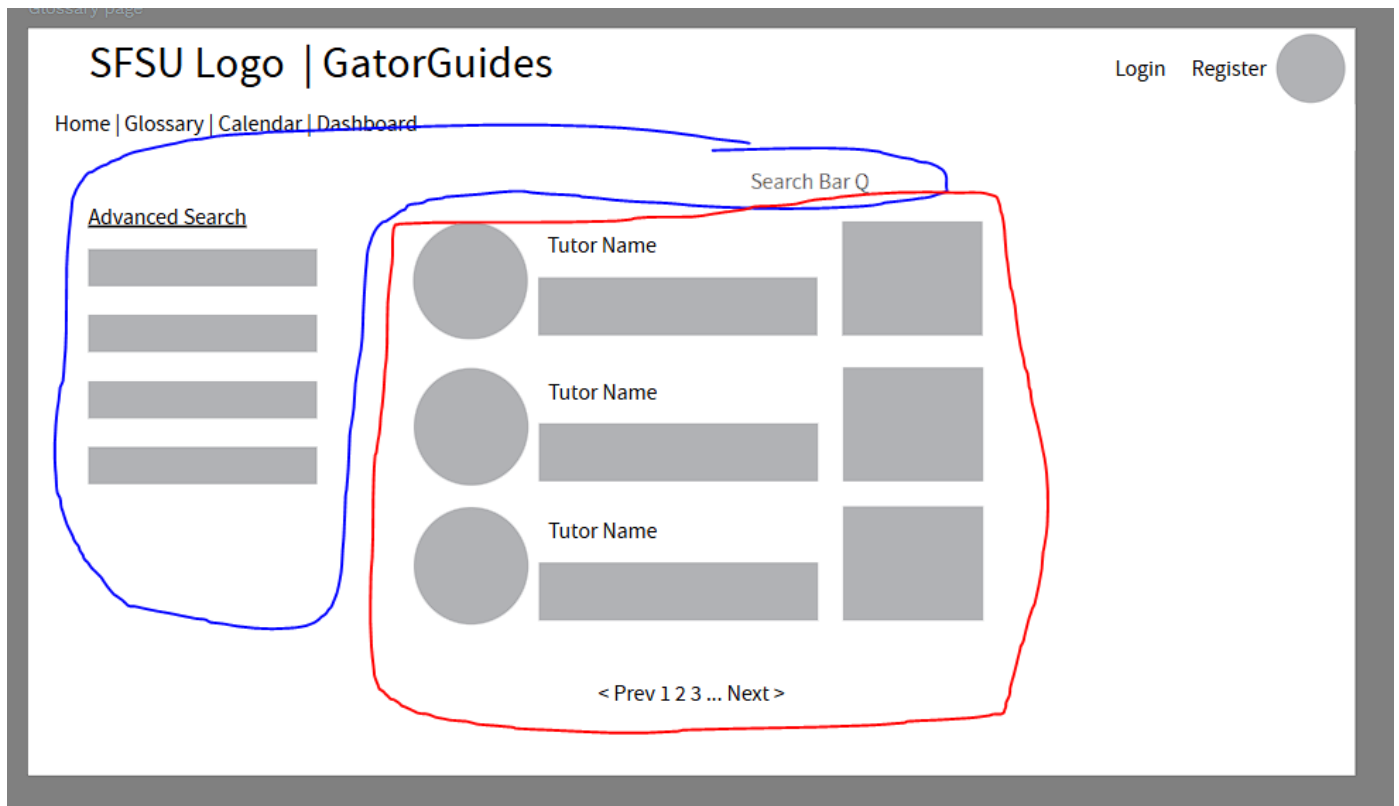


Blue: Nav bar containing links to home and other pages. Login and tutor registration is offered on the top right corner of the screen.

Red: GatorGuide slogan and banner with a simple search bar.



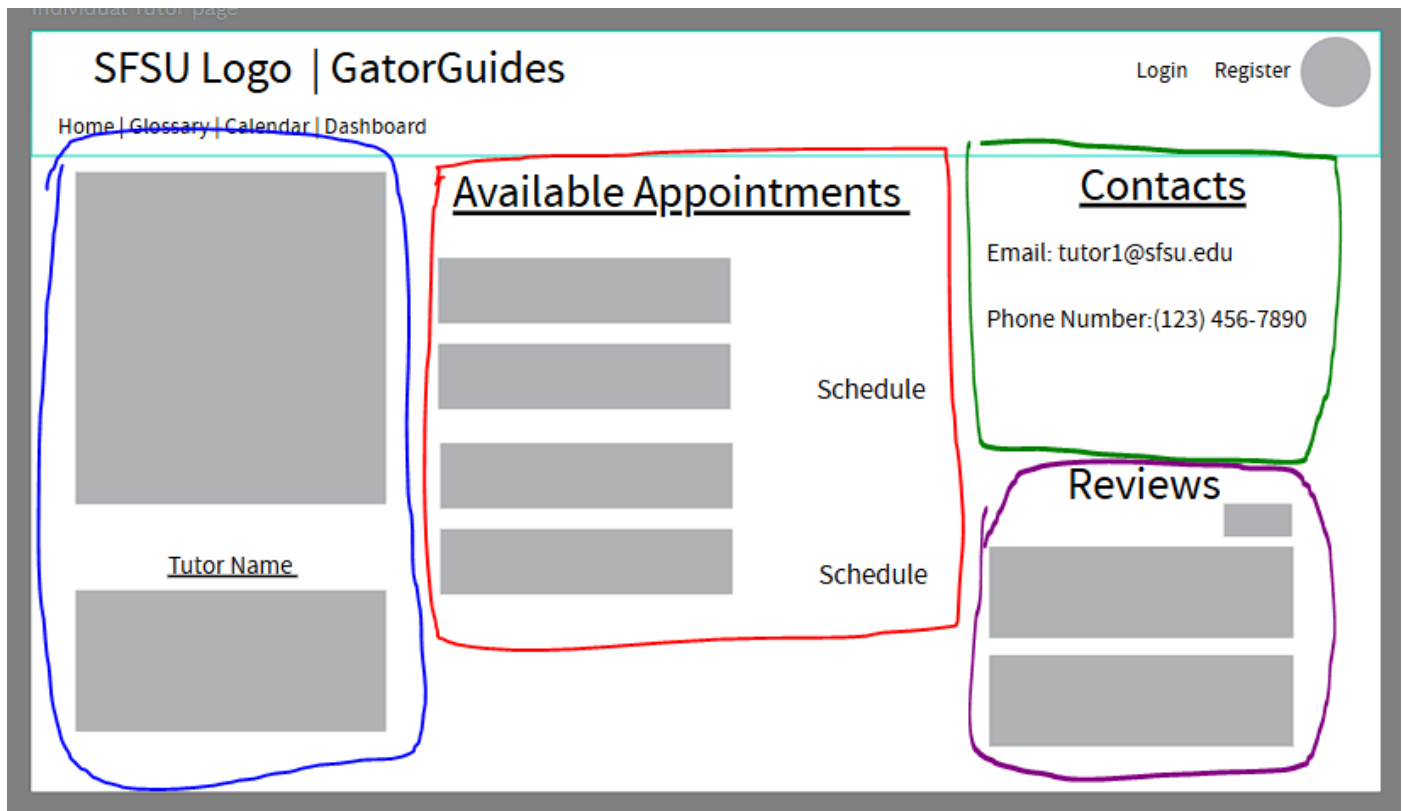
## Glossary page



Blue: Simple search bar overhead. Advanced search allowing for greater filter.

Red: Tutor profile that contain their portrait, name, bio, and subjects taught

## Individual tutor page



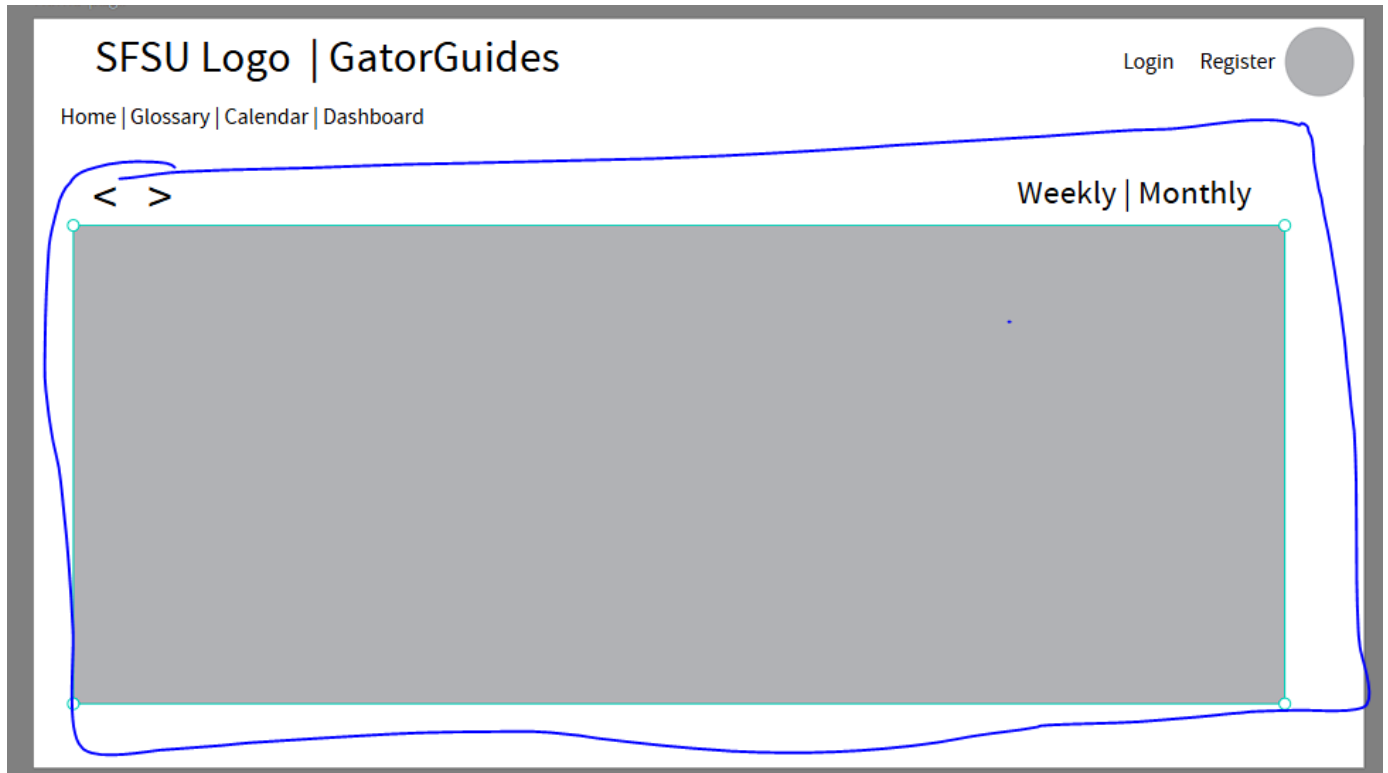
Blue: Tutor photo, name, and bio

Red: Available tutoring session cards (date & location) and option for user to accept

Green: Multiple contacts (email, phone, and/or social media) methods posted by tutor

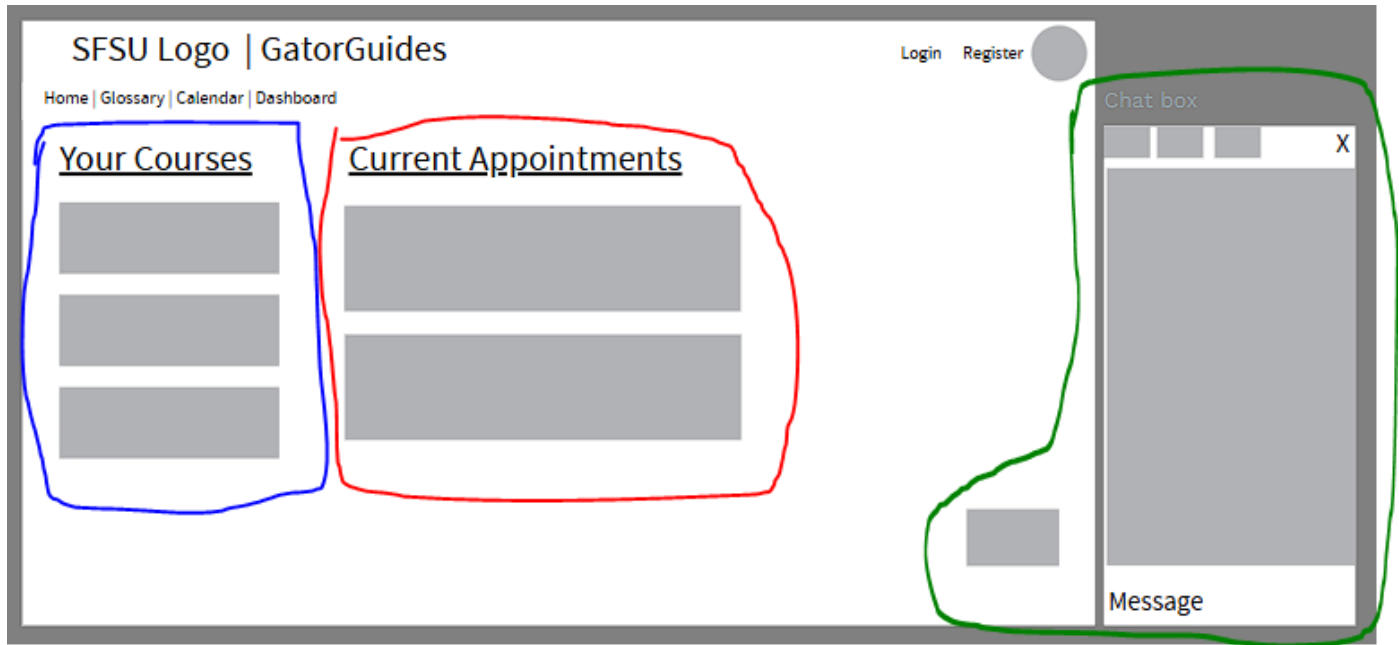
Purple: Top reviews of tutor and button to rate tutor

## Calendar page



Blue: Weekly or monthly overview of course being taken and scheduled tutor sessions

## Dashboard page

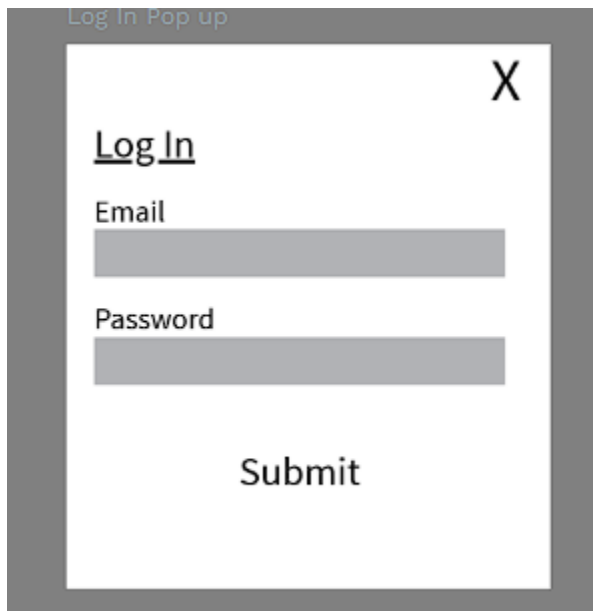


Blue: User inputted courses with class number, instructor name, and meeting location

Red: Tutor session card with tutor photo, name, date of session, location of meeting

Green: Chat box icon pop up, tabs for each currently accepted tutors, and chat history

## Log In pop up

A screenshot of a 'Log In Pop up' window. The window has a title bar with 'Log In Pop up' and a close button 'X'. Inside, the text 'Log In' is underlined. Below it are two input fields: 'Email' and 'Password'. At the bottom is a 'Submit' button.

Log In Pop up

Log In

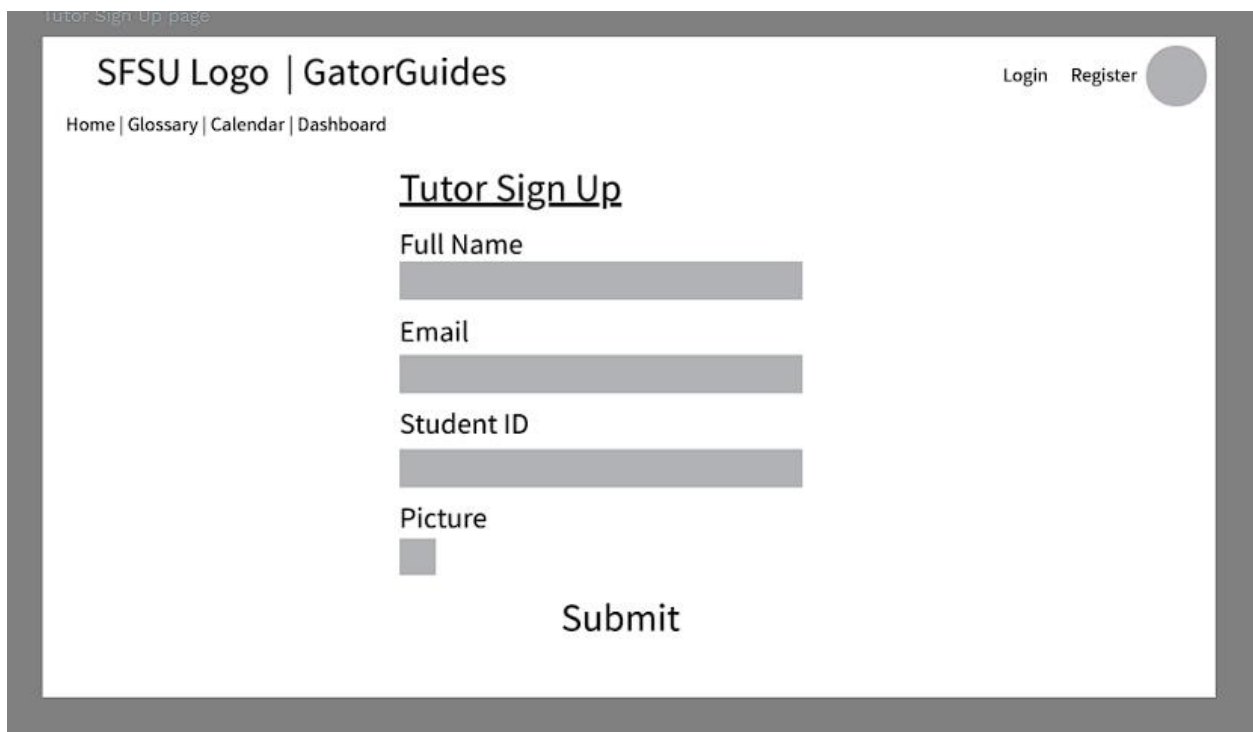
Email

Password

Submit

Email and password to login into user account.

## Tutor Sign Up page

A screenshot of the 'Tutor Sign Up' page. The page has a header with 'SFSU Logo | GatorGuides' and links for 'Home | Glossary | Calendar | Dashboard'. On the right, there are 'Login' and 'Register' links and a profile picture placeholder. The main content area is titled 'Tutor Sign Up' and contains four input fields: 'Full Name', 'Email', 'Student ID', and 'Picture'. A 'Submit' button is at the bottom.

Tutor Sign Up page

SFSU Logo | GatorGuides

Home | Glossary | Calendar | Dashboard

Login Register

Tutor Sign Up

Full Name

Email

Student ID

Picture

Submit

First and last name, SFSU email, SFSU student ID, and photo to receive approval to be a tutor.

## Review page

Review page

SFSU Logo | GatorGuides

Login Register

[Home](#) | [Glossary](#) | [Calendar](#) | [Dashboard](#)

Review

Rating

Experience

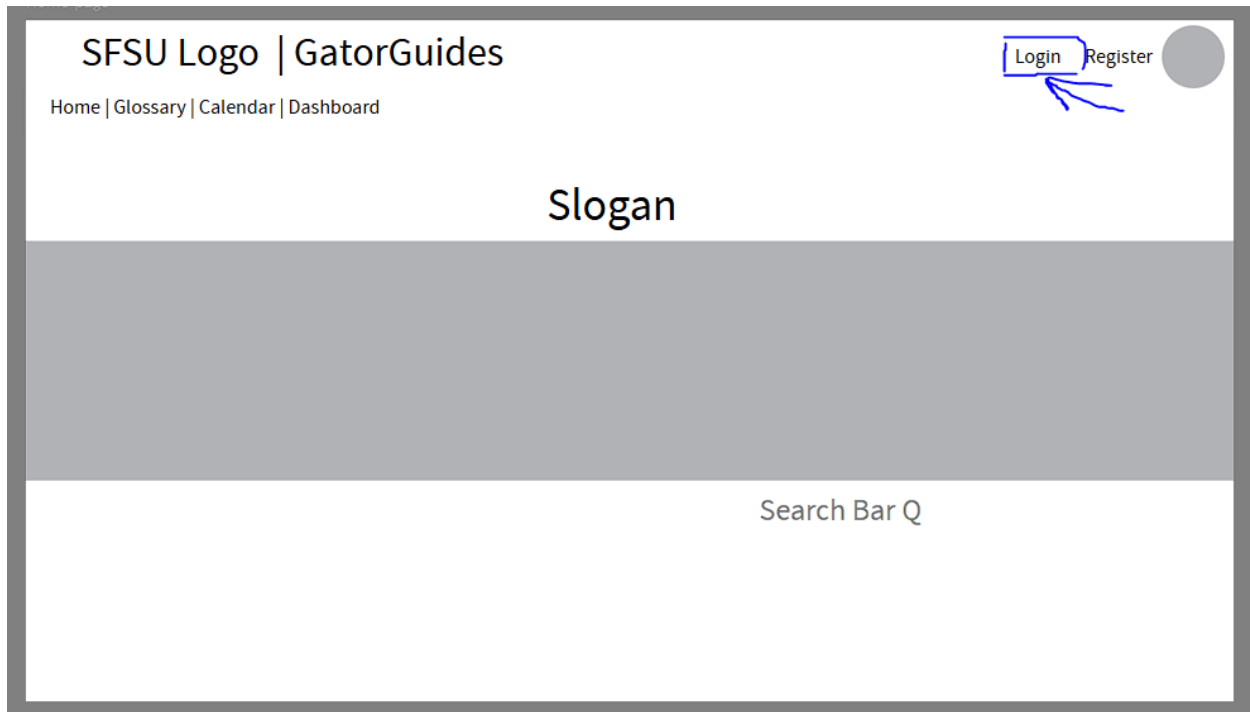
Submit

Numerical rating from 1.0-5.0 and brief description of tutor session experience.

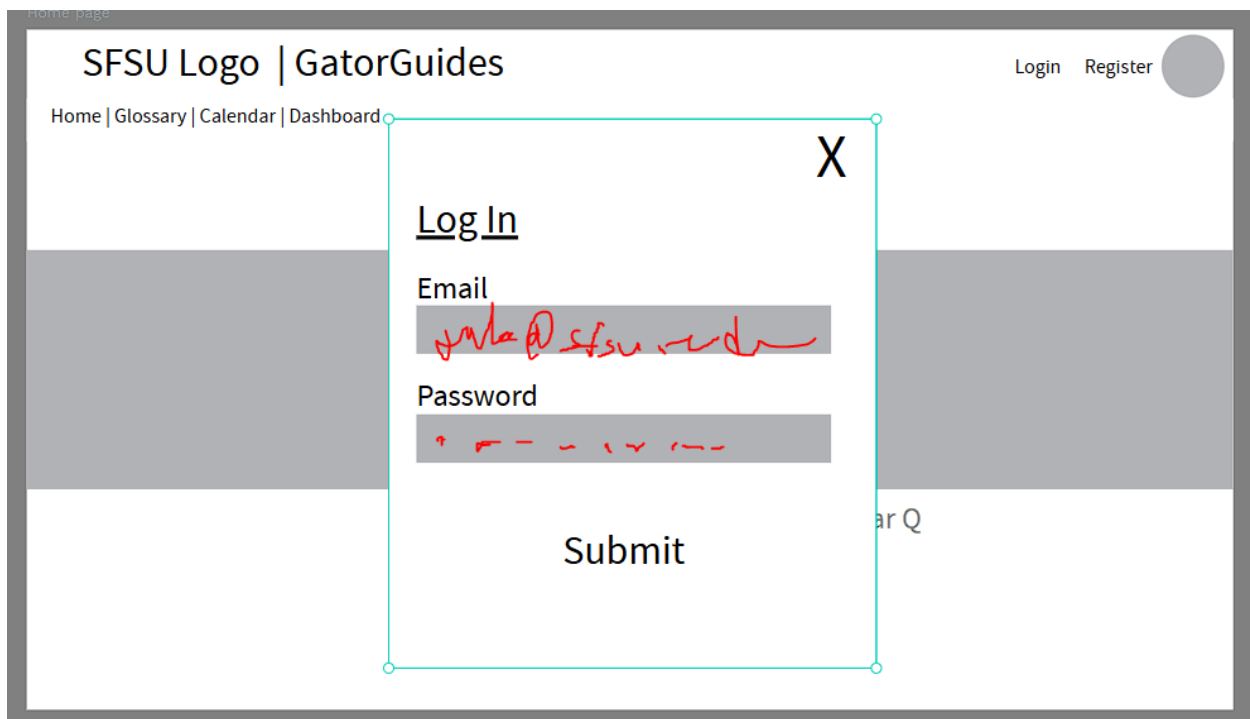


Use Case 1: Logging In and Searching of Tutors.

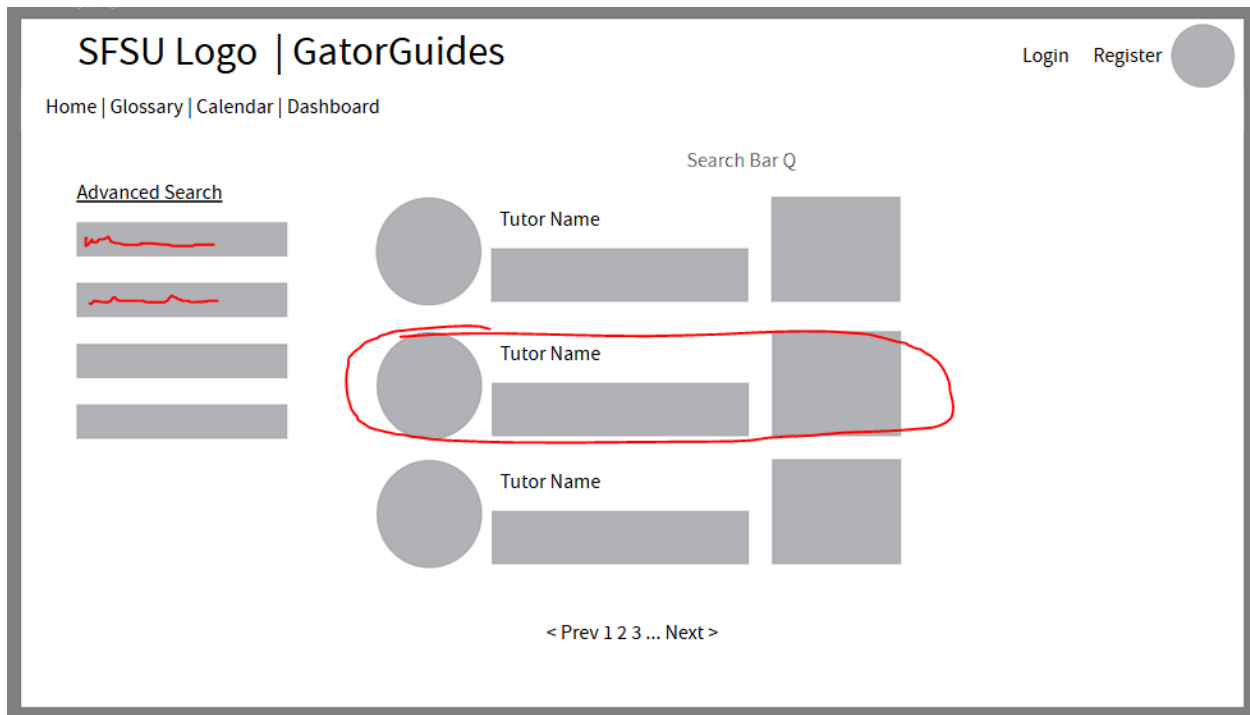
Jake is a student who seeks assistance in computer science.



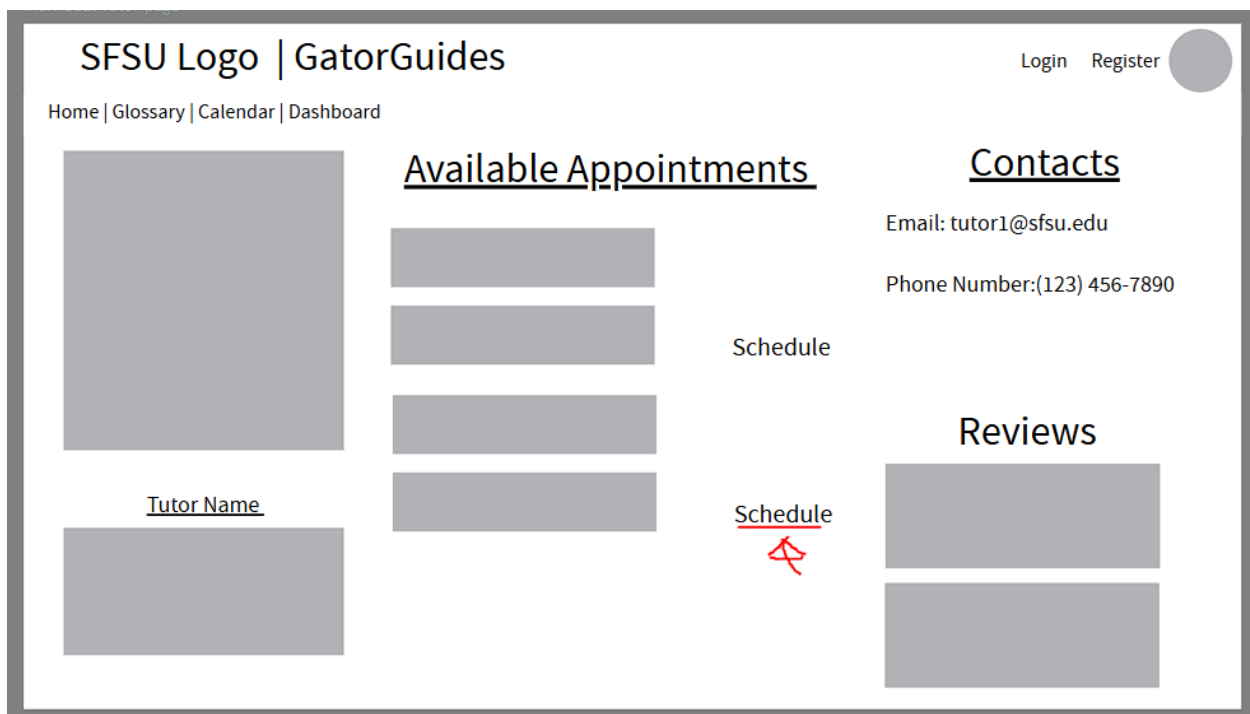
> Jake clicks to log into his GatorGuides account



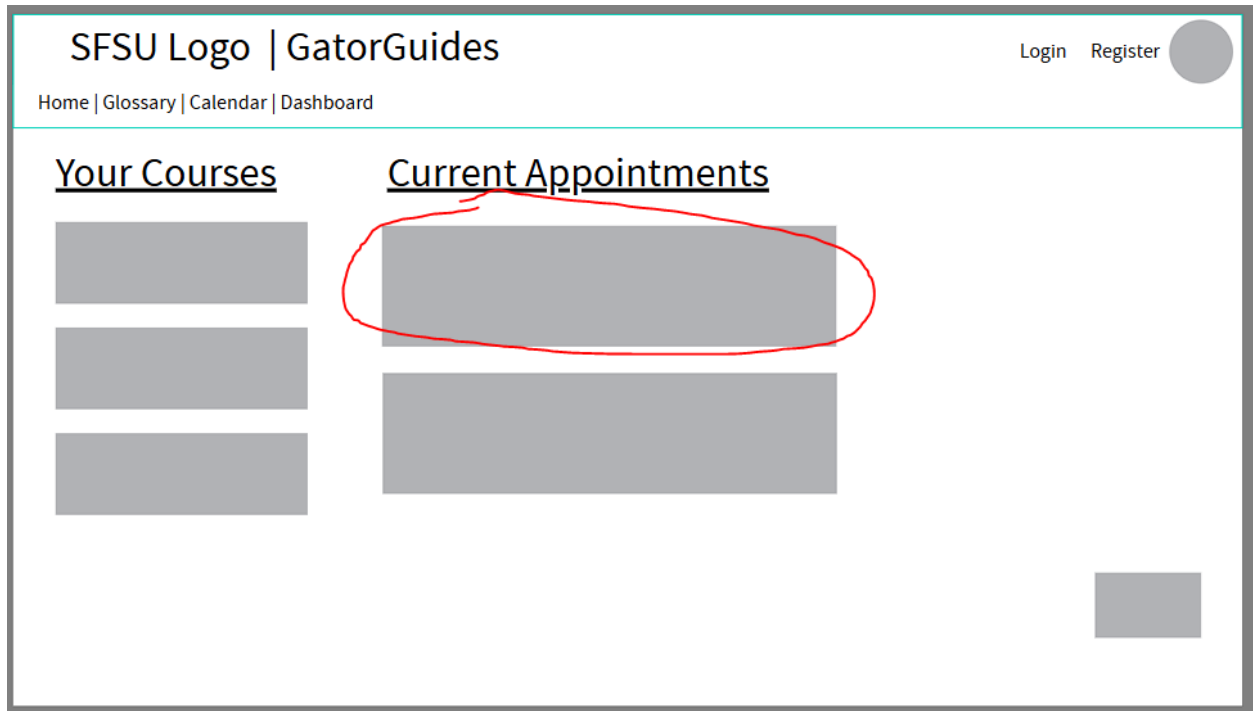
> Jake inputs his email and password.



>Jake searches in a list of available tutors by subject and by department.



>Jake makes decisions on which tutor can accommodate him and his schedule.



*> Jake goes to the dashboard to confirm his tutor session scheduled properly.*

Use Case 2: Making a Rating and Review.

Once Diego has finished a successful tutoring session, he is asked to write his feedback on GatorGuides.

SFSU Logo | GatorGuides

Home | Glossary | Calendar | Dashboard

Login Register

Search Bar Q

Advanced Search

Tutor Name

Tutor Name

Tutor Name

< Prev 1 2 3 ... Next >

>Deigo searches for his tutor and clicks on his profile

SFSU Logo | GatorGuides

Home | Glossary | Calendar | Dashboard

Login Register

Available Appointments

Contacts

Email: tutor1@sfsu.edu

Phone Number:(123) 456-7890

Reviews

Tutor Name

Schedule

Schedule

>Deigo moves to write a review

SFSU Logo | GatorGuides

[Home](#) | [Glossary](#) | [Calendar](#) | [Dashboard](#)

[Login](#) [Register](#)

Review

Rating

4.7

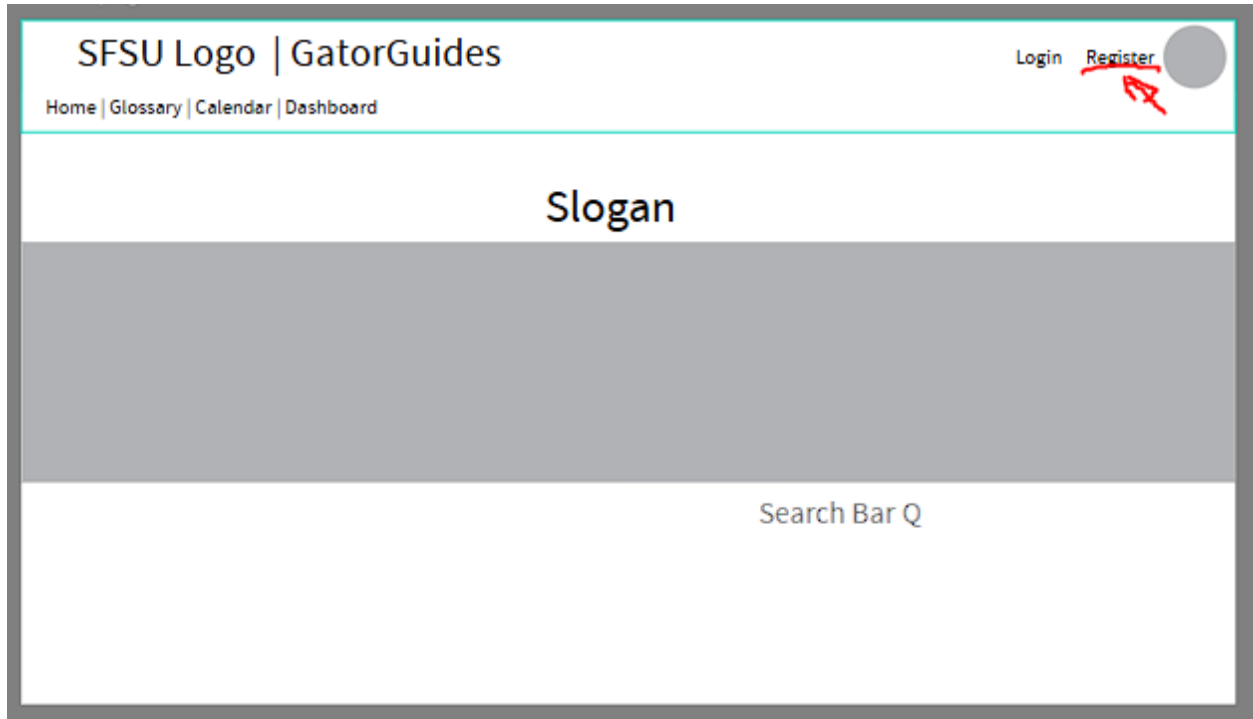
Experience

Submit

> Deigo gives a rating and a brief written comment on whether his tutor was clear, punctual and helpful in teaching.

### Use Case 3: SFSU Student Check and Tutor Authentication (SFSU-Exclusive Option)

Susan wants to become a tutor on GatorGuides, as a new user, she has to prove that she is a student of SFSU first.



*>Susan clicks to register to become a tutor*

SFSU Logo | GatorGuides

Home | Glossary | Calendar | Dashboard


Login Register

### Tutor Sign Up

Full Name  
Susan

Email  
susan@sf.edu

Student ID  
123456789

Picture  


Submit




> Susan inputs her name, SFSU email, SFSU student ID, and a portrait of herself

SFSU Logo | GatorGuides



Home | Glossary | Calendar | Dashboard


Login Register

### Your Courses


  
  


### Current Appointments



Chat box



X

Message

> Susan's request is reviewed and verified by the admin team. After confirmation, Susan is approved and given tutoring services.

# High level Architecture

## Database Organization

(No normalization or attention was put into optimization atm)

Users:

Full name

Email

Hashed-password

Type

Tutors:

User\_id

Status

Bio

Rating

Post\_id

Messages:

User\_id

Content

Datetime

Posts:

User\_id

Content

Tags

Datetime



#### Profile:

Status

Tags

Bio

#### Sessions:

Tutor\_id

User\_id

Tags

Datetime

Concluded

-Media will be stored in the filesystem

-Ratings will be implemented and automated.

## Identify key risks

### 1- Authentication & Verification (SFSU Email / Tutor Verification)

Weak enforcement of sfsu email tutor verification could allow non sfsu tutors to impersonate legitimate users.

### 2- User Data security and privacy

Personal information as names, emails, reviews, and etc. might be leaked through unencrypted transmission or insecure data storage.

### 3- Calendar integrity and scheduling

This can be a key risk. If the system does not handle database updates well, if multiple users try to book the same day and time slot, which will result in lost appointments, double bookings, and more.

### 4- Data Storage and Architecture

This is considered as a key risk if the system database and file storage are not managed and organized properly, that will lead to multiple issues as data loss, data mismatches, slow performance, and security risks.

## Project management

For divvying up the work, I decided to overhaul the Trello board we use to make it easier to assign and reassign different tasks. We still use slack as our main form of communication, although sometimes an email will get through quicker/better. The only problem is that most of the assignments have due dates in other classes, but this class does not, so it becomes much harder to remember the assignment if you forget about it. I want to look further into Trello to see if it can send reminders to the members of the board about due dates and check-ins, as I have to do it manually right now.

## Use of GenAI

GenAI was not used in this milestone

## Team Lead Checklist

- So far all team members are fully engaged and attending team sessions when required
  - OK.
- 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
  - OK
- Team reviewed suggested resources before drafting Milestone 2
  - OK
- Team lead checked Milestone 2 document for quality, completeness, formatting and compliance with instructions before the submission
  - DONE
- Team lead ensured that all team members read the final Milestone 2 document and agree/understand it before submission
  - DONE
- Team shared and discussed experience with GenAI tools among themselves
  - OK