

# **SW Engineering CSC648/848 Fall 2021**

**Team Number:** 04

**Project Title:** Gator Learn

**Names of Students:**

Manali Seth (Team Lead) (Email: [mseth@mail.sfsu.edu](mailto:mseth@mail.sfsu.edu))  
Htet Soe (Front-end Lead)  
Aarshil Patel (Back-end Lead)  
Aditya Mohan (Github Master)  
Seela Pant  
Christian Samatra  
William Yu

**URL to demo:** <http://3.144.136.131:8000/>

**Date:** 12/18/2021

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# **Product Summary**

**Name of the Product:** Gator Learn

## **Major Functions:**

### 1. Browsing

One can browse through different pages from navigation bar. One can view recently approved tutor postings from the home page.

### 2. Searching:

One can search list of tutors based on chosen major & courses available at SFSU.

### 3. Login

One can login in Gator Learn Website to be able to message tutor or apply for tutor posting.

### 4. Registration

One can register to become a Gator Learn member to have more privileges than an unregistered user.

### 5. View SFSU Course Catalog

Displays full list of different Majors and Courses available at SFSU

### 6. Tutor Posting

One can apply for Tutor Posting to be able to let users know which course one will be tutoring for.

### 7. Admin Approval

Tutor Postings are live only when admin approves them from the backend (SQL Workbench)

### 8. Send Message to Tutors

Message can be sent to tutors only when one is registered.

### 9. Contact Us

One can contact Gator Learn creators via email by clicking on Contact Us.

### 10. About Us

One can browse individual profile of Gator Learn creators by clicking About Us.

## **Uniqueness:**

- The Gator Learn website is designed exclusively for SFSU users.
- One can message tutors or apply for tutor posting only once logged in else there is lazy registration.
- One can view recently approved tutor postings on home page so to have the latest updates.

**URL to Product:** <http://3.144.136.131:8000/>

## Milestone Documents

### MILESTONE 1

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**Milestone:** 1

**Date:** 10/09/2021

**History Table:**

Date	Revision
10/09/2021	Created as the first version
10/27/2021	Revised according to CEO's feedback

## **1. Executive Summary**

Prior to the pandemic, students could easily seek help from resources provided by the school on campus. However, this has totally changed, and students are struggling to find these resources remotely. The pandemic has changed the way students approached their learning. Remote learning has made it difficult for students to seek help with their academic assignments as our community practices social distancing. With that in mind, the idea behind Gator Learn came to fruition. The basic idea behind this application is to help Gator students find the necessary help for their assignments remotely to enhance their remote learning experience.

During this time, we understand that our fellow Gators are under pressure more than ever with the drastic changes in how we approach our learning sessions. We are trying to alleviate some of the academic pressure by creating Gator Learn. Gator Learn is a web application that will provide a way for San Francisco State University students to easily find tutors that will help them with their assignments, tailored specifically to our offered Gator courses. With an easily accessible menu to find your particular course, professor, or assignment, our web app outshines other competing academic assistance sites as a Gator student. At Gator Learn, the tutors can be former Gator alumni, Teaching Assistants, or professors who have experienced what it is like to be part of the San Francisco State University community. They will be able to relate with the students seeking help and be able to provide the necessary assistance for each student. In short, Gator Learn will allow San Francisco State University students to have access to qualified tutors for all their assignments.

Gator Learn will be produced by a very diverse Team 04 group from San Francisco State University. Each member of the group has come from different backgrounds that has one goal in mind: produce a product that will benefit our fellow students at San Francisco State University and help them achieve their academic goals. As a team, we believe we will produce a product that will compete with other similar apps that are available online. Our team is also composed of San Francisco State University students and understands what our peers are struggling with as we struggle with it ourselves. With the team member's expertise and experiences, the Gator Learn will be a product that will not only help current San Francisco State University but also future students. And, as we improve our product, hopefully it can expand to help other students from other universities.

## 2. Personae and Main Use cases

### Key Personas (Categories)

- Non-registered User
  - Junior student (1)
- Registered User
  - Senior student (2)
- Site Admin
  - Attends SFSU...graduate/alumni/current student (5)
  - Does NOT attend SFSU
- Tutors
  - External tutor, unfamiliar w/ SFSU and its amenities (4)
  - Internal tutor, familiar w/ SFSU and its amenities (3)

### Personas

#### 1. Jane - A junior SFSU student, unregistered

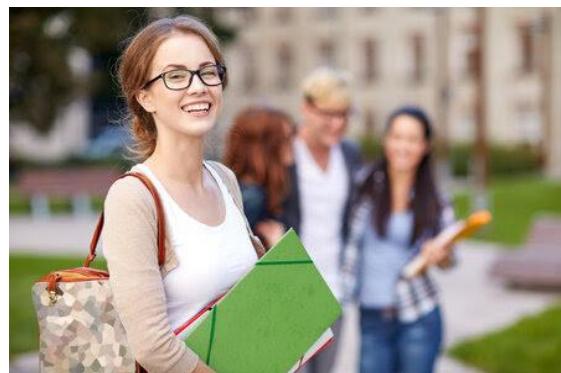
- Recent transfer to SFSU
- Typically organized and well-prepared with her work
- CS major, struggles with consistency on her apps/projects
- Discouraged with difficulty
- Great skills navigating WWW/mobile



<https://www.forbes.com/sites/kristenmoon/2019/03/05/college-planning-junior-year-checklist/?sh=7ee8fd1c4cff>

**2. Josh** - A senior SFSU student, registered

Busy with work and study at same time  
Eng major, excels at his analytical papers  
Poor time management  
Need help with his Math class  
Okay at navigating WWW, prefers mobile



<https://www.orderoochaos.com/triple-t/10-organizing-tips-tackling-senior-year-high-school>

**3. John** - An internal tutor

Completed undergrad at SFSU  
Very studious and conscientious of his time  
Wants his students to do well and excel  
Impatient with non-diligent students, wants to be straightforward  
Great at navigating through WWW/mobile



[https://www.dreamstime.com/portrait-young-male-teacher-background-school-blackboard-teacher-s-day-knowledge-day-back-to-school-study-image159722312](https://www.dreamstime.com/portrait-young-male-teacher-background-school-blackboard-teacher-s-day-knowledge-day-back-school-study-image159722312)

**4. Janet - An external tutor**

Completed grad and undergrad decades ago from prestigious school  
Poor technological usage skills  
Wants to connect with students in order to tutor properly  
Great communication skills  
An endearing and lovable demeanor, and patient  
May struggle on mobile (farsightedness)



[https://www.123rf.com/photo\\_116459514\\_cheerful-senior-businesswoman-in-glasses-looking-at-camera-happy-older-team-leader-ceo-manager-femal.html](https://www.123rf.com/photo_116459514_cheerful-senior-businesswoman-in-glasses-looking-at-camera-happy-older-team-leader-ceo-manager-femal.html)

**5. Donovan - A Site Admin**

Professor at SFSU  
Knows how to work with databases  
Excellent skills navigating WWW



<https://www.gettyimages.com/photos/university-professor-portrait>

## **Use Cases**

### **1. Signing up as Internal or External tutor**

John is a former student at SF State University. He used to be an excellent student during his undergrad journey. As he follows the SFSU page on Twitter, he came to know about the tutoring website. He knows very well about the stressful moments for students in their class. Therefore, he wants to sign up as a tutor in order to help the students to succeed in their class. He was familiar with the online applications. So, he went ahead and registered his account and while editing the information he was prompted to sign-up (lazy registration).

On the other hand, Janet is a 50 years old business woman. She completed her grad and undergrad decades ago from UC Berkeley. She is great at communicating and a very patient woman. She always wished and wanted to connect with students to help in their studies. She was able to easily sign up on our website because the website was very self-explanatory and easy to go through the whole process.

### **2. Browsing as a non-registered user**

Jane recently transferred to SF State University. Being a junior is always a stressful year during college. She is an excellent student and very organized with her study life. She had a good GPA when she transferred with a Computer Science major. Because she is new, she has not made good friends yet. However, she is starting to need one whom she can work together with in her class. She does not want to mess up her grade as well. Fortunately, she heard about the “Gator Learn” from one of her friends in the class. She was so happy to go through the website and get help from a tutor. Jane is very good at self-navigating the websites. So she went to a website and started searching for tutors by major or course. She also found one according to her course and wants to schedule tutoring sessions with that respective tutor to help herself stay accountable. Before being able to schedule an appointment, Jane is prompted to register or login. Since Jane is a non-registered user she goes through the registration process.

### **3. Scheduling appointment as a registered user**

Josh is a senior student with an English major at SF State University. He is very busy with work and studying together. Because of this he is having a hard time managing time for his study. In the middle of the semester, he feels like he needs help with his math class. While he was working, he only had a phone with him, so he used his phone to navigate through our website. Since he has already registered on our website, he can sign in and start looking for the tutor he needs help with. He logs in, searches for the class, and checks for the availability of the math tutor. After checking the available spots, he schedules an appointment for him.

### **4. Managing users by Site Admin**

Donovan is an admin at “Gator Learn” who was also a professor at SF State University. He has an important role in this tutoring application. He has the permission to approve or reject the new users (students/tutors). He supervises whether or not the users have met all the requirements. He has access to the database of the application and manages the data and list of tutors and students on the website. However, he will not be able to edit/alter the details about users. He gets notified

when the users change anything in their account and checks his inbox for the next wave of applicants to judge.

**5. Adding personal information as a registered user**

Jane, Josh, Janet and Donovan are registered and valuable users of “Gator Learn”. They want to add their personal information into their profile so that everyone in the website can know about them from the profile. Once they log in and go to their profile settings, they will find a place to add their bio. They write something about them and submit their information and wait for the admin’s approval.

**6. Reviewing tutors as registered students**

Jane and Josh were able to schedule an appointment and get the tutoring help from their respective course tutors. After the tutoring sessions, they wanted to rate their tutors because they can help other students decide who they can go to for study help. Therefore, on our website students can also leave feedback and suggestions for the tutors. If any of the tutor gets a very bad rating and review from students, the admin has a full right to delete their account from the website thereby removing the tutor.

### **3. Main data items and entities**

**1. Major:** A category of classes designated to a specific major/topic (ex. CSC in CSC-648).

- **Course:** A course at SFSU belonging to a major
  - Availability: Shows whether the course is available this semester at SFSU.
  - Course Number: The course number (ex. CSC-648).
  - Requirement: States if the course is required for the major.

**2. Catalog:** A listing of all courses and majors at SFSU, currently available or not. Used for creating a database of all SFSU majors and courses on the website.

**3. Profile page:** A user-customizable page. A student or tutor can use this page to provide more information about themselves.

- Contact information.
- (Students) Course and major information.
- (Tutors) Credentials and qualifications.
- Other miscellaneous information.

**4. Tutoring Session:** A listing for tutoring in qualified courses. Created by tutors and can be applied to by students. The following local details of the tutoring session can be seen by users browsing and are defined by the tutor:

- **Session Properties**
  - Open/Full Status: Displays whether a particular session is still available or has filled to capacity.
  - Timeslot: The time slot that the tutoring session is available.
  - Date: The date that the tutoring session is available.
  - Location: The location of the tutoring session is, also shows whether it is in-person or online.
  - Tutor-able courses/majors: A collection of courses that the tutor is qualified and able to tutor in the given session.
  - Language: Languages, other than English, that the tutor can fluently communicate in for the session.
  - Review: An area for students to leave feedback of the tutoring session that they received.

**5. Anonymous / Unregistered User:** A person who has simply found the website and is using it without signing up. All other users have these privileges.

- User shall be able to browse the website.
- User shall be able to register for an account with their SFSU information.
- User shall be able to sign up for a tutoring session appointment without an account. Completion of the session appointment requires an account to be created at the end.

**6. Registered Student:** A student currently enrolled at SFSU who has signed up for the website. They are able to customize their account and sign up for tutoring sessions with verified tutors.

- **User Info**
  - SFSU ID: The student's SFSU ID used for registration.
  - SFSU Email Address: The student's SFSU email used for registration.
  - Name: The student's name that is used across the website.
  - Username: The student's username that is used for logging in.
  - Password: The account's password that is kept confidential from other users, excluding administrative permissions.
  - Avatar: An optional image representing the student on the site.
- **Other Data**
  - Session List: A collection of the student's upcoming tutoring sessions that they applied for.
  - Enrolled courses/majors: A collection of courses that the student is enrolled in or wants tutoring in.

**7. Unverified Tutor:** A tutor user who has signed up for the website recently. Requires verification from an administrator and has limited access and functionality across the website until they have it.

- **User Info**
  - Name: The tutor's name that is used across the website.
  - Username: The account's username that is used for logging in.
  - Password: The account's password that is kept confidential from other users, excluding administrative permissions.
  - Avatar: An optional image representing the tutor that may appear on the site.
  - Verification: Verification status of the tutor to be updated by the administrator once credentials are cleared.
- **Other Data**
  - Credentials/Qualifications: Provided to administrators through messaging to complete the verification process.
  - Unverified tutors shall be able to check their verification status on the website.
  - Unverified tutors shall not be allowed to create tutoring sessions until they are verified.

**8. Registered Tutor:** A tutor user who has signed up for the website that's been verified and approved by administrators. Registered tutors are then allowed to create tutoring sessions for majors or specific courses.

- Inherited Data and Functions from Unregistered User
- **Other Data**
  - Session List: A collection of the tutor's upcoming tutoring sessions that have been posted on the site.
  - Session History: A collection of the tutor's past tutoring sessions that shows reviews made by students.

- Tutor-able courses/majors: A collection of courses that the tutor is qualified and able to tutor in the given session.
- Proof of Verification: Status on their account for other users to see, showing that they are a legitimate and approved tutor on the website.

**9. Administrator:** Has full system control of the website. Administrators can approve tutor users and can access and modify permissions of other users. They can also monitor and remove tutoring session listings and profile pages for breaking website guidelines.

**10. SFSU Teacher/Professor:** As an SFSU-exclusive site, a professor can also use the site for office hours and tutoring sessions themselves. This user is a more privileged tutor user on the site, which gives them the same access and functionality as tutors as well as others.

- **Student List:** A list of students that are enrolled in their courses on the website.
  - Can view a student's upcoming tutoring sessions.
  - Can send a message to all students of a course or class at once.

**11. Inbox:** A place for communication within the tutoring website.

- Create and send message: A user creates a message to another user on the site. Filling out the title and contents of the message is required before sending.
- Reply: A user can respond to a message with their own.
- Read message: A receiving user accesses the contents of the message that was sent to them.
- Delete message: A receiving user deletes a sent message to them from their inbox.

**12. Message:** A message sent from one user to another on the site. Defined by the following local details:

- Message Properties
  - Sender: The user who sent the message.
  - Receiver: The user who is receiving the message.
  - Date: The date that the message was sent.
  - Time: The time that the message was sent.
  - Title: The title/header of the message as it will appear in the inbox without opening it.
  - Contents: The contents of the message.

## **4. Initial list of Functional Requirements**

### **Unregistered user:**

1. Unregistered user shall be able to register to the website
2. Unregistered user shall be able to access the contact page of website
3. Unregistered user shall be able to browse courses of website
4. Unregistered user shall be able to view the tutors available
5. Unregistered user shall be prompted to create an account (lazy reg.)
6. Unregistered user shall be able to see course details and requirements
7. Unregistered user shall be able to search for tutors

### **Registered user:**

Registered users inherits all the features of unregistered users

### **Students/Tutors**

8. Registered user shall be able to login to the website
9. Registered user shall be able to access the FAQ of website
10. Registered user shall be able to edit preferences and profile
11. Registered user shall be able to change status to online/offline
12. Registered user shall be able to logout
13. Registered user shall be able to upload files
14. Registered user shall be able to have drop-in sessions with tutors
15. Registered user shall be able to provide feedback
16. Registered user shall be able to sign up/remove courses
17. Registered user shall be able to change their username
18. Registered user shall be able to change their profile picture

### **Admin**

19. Admin shall be able to change usernames.
20. Admin shall be able to reset user passwords.
21. Admin shall be able to delete accounts permanently.
22. Admin shall be able to approve or reject user profiles.
23. Admin shall be able to monitor course access
24. Admin shall be able to override course limitations
25. Admin shall be able to provide online support for technical issues
26. Admin shall be able to test the general system

## 5. Non-Functional Requirements

1. Application shall be developed, tested and deployed using tools and servers approved by Class CTO and as agreed in Milestone 0. Application delivery shall be from chosen cloud server.
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 cloud server.
5. No more than 50 concurrent users shall be accessing the application at any time
6. 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. 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
12. No e-mail clients shall be allowed.
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. Application shall be media rich (images, video etc.). 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. 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
18. The application UI (WWW and mobile) shall prominently display the following exact text on all pages "*SFSU Software Engineering Project CSC 648-848, 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

Features	Wyzant	Chegg	Skooli	Nettutor	Gator Learn
UI Simplicity	++	+	+	-	+
Ease of Browsing	+	++	+	+	+
Ease of Search	+	++	+	+	+
Lazy Registration	+	+	+	-	+
Online/ In-person Service	+	+	+	+	+
Exclusive to SFSU students/staff	-	-	-	-	+
One-on-One / Group / Drop-in tutoring	++	-	+	+	+

++ -> Superior, + -> Feature Exist, - -> Feature doesn't exist/Not that good

Gator Learn focuses on providing tutoring services exclusively to San Francisco State University students. With this, we narrowed down the scope targeted to a limited audience on providing best services to just a particular university. The searching is very convenient in this web application by selecting the major and typing in the class code. Also, the browsing is user-friendly. Our web application will also focus on providing drop-in-tutoring sessions along with one-on-one/group tutoring to have better access and availability. No payment or subscription is required to use services from this web application. Unregistered users are allowed to navigate through the app to search their queries. Gator Learn also offers simplicity in UI and has better user experience unlike other applications that has busy and cluttered interfaces.

## 7. High Level System Architecture and Technologies Used

1. Server Host
  - AWS 1 vCPU 1 GB RAM
2. Operating system
  - Ubuntu 20.04
3. Server Database
  - MySQL
4. Web server
  - Apache v2.4
5. Server-Side Language
  - Python 3.7/+

### Additional Technologies:

Web Framework: Flask

IDE: VsCode, PyCharm/ Jupyter

Web Analytics: Google Analytics

SSL Cert: Lets Encrypt (Cert Bot)

## 8. Team and Roles

ROLES	NAME	SFSU EMAIL ID
Team Lead, Back End Member, Document Master	Manali Seth	<a href="mailto:mseth@mail.sfsu.edu">mseth@mail.sfsu.edu</a>
Front End Lead	Htet Soe	<a href="mailto:hsoe1@mail.sfsu.edu">hsoe1@mail.sfsu.edu</a>
Back End Lead	Aarshil Patel	<a href="mailto:apatel13@mail.sfsu.edu">apatel13@mail.sfsu.edu</a>
Github Master, Frontend/Backend Member	Aditya Mohan	<a href="mailto:amohan3@mail.sfsu.edu">amohan3@mail.sfsu.edu</a>
Front End Member	Seela Pant	<a href="mailto:spant@mail.sfsu.edu">spant@mail.sfsu.edu</a>
Front End Member	Christian Samatra	<a href="mailto:csamatra@mail.sfsu.edu">csamatra@mail.sfsu.edu</a>
Back End Member	William Yu	<a href="mailto:wyu5@mail.sfsu.edu">wyu5@mail.sfsu.edu</a>

## 9. Checklist

All team members are engaged and attending ZOOM sessions when required

**DONE**

Team found a time slot to meet outside of the class

**DONE**

Back end, Front end leads and Github master chosen

**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 is organized as discussed in class (e.g. master branch, development branch, folder for milestone documents etc.)

**DONE**

# **MILESTONE 2**

## **SW Engineering CSC648/848 Fall 2021**

**Project Title:** Gator Learn

**Team Number:** 04

**Names of Students:**

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Aarshil Patel (Back-end Lead)  
Aditya Mohan (Github Master)  
Seela Pant  
Christian Samatra  
William Yu

**Milestone:** 2

**Date:** 10/28/2021

**History Table:**

<b>Date</b>	<b>Revision</b>
10/28/2021	Created as the first version
11/10/2021	Revised as per the feedback

## **1. Executive Summary**

Prior to the pandemic, students could easily seek help from resources provided by the school on campus. However, this has totally changed, and students are struggling to find these resources remotely. The pandemic has changed the way students approached their learning. Remote learning has made it difficult for students to seek help with their academic assignments as our community practices social distancing. With that in mind, the idea behind Gator Learn came to fruition. The basic idea behind this application is to help Gator students find the necessary help for their assignments remotely to enhance their remote learning experience.

During this time, we understand that our fellow Gators are under pressure more than ever with the drastic changes in how we approach our learning sessions. We are trying to alleviate some of the academic pressure by creating Gator Learn. Gator Learn is a web application that will provide a way for San Francisco State University students to easily find tutors that will help them with their assignments, tailored specifically to our offered Gator courses. With an easily accessible menu to find your particular course, professor, or assignment, our web app outshines other competing academic assistance sites as a Gator student. At Gator Learn, the tutors can be former Gator alumni, Teaching Assistants, or professors who have experienced what it is like to be part of the San Francisco State University community. They will be able to relate with the students seeking help and be able to provide the necessary assistance for each student. In short, Gator Learn will allow San Francisco State University students to have access to qualified tutors for all their assignments.

Gator Learn will be produced by a very diverse Team 04 group from San Francisco State University. Each member of the group has come from different backgrounds that has one goal in mind: produce a product that will benefit our fellow students at San Francisco State University and help them achieve their academic goals. As a team, we believe we will produce a product that will compete with other similar apps that are available online. Our team is also composed of San Francisco State University students and understands what our peers are struggling with as we struggle with it ourselves. With the team member's expertise and experiences, the Gator Learn will be a product that will not only help current San Francisco State University but also future students. And, as we improve our product, hopefully it can expand to help other students from other universities.

## 2. Main data items and entities

**1. Major:** A category of classes designated to a specific major/topic (ex. CSC in CSC-648).

- Major ID : Primary key for Major table
- Major Name: List of all majors available in SFSU University

**2. Course:** A course at SFSU belonging to a major.

- Course Number: Primary Key for course table. The course number (ex. 648).
- Availability: Shows whether the course is available this semester at SFSU.
- Course Name: The course name (ex. CSC - Computer Science).

**3. Catalog:** A relationship table which has a listing of all courses and majors at SFSU, currently available or not. Used for creating a database of all SFSU majors and courses on the website.

- Major ID: Primary Key and Foreign Key referencing Major ID from Major table.
- Course Number: Primary Key and Foreign Key referencing Course Number from Course table.
- Requirement: States if the course is required for the major.

**4. Unregistered User:** A person who has simply found the website and is using it without signing up.

- Session ID: Primary Key for Unregistered User table. A session id will be allocated to any anonymous user just browsing through the website.

**5. Registered User:** Describes user related information and also the status whether the user is unverified by admin or registered after approval or rejected by admin.

- User ID: Primary key for student or tutor.
- Session ID: Foreign key referencing Session ID from Unregistered User table.
- Major ID: Foreign key referencing Major ID from Major table.
- First Name: Specifies First Name of the user.
- Last Name: Specifies Last Name of the user.
- Date of Birth: Specifies birth date of the user.
- Gender: Specifies gender of the user.
- Email: The email that the user is using.
- Password: The account's password that is used for logging in. Kept confidential from other users, excluding administrative permissions.
- Avatar (Optional): Users can upload their image/avatar.
- Description (Optional): Some provided information about the user.

- (Student) Mentions the degree the student is studying. (Ex: Grad / Undergrad)
  - (Tutor) Basic information about their tutoring and their qualifications.
- Current Semester: Mentions the current semester the student is studying. (Ex: Freshman / Sophomore / Junior / Senior / Graduate)
- Role: Describes the role of the user whether he is a student or a tutor.
- Course Taught: Specifies the course taught by the tutor so that the student can look into it and book an appointment for the same.

**6. Tutoring Session:** A listing for tutoring in qualified courses. Created by tutors and can be applied to by students. The following local details of the tutoring session can be seen by users browsing and are defined by the tutor

- Tutoring Session ID: Primary key for the tutoring session table.
- Tutor ID: Foreign key referencing tutor ID from Tutor table.
- Major ID: Foreign key referencing major ID from Major table.
- Course Number: Foreign key referencing course number ID from Course table.
- Status: Displays whether a particular session is still available or has filled to capacity.
- Timeslot: The time slot that the tutoring session is available.
- Date: The date that the tutoring session is available.
- Location: The location of the tutoring session is, also shows whether it is in-person or online.
- Review: An area for students to leave feedback of the tutoring session that they received.

**7. Student Session:** A relationship table between Student and Tutoring Session.

- SFSU ID: Primary Key and a Foreign key referencing SFSU ID from Student table.
- Tutoring Session ID: Primary Key and a Foreign Key referencing Tutoring Session ID from Tutoring Session table.

**8. Profile page:** A user-customizable page. A student or tutor can use this page to provide more/ edit information about themselves.

- User ID: Primary and Foreign key showing who's profile page this is.
- Contact information.
- (Students) Course and major information.
- (Tutors) Credentials and Description.
- Other miscellaneous information.
- Comment Section: Other users may leave comments, or reviews in the case of tutors.

**9. Administrator:** Has full system control of the website. Administrators can approve tutors and student profiles. Furthermore, they can also monitor and remove tutoring session listings and profile pages for breaking website guidelines.

**10. Inbox:** A place for communication within the tutoring website.

- Reply: A user can respond to a message with their own.
- Read message: A receiving user accesses the contents of the message that was sent to them.
- Delete message: A receiving user deletes a sent message to them from their inbox.
- Status: Shows whether the message is read or unread.

**11. Message:** A message sent from one user to another on the site. Defined as a form by the following local details:

- Message ID: Primary key for message in the database.
- Tutor ID: Foreign Key referencing tutor ID from Tutor table.
- SFSU ID: Foreign Key referencing student SFSU ID from Student table
- Sender: The user who sent the message. Defaults to the user that is signed in.
- Receiver: The user who is receiving the message. Defaults to the user that the sender is trying to message.
- Date: The date that the message was sent.
- Time: The time that the message was sent.
- Subject: The title/header of the message.
- Contents: The contents of the message.

### **3. Functional Requirements (Prioritized)**

#### **Priority 1:**

##### **Unregistered user**

1. Unregistered user shall be able to search for tutors by choosing major and courses in the search bar.
2. Unregistered user shall be able to browse courses on the website.
3. Unregistered user shall be able to register
4. Unregistered user shall be prompted to create an account (lazy reg.)
5. Unregistered user shall be able to view the tutors available.

##### **Registered user**

6. Registered user shall inherit all the functions from unregistered users.
7. Registered user shall be able to login to the website.
8. Registered user shall be able to apply for tutor posting.
9. Registered user shall be able to send message to tutors.

#### **Priority 2:**

##### **Unregistered user**

10. Unregistered user shall be able to access the contact page of the website.
11. Unregistered user shall be able to see course details and requirements.
12. Unregistered user shall be able to browse courses based on filters on the website.

##### **Registered user**

13. Registered user shall be able to logout.
14. Registered user shall be able to have drop-in sessions with tutors.
15. Registered user shall be able to provide feedback.

##### **Admin**

16. Admin shall be able to approve or reject tutor posting before they go live.
17. Admin shall be able to provide online support for technical issues.
18. Admin shall be able to delete accounts permanently.
19. Admin shall be able to modify majors and courses available at SFSU.

#### **Priority 3:**

##### **Unregistered user:**

20. Registered user shall be able to edit preferences and profile.
21. Registered user shall be able to access the FAQ of website.
22. Registered user shall be able to choose the mode of appointment through the portal (one-on-one or drop-in).

##### **Admin:**

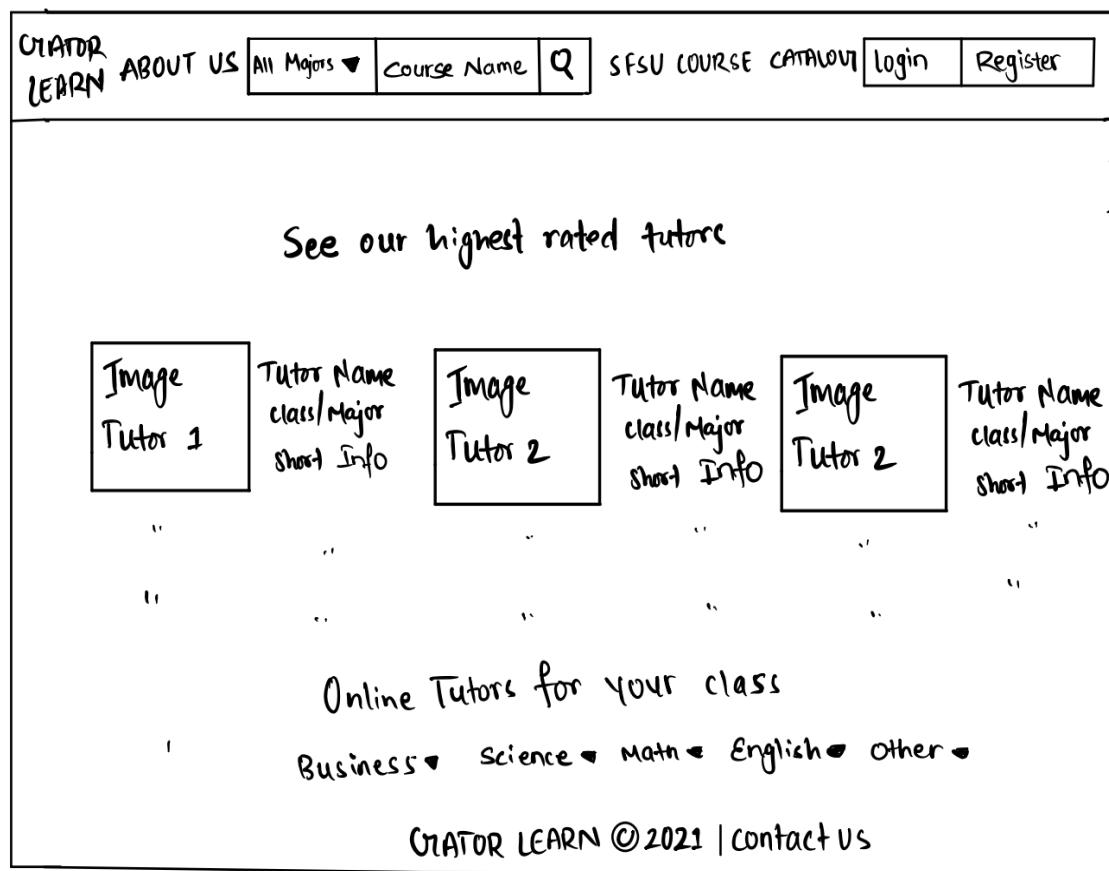
23. Admin shall be able to reset user passwords.

## 4. UI Storyboards

### 1. Signing up as Internal or External tutor

John is a former student at SF State University. He used to be an excellent student during his undergrad journey. As he follows the SFSU page on Twitter, he came to know about the tutoring website. He knows very well about the stressful moments for students in their class. Therefore, he wants to sign up as a tutor in order to help the students to succeed in their class. He was familiar with the online applications. So, he entered the requested tutoring info and then was prompted to sign up.

On the other hand, Janet is a 50 years old business woman. She completed her grad and undergrad decades ago from UC Berkeley. She is great at communicating and a very patient woman. She always wished and wanted to connect with students to help in their studies. She was able to easily sign up on our website because the website was very self-explanatory and easy to go through the whole process.



Home Page

## Register Here

Name :

Email Address \* :

Password \* :

Confirm Password \* :

Address :

 St. City, state, Postal code

Contact :

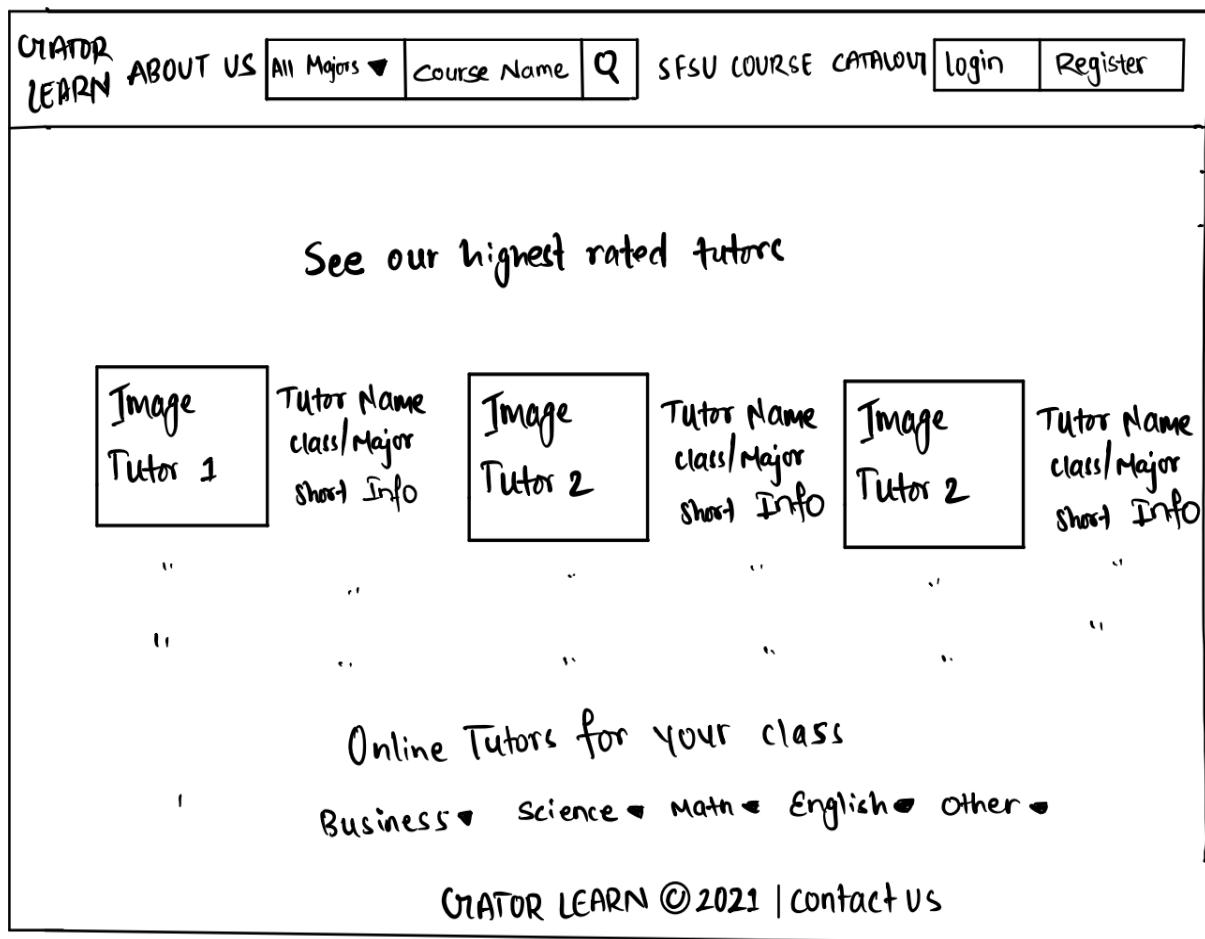
Gender :

 Male  
 Female[Register Now](#) I agree to Grator learn Terms and conditionsAlready a member? [Login](#)

Copyright © 2021 Grator Learn

## 2. Browsing as a non-registered user

Jane recently transferred to SF State University. Being a junior is always a stressful year during college. She is an excellent student and very organized with her study life. She had a good GPA when she transferred with a Computer Science major. Because she is new, she has not made good friends yet. However, she is starting to need one whom she can work together with in her class. She does not want to mess up her grade as well. Fortunately, she heard about the “Gator Learn” from one of her friends in the class. She was so happy to go through the website and get help from a tutor. Jane is very good at self-navigating the websites. So she went to a website and started searching for tutors by major or course. She also found one according to her course and wants to schedule tutoring sessions with that respective tutor to help herself stay accountable. Before being able to schedule an appointment, Jane is prompted to register or login. Since Jane is a non-registered user she goes through the registration process.



Home Page

## Search Results (After clicking on search button from navigation bar)

CREATE LEARN ABOUT US    SFSU COURSE CATALOGUE

## Register Here

Name :

Email Address\* :

Password\* :

Confirm Password\* :

Address :

Contact :

Gender :  Male  
Female

I agree to Create Learn Terms and conditions

Already a member? [Login](#)

Copyright © 2021 Create Learn

Registration Page (Lazy Registration) while trying to send message to tutor to book an appointment

GRATOR LEARN ABOUT US All Majors Course Name Q SFSU COURSE CATALOGUE login Register

## login Page

  
  
[Forgot password ?](#)  
  
  

Not registered? [Register Now](#)

GRATOR LEARN ©2021 | contact us

Login Page (Sign-in so as to schedule an appointment or send message to tutor)

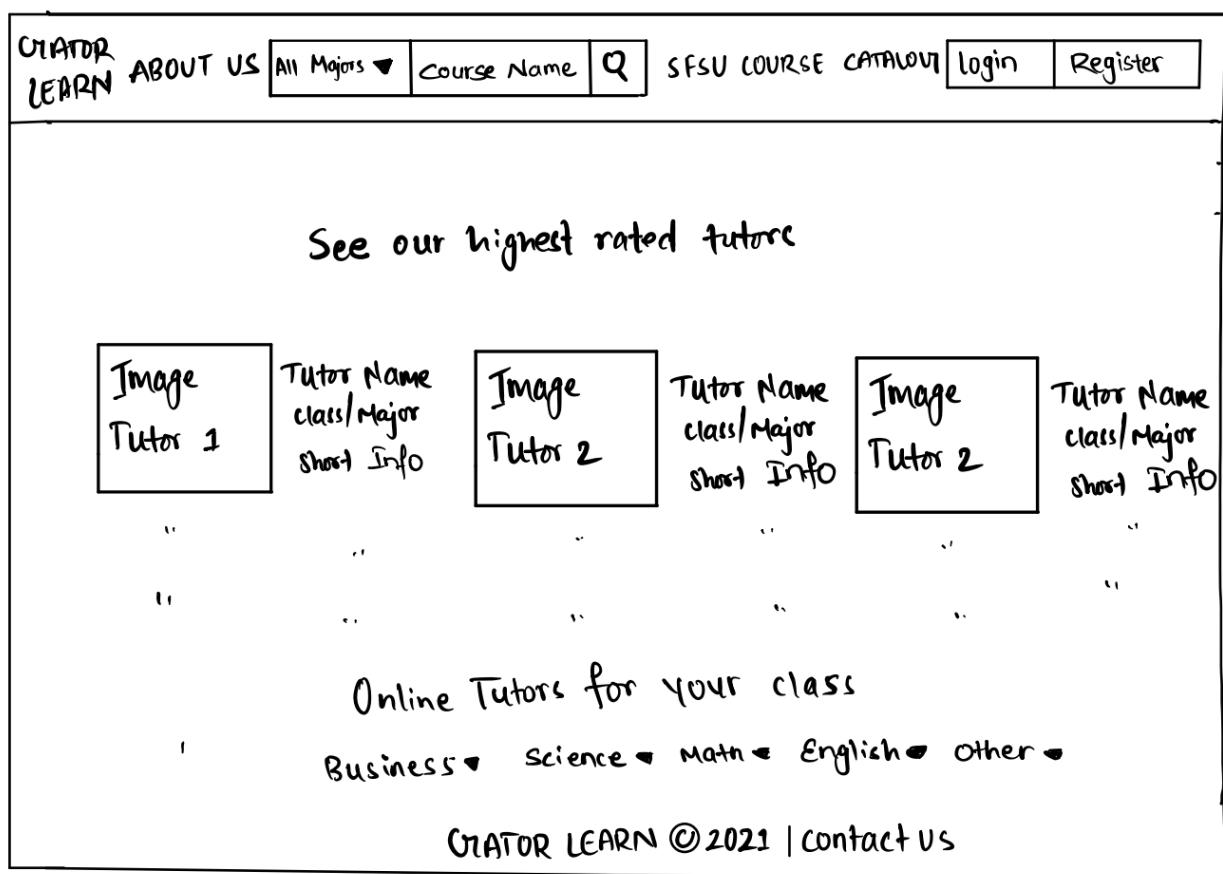
[Back](#)

Forgot Password Page (Incase user doesn't remember the password)

### 3. Scheduling appointment as a registered user

Josh is a senior student with an English major at SF State University. He is very busy with work and studying together. Because of this he is having a hard time managing time for his study. In the middle of the semester, he feels like he needs help with his math class. While he was working, he only had a phone with him, so he used his phone to navigate through our website. Since he has already registered on our website, he can sign in and start looking for the tutor he needs help with. He logs in, searches for the class, and checks for the availability of the math tutor. After checking the available spots, he schedules an appointment for him.

Available times are seen, otherwise not.



Home Page

GRATOR LEARN ABOUT US All Majors Course Name SFSU COURSE CATALOGUE login Register

login Page

Username

Password

Forgot password ?

Login

Not registered? Register Now

GRATOR LEARN ©2021 | contact us

Login Page (As already a registered user)

Email Address

Reset Password

Back

Forgot Password (Incase user doesn't remember the password)

GATOR LEARN ABOUT US All Majors ▾ Course Name  SFSU COURSE CATALOGUE JS

## Schedule an Appointment

Course :  lists of courses

Tutor :  lists of Tutors Available Spots

< MON		TUE	WED	THU	FRI	SAT >
Date	Date	Date	Date	Date	Date	
Time	Time	Time	Time	Time	Time	Time
..	..	..	..	..	..	..
..	..	..	..	..	..	..

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Schedule Appointment with Tutor

#### 4. Managing users by Site Admin

Donovan is an admin at “Gator Learn” who was also a professor at SF State University. He has an important role in this tutoring application. He has the permission to approve or decline the new users (students/tutors). He supervises whether or not the users have met all the requirements. He has access to the database of the application and manages the data and list of tutors and students on the website. However, he will not be able to edit/alter the details about users. He gets notified when the users change anything in their account and checks his inbox for the next wave of applicants to judge.

OLATOR LEARN ABOUT US All Majors Course Name SFSU COURSE CATALOGI login Register

See our highest rated tutors

Image Tutor 1 Tutor Name class/major short info

Image Tutor 2 Tutor Name class/major short info

Image Tutor 2 Tutor Name class/major short info

Online Tutors for your class

Business Science Math English Other

OLATOR LEARN ©2021 | contact us

Home Page

OLATOR LEARN ABOUT US All Majors Course Name SFSU COURSE CATALOGI login Register

Login Page

Username

Password

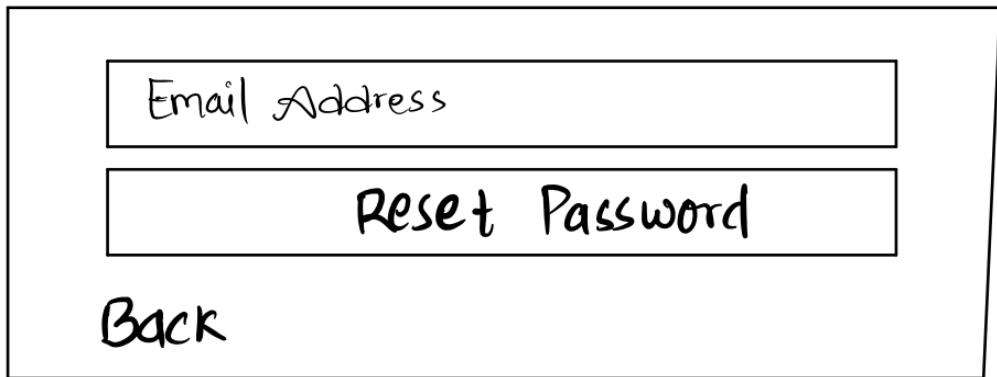
Forgot Password?

Login

Not registered? Register Now

OLATOR LEARN ©2021 | contact us

Admin performs login



Forgot Password (Incase user doesn't remember the password)

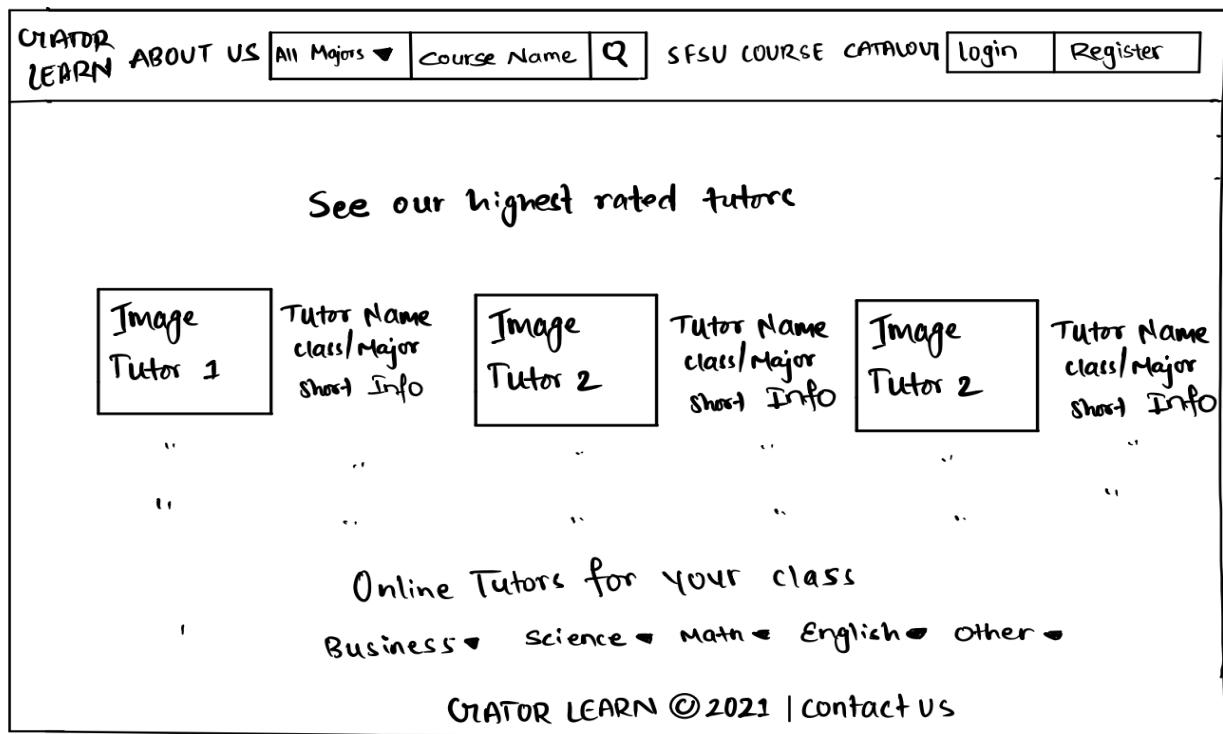
A hand-drawn wireframe of an Admin Dashboard titled "Admin Dashboard". The dashboard lists three tutor postings, each with a user image, name, email, and personal info, followed by "APPROVE" and "REJECT" buttons. The footer contains the text "CREATE LEARN ©2021 | contact us".

User Image 1	Name email Personal Info	APPROVE	REJECT
User Image 1	Name email Personal Info	APPROVE	REJECT
User Image 2	Name email Personal Info	APPROVE	REJECT

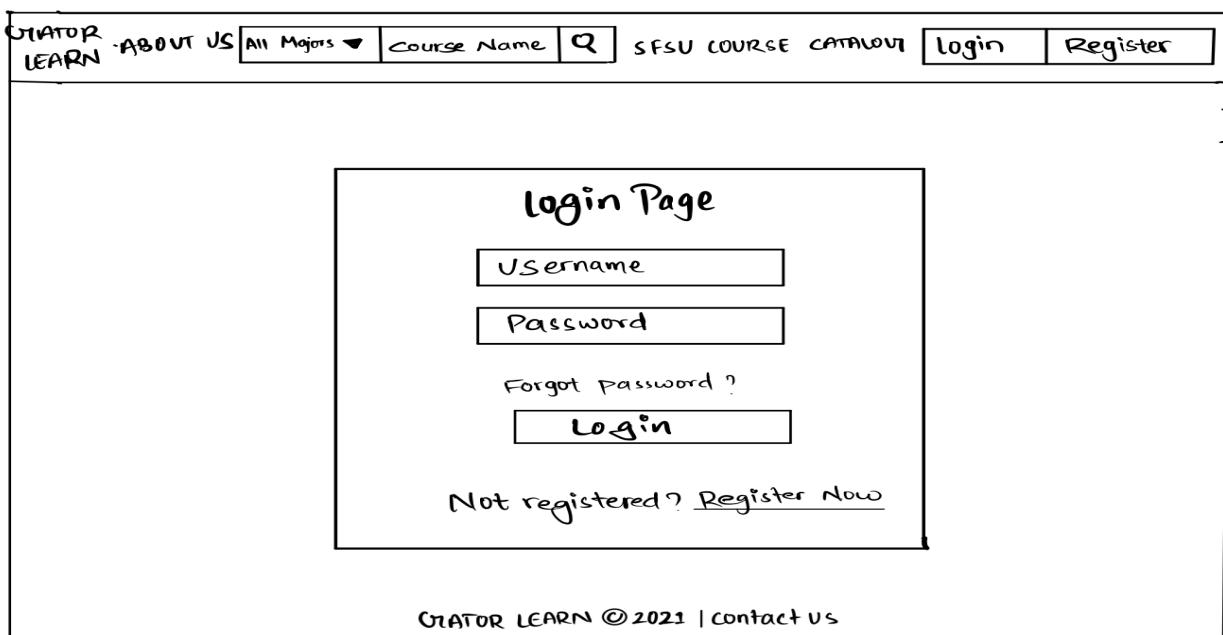
Admin Dashboard to Approve / Reject Tutor Postings

## 5. Adding personal information as a registered user

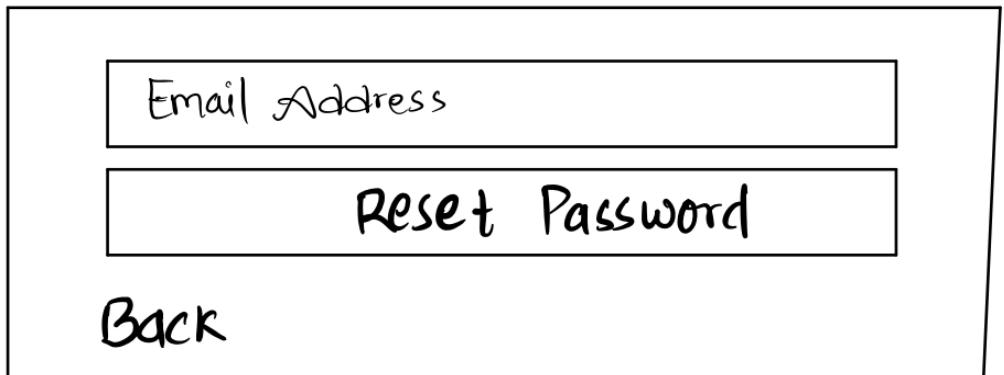
Jane, Josh, Janet and Donovan are registered and valuable users of “Gator Learn”. They want to add their personal information into their profile so that everyone in the website can know about them from the profile. Once they log in and go to their dashboard, they will find a place to add their bio. They write something about them and submit their information and wait for the admin’s approval.



Home Page



Login Page (As already a registered user)



Forgot Password (Incase user doesn't remember the password)

A hand-drawn wireframe of a user profile editing page. At the top, there is a navigation bar with links for "ABOUT US", "All Majors ▾", "Course Name", a search icon, "SFSU COURSE CATALOGUE", and a user icon labeled "JS".

The main area contains a "Profile Pic" placeholder with the name "Jane" inside. Below it is a link "Add Profile Pic".

Below the profile pic are five input fields for personal information:

- Name : [ ]
- email : [ ]
- Password : [ ]
- Address : [ ]
- Contact : [ ]

Below these fields is a section titled "Personal Information" containing a text box with the placeholder text "Add your academic experiences, interest and hobbies here.....".

At the bottom is a "Save changes" button.

At the very bottom of the page is a footer with the text "CRATOR LEARN © 2021 | contact us".

Posting (Uploading information)

## 6. Reviewing tutors as registered students

Jane and Josh were able to schedule an appointment and get the tutoring help from their respective course tutors. After the tutoring sessions, they wanted to rate their tutors because they can help other students decide who they can go to for study help. They enter their rating, and are prompted to register/sign in before proceeding. Therefore, on our website students can also leave feedback and suggestions for the tutors. If any of the tutor gets a very bad rating and review from students, the admin has a full right to delete their account from the website thereby removing the tutor.

The image shows a hand-drawn wireframe of a website interface. At the top, there is a navigation bar with the following elements from left to right: "TUTOR LEARN ABOUT US", a dropdown menu labeled "All Majors", a search bar with a magnifying glass icon, "SFSU COURSE CATALOGUE", and two buttons labeled "Login" and "Register". Below the navigation bar, the main content area features a heading "See our highest rated tutors" followed by four tutor profiles, each consisting of a thumbnail placeholder ("Image"), the tutor's name ("Tutor 1", "Tutor 2", "Tutor 2", "Tutor 2"), and a link to their class/major and short info. Below this section, there is another heading "Online Tutors for your class" followed by a list of categories: "Business", "Science", "Math", "English", and "Other". At the bottom of the page, there is a footer with the text "TUTOR LEARN ©2021 | contact us".

Home Page

GRATOR LEARN · ABOUT US All Majors ▾ Course Name Q SFSU COURSE CATALOGI Login Register

## login Page

Username

Password

[Forgot Password ?](#)

[Login](#)

Not registered? [Register Now](#)

GRATOR LEARN ©2021 | contact us

Login Page

Email Address

[Reset Password](#)

[Back](#)

[Forgot Password](#)

User is logged in already!

CRATOR	ABOUT US	All Majors ▾	Course Name	Q	SFSU COURSE CATALOGUE	login	Register
--------	----------	--------------	-------------	---	-----------------------	-------	----------

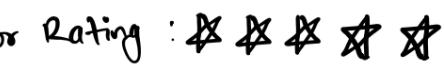
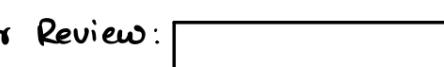
Tutor Feedback Form

Student ID :

Student email :

Course :

Tutor Name :

Tutor Rating :     

Tutor Review:

Would you recommend this tutor to other students?

Yes      NO      Maybe

CRATOR LEARN ©2021 | contact us

Feedback Form

## 5. High Level Architecture

### DB Organization

#### 1. Major

- majorId (Primary Key)
- majorName

#### 2. Courses

- courseNo (Primary Key)
- courseName
- availability

#### 3. Catalog (Relationship Table)

- majorId (Primary Key and Foreign Key)
- courseNo (Primary Key and Foreign Key)
- requirement

#### 4. Unregistered User

- sessionId (Primary Key)

#### 5. Registered User

- userId (Primary Key)
- sessionId (Foreign Key)
- majorId (Foreign Key)
- firstName
- lastName
- dateOfBirth
- gender
- email
- password
- avatar
- description
- status
- role
- courseTaught

#### 6. Tutoring\_Session

- tsId (Primary Key)
- tutorId (Foreign Key)
- majorId (Foreign Key)
- courseNo (Foreign Key)
- status
- date
- timeslot
- location
- review

## **7. Student\_Session (Relationship Table)**

- sfsuId (Primary Key and Foreign Key)
- tsId (Primary Key and Foreign Key)

## **8. Messaging**

- msgId (Primary Key)
- tutorId (Foreign Key)
- sfsuId (Foreign Key)
- sender
- date
- time
- subject
- content

## **Media Storage**

The web application follows MVC Architecture in Python and has a static folder which will contain all the images in formats like .png, .jpg, .gif

The images are stored in a database with their relative path in Blob format with varBinary(max) datatype.

## **Search/filter architecture and implementation**

The search bar in the web application follows this architecture: A dropdown showing the list of all the majors available in SFSU university. A text field where course name can be typed and we can get a list of all the matching courses available for that particular major or generally.

If we do not type in any course name in the text field or select any major and just click on the search button, then all majors with their respective courses will be shown to the user. If the user does specify the major and course name, a results page will be displayed showing X out of Y results based on the search (with the ability to toggle the number of items shown per page)

While typing in the course name in the text field, when you type some characters, related courses will be displayed in the dropdown by using the “% LIKE” concept in the query while coding. This LIKE clause will allow us to select specific values to return from the DB based on what the user is searching. The text that is searched will remain persistent in the text field after the search is complete and returned and results will be displayed accordingly.

## **APIs**

**1. loadHomePage():** This function will load the first page of the website i.e the homepage on clicking the url at runtime. Hereafter, you can start browsing the website.

**2. bookAppointment():** This function will be used by students to book appointments with tutors according to the courses they choose. They can schedule the timings according to the tutor's availability.

## **Processes Description**

There will be a few non trivial algorithms/ processes: A rating system for students, a feedback system for students and tutors, and ordering of the courses when displayed on any relevant page such as the search page or user home page. The rating system will be on a 5 point scale where students can rate their professors between 1 to 5 based on multiple criteria. The feedback system for registered users in general will allow users to provide feedback on the overall application system, personal preferences and other suggestions spanning a variety of potential issues. Courses will be organized and presented based on the nature of the page (search, home etc.)

## **6. Actual Key Risks**

### **1. Skills risks** (do you have the right skills)

- Team needs to learn and get familiarize working with Flask framework and follow MVC Architecture pattern
  - Team needs to follow proper coding style
  - Unfamiliarity with AWS
- Plan to Resolve**
- Team is learning and following the resources and tutorials of Flask and MVC
  - Team is following a document based on single coding style throughout the project

### **2. Schedule risks** (can you make it given what you committed and the resources)

- Team might find it difficult sometimes to do their assigned work on daily basis given unexpected events and other things on the plate.

#### **Plan to Resolve**

- Trying to keep small scope for the start so that the team complete their assigned work upto the deadline.

### **3. Technical risks** (any technical unknowns to solve)

- Remote hosting might be an issue sometimes with Putty as sometimes the session goes inactive and the site goes down.
- Github organization

#### **Plan to Resolve**

- Its resolved for now using some commands to keep the session active all the time.
- Learning Git and following documents related to it to create and maintain different branch

### **4. Teamwork risks** (any issues related to teamwork)

- Internal Communication gap sometimes.
- Frontend and Backend team pacing at their assigned work so that neither of them has to wait if the work is interlinked between the two

#### **Plan to Resolve**

- Team coordinates within themselves to help each other and keep updated by having internal zoom meetings eg. within front-end team members and back-end team members individually, also by updating all on team discord group and Trello

### **5. Legal/content risks** (can you obtain content/SW you need legally with proper licensing, copyright).

N/A

## **7. Project Management**

Team coordinates with each other using Discord, Trello and Zoom meetings. The agenda, the work assigned to individual team members and the deadlines is all discussed in the meeting and posted altogether on Discord and Trello to keep everyone updated about the same. There are several channels created on the Discord server group based on tasks which makes easy access for everyone in the team to look up to and complete their assigned tasks. Once the team member is done with the individual assigned work, he/she updates it on trello to let everyone else know and then also help others if something is left to do before the deadline.

Except for the mandatory zoom meeting after the class, we have our own individual team meeting to discuss the doubts and work further along the project. Also, if the work is interlinked between team members, they schedule internal team meetings on their own to discuss the same.

When the assigned task is completed team members make sure to upload it to the Google Drive folder created to coordinate between the team. Once finalized, it is then committed on Github. Team members make sure to complete the task assigned and upload the final edited version of it at max a day or two before the deadline so that the document master can just merge all of it, properly format it and submit it on/before time.

## MILESTONE 3

### SW Engineering CSC648/848 Fall 2021

**Project Title:** Gator Learn

**Team Number:** 04

**Names of Students:**

Manali Seth (Team Lead) (Email: [mseth@mail.sfsu.edu](mailto:mseth@mail.sfsu.edu))

Htet Soe (Front-end Lead)

Aarshil Patel (Back-end Lead)

Aditya Mohan (Github Master)

Seela Pant

Christian Samatra

William Yu

**Milestone:** 3

**Date:** 11/17/2021

**History Table:**

<b>Date</b>	<b>Revision</b>
10/09/2021	Created as the first version
10/27/2021	Revised according to CEO's feedback

# **Summary of Milestone 3 ZOOM meeting review with Prof. Petkovic and plans for further development**

Team number: 4

Meeting date: 11/17/2021

## **Summary of feedback on UI**

- Header with small fonts
- Navigation Bar
  - Move Login, Register button to right
  - Change sequence of items on Nav. bar
  - Contact Us button on footer instead of Nav. bar
- Search Results Page
  - Avatar of Tutor on left
  - Add ‘Send Message’ button to tutor by students
  - Change Column name ‘Course Taught’ to ‘Course Tutored’
  - Change position of ‘Showing number of entries’ while displaying search results
- Search Bar
  - Guidance about how to type course name in search bar
  - Search text persistency on the results page

## **Summary of feedback on code and architecture**

- MVC Architecture is fine
- Add proper comments in each file describing the content of file

## **Summary of feedback on github usage**

- Only Github Master and Team Lead can be given all permissions to make changes on Github.
- Have proper usage of github commits in different branches (master, testing, development)
- Milestone documents need to be separated from code

## **Summary of feedback on DB Summary of feedback on teamwork**

- Don’t distinguish roles for student and tutor. Keep just as User.
- Encrypted Password
- Change names of tutors

Any other comments and issues: No

Check Point (CP) given, DUE: 11/20/2021

## P1 features

- Login/Registration
- Search + search results (tutor details view can be omitted)
- Message to Tutor
- Tutor post
- Dashboard showing at minimum messages received (if any) and also preferably pasted tutoring (if any)

## MILESTONE 4

**SW Engineering CSC648/848 Fall 2021**

**Project Title:** Gator Learn

**Team Number:** 04

**Names of Students:**

Manali Seth (Team Lead) (Email: [mseth@mail.sfsu.edu](mailto:mseth@mail.sfsu.edu))  
Htet Soe (Front-end Lead)  
Aarshil Patel (Back-end Lead)  
Aditya Mohan (Github Master)  
Seela Pant  
Christian Samatra  
William Yu

**Milestone:** 4

**Date:** 12/18/2021

**History Table:**

<b>Date</b>	<b>Revision</b>
12/18/2021	Created as the first version

# **1. Product Summary**

**Name of the Product:** Gator Learn

**Major Functions:**

11. Browsing

One can browse through different pages from navigation bar. One can view recently approved tutor postings from the home page.

12. Searching:

One can search list of tutors based on chosen major & courses available at SFSU.

13. Login

One can login in Gator Learn Website to be able to message tutor or apply for tutor posting.

14. Registration

One can register to become a Gator Learn member to have more privileges than an unregistered user.

15. View SFSU Course Catalog

Displays full list of different Majors and Courses available at SFSU

16. Tutor Posting

One can apply for Tutor Posting to be able to let users know which course one will be tutoring for.

17. Admin Approval

Tutor Postings are live only when admin approves them from the backend (SQL Workbench)

18. Send Message to Tutors

Message can be sent to tutors only when one is registered.

19. Contact Us

One can contact Gator Learn creators via email by clicking on Contact Us.

20. About Us

One can browse individual profile of Gator Learn creators by clicking About Us.

**Uniqueness:**

- The Gator Learn website is designed exclusively for SFSU users.
- One can message tutors or apply for tutor posting only once logged in else there is lazy registration.
- One can view recently approved tutor postings on home page so to have the latest updates.

**URL to Product:** <http://3.144.136.131:8000/>

## **2. Usability Test Plan**

### **Usability Test: Search implementation**

#### **- Test Objectives**

The main purpose of the usability test plan is to provide a simple user experience for users. This allows users around the globe to enjoy and take advantage of online platforms like tutoring services. We have a simple online tutoring website where users can easily search for their class tutor and get help from them. Search function is one of the important functions that helps users to narrow down their results.

The main objective is to test the search function and see if it is convenient to users and if it correctly responds to the user input and provides the information that best matches the user's search text. Another objective is to get the search results even if there is typo or less information from users input.

With all these objectives mentioned, the development team will also get the feedback from users and can bring better user experience in future.

#### **- Test background and setup**

##### **System setup**

The system can be set up easily for the users. They just need to use our online website (Gator Learn) URL and launch the website on his/her computer / laptop and make sure the internet is connected. As of now, our website is supported by two browsers i.e. Chrome and Firefox.

##### **Starting point**

To effectively test our search function, we planned on having some simple user search for various course listings we have in our home page. If the character(s) or the length of user input is valid, relatable search results will be shown. Otherwise, the message will prompt as 'Search input must be alphanumeric' or 'Invalid Input' or 'Search input must be less than 40 characters' depending upon the case. In this case, we can check how quickly and correctly users get the results based on their input.

##### **Who are the intended users?**

The intended users for our website are registered, unregistered, and admin users. If the users are just there to browse and see what we have on our website, they do not have to login or register. Unregistered users can use our search function several times and check all the listings we have in our website so that they can decide if they want to contact our tutors and get help from them.

**URL of the system to be tested: <http://3.144.136.131:8000/>**

## - **Usability Task description**

Users will be asked to search for a specific major or course. The results should only show listings of tutors according to the major and course searched.

- 1) User can just click on search button directly to list all the tutors available.
- 2) User can just select the major from the dropdown and click on search button to list tutors based on major tutored.
- 3) User can just type in the course name by typing in some characters and then choosing one from the list available using autocomplete feature and have list of tutors based on course tutored.
- 4) User can select both the major (from dropdown) and type in any course name to see list of tutors available based on major and course tutored.

## - **Evaluation of Effectiveness**

It deals with how many users are able to complete the task effectively.

Search: Users even with average computing skills can implement the above 4 test cases with 0 errors and see the list of tutors as required.

## - **Evaluation of Efficiency**

The users can view the search results within few milliseconds by choosing major and typing in the course name and by hitting on search button in max 3 clicks which shows good efficiency.

## - **Evaluation of User satisfaction**

	<b>STRONGLY AGREE</b>	<b>AGREE</b>	<b>NEUTRAL</b>	<b>DISAGREE</b>	<b>STRONGLY DISAGREE</b>
<b>THE SEARCH RESULTS WERE DISPLAYED CORRECTLY</b>					
<b>THE PROCESS OF SEARCHING A TUTOR LISTING WAS EASY</b>					
<b>THE SEARCH BAR WAS CONVENIENT TO USE</b>					

**General Comments/Feedback:**

### **3. QA Test Plan**

#### **- Test Objectives**

Use case: Searching as a non-registered/registered user.

Outline of Test plan

We are testing the search function for when users search for tutors that are available exclusively for SFSU users.

#### **- HW and SW Setup**

**HW Setup:** You just need a computer/ laptop for testing

**SW Setup:**

Server Host: AWS 1 vCPU 1 GB RAM

Operating System: Ubuntu 20.04

Server Database: MySQL Workbench

Server-Side Language: Python 3.7/+

Browser: Google/ Firefox

Additional Technologies:

Web Framework: Flask

IDE: PyCharm

Web Analytics: Google Analytics

#### **- Feature to be tested**

##### **Test Sequence**

Go to the app URL, open up our application.

Locate dropdown menu next to search bar (if displaying search results separated based on major), choose “Accounting”, click search, and make sure results contain “5” results from “Accounting”

Go to course input field

Type <course name>, hit search button, make sure response is <list of tutors based on course typed in> (check for correctness of operation)

We are testing for search function accuracy - making sure text in search fields gives correct autocomplete results while typing in course name input, e.g. typing “fin” might display results such as “Introduction to FinTech”.

We also want to test for search input validation, making sure special characters aren’t allowed or inputs that are too long (over 40 characters).

- QA Test Plan

TEST NUMBER	TEST TITLE	TEST DESCRIPTION	TEST INPUT	EXPECTED OUTPUT	TEST RESULTS (PASS/FAIL)
1	Search results test	Test % like in search for “All majors” field	Type “Hatha Yoga” in course name input field	Get 2 results, of all 2 results have “Hatha Yoga” in course tutored column	Pass in Chrome/ Pass in Firefox
2	Attempting to message tutor while not logged in	Test sending of message to tutor inbox	Typed the entire message “Hi, I am interested in...” while only browsing	User will be redirected to registration page (lazy-registration)	Pass in Chrome/ Pass in Firefox
3	Search input validation	Test the input validation in search field, no special characters	Select a category and type a special character (*, @, \$) in search field	An alert message pops “Search input must be alphanumeric”	Pass in Chrome/ Pass in Firefox
4	Search input validation	Test the input validation in search field, character limit	Type “This search request contains too many characters” in search field	Site should limit and prevent searches with a 40 character limit	Pass in Chrome/ Pass in Firefox

## 4. Code Review

### CSC 648-848 Fall 2021 Team 04 Code Review



Manali Chandrakant Seth

Sat 18-12-2021 13:33

To: Aarshil Shaileshkumar Patel



Hello Aarshil,

Please review my code based on search functionality. I am hereby attaching the links directed to the code from where you can review it.

Search method implementation (logic)

See the method with route ('/search') in this portion of file

<https://github.com/CSC-648-SFSU/csc648-03-fa21-team04/blob/096180155c602d57612dc1b65599c5238d28bf1a/project/com/controller/HomeController.py>.

Build software better, together

**GitHub**

GitHub is where people build software. More than 73 million people use GitHub to discover, fork, and contribute to over 200 million projects.

[github.com](https://github.com)

Fetching search results from database (queries)

<https://github.com/CSC-648-SFSU/csc648-03-fa21-team04/blob/096180155c602d57612dc1b65599c5238d28bf1a/project/com/dao/TutorPostingDAO.py>

Build software better, together

**GitHub**

GitHub is where people build software. More than 73 million people use GitHub to discover, fork, and contribute to over 200 million projects.

[github.com](https://github.com)

Displaying search results to user

[https://github.com/CSC-648-SFSU/csc648-03-fa21-team04/blob/096180155c602d57612dc1b65599c5238d28bf1a/project/templates/user/VP\\_searchResultPage.html](https://github.com/CSC-648-SFSU/csc648-03-fa21-team04/blob/096180155c602d57612dc1b65599c5238d28bf1a/project/templates/user/VP_searchResultPage.html)

Build software better, together

**GitHub**

GitHub is where people build software. More than 73 million people use GitHub to discover, fork, and contribute to over 200 million projects.

[github.com](https://github.com)

Best,  
Manali Seth

Search functionality related links to have Peer's code review on it

## CSC 648-848 Fall 2021 Team 04 Code Review



Aarshil Shaileshkumar Patel

Sat 18-12-2021 14:47

To: Manali Chandrakant Seth

↶ ↷ ↺ ↻ ⋮

Hello Manali,

I had an overview of the code you sent. And I would like to summarize it here.

Overall, I think the code is very well organized.

The comments in the code helped me understand clearly.

The code is properly indented as well.

The class/methods/variable names are consistent too.

They also meet the naming established before.

The commit messages in the github are also to the point and gives clear idea about that particular commit.

MVC architecture is well maintained.

Proper usage of flask routes to navigate between pages.

Well written header and inline comments.

In general, I believe the code meets the standard requirements and it is efficient.

Thank you

Aarshil Patel

## Code Review

## 5. Self-check on best practices for Security

Asset to be protected	Types of possible/expected attacks	Your strategy to mitigate/protect the asset
The user's login/password database (High value)	Unauthorized access to the database (High probability)	<p>Any new registered users will now have their passwords encrypted in the database.</p> <p>Track and manage database access and restrict usage to only admins.</p>
The user's login/password database (High value)	SQL Injection through login/registration forms (Medium probability)	<p>Input validation on login and registration forms that requires input to contain alphanumeric characters, other than e-mail, and have under 40 characters.</p> <p>Further validation on the e-mail where the suffix of the input must be "sfsu.edu".</p>
The tutor/course database (Low value)	SQL Injection through the search bar (Medium probability)	<p>Input validation on the search bar that requires input to only contain alphanumeric characters and have under 40 characters.</p> <p>The tutor and course database does not contain sensitive or confidential data even if it were to be accessed without authorization.</p>
Application's hosting service credentials (High value)	Unauthorized user makes application unavailable (Low probability)	Strict management to credentials and keys to web hosting server.
An individual user's account (Low value, with exceptions)	Unauthorized access to the user's account (Medium probability)	A contacted admin can use the database-stored e-mail for verification in order to restore or reset a user's login credentials.

## 6. Self-check on adherence to non-functional specs

1. Application shall be developed, tested and deployed using tools and servers approved by Class CTO and as agreed in Milestone 0. Application delivery shall be from chosen cloud server. **DONE**
2. Application shall be optimized for standard desktop/laptop browsers e.g. must render correctly on the two latest versions of two major browsers. **DONE**
3. All or selected application functions must render well on mobile devices. **ON TRACK**
4. Data shall be stored in the database on the team's deployment cloud server. **DONE**
5. No more than 50 concurrent users shall be accessing the application at any time. **DONE**
6. Privacy of users shall be protected and all privacy policies will be appropriately communicated to the users. **DONE**
7. The language used shall be English (no localization needed). **DONE**
8. Application shall be very easy to use and intuitive. **DONE**
9. Application should follow established architecture patterns. **DONE**
10. Application code and its repository shall be easy to inspect and maintain. **DONE**
11. Google analytics shall be used **DONE**
12. No e-mail clients shall be allowed. **DONE**
13. Pay functionality, if any (e.g. paying for goods and services) shall not be implemented nor simulated in UI. **DONE**
14. Site security: basic best practices shall be applied (as covered in the class) for main data items. **DONE**
15. Application shall be media rich (images, video etc.). Media formats shall be standard as used in the market today. **DONE**
16. Modern SE processes and practices shall be used as specified in the class, including collaborative and continuous SW development. **DONE**
17. 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. **DONE**
18. The application UI (WWW and mobile) shall prominently display the following exact text on all pages "SFSU Software Engineering Project CSC 648-848, Fall 2021 For Demonstration Only" at the top of the WWW page. (Important so as to not confuse this with a real application). **DONE**

# Product Screenshots

The screenshot shows a web browser window for the SFSU Software Engineering Project. The title bar indicates it's a local host at port 8000. The main content area displays three tutor profiles under the heading "RECENT TUTOR POSTINGS". Each profile includes a placeholder image of a man with a beard, the tutor's name, their major tutored, the course tutored, and two interaction buttons: "Hi, I'm interested in your tutoring services" and "Send Message to Tutor". A large "Apply Tutor Posting" button is centered below the profiles. Below this section, there's a banner for "Online Tutors for your class" with dropdown menus for "Business courses", "Science courses", "Math courses", "English courses", and "Other courses". The footer contains the GATOR LEARN logo and a copyright notice.

Landing Page

The screenshot shows a web browser window for the SFSU Course Catalog. The title bar indicates it's a local host at port 8000. The main content area displays a table titled "SFSU Course Catalog" with two columns: "Major Name" and "Course Name". The table lists various courses across different majors. At the bottom of the table, there are navigation buttons for "Previous", "1", "2", and "Next". The footer contains the GATOR LEARN logo and a copyright notice.

Major Name	Course Name
ACCT	Advanced Accounting
ARTS	Agriculture and Food Supply
BIO	Cancer Biology
BUS	Business Communication for Professionals
CSC	Analysis of Algorithms Cloud Computing
ECON	International Trade Theory and Policy
ENGR	Embedded VLSI
FIN	Introduction to FinTech Financial Risk Management
HIST	Teaching History with Comics
HTM	Tourism Management

SFSU Course Catalog

Screenshot of a web browser showing the SFSU Course Catalog page.

The page title is "Course Catalog". The URL is "Not secure | 3.144.136.131:8000/catalog". The browser tabs include "Course Catalog", "Not secure | 3.144.136.131:8000/catalog", "Developing Python...", "SA\_SRC", "H18/OPT", "Internship/Job", "Search", "Apps", and "Course Catalog".

The page header includes the "GATOR LEARN" logo, "ABOUT US", "All Majors", "Course Name" search bar, "SFSU COURSE CATALOG", "Login", and "Register".

The main content area displays a table of course offerings:

Major Name	Course Name
IBUS	Global Leadership in the Modern World
ISYS	Information Systems for Management
KIN	Hatha Yoga
MATH	Concepts of the Number System
PHYSICS	General Physics I Electricity and Magnetism I

Pagination at the bottom shows "Previous", "1", "2", and "Next".

The footer contains the text "GATOR LEARN © 2021 | Contact Us".

## SFSU Course Catalog (next page)

Screenshot of a web browser showing the Tutors page.

The page title is "Tutors". The URL is "Not secure | 3.144.136.131:8000/search". The browser tabs are identical to the previous screenshot.

The page header includes the "GATOR LEARN" logo, "ABOUT US", "All Majors", "Course Name" search bar, "SFSU COURSE CATALOG", "Login", and "Register".

The main content area displays a table of tutors:

Avatar	Tutor Name	Major Tutored	Course Tutored	Description	Tutor CV	Message
	Damon Jensen	KIN	Hatha Yoga	Available for tutoring on Mon and Tue 3-4 pm	Test_file.docx	<input type="text" value="Hi, I'm interested in your tutoring services!"/> <button>Send Message to Tutor</button>
	Dean Brock	FIN	Introduction to FinTech	Available for tutoring on Mon and Thur 8-10 am	Test_file.docx	<input type="text" value="Hi, I'm interested in your tutoring services!"/> <button>Send Message to Tutor</button>
	Jan Nash	KIN	Hatha Yoga	Available for tutoring on Mon and Fri 4-6 pm	Test_file.docx	<input type="text" value="Hi, I'm interested in your tutoring services!"/> <button>Send Message to Tutor</button>

The footer contains the text "Showing 1 to 3 of 3 entries for 'All Majors' tutored".

## Search Results (Displaying all approved tutors)

SFSU Software Engineering Project  
CSC 648-848, Fall 2021  
For Demonstration Only  
Section 03 | Team 4

GATOR LEARN ABOUT US FIN Course Name SFSU COURSE CATALOG Login Register

Avatar	Tutor Name	Major Tutored	Course Tutored	Description	Tutor CV	Message
	Dean Brock	FIN	Introduction to FinTech	Available for tutoring on Mon and Thur 8-10 am	Test_file.docx	Hi, I'm interested in your tutoring services! <input type="button" value="Send Message to Tutor"/>

Showing 1 result for "FIN" major tutored

Previous 1 Next

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### Search Results (Displaying tutor list based on only major chosen)

SFSU Software Engineering Project  
CSC 648-848, Fall 2021  
For Demonstration Only  
Section 03 | Team 4

GATOR LEARN ABOUT US All Majors Introduction to FinTech SFSU COURSE CATALOG Login Register

Avatar	Tutor Name	Major Tutored	Course Tutored	Description	Tutor CV	Message
	Dean Brock	FIN	Introduction to FinTech	Available for tutoring on Mon and Thur 8-10 am	Test_file.docx	Hi, I'm interested in your tutoring services! <input type="button" value="Send Message to Tutor"/>

Showing 1 result for "Introduction to FinTech" course tutored

Previous 1 Next

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### Search Results (Displaying tutor list based on only course name chosen)

The screenshot shows a web browser window with the following details:

- Title Bar:** Tutors
- Address Bar:** Not secure | 3.144.136.131:8000/search
- Toolbar:** Apps, Search, Internship/job, H1B/OPT, SA\_SRC, Developing Python...
- Content Area:**
  - SFSU Software Engineering Project**
  - CSC 648-848, Fall 2021
  - For Demonstration Only
  - Section 03 | Team 4
  - GATOR LEARN** ABOUT US KIN Hatha Yoga  SFSU COURSE CATALOG Login Register
  - Showing 2 result for "KIN" major tutored and "Hatha Yoga" course tutored
  - A table listing two tutors:

Avatar	Tutor Name	Major Tutored	Course Tutored	Description	Tutor CV	Message
	Damon Jensen	KIN	Hatha Yoga	Available for tutoring on Mon and Tue 3-4 pm	Test_file.docx	<input type="text" value="Hi, I'm interested in your tutoring services!"/>
	Jan Nash	KIN	Hatha Yoga	Available for tutoring on Mon and Fri 4-6 pm	Test_file.docx	<input type="text" value="Hi, I'm interested in your tutoring services!"/>
  - Pagination: Previous, 1, Next

Search Results (Displaying tutor list based on both major and course chosen)

The screenshot shows a web browser window with the following details:

- Title Bar:** Register
- Address Bar:** Not secure | 3.144.136.131:8000/userLoadRegister?
- Toolbar:** Apps, Search, Internship/job, H1B/OPT, SA\_SRC, Developing Python...
- Content Area:**
  - SFSU Software Engineering Project**
  - CSC 648-848, Fall 2021
  - For Demonstration Only
  - Section 03 | Team 4
  - GATOR LEARN** ABOUT US All Majors Course Name  SFSU COURSE CATALOG Login Register
  - A large central modal dialog titled "Register" containing:
    - Input fields for Full Name, E-mail Address, Password, and Confirm Password.
    - A checkbox labeled "I agree to the Terms of Service and Privacy Rules."
    - A "Register" button.
    - Text "Already a member? [Login](#)"
  - GATOR LEARN © 2021 | [Contact Us](#)

Registration Page

Full Name (i)  
Username field cannot be empty!

E-mail Address (i)  
Email field cannot be blank and can only be @sfsu.edu!

Password (i)  
Password cannot be blank!

Confirm Password (i)  
Password Needs To Match!

I agree to the Terms of Service and Privacy Rules.  
Please confirm that you accept the TOS!

**Register**

Already a member? [Login](#)

## Registration Form validations

GATOR LEARN   ABOUT US   All Majors   Course Name   SFSU COURSE CATALOG   Login   Register

SFSU Software Engineering Project  
CSC 648-848, Fall 2021  
For Demonstration Only  
Section 03 | Team 4

Login

Email address

Password

Forgot password?

Login

Not Registered? Register Now

Login Page

Landing Page

Not secure | 3.144.136.131:8000/readMessage?

SFSU Software Engineering Project  
CSC 648-848, Fall 2021  
For Demonstration Only  
Section 03 | Team 4

GATOR LEARN ABOUT US All Majors Course Name SFSU COURSE CATALOG Inbox Logout

### RECENT TUTOR POSTINGS

Message Date	Message Time	Sender name	Major	Course	Message Description
2021-12-18	13:06:20	Vickie Flores	FIN	Introduction to FinTech	Want to have tutor session with you
2021-12-18	22:01:10	John Smith	FIN	Introduction to FinTech	Query in your course
2021-12-18	22:01:41	John Smith	FIN	Introduction to FinTech	Tutoring session
2021-12-18	22:05:44	John Smith	FIN	Introduction to FinTech	Hi Im interested
2021-12-18	22:06:09	John Smith	FIN	Introduction to FinTech	Hi Im interested

You have 5 new messages!

Inbox (displaying messages to tutors from users(students) after login)

Not secure | 3.144.136.131:8000/tutorPosting

SFSU Software Engineering Project  
CSC 648-848, Fall 2021  
For Demonstration Only  
Section 03 | Team 4

GATOR LEARN ABOUT US All Majors Course Name SFSU COURSE CATALOG Inbox Logout

### TUTOR POSTING

Please fill out the form to publish your availability to tutor courses.

**Major:** PHYSICS

**Course:** General Physics I

**Description:**  
Any additional info you'd like to add about your tutoring, such as available hours

**CV upload:**  
Choose file No file chosen

**Profile picture upload:**  
Choose file No file chosen

Check if available for group tutoring

**Send post to admin for approval**

May take up to 24-48 hours for post to be published and be live

Tutor Posting Page

Screenshot of the SFSU Software Engineering Project website's 'About Us' page.

**Header:** GATOR LEARN ABOUT US All Majors Course Name SFSU COURSE CATALOG Inbox Logout

**Section:** ABOUT US The Creators

**Team Members:**

- AARSHIL PATEL** Back-end Lead  
Second semester CS Graduate student at SFSU.  
[Personal Profile](#)
- MANALI SETH** Team Lead  
First semester CS Graduate student at SFSU.  
[Personal Profile](#)
- HTET SOE** Front-end Lead  
Last semester Undergraduate CS student at SFSU.  
[Personal Profile](#)
- WILLIAM YU** Back-end Team Member  
Senior Undergraduate CS student at SFSU.  
[Personal Profile](#)
- SEELA PANT** Front-end Team Member  
Senior Undergraduate CS student at SFSU.  
[Personal Profile](#)
- ADITYA MOHAN** Github Lead  
Senior Undergraduate CS student at SFSU.  
[Personal Profile](#)
- CHRISTIAN ROBERT** Front-end Team Member  
Senior Undergraduate CS student at SFSU.  
[Personal Profile](#)

**Footer:** GATOR LEARN © 2021 | Contact Us

## About Gator Learn Creators

Screenshot of the SFSU Software Engineering Project website's 'loadProfile\_MS' page for Manali Seth.

**Header:** Manali Seth Not secure 3.144.136.131:8000/loadProfile\_MS Apps Search Internship/Job H1B/OPT SA\_SRC Developing Python... Reading list

**Section:** About Me

I am a first semester Grad student at SFSU pursuing Master's in Computer Science. I have undergraduate from Charotar University of Science and Technology in India. My hobbies include drawing and listening music. I like to interact with people and know about different cultures.

**Areas of Interest:**

- Data Analysis
- Machine Learning
- Computer Vision

**Contact info:**

Email: [mseth@mail.sfsu.edu](mailto:mseth@mail.sfsu.edu)  
 Github: [Manali Seth](#)  
 SFSU ID: 567891234  
 Phone Number: +1 (667) 890-1234

## Personal Profile Page

# Database Organization

The screenshot shows a database interface with a toolbar at the top containing various icons for file operations, search, and navigation. The main area displays a query window with the following SQL command:

```
1 • | SELECT * FROM se_tutoring.User;
```

The results are presented in a "Result Grid" table:

	userId	user_loginId	userName
▶	1	1	John Smith
	2	2	Damon Jensen
	3	3	Devin Howard
	4	4	Jan Nash
	5	5	Garrett Lane
	6	6	Dean Brock
	7	7	Tara Ferguson
	8	8	Janie Phillips
	9	9	Vickie Flores
	10	10	Sonya Sutton
	11	11	Peggy Lynch
	12	12	Tina Rogers
	13	13	Gloria King
	14	14	Janet James
	15	15	Evelyn Reed
	16	16	Mac Brown
*	HULL	HULL	NULL

User Table

The screenshot shows a database interface with a toolbar at the top containing various icons for file operations, search, and navigation. The main area displays a query window with the following SQL command:

```
1 • | SELECT * FROM se_tutoring.Login;
```

The results are presented in a "Result Grid" table:

	loginId	loginEmail	loginPassword
▶	1	jsmith@sfsu.edu	\$pbkdf2-sha256\$29000\$3TthiLFZLqVUCmFszdk...
	2	djensen@sfsu.edu	\$pbkdf2-sha256\$29000\$GwMAYGzN.d8bY2xNC...
	3	dhoward@sfsu.edu	\$pbkdf2-sha256\$29000\$1BojpPR.zzkHAGCMkXI...
	4	jnash@sfsu.edu	\$pbkdf2-sha256\$29000\$1FOqXVu7Z2zjlLGWKv...
	5	glane@sfsu.edu	\$pbkdf2-sha256\$29000\$SkkpJQSA8F5rDSHkfE...
	6	dbrock@sfsu.edu	\$pbkdf2-sha256\$29000\$rZVSSgkBwPif03qPEdK...
	7	tferguson@sfsu.edu	\$pbkdf2-sha256\$29000\$X.tdy/n//18LIWQM4V...
	8	jphilips@sfsu.edu	\$pbkdf2-sha256\$29000\$wJjznjNGaE3pfU/J2VsL...
	9	vflores@sfsu.edu	\$pbkdf2-sha256\$29000\$8x7jfO9dk4XQ2ptzTg...
	10	ssutton@sfsu.edu	\$pbkdf2-sha256\$29000\$ZsyZE2LMudf6/5/TGq...
	11	plynch@sfsu.edu	\$pbkdf2-sha256\$29000\$.N97z1nL.X9PCUGotvb...
	12	trogers@sfsu.edu	\$pbkdf2-sha256\$29000\$7p0TovQ.59xb611rrX...
	13	gking@sfsu.edu	\$pbkdf2-sha256\$29000\$.P./V0rJGeM859y7d.6...
	14	jjames@sfsu.edu	\$pbkdf2-sha256\$29000\$P2fMGWNsLaXUem.ttd...
	15	ereed@sfsu.edu	\$pbkdf2-sha256\$29000\$ntM6h3BuLYWQkjImR...
*	HULL	HULL	NULL

Login Table (with encrypted passwords)

Query 1 Catalog Courses Major × TutorPosting User Login Messaging

1 • `SELECT * FROM se_tutoring.Major;`

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Con

	majorId	majorName
▶	1	CSC
	2	ENGR
	3	ACCT
	4	BUS
	5	KIN
	6	ECON
	7	FIN
	8	HTM
	9	ISYS
	10	IBUS
	11	MATH
	12	HIST
	13	BIO
	14	ARTS
	15	PHYSICS
*	NULL	NULL

Result Grid Form Editor Field Types Query Stats Execution Plan

Major Table

Query 1 Catalog Courses × Major TutorPosting User Login Messaging

1 • `SELECT * FROM se_tutoring.Courses;`

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Con

	courseNo	courseName
▶	111	General Physics I
	136	Hatha Yoga
	165	Concepts of the Number System
	300	Business Communication for Professionals
	304	Teaching History with Comics
	360	Electricity and Magnetism I
	363	Information Systems for Management
	420	Introduction to FinTech
	424	Tourism Management
	427	Agriculture and Food Supply
	501	Advanced Accounting
	611	International Trade Theory and Policy
	658	Financial Risk Management
	760	Cancer Biology
	810	Analysis of Algorithms
	838	Global Leadership in the Modern World
	844	Embedded
	848	VLSI
	867	Cloud Computing
*	NULL	NULL

Result Grid Form Editor Field Types Query Stats Execution Plan

Courses Table

Query 1 Catalog Courses Major TutorPosting User Login Messaging

1 • SELECT \* FROM se\_tutoring.Catalog;

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: | Result Grid | Form Editor | Field Types | Query Stats | Execution Plan

majorId	courseNo
15	111
5	136
11	165
4	300
12	304
15	360
9	363
7	420
8	424
14	427
3	501
6	611
7	658
13	760
1	810
10	838
2	844
2	848
1	867
*	HULL
*	HULL

Catalog 1 | Catalog Table | Apply | Revert

Query 1 Catalog Courses Major TutorPosting User Login Messaging

1 • SELECT \* FROM se\_tutoring.TutorPosting;

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: | Result Grid | Form Editor | Field Types | Query Stats | Execution Plan

tpId	tp_loginId	tp_majorId	tp_courseNo	tutorDescription	tutorCV_datasetName	tutorCV_datasetPath	tutorAvatar_datasetName	tutorAvatar_datasetPath	adminApprovalStatus
1	1	15	111	Available for tu...	Test_file.docx	project/static/datas...	Test_image.jpg	project/static/dataset/u...	N
2	2	5	136	Available for tu...	Test_file.docx	project/static/datas...	Test_image.jpg	project/static/dataset/u...	Y
3	4	2	844	Available for tu...	Test_file.docx	project/static/datas...	Test_image.jpg	project/static/dataset/u...	N
4	6	7	420	Available for tu...	Test_file.docx	project/static/datas...	Test_image.jpg	project/static/dataset/u...	Y
5	6	8	424	Available for tu...	Test_file.docx	project/static/datas...	Test_image.jpg	project/static/dataset/u...	N
6	4	5	136	Available for tu...	Test_file.docx	project/static/datas...	Test_image.jpg	project/static/dataset/u...	Y
7	6	15	111	Available all da...	Test_file.docx	project/static/datas...	Test_image.jpg	project/static/dataset/u...	N
8	6	15	111	Weekends only	Test_file.docx	project/static/datas...	Test_image.jpg	project/static/dataset/u...	N
9	6	15	111	Available all da...	Test_file.docx	project/static/datas...	Test_image.jpg	project/static/dataset/u...	N
10	6	15	111	Weekdays after...	Test_file.docx	project/static/datas...	Test_image.jpg	project/static/dataset/u...	N
*	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL

Tutor Posting Table

Query 1 Catalog Courses Major TutorPosting User Login **Messaging** ×

File Edit View Insert Cell Window Help

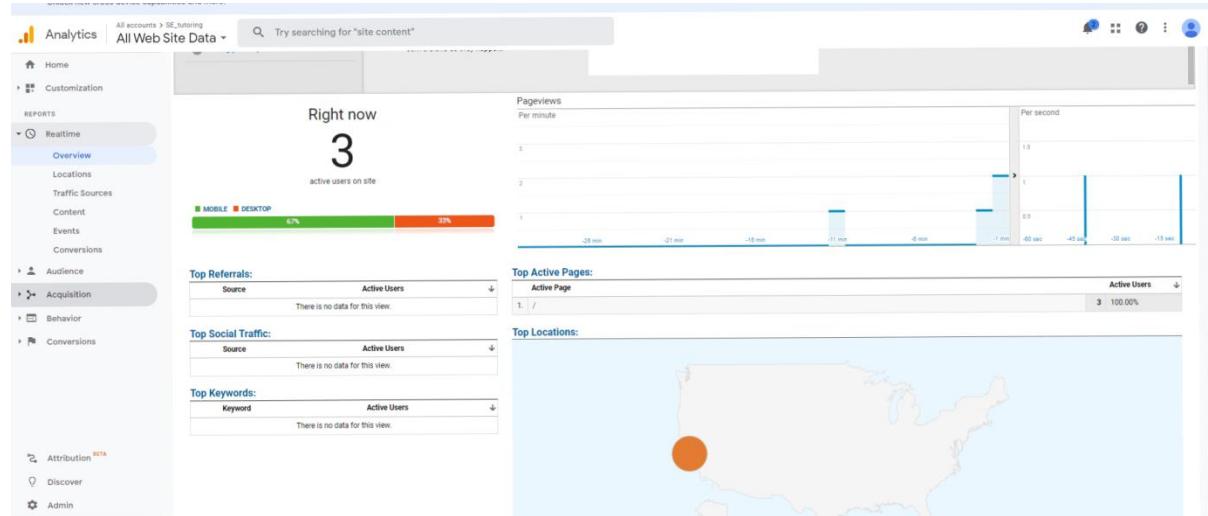
1 • SELECT \* FROM se\_tutoring.Messaging;

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: |

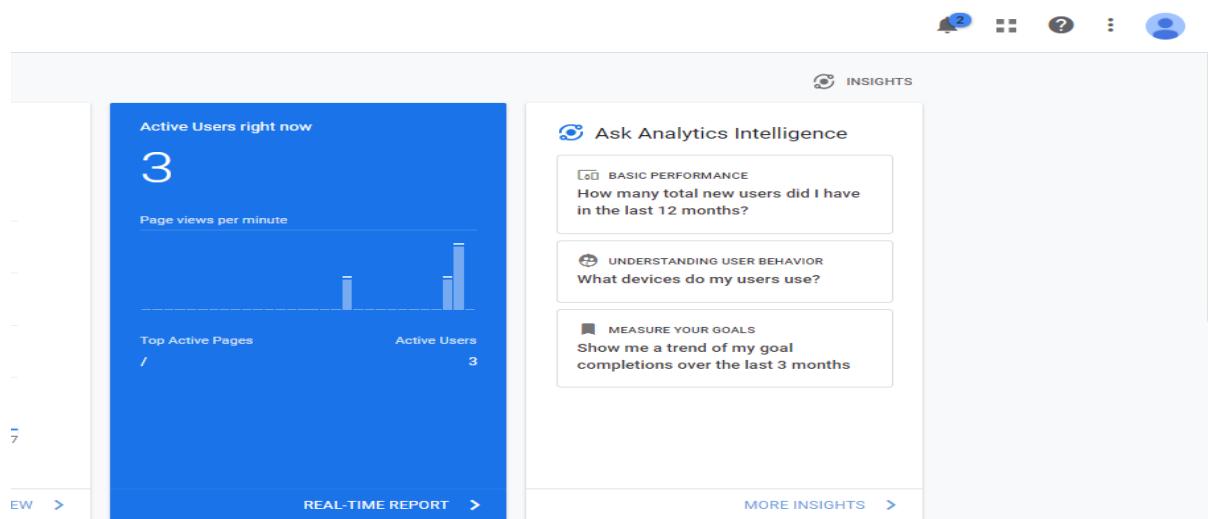
msgId	msgTo_loginId	msgFrom_loginId	msg_majorId	msg_courseNo	msgDate	msgTime	msgDesc
1	4	9	5	136	2021-12-18	13:02:11	Yoga query
2	4	8	5	136	2021-12-18	13:04:13	Query regarding yoga
3	6	9	7	420	2021-12-18	13:06:20	Want to have tutor session with you
4	6	1	7	420	2021-12-18	22:01:10	Query in your course
5	6	1	7	420	2021-12-18	22:01:41	Tutoring session
6	2	1	5	136	2021-12-18	22:01:50	Doubt in your course
7	6	1	7	420	2021-12-18	22:05:44	Hi Im interested
8	6	1	7	420	2021-12-18	22:06:09	Hi Im interested
9	2	1	7	420	2021-12-18	22:06:32	Hi I am interested in your services
10	2	1	7	420	2021-12-18	22:30:42	Hi im interested
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Messaging Table

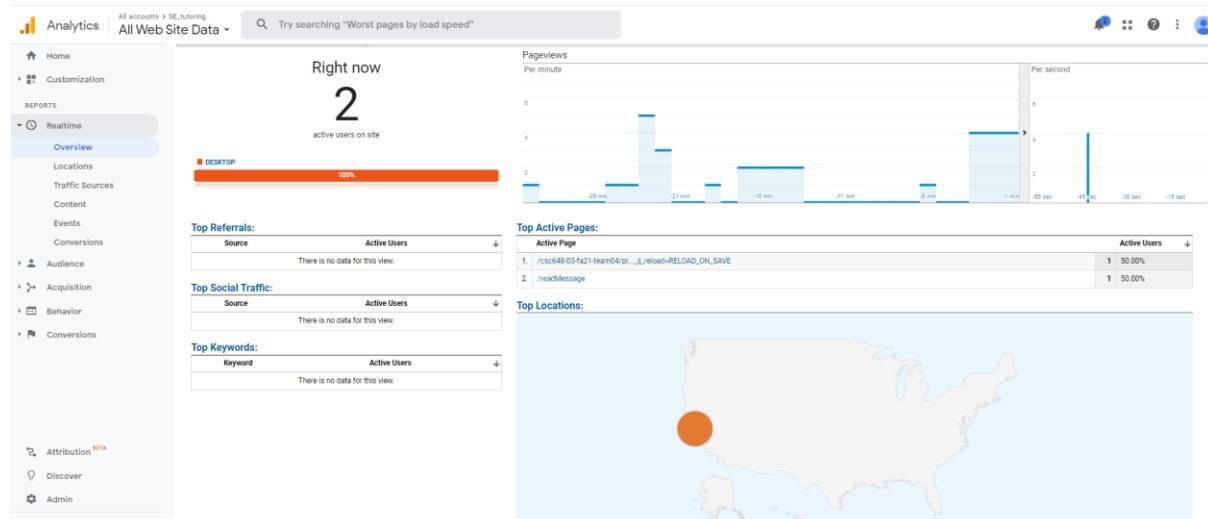
# Google Analytics Stats Plot for our WWW site



Active users on Home Page



Total active users at particular instant



Active users reading their inbox or on the Home Page

# Project Management

Team coordinates with each other using Discord, Trello and Zoom meetings. The agenda, the work assigned to individual team members and the deadlines is all discussed in the meeting and posted altogether on Discord and Trello to keep everyone updated about the same. There are several channels created on the Discord server group based on tasks which makes easy access for everyone in the team to look up to and complete their assigned tasks. Once the team member is done with the individual assigned work, he/she updates it on trello to let everyone else know and then also help others if something is left to do before the deadline.

Except for the mandatory zoom meeting after the class, we have our own individual team meeting to discuss the doubts and work further along the project. Also, if the work is interlinked between team members, they schedule internal team meetings on their own to discuss the same.

When the assigned task is completed team members make sure to upload it to the Google Drive folder created to coordinate between the team. Once finalized, it is then committed on Github. Team members make sure to complete the task assigned and upload the final edited version of it at max a day or two before the deadline so that the document master can just merge all of it, properly format it and submit it on/before time.

## Trello

The screenshot shows a Trello workspace named 'CSC 648-848 Team 4 Project'. The workspace includes a sidebar with 'Boards', 'Members', and 'Settings'. The main area displays several boards:

- Milestone 4 - Due Dec 18**: Cards include 'Product Summary' (due Dec 17, MS), 'Usability Test Plan' (due Dec 15, CS, SP), 'QA Test Plan' (due Dec 15, HS, SP), 'Code Review' (due Dec 15, AP), 'Self Check on best practices for Security' (due Dec 15, WY), and 'Self Check on adherence to non functional specs' (due Dec 16, MS).
- 3 Small Features**: Cards include 'Search text persistency' (due Dec 1, AM, MS, WY), 'Header for Login and Reg. Page' (due Nov 30, CS, SP), 'Footer in all pages same as Login and Reg. one' (due Nov 30, CS, SP), 'Redirection to Home Page from Login and Reg. Page' (due Nov 30, CS, SP), 'Query for showing No. of entries while displaying search results' (due Dec 4, CS, SP), 'Tutor Posting Page' (due Dec 4, HS), 'HomePage - add recently added tutors' (due Dec 2, CS, SP, AM, MS), 'Autocomplete feature in search bar (using % like)' (due Dec 2, AM, WY), and 'Code Cleanup - add purpose..etc for all files' (due Dec 1, AP).
- Github**: Cards include 'User search validation - max 40 alphanumeric char' (due Dec 1, CS, HS, SP), 'Registration email validation - simply require "tsu.edu" substring' (due Nov 30, SP), and 'Small notification/warning next to/before tutor info upload that "it may take up to 24hr for posting to be approved"' (due Dec 4, CS, HS, SP).
- Milestone1 - Due Nov 17**: Cards include 'Search Results Page' (HS, SP), 'User Dashboard' (CS, HS, SP), 'Catalog Page' (1, CS, HS, SP), 'Autocomplete functionality in search bar' (AM), 'Edit Profile Page' (HS, SP), 'Login Page' (SP), 'Logout Page' (SP), 'Register Page' (CS), 'Forgot Password Page' (SP), 'Book Appointment' (1, CS, HS, SP), and 'Admin Dashboard' (+ Add a card).
- Milestone2 - Due Oct 28**: Cards include 'Executive Summary' (IP, EA, M/I, CS), 'Data items & entities' (1, WY), 'Prioritized Functional Requirements' (IP, EA, M/I, AP), 'UI Storyboards' (1, CS, HS, SP), 'High Level Architecture' (1, AM, MS), 'Key Risks' (1, HS, MS), 'Project Management' (1, HS, MS), and '+ Add a card'.

## Zoom

Zoom link: Manali Chandrakant Seth is inviting you to a scheduled Zoom meeting.

Topic: CSC 648-848 Fall 2021 Team 4 ZOOM meeting  
Time: Sep 8, 2021 05:30 PM Pacific Time (US and Canada)  
Every week on Wed, until Dec 15, 2021, 15 occurrence(s)

<https://sfsu.zoom.us/j/89026219057?pwd=d3B5Rmg0eUJMVVVZd0IYVFbhQ1FIUT09>

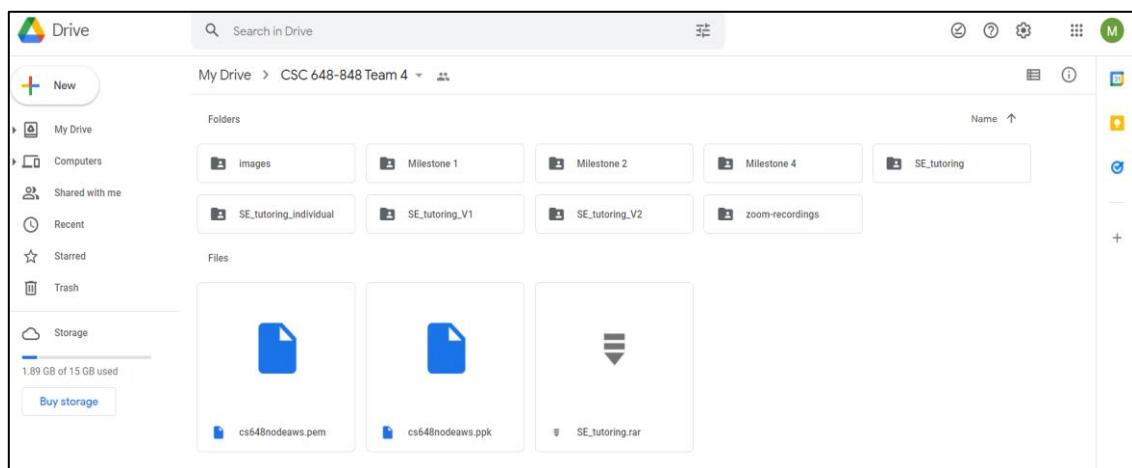
Meeting ID: 890 2621 9057  
Passcode: 158098

Zoom Video

**Join our Cloud HD Video Meeting**

Zoom is the leader in modern enterprise video communications, with an easy, reliable cloud platform for video and audio conferencing, chat, and webinars across mobile, desktop, and room systems. Zoom Rooms is the original software-based conference room solution used around the world in board, conference, huddle, and training rooms, as well as ex...

## Drive



## Discord

The screenshot shows the CSC 648-848 Team 4 Discord server interface. The left sidebar lists channels: INFORMATION (# welcome-and-rules, # notes-resources, # contacts, # zoom-link, # to-do, # announcements, # important-links, # git-updates, # trello), TEXT CHANNELS (# general, # homework-help, # session-planning, # off-topic, # project-ideas), and VOICE CHANNELS. The main window shows the # general channel. It displays messages from users Manali, William, Htet Soe, and aarshil. The messages are dated December 14, 2021, December 15, 2021, and December 16, 2021. The messages are related to pushing code, updating search and messaging queries, uploading milestone parts, and making pushes for code cleanup and password hashing.

# Team member self-assessment and contributions

## 1) Manali Seth (Team Lead)

### CSC 648-848 M5 Team Member Self Assessment and Contributions



Manali Chandrakant Seth

Sat 18-12-2021 11:38



To: Aarshil Shaileshkumar Patel; Aditya Mohan; Christian Robert Brigoli Samatra; Htet Soe; Seela Pant; William Yu

Contributions to team project and teamwork:

- Team Lead
- Document Master
- Hosting weekly team meetings except team meeting after the class
- Delegating tasks to team members and taking timely updates from them.
- Project Management and communication using Trello, Github, Google docs, Google drive, Zoom
- Set a proper MVC Architecture in Python
- Use of Flask framework
- Designing required database tables as per the requirement
- Connection with database
- Coding conventions to be followed
- Creating introduction (about us) page of Gator Learn creators
- Setting up common header, footer and navbar for all pages
- Implemented search result queries
- Implemented Tutor Posting functionality
- Implemented fetching recent tutor postings
- Validation of flashing flask messages in Login and Registration function
- Backend Team member but ended up doing some front-end part too when required.
- Code cleanup
- Adding header description in all files
- Adding Google Analytics feature
- Remote hosting the website

Number of commits made to testing branch: 26

Challenges faced:

Experience of being a team lead for first time so felt a bit difficult to manage the entire team to keep up at a proper pace in the project. Started a bit slowly but eventually buckled up with the tasks. Difficult to communicate sometimes as it was all on zoom and we were not able to have in-person team meetings. Delegating and distributing work properly among the team members was a task for me. Sometimes it became hectic to complete tasks. Working with Github and making proper commits was also a bit difficult at start as I have never worked on that before.

Learning:

The experience of team lead will help me better to delegate and manage tasks from the very start if I am given the similar opportunity anytime further. I will try to maintain the balance between tasks between all the team members and make sure they do it in time. I will try to follow SE process and product management learnings from the class. Felt a bit industry-ready by handling a team like this via Zoom and other communication means.

Best,  
Manali Seth (Team 4 - Team Lead)

## 2) Aarshil Patel (Back-end Lead)

### CSC 648-848 M5 Team Member Self Assessment and Contributions



Aarshil Shaileshkumar Patel  
Sat 18-12-2021 11:18

To: Manali Chandrakant Seth; William Yu <williamyu3@gmail.com>; Aditya Mohan; Seela Pant; Christian Robert Brigoli Samatra; Htet Soe



- Contributions to team project and teamwork

My role in this project was to be the back-end lead.

I believe I fulfilled the role of a back-end lead by:

- Communicating with the front-end team often to discuss what they require from the back-end through group chats and zoom calls.
- Attending meetings and discussing what needs to be done with the back-end members during group meetings.
- Communicating with the team lead with timely updates and progress.
- Completing the initial setup of the database on AWS using RDS.
- Successfully making the connection of the database to the client MySQL Workbench.
- Writing the basic python code to connect database to the backend.
- Creating all the tables required for the project.
- Populating the tables with the data that was needed to be retrieved on the frontend.
- Encrypting the password so that the need to store the original password to the database is eliminated.
- Implementing the messaging feature to ensure communication between students and the tutors.
- Performed the code review for the team by reviewing the snippet of code sent by the team lead.

- The number of commits I made to our repository is 16 commits.

- Few challenges I encountered

- Communicating with the team on a regular basis.
- Trying to learn new technologies and frameworks.
- Managing the time and making sure of the tasks being done on time.
- Finding solutions to the issues when stuck on a particular piece of code.

- The things I think can be done better is planning the project in the earlier stage. I would also like to apply most of the SE practices in developing a real-time product. Additionally, I believe effective communication helps a lot in resolving issues and achieving desired tasks.

## 3) Htet Soe (Front-end Lead)

### CSC 648 M5 Team Member Self Assessment and Contributions



Htet Soe  
Sat 18-12-2021 01:18



To: Aarshil Shaileshkumar Patel; Aditya Mohan; Seela Pant; William Yu; Christian Robert Brigoli Samatra; Manali Chandrakant Seth

Contributions to team project and teamwork

- Took frontend lead position
- Assigned tasks, helped teammates
- Helped with initial setup (access via PuTTy/SSH)
- Setup group AWS account
- Vocal advocate in zoom meetings
- Created or edited:
  - Page headers/navbars/search bars
  - Landing page
  - Tutor pages/dashboards for inbox
  - Logged-in user pages
  - Css/consistency across pages
- 22 commits to team dev branch

Some challenges I encountered in the team project included time management - not enough preparation by learning about the tools, dependencies, and languages we were using beforehand (like flask and python, understanding how deploying on AWS works, etc.). I also overestimated my commitment/what I was able to do and the amount of time I could do it in.

After what was discussed on SE management and processes, I would next time take emphasis on project management – planning the project out iteratively, and being flexible enough to change. I'd also focus on communication with my team about when I'm able to complete deadlines, with updates in between.

## 4) Aditya Mohan (Github Master)

### CSC 648 M5 Team Member Self Assessment and Contributions



Aditya Mohan

Fri 17-12-2021 22:22



To: William Yu; Manali Chandrakant Seth; Aarshil Shaileshkumar Patel; Htet Soe; Christian Robert Brigoli Samatra; Seela Pant

Contributions to team project and teamwork:

- GitHub Master role
- Maintained and organized GitHub Repository
- Worked on written portion of milestones
- Assisted with initial software stack setup
- Functions:
  - Dropdown course menu organized by previously selected major
- 2 commits

The challenges I faced during this team project were time management as well as learning a few new technologies used in the project. Due to overloading classes to graduate early, I was unable to invest as much time as I would have liked into the project as I underestimated my workload and stress. Having previously worked on team projects in a professional software development setting, I did not perform to the standard I would have liked during this team project.

Given the class curriculum and my personal experiences, it is always important for each member of a group to play their part. Work should always be done consistently, and there should never be a case of someone having minimal work early and more later or vice versa. Going forward, if I ever find myself struggling to balance my personal workload with my team workload again, I will do better to communicate my situation effectively as well as set thorough *personal* deadlines/milestones to improve my efficiency. As a team, I think our communication can improve, especially during the early stages of the project.

## 5) William Yu (Back-end Team Member)

### CSC 648 M5 Team Member Self Assessment and Contributions



William Yu <williamyu3@gmail.com>

Fri 17-12-2021 21:39



To: Manali Chandrakant Seth; Aditya Mohan; Htet Soe; Seela Pant; Aarshil Shaileshkumar Patel; Christian Robert Brigoli Samatra

Contributions to team project and teamwork:

- Backend team member
- Completed written sections of milestones
- Outlined and worked on table properties for SQL databases
- Functions for the following:
  - Validating search bar inputs
  - Fetching search results from the database
  - Auto-complete dropdown on the search bar
- QA testing and documentation for the above functions

Number of submissions: 6

My main challenge was figuring out how to work with unfamiliar tools such as Flask. Also, not really a challenge but there wasn't much work that was given to me until the end of the project, which then had to be rushed. Lastly, there wasn't much Github organization and everyone pushed to the same testing branch.

One improvement would be the project's time and people management for tasks so that things aren't being rushed. Better communication would also help with future teamwork projects moving forward. Also, setting up a properly organized Github with someone leading and managing it would help in avoiding any potential issues with collaborating on code.

## 6) Seela Pant (Front-end Team Member)

### CSC 648 M5 Team Member Self Assessment and Contributions

SP

Seela Pant

Sat 18-12-2021 01:19



To: Htet Soe; Aditya Mohan; Aarshil Shaileshkumar Patel; Christian Robert Brigoli Samatra; Manali Chandrakant Seth +1 other

- Contributions to team project and teamwork:

- Frontend member
- Completed assigned tasks from team lead
- Communicated about projects throughout the semester
- Contributed mostly in documenting milestones
- Created Login and forgot password page
- Edited Home page and registration pages

- 4 commits made to GitHub team Testing Branch

- The main challenge I encountered in this team project is trying to learn some new softwares and the Language itself. Using Flask, Python and AWS were new to me as well as challenging. In my view, the time was very limited to learn. However, with the help of team members, I was able to learn and understand them. Utilizing the features of GitHub by all team members was challenging at the same time.

- The improvement I can do better in my next class or in the job is managing a time and a good plan for the project. I would focus more in communicating with team members so that I can know the status of the project and at the end the good project can be delivered without issues. This class, the project, and the team members has helped me learn and better understand what it is to like working in a team and develop a application.

## 7) Christian Samatra (Front-end Team Member)

### CSC 648 M5 Team Member Self Assessment and Contributions

C

Christian Robert Brigoli Samatra

Fri 17-12-2021 20:04



To: Manali Chandrakant Seth; Aditya Mohan; Htet Soe; Seela Pant; William Yu; Aarshil Shaileshkumar Patel

- Contributions to team project and teamwork
  - Frontend member
  - Communicated effectively with team leads.
  - Collaborated with other team members to complete a task on time.
  - Participated in team meeting to keep up with team updates.
  - Documented my push to the remote repo to avoid git conflicts.
  - Created or edited:
    - Registration
    - Validating of registration page fields
- 8 commits to team dev branch

The main challenge I encountered with this team project was trying to focus on finishing with my tasks on time. As we are doing this remotely, I had a lot issues going on that slowed down my progress. However, these issues were overcome with the help of very understanding team leads. I was able to easily communicate with them and informed them of my issues.

Based on what I learned in the class, I now have a better understanding what it is like to develop a product with a team. With this in mind, I can be a better teammate to my teams and effectively communicate with the team leads. Lastly, I want to be better at sticking to the best practices of software development.