

SW Engineering CSC648 - 848 Summer 2021

Milestone 1

[UniTea](#)

Team 04

Name	Role	Email
Kiara Gil	Team Lead / Github Master	kgil1@mail.sfsu.edu
Joshua Stone	Front End Lead	
Ostyn Sy	Back End Lead	
Cong Le	Team Member	
Melinda Yee	Team Member	
Miho Shimizu	Team Member	
Vernon Xie	Team Member	

History Table

Milestone / Version	Date
M1V2	7/29/2021
M1V1	06/14/2021

Table of Content

Section 1: Executive Summary	3
Section 2: Main Use Cases	4
Section 3: Main Data Items and Entities	16
Section 4: Functional Requirements	17
Section 5: Non-functional Requirements	21
Section 6: Competitive Analysis	25
Section 7: High-level System Architecture and Technologies Used	29
Section 8: Checklist	30

Section 1: Executive Summary

College students can sometimes take classes with as many as 100 students, and half the time they're too shy to even ask for a pencil from the person next to them. When it comes time for a test or a big exam, students often will study alone. Studying for college level courses is already hard, finding a reliable study group can be even more difficult. Especially coming off the end of a global pandemic that drastically affected the social- and learning environments of all students.

We fully believe in the phrase "Teamwork makes the dreamwork". With UniTea, we provide a platform for students to conduct peer learning. Many higher learning institutions recognize the value in peer learning, including Harvard University. Our platform helps students coordinate group study sessions through features like a forum/bulletin board to leave notes for future session planning and important group updates; subject filters, and calendar tracking. Educators can take advantage of our platform to coordinate study or review sessions with their students from one or multiple sections. We at UniTea want to help improve students' academic performance through our studying tool, and ease them back into academic social interactions while doing it.

As of now we are launching our Beta at San Francisco State University to start. Our platform will be the perfect place for students to comfortably organize and hold meaningful study sessions with their peers.

Our audience and expected user base for UniTea is first and foremost the college populace. We aim to make UniTea a licenced software that will be bought by universities directly and integrated into their student education plan. We may only be launching our Beta exclusively at San Francisco State University, but our ultimate goal is all the colleges and trade schools in the country.

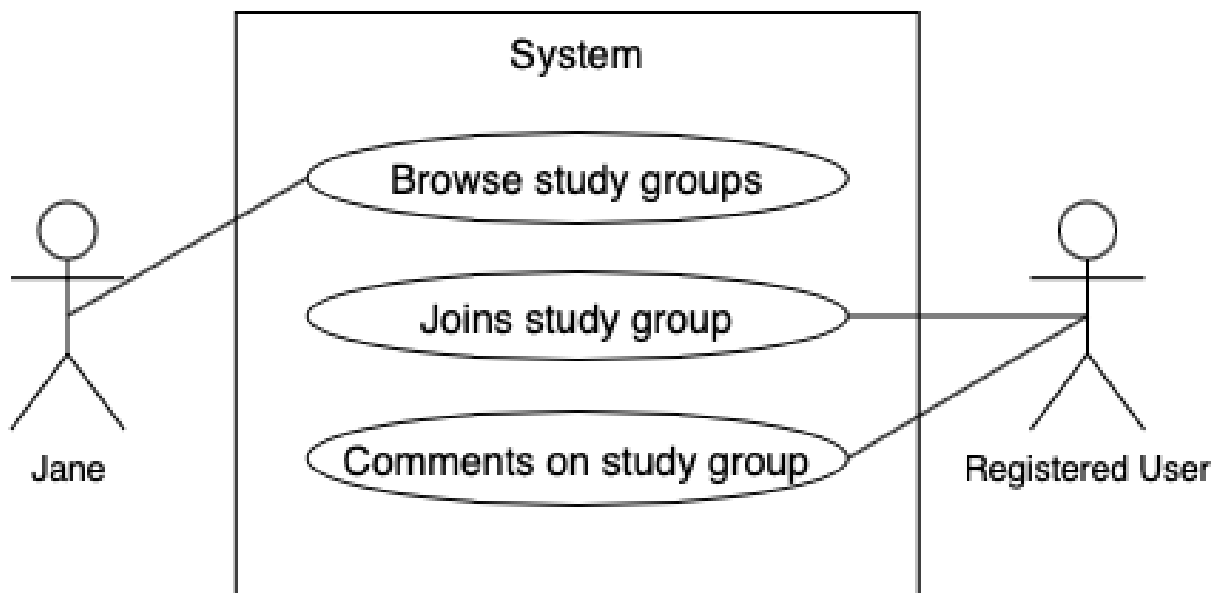
What we're offering you in return for your support of UniTea is a portion of the profit made from the software licensing in addition to prime advertising spots on UniTea. We will have featured investor advertisements run in the margins and give users an option to remove them for a fee. Your company name will also be included in the footer of the webpage in our "Thank You" section.

You're investing in more than just Unitea, you're investing in your own growth.

Section 2: Main Use Cases

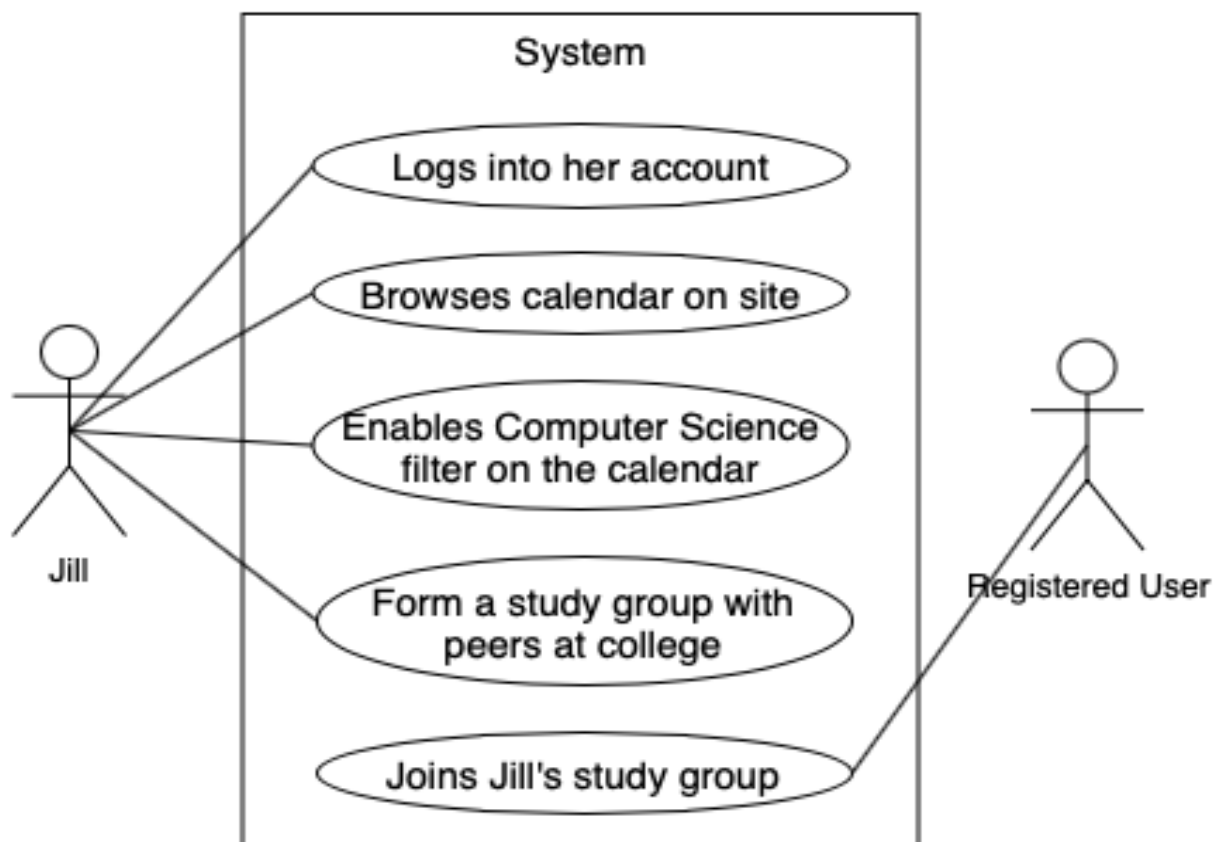
Use Case Title	General User Browsing UniTea
Actors	Jane
Description	Jane, a freshman at SFSU, has heard of an incredible app called UniTea from her friend. Jane's friend told her that UniTea is an app aimed at forming and finding study groups. Jane wants to use UniTea to find help for her physics class. Jane doesn't have an account, so she is only able to browse existing study group listings. She is unable to join or comment on any of those listings. If Jane were to register for UniTea, she would have access to these functions.

General User Browsing UniTea



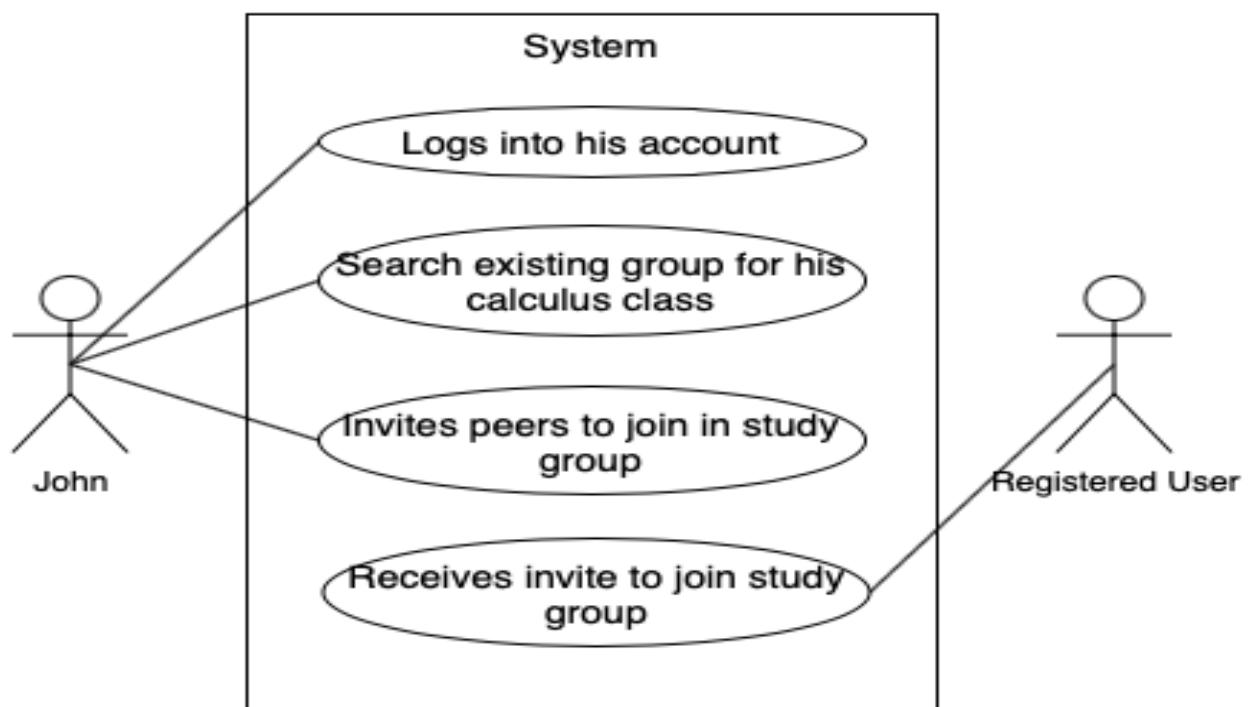
Use Case Title	Registered User Looking For A Study Group
Actors	Jill
Description	Jill, a senior at SFSU, is looking for an opportunity to help out her junior classmates. She searches on google for an app aimed towards study groups and finds our website, UniTea. She logs in to her account on UniTea, then navigates to the calendar. She enables the Computer Science filter on the calendar and looks for computer science study groups to join and help out her juniors. As long as Jill's friends are also registered users on UniTea, they can join Jill's newly formed study group.

Registered User Looking For A Study Group

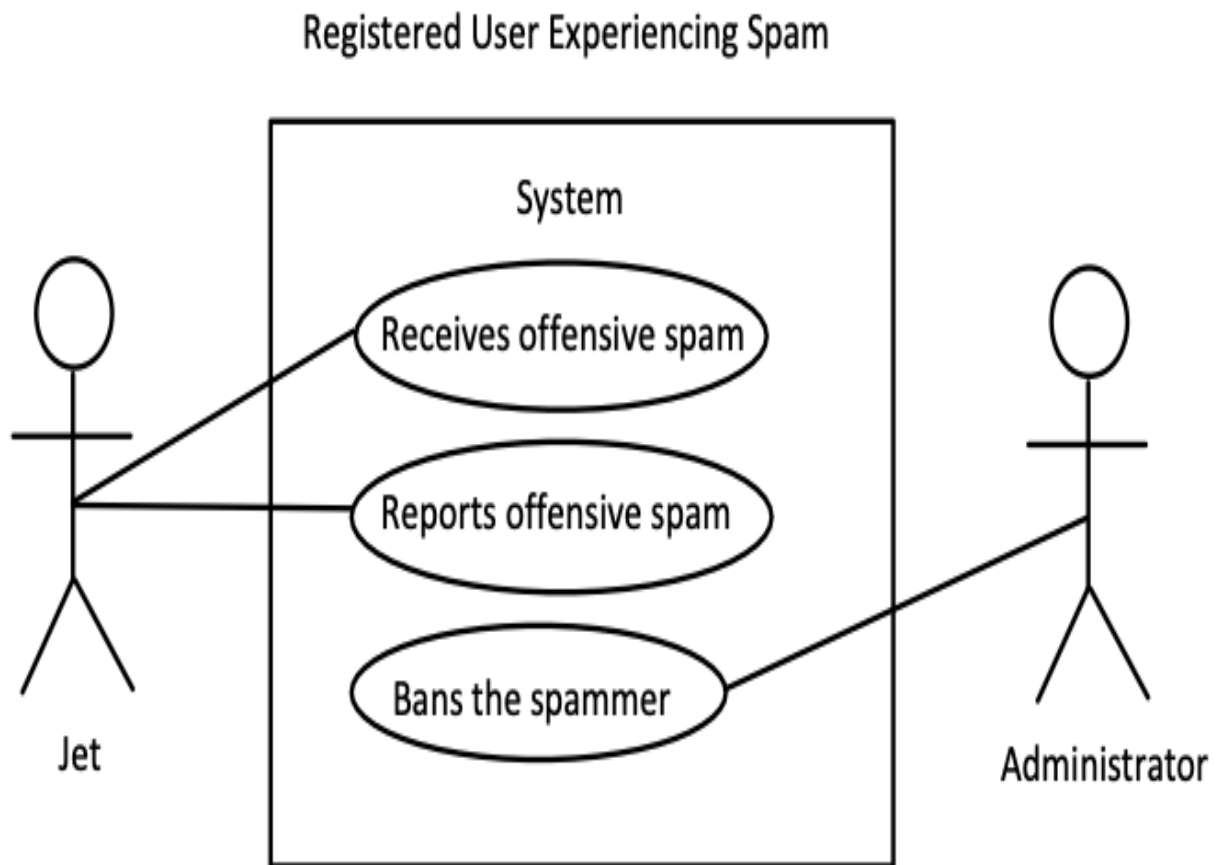


Use Case Title	Registered User Creating a Study Group
Actors	John
Description	<p>John, a sophomore at SFSU, wants to find a study group to help him study for his upcoming calculus exam. He overheard other students in his class discussing our website, UniTea. After typing in the UniTea web address on his url bar, John then navigates through our website, UniTea, to log in.</p> <p>John discovers that there is no existing study group for his calculus class. John uses UniTea to create a new study group for his fellow peers to join in on.</p>

Registered User Creating a Study Group

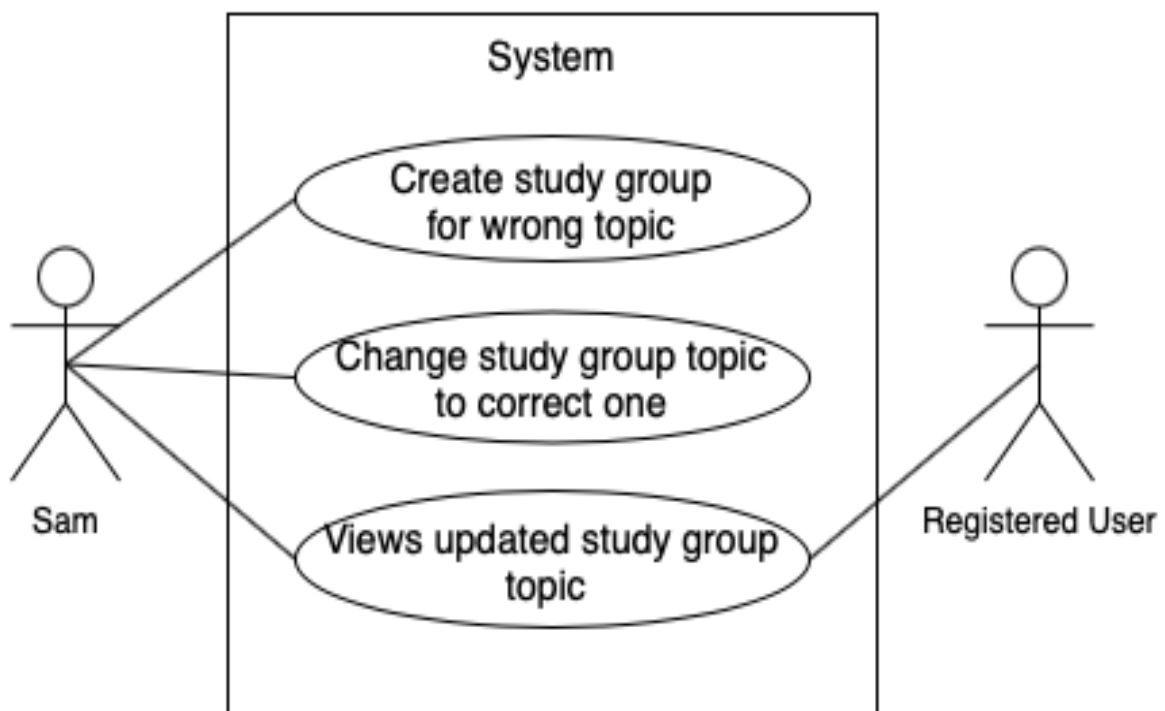


Use Case Title	Registered User Experiencing Spam
Actors	Jet, Administrator
Description	Jet is a registered and frequent user of UniTea. Jet begins to receive offensive spam messages in his inbox from another registered user who he's not familiar with. Jet reports the spammer to an administrator of UniTea, who acts swiftly to ban the registered user that is sending spam messages to Jet. Spam is against the UniTea ToS and administrators act swiftly to ban spammers.



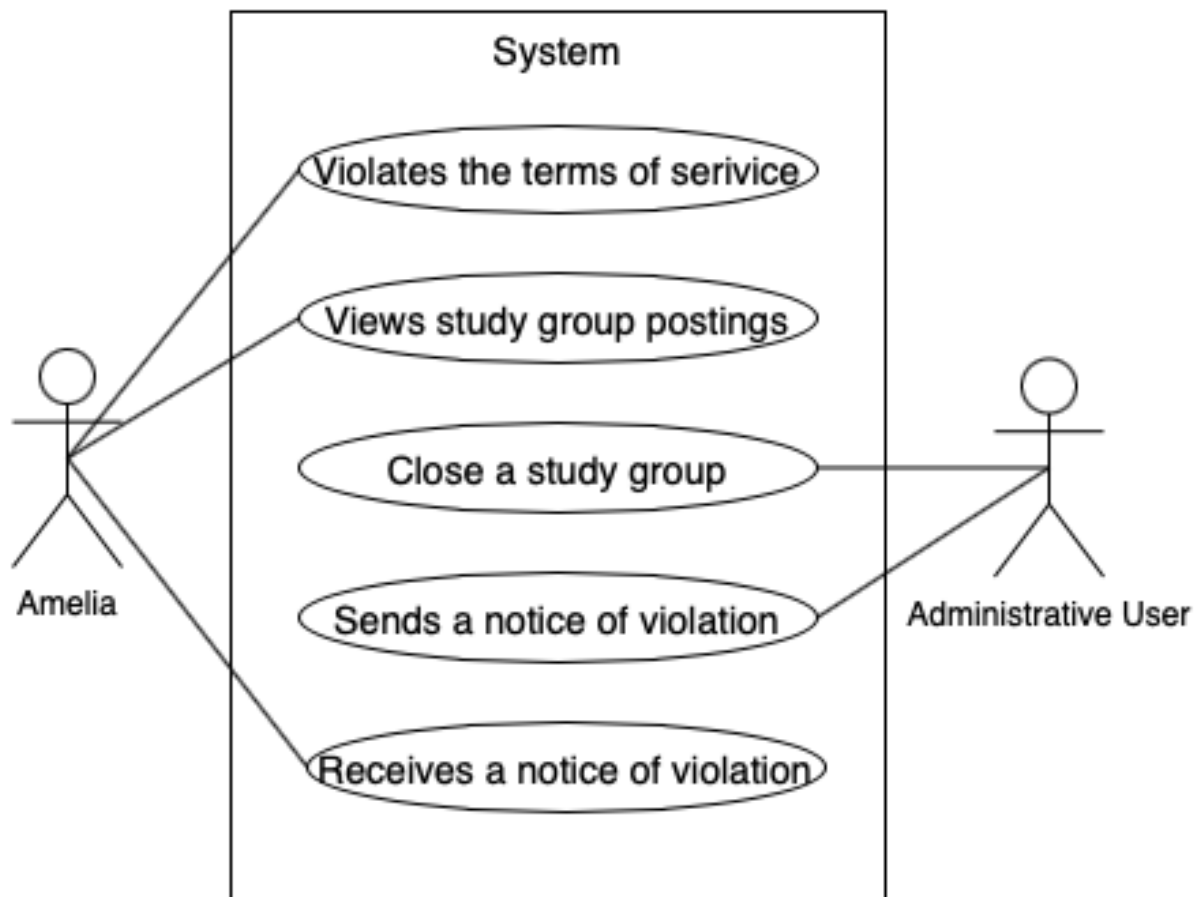
Use Case Title	Registered User Creating Study Group In Wrong Section
Actors	Sam
Description	Sam is a junior at her college and a user of UniTea. She wants to create a study group on UniTea to help her study for her upcoming Economics midterm. After creating the study group on UniTea, she discovers that she accidentally listed the topic of the study group as “Political Science” and wants to go back and fix this error. She navigates back to her study group and edits the topic for the group so that it is now the correct one. She successfully posts her study group once again.

Registered User Creating Study Group In Wrong Section



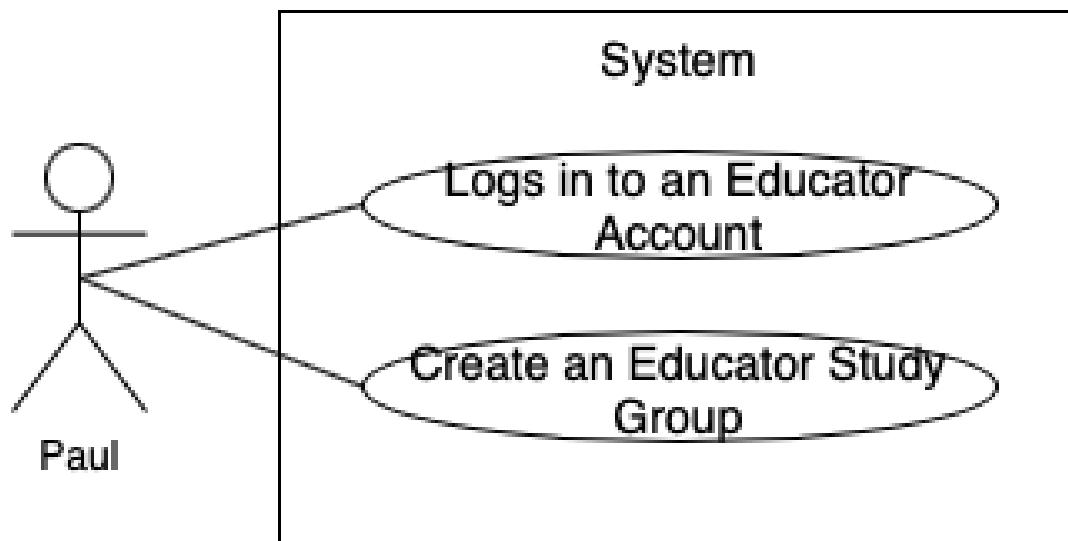
Use Case Title	Registered User Violating the Terms Of Service
Actors	Amelia
Description	Amelia, a college student and a user of UniTea, creates a study group posting on UniTea but writes in the group description that she is only looking to share answers to current exams for a professor whose class she is taking. Unknown to her this is a violation of the TOS for UniTea. Her listing is taken down by an administrative user and she is sent an email to notify her of the violation. She receives a warning to not make more groups that violate the terms.

Registered User Violating the Terms Of Service



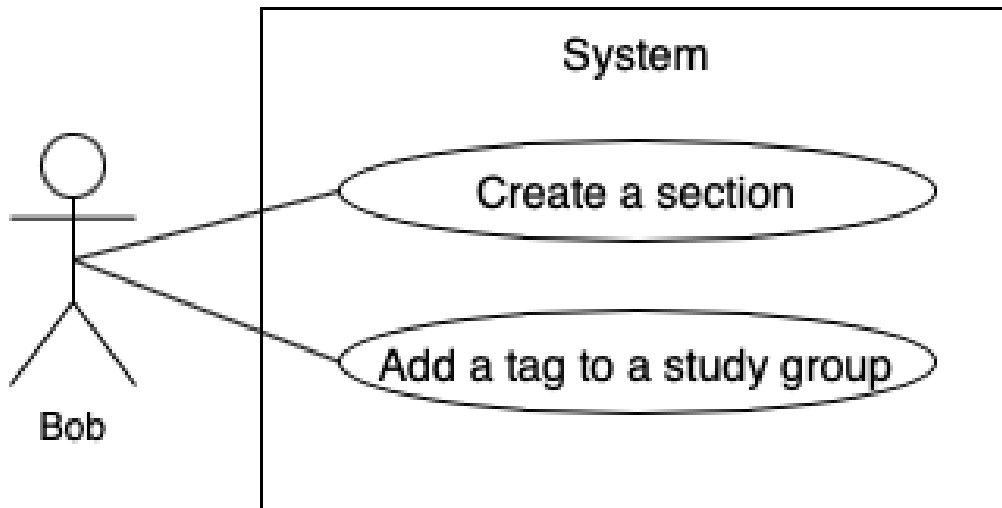
Use Case Title	Educator User Creating Educators Study Group For Their Office Hours
Actors	Paul
Description	Paul, a Math professor who previously heard about UniTea from his co-workers, wants to use UniTea to organize extra office hours for his calculus math course. He logs into his Educator Account, navigates to the math section of the website, UniTea, and creates an Educator Study Group. He then shares this information with his math class.

Educator User Creating Educators Study Group For Their Office Hours



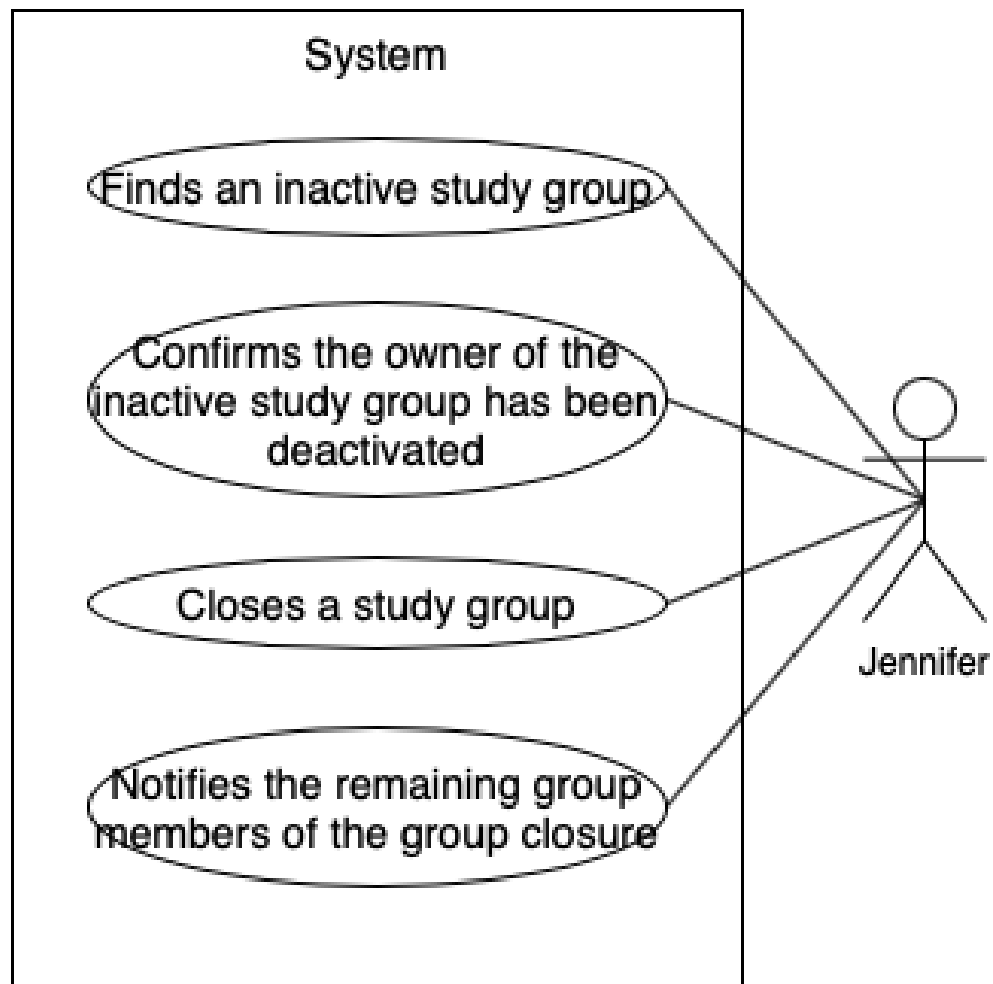
Use Case Title	Administrative User Creating A New Study Section
Actors	Bob
Description	Bob, a moderator of UniTea, notices that there is no section on the website for students who study political science. He uses UniTea to create a section for political science students to form and create study groups. Bob also updates the calendar filters to allow all users to filter for the political science study groups.

Administrative User Creating A New Study Section



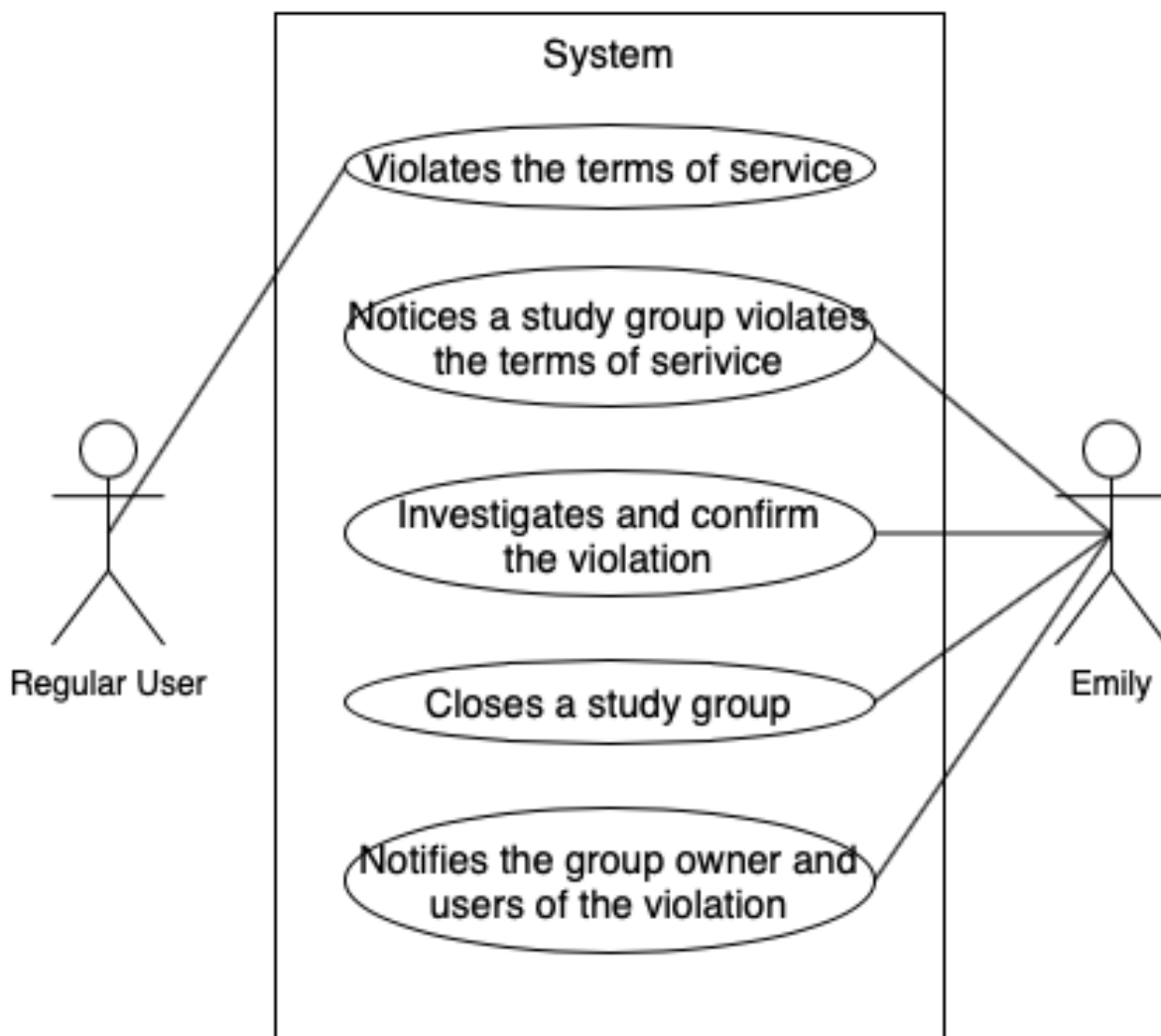
Use Case Title	Administrative User Deactivating Inactive Study Groups
Actors	Jennifer
Description	Jennifer, a moderator of UniTea, has noticed that there are a few study groups that have had no activity in the past 9 months. She checks and sees that the Users who have created the study groups have deactivated their accounts. She closes the inactive study groups and emails the remaining registered users informing them of the study group closure.

Administrative User Deactivating Inactive Study Groups



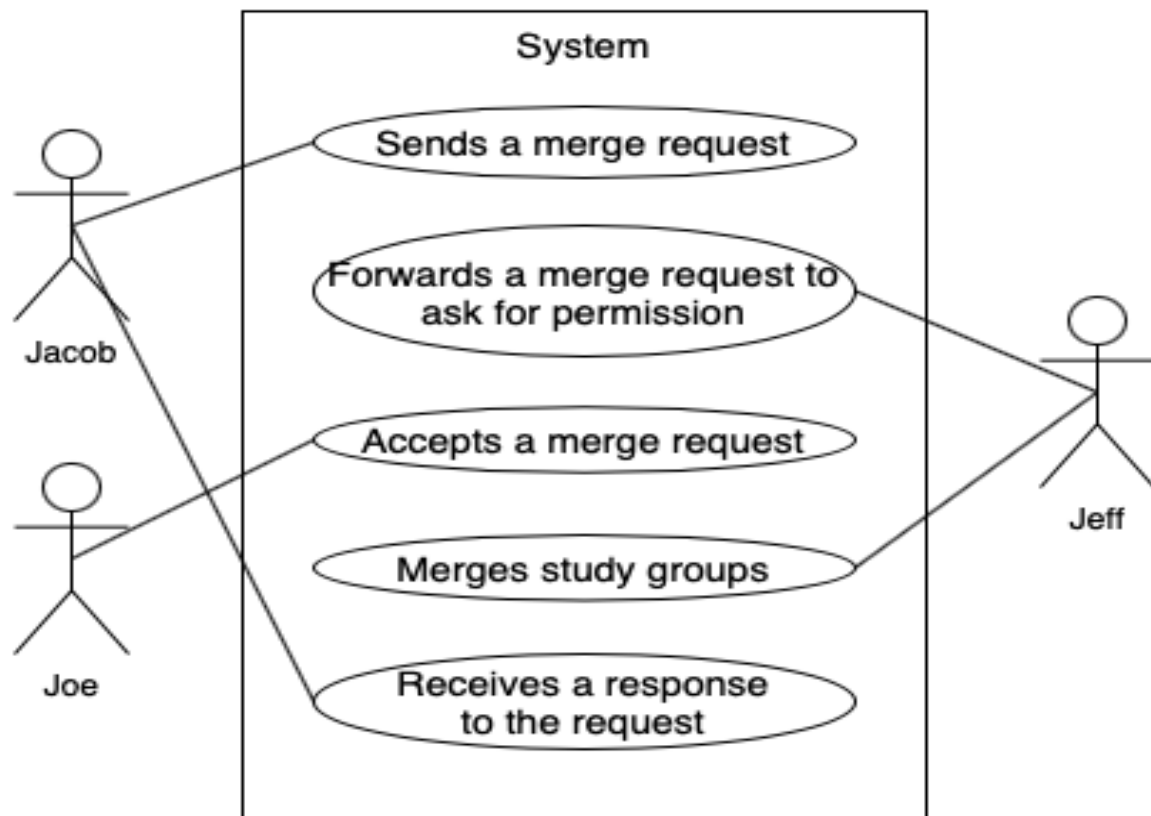
Use Case Title	Administrative User Deactivating Study Groups That Violate the Terms of Service
Actors	Emily
Description	Emily, a moderator of UniTea, notices a group listing that violates the terms of service of UniTea. She closes the study group after investigating and confirming the violation. She sends emails to the group's creator and users to notify them of the violation. The creator also receives a warning to not create any more groups that violate the terms.

Administrative User Deactivating Study Groups That Violate the Terms of Service



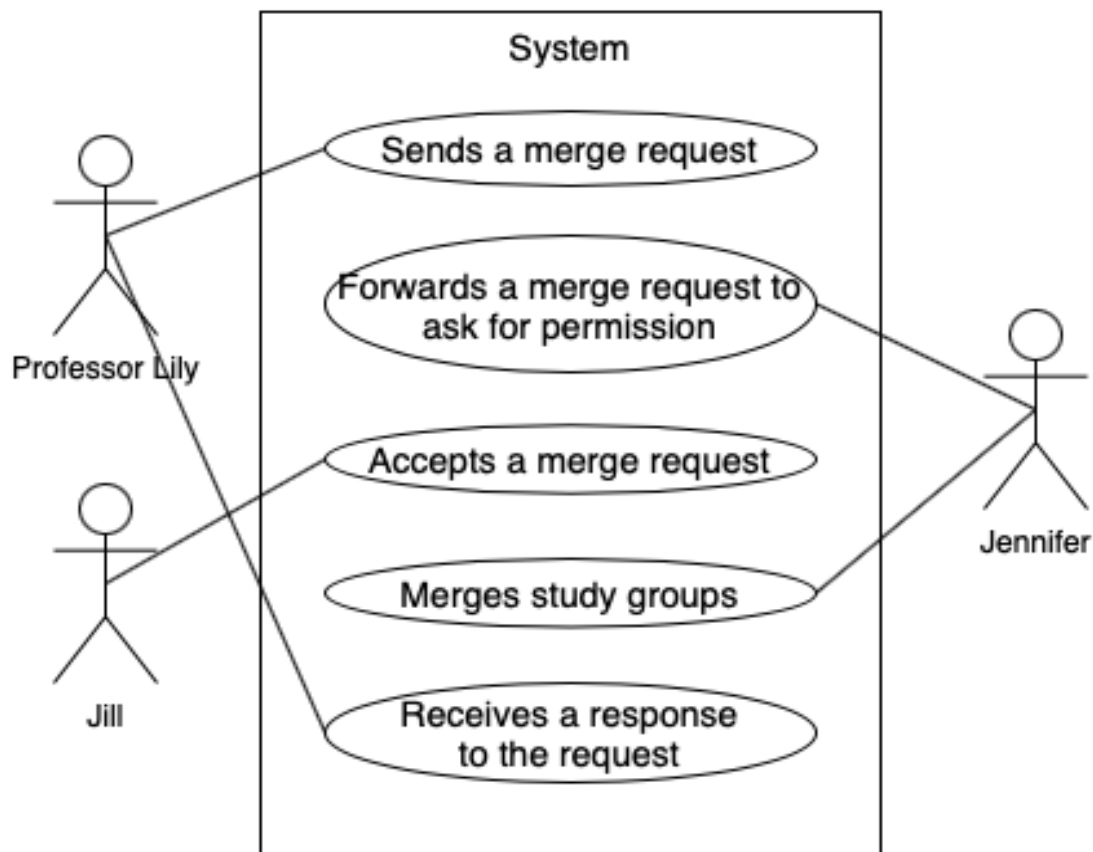
Use Case Title	Merging Case Between Two Regular Users
Actors	Jacob, Joe, Jeff.
Description	Jacob and Joe, both sophomores at SFSU, are leading two different study groups on UniTea for the same Physics class. After discussing UniTea in class and realizing that they both are leading study groups with the same subject, Jacob and Joe come to the conclusion that both groups would benefit from studying together. Jacob logs into his account and submits a group merge request to Joe and the Administrator, Jeff. Jeff sees the request and waits for Joe to accept the request before he reviews and approves of the merge. Jeff then creates a new study group and places members from both groups into it.

Merging Case Between Two Regular Users



Use Case Title	Successful Merging Case Between an Educator User and a Regular User
Actors	Jill, Lily, Jennifer
Description	Jill, a junior at SFSU, is leading a study group for her Physics final exam that's led by Professor Lily. Professor Lily learns of UniTea from her students and decides that she will use UniTea for her Final Exam review. Professor Lily found out about the merge functionality. She then sent a merge request to an Administrator. Administrator Jennifer then forwarded the merging request to Jill to await her decision. Jill thought that having an instructor to manage her study group is beneficial to her and her group, so she agreed with the request. Upon receiving Jill's agreement, Administrator Jennifer proceeds to merge Jill's study group to Professor Lily's study group.

**Successful Merging Case
Between an Educator User and a Regular User**



Section 3: Main Data Items and Entities

General User: A user who can browse the web app to find current study listings. Their only privilege is browsing and searching study group listings.

Registered User: A user who has more privilege than a General User. This user will have an registered account with the service, and in addition to browsing, they can create study groups and join other study groups. In order to use these privileges they will need to login. They will be able to delete accounts they created.

Educator User: A user who is an educator or an educator's assistance. They will have the same privileges as a registered user. They can create a study group known as the Educators Study Group and which are large capacity study groups. In order to use these privileges they will need to login.

Administrative User: A super user who has the most privileges. They can delete study listings that violate the TOS, they can block users who are violating the TOS. In order to use these privileges they will need to login.

Account: Every registered user will have an account. Accounts are required in order to create study listings, andunicate with other Registered Users.

Profile: Every account will have a profile. It will list general information that a registered user is willing to share with other registered users. General Users are not able to view profiles.

Study Group: A group created by a registered user. Other registered users may join this group as well. Registered groups have a limit of 20, but can be raised with admin approval.

Educators Study Group: A study group created by the Educator User. The educator can add registered users to this group. Other registered users may join this group as well. These groups have a limit of 50, but can be raised with admin approval.

Forum: A forum allows registered users to communicate with each other. Only registered users can write a post, while both unregistered and registered users can read the contents.

Private message: Registered users may send private messages to another registered user. Messages are private between the sender and the receiver.

Event: An event created by the registered user. These events are created and posted to the calendar. These can be live meetup events or virtual meetup events. These are generally used to coordinate study sessions.

Calendar: A calendar that stores the date, time, and a link to the study group page. When a user creates a study group event, upon creation the event will be updated to the calendar.

Section 4: Functional Requirements

General Users:

General:

1. General users shall be able to access the About Us page.
2. General users shall be able to access the Contact page.
3. General users shall be able to access the Home page.
4. General users shall be able to access the Registration page.
5. General users shall be able to access the Login page.
6. General users shall be able to search for public study groups.
7. General users shall be able to browse through study listings.
8. General users shall be able to create an Account and become a Registered User.

Registered Users:

General:

9. Registered users shall have an Account.
10. Registered users Account shall have a unique email address.
11. Registered users Account shall have a username.
12. Registered users Account shall have a password.
13. Registered users shall be able to access the About Us page.
14. Registered users shall be able to access the Contact page.
15. Registered users shall be able to access the Home page.
16. Registered users shall be able to access the Registration page.
17. Registered users shall be able to access the Login page.
18. Registered users shall be able to search for public study groups.
19. Registered users shall be able to join public study groups.
20. Registered users shall be able to create public study groups.
21. Registered users shall be able to create private study groups.
22. Registered users shall be able to join private study groups.
23. Registered users shall be able to search private study groups.
24. Registered users shall be able to browse through study listings.
25. Registered users shall be able to access the Resource Page.
26. Registered users shall be able to edit information in their Profile Page.
27. Registered users shall be able to change their password.
28. Registered users shall be able to add profile pictures.
29. Registered users shall be able to log in.
30. Registered users shall be able to log out.
31. Registered users shall be able to delete their own account.

- 32. Registered users shall be able to view other users' profiles.
- 33. Registered users shall be able to block users.
- 34. Registered users shall be able to report other users for misconduct.
- 35. Registered users shall be able to view friends in study groups.

Friends:

- 36. Registered users shall be able to add friends.
- 37. Registered users shall be able to remove friends.
- 38. Registered users shall be able to directly message a friend.
- 39. Registered users shall be able to see a list of added friends.
- 40. Registered users shall be able to see friends' study groups.

Messaging:

- 41. Registered users shall be able to directly message other registered users.
- 42. Registered users shall be able to send stickers.
- 43. Registered users shall be able to create group chats.
- 44. Registered users shall be able to send invites to group chats.
- 45. Registered users shall be able to remove users from group chats.

Forum:

- 46. Registered users shall be able to create posts.
- 47. Registered users shall be able to add a title to the post.
- 48. Registered users shall be able to add a description to the post.
- 49. Registered users shall be able to comment on posts
- 50. Registered users shall be able to flag an inappropriate post.
- 51. Registered users shall be able to delete their own posts.
- 52. Registered users shall be able to bookmark posts.
- 53. Registered users shall be able to edit their own posts.
- 54. Registered users shall be able to edit their own comments.

Hosts:

- 55. Registered users that create a group shall have the status of host
- 56. Hosts shall be able to rename the group.
- 57. Hosts shall be able to delete study groups that they have created.
- 58. Hosts shall be able to change the group to private or public.
- 59. Hosts shall be able to set a password for the group.
- 60. Hosts shall be able to add a calendar.
- 61. Hosts shall be able to add events to the calendar.
- 62. Hosts shall be able to request a merge with a target group.
- 63. Hosts shall be able to accept merge requests.

- 64. Hosts shall be able to reject merge requests.
- 65. Hosts shall be able to remove members from the group.
- 66. Hosts shall be able to send invites to the group.
- 67. Hosts shall be able to enable members to invite users.

Group Members:

- 68. Registered users that join a group shall have the status of group member.
- 69. Group members shall be able to view event posts in the study group listing.
- 70. Group members shall be able to view the group calendar.
- 71. Group members shall be able to join public groups.
- 72. Group members shall be able to join private groups.
- 73. Group members shall be able to invite registered and general users to join groups.

Study Groups:

- 74. Registered users shall be able to create study groups, which can hold up to 20 students.
- 75. Registered users shall be able to join study groups.
- 76. Registered users shall be able to leave study groups.

Educator Users:

General:

- 77. Educator users shall inherit the same privileges as registered users.

Study Groups:

- 78. Educators shall be able to create an 'Educators Study Group', which holds up to 50 students.

Administrative User:

General:

- 79. Administrative users shall inherit all privileges from other users.
- 80. Administrative users shall be able to add new posts in the Resource page.
- 81. Administrative users shall be able to delete any study groups.
- 82. Administrative users shall be able to block any users.
- 83. Administrative users shall be able to permanently delete any users.
- 84. Administrative users shall be able to ban any users.
- 85. Administrative users shall be able to leave messages for reasons of ban.
- 86. Administrative users shall be able to unban any users.
- 87. Administrative users shall be able to change users' usernames.
- 88. Administrative users shall be able to reset passwords.

- 89. Administrative users shall be able to join any study group.
- 90. Administrative users shall be able to increase any study group's capacity.
- 91. Administrative users shall be able to delete any comments.
- 92. Administrative users shall be able to merge similar groups.

General:

Forum:

- 93. Forum shall display the titles of the posts and short description.
- 94. Forum shall display posts.
- 95. Forum posts shall display content of discussion.
- 96. Forum posts shall display comments.
- 97. Forum posts shall display the up/downvotes.
- 98. Forum shall display usernames of users that post/comment.

Study Group:

- 99. Study group shall be listed in a bulletin display the group name.
- 100. Study group shall display the subject (and major, if applicable).
- 101. Study group shall display the host username.
- 102. Study group shall display the status (Public or Private).
- 103. Study group shall display the usernames of group members to other group members.
- 104. Study group shall display the number of users in the group.
- 105. Study group shall display a group forum tab.
- 106. Study group shall display a group events tab.
- 107. Study group shall display the host's role.

Website:

- 108. Website shall have an About Us page.
- 109. Website shall have a Registration page.
- 110. Website shall have a Login page.
- 111. Website shall have a Contact page.
- 112. Website shall have a Resource page.
- 113. Website shall have a Users Guidelines page.
- 114. Website shall prompt users to accept the terms and conditions.
- 115. Website shall have the UniTea logo on each page.
- 116. Website shall prompt the users to join a study group.
- 117. Website shall display the study groups a user has joined.
- 118. Website shall display a page explaining how to contact the developers.

Section 5: Non-functional Requirements

Functionality:

1. The website shall be implemented with the tools and frameworks that were approved by the CTO.
2. The website shall be using Amazon Web Services for deployment.
3. The website shall be user friendly.
4. The website shall be easy to navigate.

Security:

5. Email and password shall be required upon login verification.
6. Username, password, and email shall be required to create an account.
7. Email and password shall be used to authenticate users.
8. The passwords shall be saved as encrypted.

Privacy:

9. Users will be required to accept policies before creating an account.
10. The Terms of Service shall be easily accessible.
11. Passwords and other personal information shall be kept hidden.
12. Study groups shall be visible to all users.
13. Study group members shall be visible to all users.
14. Comments shall be visible to all users.
15. The comment section shall display who writes the comment at what date and time.

Performance:

16. A user request on the website should be completed within 5 seconds.
17. The website should load within 5 seconds.
18. The communication among users via messaging shall be in real time.
19. The website shall display study groups search results within 5 seconds.

System Requirements:

20. The website shall be implemented with the architecture and technologies that the CTO has approved.
21. The website shall support up to version 91.0.4472.106 of Google chrome.
22. The website shall support up to version 89.0.1 of Firefox.
23. The website shall support up to version 14.1.1 of Safari.
24. The website shall support mobile devices.
25. The website shall be responsive to all devices.

Marketing:

26. Each webpage shall display the application logo in the upper left corner.

27. Each webpage shall be clear and easy to understand for first time visitors.
28. There shall be a Contact Us page.
29. The Contact Us page shall be accessible from each webpage.
30. The footer shall have copyright information.
31. The signup page shall be easily accessible from any page while the user is not logged in.

Content:

32. The website shall have a navigation bar on top of a webpage.
33. The website shall have a search bar to search study groups.
34. The website shall present popular study groups on the search page.
35. The website shall have user profile pages for each user.
36. The user profile page shall present the username, the profile picture, and the study groups the user posted and partake in.
37. The website shall have separate pages for each study group.
38. The website shall allow users to interact with other users using the forum.
39. The website shall allow users to communicate with another user using private messages.
40. The website shall allow users to upload a profile image.
41. The study group pages shall present group members.
42. Posted pictures shall be resized appropriately.
43. The website shall have a footer in each page at the bottom.

Scalability:

44. The website shall be able to handle a large number of users.
45. The website shall be able to handle a large number of study groups.
46. The website shall be developed using microservice architecture, contributing to the maintenance of the application.

Capability:

47. The website shall be capable of providing requested data by the user.
48. The website shall be capable of being updated in a timely manner.
49. The website shall be capable of resolving problems.
50. The website shall be capable of interacting efficiently with the users.
51. The website shall be capable of recovering from failures.

Look and Feel:

52. The website shall have subtle colors.
53. The website shall have readable fonts.
54. The website shall have a simple layout.
55. The website shall be easy to navigate.
56. Study group content shall be immediately recognizable.

- 57. The usage of the website is intuitive.
- 58. The subject for which the study group is created shall be easily identifiable.
- 59. Users can easily recognize if they are members of the study group on the study group pages.
- 60. Users can easily identify the study groups they are in on their profile page.
- 61. The signup page, the login page, and the logout button shall be easily accessible.
- 62. Users can easily join in and leave from study groups.
- 63. Each webpage shall not display unnecessary buttons and forms.

Coding Standards:

- 64. The code shall be understandable.
- 65. The code shall be organized.
- 66. The source code file shall have a header on top.
- 67. The source code header contains the filename, the team name, the URL of the github repository, and the brief description.
- 68. The code shall be maintained with one coding style.
- 69. The code shall have proper formatting.
- 70. The code shall have proper comments.

Development:

- 71. The code shall be pushed and pulled from branches in git properly.
- 72. The code shall be maintained in the relevant branches.
- 73. The final code shall be maintained in the master branch.
- 74. The code in the test branch shall be used for testing.
- 75. The code in each branch in the remote repository must be successfully compiled and runnable.
- 76. The major update/changes of the code shall be reviewed by team members using the github functionalities.

Availability:

- 77. The website shall be active even if no users are active on the website.
- 78. The website shall generate error messages when the connection is lost.
- 79. The website shall generate error messages when users try to do unauthorized operations.

Fault tolerance:

- 80. The website shall be able to handle the display errors.
- 81. The website shall load all the content upon refresh on an error.
- 82. The website shall verify user input data both on the front end and the server side.
- 83. The website shall check if the user is authorized for each operation.

Storage:

84. Store study groups in the database.
85. Remove study groups from the database if the study group is deleted.
86. Store study group members in the database.
87. Remove all the study group members from the study group when the study group is deleted.
88. Remove users from a study group when the users leave the study group.
89. Store comments in the database.
90. Remove comments from the database when the study group is deleted.
91. Store messages in the database.
92. Store usernames in the database.
93. Store emails in the database.
94. Store passwords in the database.
95. Store user types in the database.
96. Store profile pictures in the database.
97. Remove profile pictures from the database when the user removes it.
98. Store the login user's cookie in the database.
99. Remove the login user's cookie session from the database.

Expected Load:

100. The website shall support as many study groups as Amazon Web Services can support.
101. The website shall support as many users as Amazon Web Services can support.
102. The website shall support as many comments as Amazon Web Services can support.
103. The website shall support as many messages as Amazon Web Services can support.

Legal:

104. The website shall have Terms and Conditions that users will be required to accept before they log in.
105. The website shall have a privacy policies section in the Terms of Service.
106. The website shall have copyright notice.
107. The website shall have user guidelines in the Terms of Service.

Section 6: Competitive Analysis

	Discord URL	Facebook URL	GoCongr URL	MoocLab URL	Rcampus URL
Strengths	<ul style="list-style-type: none"> • Server management tools • Roles feature • Quality chat feature 	<ul style="list-style-type: none"> • Quality notification feature • Slick design • Easy access 	<ul style="list-style-type: none"> • Quality resources • Slick design • Quality group functionality 	<ul style="list-style-type: none"> • Forum focused • Ease of use • Allows self promotion • Study buddy feature 	<ul style="list-style-type: none"> • Provide tools for teacher and students to engage • Professional design meant for educational facilities
Weaknesses	<ul style="list-style-type: none"> • No forum feature • No resource page • No dedicated search functionality • Difficult to find groups • Limited upload capacity 	<ul style="list-style-type: none"> • Group management tool is lacking • No forum feature • Difficult to manage posts 	<ul style="list-style-type: none"> • Purpose is unclear • Difficult to navigate • Focuses more on professionalism rather than ease of use for students 	<ul style="list-style-type: none"> • Forum based chat/messaging • Resource page is cluttered • Too many groups on display; makes group finding intimidating • Very simple design; unprofessional 	<ul style="list-style-type: none"> • Focuses more on educational institutes • Not public user friendly • No forum feature
Pricing	<ul style="list-style-type: none"> • Free • Optional subscription 	<ul style="list-style-type: none"> • Free 	<ul style="list-style-type: none"> • Free • Optional payment to expand storage 	<ul style="list-style-type: none"> • Free • Optional account upgrade 	<ul style="list-style-type: none"> • Free • Certain features require account upgrade
Target Market	<ul style="list-style-type: none"> • Gamers • Teenagers - Young Adults • Students 	<ul style="list-style-type: none"> • Anyone 	<ul style="list-style-type: none"> • Students • Academic Faculties 	<ul style="list-style-type: none"> • Students • Academic Faculties 	<ul style="list-style-type: none"> • Students • Academic Faculties
Social Media	<ul style="list-style-type: none"> • Facebook • Twitter • Instagram • YouTube 	<ul style="list-style-type: none"> • Facebook • Twitter • Instagram 	<ul style="list-style-type: none"> • Facebook • Twitter • YouTube 	<ul style="list-style-type: none"> • Facebook • Twitter • Reddit • Pinterest • Tumblr • WhatsApp 	<ul style="list-style-type: none"> • Facebook • Twitter • YouTube
Onboarding Experience	<ul style="list-style-type: none"> • Simple and straightforward 	<ul style="list-style-type: none"> • Very simple • Few steps 	<ul style="list-style-type: none"> • Not much support after initial sign up 	<ul style="list-style-type: none"> • Straightforward registration experience • Proper guideline after registration 	<ul style="list-style-type: none"> • Clear and straightforward instructions • Optional payment was heavily encouraged

	Discord	Facebook	GoCongr	MoocLab	Rcampus	UniTea
Messaging	++	++	+	+	+	++
Forum	-	-	-	+	-	++
Calendar	-	+	-	-	-	++
Friend	+	++	+	-	+	+
Post Merge	-	-	-	-	-	++

Legend: + Feature exist, ++ Superior, - Feature does not exist

Summary of Competitive Analysis

UniTea's purpose is to provide a quality experience for students that are in search of a study group for a class or subject they are interested in. Whether a student wants to connect with other students within their own school, or students from around the globe, UniTea provides this service. Our simplistic design and many varieties of features and tools will provide a convenient service that can help students create their own study group in their time of need. We understand that students are not the only ones seeking to create a study group. Teachers and Professors of academic institutes are welcome to join and create their own study groups for their courses. By providing a quality and convenient service, students will no longer feel the uneasiness of online or in person anxieties when looking for a group to study with.

When researching our competitors, we noticed that the majority of them did not consider usability tailored for students and teachers. GoConqr, and Rcampus advertised themselves as a study group platform for students and teachers, but their service is quite tedious to use. GoConqr prefers to do the group search for their user, which can lead to unreliable groups or unhappy users. Who knows if the match given is a good fit? Rcampus on the other hand, is more focused on providing their service for academic institutions. Meaning, a public user or non-student will not get the best service from them. They also provide other features that could only truly shine when their users pay for it.

Discord and Facebook marketed themselves as different services from ours. Discord is known to be a chat/messaging service for “gamers”. With their large varieties of features and functionalities, many students (ranging from middle school students, to high school students, to college and universities students, and even middle-ages adults) like to use Discord as their main form of communication and group gathering. Their server management functionalities are superior to most services, which allow their users to properly manage a larger server. However, due to the chat format of their service, it becomes ever more difficult for them to compile and organize messages that seek study groups specifically. Facebook on the other hand comes close to a proper group management service. Facebook does have a group feature where their users can join and make posts. However, their group service is simplistic and linear. Meaning, every post is made and can be commented on continuously, but will eventually be buried and lost in the timeline.

Lastly, MoocLab will be our biggest competitor. Their simplistic design, forum based platform, and demographic target of students and teachers, they come closer to our envisioned product more than the rest. However, they are simple to a fault. They lack other features that can help them further connect their users together such as category/tags, and dedicated search system. Lacking these features, a user in MoocLab will have difficulties finding a group to study about a particular topic of a particular subject under a particular condition. A user would have to

look through many pages of posts to find that one group that fit their criteria; further raising the issues mentioned above.

So, what is it about UniTea that trumps our competitors? First and foremost, UniTea is free for all users. Once a user registers an account with us, they will have access to a large variety of features provided by our service. UniTea aims to create a simple yet professional design that focuses on ease of use for the user. Our service is tailored for academic/learning purposes which takes the hassle out of searching for a study group online, which can be like a needle in a haystack on larger social platforms like Facebook and Discord, who allow for all varieties of posts and groups to be made. It can be overwhelming when all you want is to study. Unlike Discord, Facebook, GoConqr, and Rcampus, our service lets the user make their own choice from a variety of postings for groups that include descriptions and group expectations. Our forum-based design makes it easy to communicate with any groups and can be accessed from anywhere. Our calendar feature makes it easy to get a quick glance of oncoming study groups, allowing our users to be ready to join a study group that fits their needs. Teachers can join with students, creating a virtual peer learning experience for our future doctors and computer scientists. And finally, our seamless group merge feature makes it extremely convenient for groups to collaborate should the situation demands it.

At UniTea, we are a start-up organization. We want to provide our service to the college population for free; however, we understand that it would be difficult to maintain our service if we do not receive any form of payment. The solution we came up with is to have advertisements appear on UniTea. If users want to have an advertisement-free experience, they can pay for UniTea premium. Additionally, should users wish to show us their support, we provide an option for users to donate to us. UniTea is designed to be an educational tool for students and instructors. We anticipate educational institutions to take interest in our service and incorporate it into their student education plan. Therefore, we plan to license our product directly to schools. Our contact information will be provided on our website.

Section 7: High-level System Architecture and Technologies Used

Server Host: AWS EC2

Operating System: Ubuntu Server 21.04

Web server: Apache 2.4

Database: RDS SQL for MySQL Workbench 8.0

Server-Side Language: Python 3.8 and Django 3.24

Additional Technologies:

IDE: Front end - VS Code, Backend –

PyCharm, Workbench

Web Framework : Handlebars 4.47, Django
templates 3.1, Materialize CSS 1.0

Section 8: Checklist

- Team found a time slot to meet outside of the class
Done
- Github master chosen
Done
- Team decided and agreed together on using the listed SW tools and deployment server
Done
- Team ready and able to use the chosen back and front end frameworks and those who need to learn are working on learning and practicing
Done
- Team lead ensured that all team members read the final M1 and agree/understand it before submission
Done
- Github organized as discussed in class
Done