GATOR CONNECT

TEAM 03

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MILESTONE 1

Date: 2/12/2024

History Table

Milestone	Version	Date Submitted
Milestone 1	M1V1	3/1/2024
	M1V2	4/4/2024

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1. Executive Summary

"Gator Connect" revolutionizes the conventional social media platform by prioritizing educational content and fostering a vibrant community within San Francisco State University. Unlike generic platforms, "Gator Connect" is tailored specifically for students and faculty, offering a plethora of features geared towards enhancing academic and social experiences.

One of the core principles of "Gator Connect" is its stringent San Francisco State University email verification system, ensuring that only legitimate members of the university community have access. This creates a safe and secure environment for students and faculty to interact and share valuable information.

Moreover, "Gator Connect" facilitates seamless communication by allowing users to categorize themselves into specific sections, enabling targeted interactions within their academic circles. Beyond its social media functionalities, "Gator Connect" distinguishes itself with its integrated RateMyProfessor system, empowering students to make informed decisions about their courses and professors. Additionally, users can access cafeteria menus and event calendars, streamlining their daily campus activities.

One of the other standout features of "Gator Connect" is its emphasis on fostering meaningful connections. Users can effortlessly find roommates, join group fitness activities, and interact with professors to seek guidance and support. The platform serves as a hub for students to share lifestyle tips, stay updated on-campus events, and forge lasting friendships.

In the future, the development plan for "Gator Connect" extends beyond San Francisco State University to encompass other prestigious institutions such as Stanford, UC Berkeley, and Harvard. By expanding its reach, the platform aims to facilitate connections among students, clubs, and inter-school events across renowned educational institutions. Additionally, "Gator Connect" envisions integrating insights and tips from renowned researchers and professors, enriching the academic experience and fostering collaboration on a global scale. This ambitious expansion aligns with the platform's mission to empower students with valuable resources and opportunities for growth beyond their immediate campus community.

2. Main Use Cases

2.1 - Making Friends

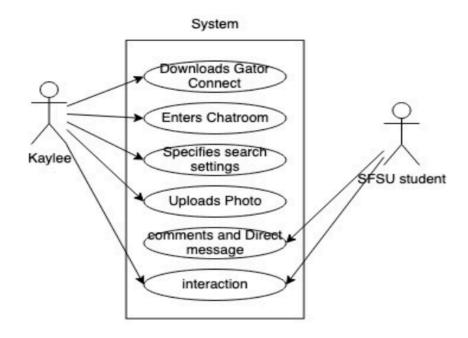
- Actors: Kaylee (student), Gator Connect (company)
- Assumptions:
 - Kaylee is a freshman student at San Francisco State University.
 - Kaylee has internet access and a device to browse Gator Connect.

• Use Case:

As a freshman and a newcomer to San Francisco, Kaylee does not have friends at all. Kaylee is worried about her friendship; hence, she tries to download Gator Connect. After downloading the application, she creates an account and discovers a number of chat rooms and posts. Above all, what grasps her attention is to find friends within the same major. Additionally, the fact that she can make friends who have entered the Spring of 2024 also helps Kaylee achieve psychological stability. She could easily contact diverse friends through chatting. Afterward, Kaylee got enough confidence to post, so she uploaded her first post. Then, a number of people commented and some directly sent messages to her. Once she receives considerable messages, she is relieved and pleased with the useful functions of this app. Eventually, she makes some friends and plans to hang out with them in person.

Benefits for Kaylee

- Gator Connect facilitates the process of making friends for Kaylee.
- She can specifically connect with others in the same major and of a similar freshman status.



2.2 - Cafeteria Search

• Actors: John (Student), Gator Connect (company)

Assumptions:

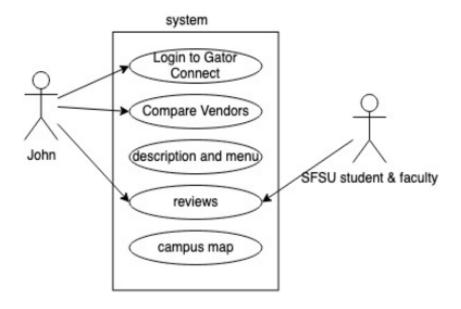
- John is a student at San Francisco State University.
- John has internet access and a device to browse Gator Connect.

· Use Case:

John, a transfer student staying in the dorms at Manzanita Square, has just finished unpacking after his move-in three hours ago. Feeling hungry and exhausted, he considers his food options on or near campus. However, he's too tired to explore on foot. Remembering the orientation leader mentioning "Gator Connect," John decides to check it out. He logs into Gator Connect and navigates to the resources section, where he finds a list of nearby food vendors. Among them is City Eats, the campus cafeteria. Gator Connect provides the menu of the day and student/faculty ratings, making it easy for John to decide what he wants. Once John settles on his food choice, he uses Gator Connect's campus map PDF to find the cafeteria's location. With everything he needs at his fingertips, John sets out for the cafeteria without wasting energy searching across campus.

• Benefits for John:

- John can explore his campus from his dorm room.
- Gator Connect saves John time and effort by allowing him to search for food options online.



2.3 - Finding Roommates

- Actors: Nguyen (student), Jessica (student), Gator Connect (company)
- Assumptions:
 - Jessica is a junior CS student at SFSU.
 - Nguyen is a community college student and has just been accepted to transfer to SFSU to major in CS for the Fall semester.
 - Nguyen and Jessica have SFSU email addresses and devices to access the Gator Connect app.

• Use Case:

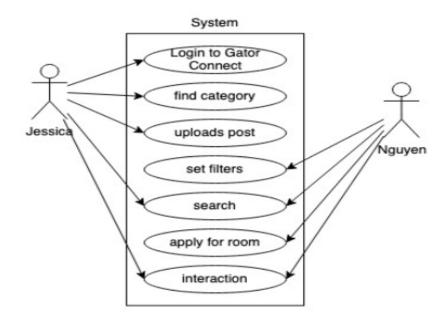
Jessica's roommate just graduated and will be leaving after this Spring semester. She is considering finding a roommate to share living expenses for next Fall. She logged into Gator Connect and posted a post with the setting "share room" in a chatroom with information about herself such as major, interests, room description, and general requirements. Meanwhile, Nguyen needs to find a place to live at a reasonable price and close to campus to conveniently get to class and extracurricular activities in his first semester at SFSU. She navigates to the "chatroom" section and selects appropriate filters such as major, interests, and average price. Luckily, Nguyen saw Jessica's post, and then added her information to the post's comment section. After browsing through some profiles, Jessica was impressed by Nguyen's profile. Then she connects with him through Gator Connect's messaging feature. They discuss their preferences and schedules, finding they have a lot in common. After meeting in person, they decide to share a room for the upcoming semester, making their housing search efficient through Gator Connect.

Benefits for Nguyen:

- Quickly find affordable accommodation for your first semester without going through an intermediary or formal process.
- Connect and find roommates with similar majors and interests.

· Benefits for Jessica:

- Find someone to share a room with to reduce living costs.
- Make new friends with similar interests.



2.4 - School Tips

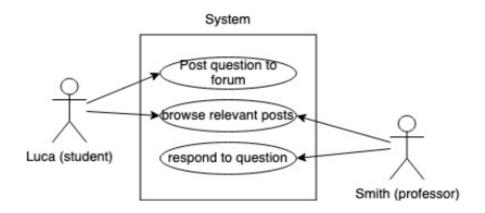
- Actors: Luca (student), Smith (professor), Gator Connect (company)
- Assumptions:
 - Luca is an international freshman at SFSU.
 - Professor Smith teaches introductory calculus classes.
 - Both Luca and Smith have SFSU email addresses and devices to access the Gator Connect app.

• Use Case:

Luca is struggling with understanding some concepts in his introductory calculus class taught by Professor Smith. Feeling hesitant to approach the professor during class, Luca turns to Gator Connect and posts his question to a chatroom with the appropriate settings to seek clarification or additional resources to help him grasp the material better. Meanwhile, Professor Smith, who regularly monitors the calculus department's page on Gator Connect, notices Luca's post. Professor Smith responds promptly, providing detailed explanations, and links to relevant study materials, and offering additional support. Luca feels relieved and grateful for the quick response and valuable assistance from Professor Smith. Besides, he discovers valuable tips from classmates' posts, including advice on navigating the syllabus, attending office hours, effective memorization techniques shared by professors, and important announcements from department deans.

· Benefits for Luca:

- Access to immediate help and support from faculty members like Professor Smith, enhancing learning and academic success.
- Convenient platform for asking questions and seeking clarification on challenging topics, fostering a collaborative learning environment.
- Opportunity to engage with peers and faculty outside of the classroom, building a sense of community and connection within the university.



2.5 - Bus Routes and Shuttles

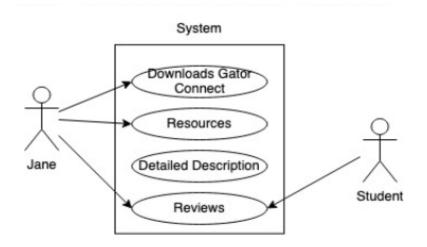
- Actors: Jane (faculty), Gator Connect (company)
- Assumptions:
 - Jane has internet access and a device to browse Gator Connect.
 - Jane is a faculty member at San Francisco State University.

· Use Case:

Jane, a new faculty member at San Francisco State University, starts her job in Spring 2024. Jane has been commuting from Oakland every day for the past three weeks but is shocked by the unexpectedly high toll bill from the Bay Bridge. Concerned about managing such a costly expense with her modest faculty salary, Jane searches for alternatives. After overhearing students discussing the benefits of the new app "Gator Connect," Jane decides to give it a try. That evening, she downloads Gator Connect and discovers the resources section, which provides information on available bus routes. Gator Connect presents Jane with a list of Muni lines that directly connect to the local Bart station, as well as the shuttle service available on weekdays for all students and staff. Delighted to find student and faculty reviews for the shuttle service, Jane gains insight into the commuting experience. Additionally, she appreciates the pricing details listed for each line, helping her calculate potential savings compared to driving.

· Benefits for John:

- Gator Connect saves Jane time and effort.
- Gator Connect assists Jane in calculating potential cost savings.
- Jane can explore her bus line options from her home.



2.6 - Big Announcement

• Actors: Harry (student), Gator Connect (company)

Assumptions:

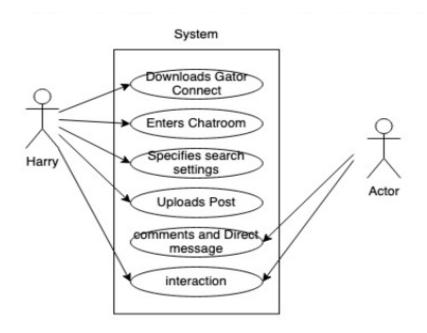
Harry has internet and a device to browse through the Gator connect Harry is a student at SFSU

· Use Case:

Harry, a sophomore student at San Francisco State University, has a passion for tennis and desires to establish a tennis club on campus. However, he's unsure of how to make a school-wide announcement about his initiative. After overhearing students discussing posts on Gator Connect, Harry recalls learning during orientation that the platform allows users to send public messages to the entire student. He decides to leverage this feature to spread the word about his idea. Harry downloads Gator Connect and sends his messages to the Campus Club channel, inviting fellow tennis enthusiasts to join him in starting a tennis club at SFSU. To his delight, he receives enthusiastic responses from numerous students who share his passion for tennis but were previously unaware of others interested in starting a club.

Benefits for Harry

- He can pursue his passion for tennis alongside like-minded individuals.
- Harry effectively communicates his ideas to all students.
- Harry expands his social network and creates opportunities for collaboration and engagement on campus.



2.7 - Campus Events

• Actors: Jason (student), Gator Connect (company)

• Assumptions:

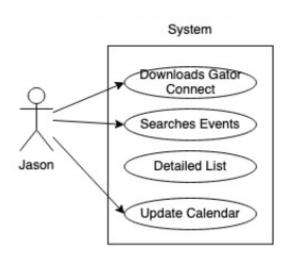
Jason has internet access and a device to browse Gator Connect Jason is a student at San Francisco State University.

• Use Case:

Jason is a freshman and would like to know about any new events happening on campus that he might be interested in. While looking for the SF State app, he also comes across Gator Connect and decides to try it out. After downloading the app, Jason is able to scroll through a list of various events that are available on campus. After looking through all of the events, Jason finds a career development workshop and decides that he wants to attend it. Searching for more details, he finds that each event listing is included with a date, time, and location. Looking forward to the event, Jason adds the event to the personal calendar on his phone.

Benefits for Jason:

Having resources being readily available saves Jason time and effort.



2.8 - Exploring Campus Room

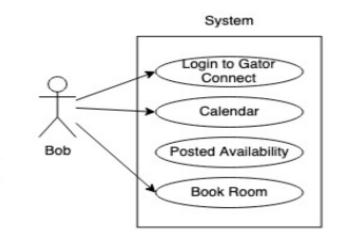
- Actors: Bob (student), Gator Connect (company)
- Assumptions:
 - Bob has internet access and a device to browse Gator Connect
 - Bob is a student at San Francisco State University.

• Use Case:

Bob, a diligent junior student and art club president at San Francisco State University, was determined to make the most of his college experience despite his busy schedule. To manage his time effectively, Bob relies on Gator Connect to stay updated on available school resources. One day, Bob decided to work out at the Fitness Center between classes. Before getting there, he checks Gator Connect to see the current status of group fitness studios. He saw that there was a slot available for a fitness class in 1 hour so he quickly booked it through the platform. In the afternoon, Bob needs a quiet space to study for the upcoming exam with his friends. He logged back into Gator Connect to check if schools were available on campus. Seeing that there was a study room in the library, he reserved it for a few hours to focus on studying without interruption. To plan Bob's club meeting next week. He looked into Gator Connect and discovered that there was a room available in the Humanities Building every Thursday night. He arranged and discussed internally and reserved the room via Gator Connect on next Thursday from 6:00-8:00 PM.

Benefits for Bob:

- Save time and effort by quickly checking campus resource availability.
- Maximize productivity by booking available rooms in advance.



3. List of Main Data Items & Entities

1. User

A user can be divided into registered users (student or professor) and non-registered users (people from outside the university who can not register).

The students can use all the functionalities, whereas professors can not rate and comment in the RateMyProfessor feature.

2. Account

The user can just create one account using the SFSU email only.

3. Profile

Each account has a profile with the user's avatar picture, full name, number of friends, and all posts of the user.

4. Message

A message consists of the date & time, the content, and the creator of the message. The user can send private messages directly to other users or send public messages via a channel.

5. Channel

A channel is a chat room for every user to connect with each other for a specific topic channels can be theme specific such as general, sports, studying help, finding roommates, campus events, or clubs.

6. Notification

An account can push notifications to let users know about new messages, friend requests, big events, or the latest likes and comments on their posts.

7. Friend Request

A user can send a friend request to make friends with another user. A friend request can have the date & time, username, and status of the request.

8. Post

A post is composed of the username who posted, date & time, content of the post, likes, and comments on the post.

9. Like

The user can react with a Like on someone else's post or message.

10. Comment

Users can comment on posts or respond inside the channels.

11. Resources

Under Resources options, users can find food vendors, transportation around campus, a campus map, roommates, campus events, room reservations, and RateMyProfessors.

12. Food Vendor

Users can access information on food vendors on campus such as open hours, menu, and location. Users can also rate and leave feedback to a food vendor.

13. Transportation

Details about bus routes and transportation options around the SFSU campus.

14. Events

A campus event has a title, description, date & time, and location of the event.

15. Rate my Professor (RMP)

RMP is a feature where student users can rate their professors.

16. Room Reservations

Users can reserve a study room in the library depending on available options being updated.

17. Find roommates

Users can share their personal information and find roommates. This feature can also allow you to look for roommates via posts.

4. List of Functional Requirements

1. User

- 1.1 A user shall have only one account
- 1.2 A user shall receive messages
- 1.3 A user is a student, professor, or administrator
- 1.4 A user shall send messages
- 1.5 A user shall be able to view posts
- 1.6 A user shall be able to like posts
- 1.7 A user shall be able to comment

2. Account

- 2.1 An account shall have an unique ID
- 2.2 An account shall have a unique username.
- 2.3 An account shall be registered through an SFSU email
- 2.4 An account shall belong to a user
- 2.5 An account shall have three roles
- 2.6 An account shall have one profile

3. Profile

- 3.1 A profile shall be associated with only one user.
- 3.2 A profile shall have one and only one picture profile
- 3.3 A profile shall show one and only one user name
- 3.4 A profile shall be able to have one biography
- 3.5 A profile shall be able to have many posts
- 3.6 A profile shall be able to have many friend numbers

4. Student

- 4.1 A student is a type of user
- 4.2 A student shall be able to have more than one major and minor
- 4.3 A student shall be able to have one year level
- 4.4 A student shall be able to rate and comment on many professors

5. Professor

- 5.1 A professor is a type of user
- 5.2 A professor shall belongs to more than one department

6. Notification

- 6.1 Notifications shall be sent for new messages, friend requests, likes, and comments
- 6.2 Notifications shall be turned on/off by users
- 6.3 Notifications shall be sent for upcoming booked appointments or reservations

7. Message

- 7.1 A message shall be sent to a user
- 7. A comment shall belong to a post

8. Chat Room

- 8.1 A chatroom shall have posts
- 8.2 A chatroom shall have settings
- 8.3 A chatroom shall have many channels

9. Post

- 9.1 A post shall belong to a chatroom
- 9.2 A post shall have comments
- 9.3 A post shall be viewed by users
- 9.4 A post shall include links and resources to other sites

10. Resources

- 10.1 A resource shall contain food vendors
- 10.2 A resource shall have a PDF map (attribute)
- 10.3 A resource shall contain bus route information
- 10.4 A resource shall contain room reservations
- 10.5 A resource shall contain gator groceries

11. Rate my Professor (RMP)

11.1 RatemyProfessor shall be embedded in homepage

12. Food Vendor

- 12.1 A food vendor shall belong to the student resource
- 12.2 A food vendor shall have the menu (attribute)
- 12.3 A food vendor shall have ratings/reviews

13. Review/Rating

- 13.1 A review/rating shall belong to food vendors
- 13.2 A review/rating shall belong to RateMyProfessor

14. Room Reservation

- 14.1 A room reservation is a resource
- 14.2 A room reservation is a study room
- 14.3 A room reservation is a gym/workout room

15. Channel

- 15.1 A channel is a school tip
- 15.2 A channel is find a roommate channel
- 15.3 A channel is a sports interest
- 15.4 A channel is a study group
- 15.5 A channel is a general

16. Bus Information

- 16.1 Bus routes shall have set schedule
- 16.2 Bus routes shall be part of resources
- 16.3 Bus routes is a SFSU shuttle service
- 16.4 Bus routes shall contain pricing information

17. Event

- 17.1 Users shall view details about campus events.
- 17.2 Events are started by a user.
- 17.3 Events shall have specific date, time, and location.
- 17.4 Events shall have description
- 17.5 Events shall have date and time.

5. List of Non-Functional Requirements

1. Performance

- 1.1 The application shall respond within 3 seconds
- 1.2 The application shall allow multiple users to access
- 1.3 Page load times shall be optimized to ensure a smooth user experience
- 1.4 Users shall use this application via both website and app

2. Security

- 2.1 The password shall be at least 8 long combinations of number, alphabet and character
- 2.2 The database shall be backed up at every 11:59 pm
- 2.3 All the user messages in the application shall be encrypted by non-access people
- 2.4 Application security measures shall include regular security assessments
- 2.5 User email verification shall be needed to register in order to prevent strangers to login

3. Storage

- 3.1 The system shall provide enough storage without impacting system performance
- 3.2 There shall be enough data storage for post, comment, text, image
- 3.3 A maximum text length shall be more than 750 characters
- 3.4 The file image shall be less than 2MB
- 3.5 The system shall get rid of old data if data is full
- 3.6 The database shall be well-organized and store data without any loss of critical information

4. Availability and Reliability

- 4.1 The application shall execute almost all the time without errors
- 4.2 The application shall have redundancy measures to mitigate the risk of single points of failure
- 4.3 The application shall automatically recover from common errors without user intervention
- 4.4 System updates shall be applied without affecting user's information
- 4.5 The application shall execute all the time except when update is on process

5. Maintainability

- 5.1 The application shall be developed using modular architecture for easy maintenance and update
- 5.2 The application should have redundancy measures to minimize downtime in case of server failures or maintenance
- 5.3 The system shall be designed to scale dynamically to accommodate up to many users.
- 5.4 The system shall be designed to handle a minimum of 1,000 concurrent users during peak usage hours

6. Scalability

- 6.1 Cloud of this application shall allow to expand the capacity as needed
- 6.2 The database shall be designed to adjust horizontal scaling
- 6.3 The database shall be able to handle large amount of data without decrease in performance

7. Usability

- 7.1 The number of click of associated with all features shall be less than 7
- 7.2 The application shall provide the easy-accessible-and-visible for main functions that they desire to do
- 7.3 The application shall provide personalized content based on user behavior
- 7.4 User Interface shall be intuitive and simple but good-looking at the same time

8. Compatibility

- 8.1 The application website shall be compatible with various browsers
- 8.2 Both Android and iOS platforms shall be accommodated
- 8.3 The system shall integrate existing SF State's data where applicable

6. Competitive Analysis

Feature/ Company	SF State	Campus Groups	Corq	OrgSync	Craigslist
Strengths	- Provides straightforward resources that students need. - Enable to view comprehensive university information.	- Great user interface design Overall suite of tools for event management and communication.	- Mobile design caters to the student's preferences, enhancing accessibility Focus on organizational engagement.	- Offers wide tools designed specifically for student events and communication Improve efficiency in communication.	- A bunch of categories and local focus Mostly regarding seller/buyer, minorly for community.
Weaknesses	- Not updated regularly and the lack of utilities Bad usability and less interaction.	The platform's broad feature set could be overwhelming without proper guidance.	While mobile has a strength, desktop users might find the experience less optimized.	Integration with the campus system might require substantial customization.	Potential for scams with no verification.
Pricing	Free	Depend on its usage (i.e feature set)	Depend on its usage (i.e feature set)	Depend on its usage (i.e feature set)	Free
Social media	Instagram, Facebook	Instagram, Facebook, Twitter	Instagram, Twitter	LinkedIn	Twitter
Onboard experience	Simple to use but has bad user experience within an ambiguous GUI.	Tutorials and support are available; however, institutional setup can affect usability.	Mainly mobile-focus, offering an intuitive setup process, slightly complex functionalities.	Address the platform's learning curve and help organizations run smoothly; but requires dedicated implementation.	Extremely overwhelming to use due to the messy design, not intuitive.

Evaluation Table (- && +)

Feature/Company	SF State	Campus Groups	Corq	OrgSync	Craigslist	Gator Connect
Communication	-	++	+	++	-	++
Resources	+	++	++	++	-	+
Sell/Buy	-	-	-	-	++	+
User Interface	-	+	+	+	-	++
Education	++	+	+	+	-	++

Competitive Analysis Summary

Based on the competitive analysis comparing Gator Connect with SF State, Campus Groups, Corq, Orgsync, and Craigslist, Gator Connect aims to address significant components where those platforms have limitations while adopting a unique feature that integrates social media with the SF State community. In addition, Gator Connect not only provides communication functions but also provides users with meaningful information, such as information about professors and more in-depth reviews of local eateries and shuttle services. It plans to offer various communication tools just like other famous social platforms. Since our target audience is the students at San Francisco State University, typically social media is not a proper option for them. The existing SF State application has a number of shortcomings in maintainability and its utilities; hence, we will guarantee timely updates as well as provide essential functions for student needs. Finally, this application, Gator Connect, will enable the users to get educational resources and additional useful features like selling/buying and finding roommates. As a result, we plan to create an app that caters to students and professors by adding the advantages of various competitors mentioned above to the original SF State.

7. Checklist

NO	Tasks	Status	Comments
1	Team found a time slot to meet outside of the class	DONE	Tuesday in-person @2-4PM Thursday via Zoom @2-4PM
2	Github master chosen	DONE	Fabian Weiland
3	Team decided and agreed together on using the listed SW tools and deployment server	DONE	
4	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	
5	Team lead ensured that all team members read the final M1 and agree/ understand it before submission	DONE	
6	Github is organized as discussed in class (e.g. master branch, development branch, folder for milestone documents etc.)	DONE	

8. High-level System Architecture & Technologies Used

8.1 Server Host: Amazon Web Service (AWS)

8.2 Operating System: Window 11

8.3 Database: MySQL 8.0.36 8.4 Web Server: NodeJS

8.5 Server-Side Language: TypeScript

8.6 Additional Technologies:

- Web Framework: React and Node

- Integrated Development Environment (IDE): VSCode

- Web Analytics: Google Analytics

- SSL Certificate: Lets Encrypt (Cert Bot)

- CSS Preprocessor: SASS 3.5.5

9. List of Team Contributions

NO	Member	Contribution	Rating
1	Ralph Quiambao	Added 2 main use cases Completed the functional requirements Completed competitive analysis with Jeawan Helped SSH set up Strong communication with others	10
2	Karma Gyalpo	Deployed the team's website URL Developed the about page Completed the functional requirements Completed the non-functional requirements Submitted the team's contract Helped SSH set up Strong communication with others	10
3	Dustin Meza	Added 2 main use cases Completed all use case diagrams Setted up the Database URL, Username, Password Helped SSH set up Strong communication with others and professors	10
4	Fabian Weiland	Added more main data items & entities Added more the non-functional requirements Strong communication with others Helped SSH set up	10
5	Jeawan Jang	Worked on the executive summary Added 2 main use cases Completed competitive analysis with Ralph Added more the non-functional requirements Modified the list of main data items & entities Very responsive and involved with the group Helped SSH set up	10
6	Hoang-Anh Tran (team lead rating by the professor)	 Worked on the executive summary Added 3 main use cases Added more the functional requirements Created and organized the M1 docs 	