

SW Engineering CSC 648-848 Spring 2023

Hungry Gator Application

Team 5

Student Name	GitHub Username	Student Role
Maliah Chin	maliahc	Team Lead
Hajime Miyazaki	hmiyazaki95	Back End Lead
Mario Leyva Moreno	leyvaM	Front End Lead 1
Scott Nguyen	Saiber70	GitHub Master
Aneida Guadalupe Blanco Palacio	Blanco1220	Front End Lead 2

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History Table

Date Submitted	Date Revised
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1. Executive Summary:

College can be stressful for many students. As they are constantly on the move getting ready for the next class or studying all night for exams, they may not have the time to go out and buy groceries to cook, or buy food from their local restaurant. To make life easier for SFSU students and faculty, we have created the Hungry Gator application which is designed to deliver food anywhere on campus. This application is especially convenient for SFSU faculty and staff, who are constantly working in their offices, attending meetings, and teaching multiple courses with minimal breaks. Our application will ensure that food is delivered directly to them at a specific location on campus, so that they may not be inconvenienced to go out and buy food when dealing with time constraints. Another key advantage of our application compared to other food delivery apps, is that we are constantly providing discount opportunities and minimal delivery fees in order to make food more affordable for college students. Students often have to incur various expenses due to high tuition costs and materials required for various courses, so it is our goal to make an already expensive service as affordable as possible to members of SFSU.

The Hungry Gator application provides an exclusive membership program to SFSU students and faculty, which will activate upon user registration. Members will receive exclusive discounts and reduced delivery fees on select restaurants, which will help make food more affordable and convenient for students and faculty alike. Our application also supports on-site delivery, a service that ensures food is delivered anywhere on campus by providing a digital map of the campus to delivery drivers. This will help drivers pinpoint an exact location on campus and ensure fast delivery times. This also helps the user track their orders and avoid communication issues with drivers about being unable to find the dropoff location, since drivers will be guided directly to your specific location on the map. Our application is also unique in terms of what is available since our goal is to get food delivered as quickly as possible to our users. The application will not show restaurants out of range and will prioritize the restaurants that are closest to the SFSU campus.

Our team is composed of individuals from various backgrounds who have come together to deliver a reliable service to our users. Our team is composed of a team lead who organizes tasks and provides design plans for the team to follow. We also have a github master who keeps track of our product's github page and ensures that all aspects of our application are up to date and ready for launch. The back-end developer is responsible for authenticating user accounts and managing our team's database where user data is safely secured. Finally, we have front-end leads who are responsible for providing a reliable user interface where users can easily interact with our application.

2. Personae and Main Use Cases:

Student: Jasmine



Jasmine is a **SFSU student** who has been busy all evening studying hard for her midterms. As the night progresses, Jasmine realizes that it's time to eat but she fears she doesn't have enough time to go pickup anything for dinner. Luckily, she heard about this new web application, Hungry Gators, that has been created specifically for SFSU students. Jasmine opens her laptop and enters the link for Hungry Gators. She then notices all of the appetizing pictures that inspire her to find a meal for the evening. She searches up her favorite cuisine, Italian, and looks through the results. She finds something yummy and even notices that there is a special student discount. Jasmine adds her food to her car and continues to check out. At checkout, she is then prompted to sign up using her SFSU email. Since she is a student, the chosen discount has been applied. She notices that there is a special function that allows for her food to get delivered directly to her dorm, so she enters her location. Jasmine then gets back to her books and waits for the speedy delivery.

Professor: Michael



Michael is an esteemed **professor** at SFSU. His days are full of meetings, new classes to teach, and hosting office hours to students in need. Because of his busy schedule, he finds it nearly impossible to have time to enjoy his meals. Recently, he has heard about this new web application that makes ordering food simple and quick called Hungry Gator. Michael opens his phone's browser and enters the link. He is greeted with pictures of delicious foods and drinks. He decides to order something fun and adds it to his cart. Michael uses his SFSU email to sign in at checkout. After signing up, he enters his location and notices the option to have it delivered directly to his office! Satisfied with the convenience of Hungry Gator, Michael checks out and waits for his order.

Restaurant Owner: Tina



Tina is a local **restaurant owner** who works near SFSU. She has a cafe that has opened up recently and has been looking for a new opportunity to expand her business. A new web app has come across her radar that has peaked her interest, called the Hungry Gator. Tina's full schedule makes it difficult for her to learn new apps, but the simple layout of Hungry Gator offers her a quick way to grow her audience. She opens Hungry Gator and looks for the registration button for restaurants. She clicks on the button and is greeted with a form that asks for her basic information. Because Tina knows that the SFSU campus is bustling with business, she fills out the section for special offers aimed towards the students. She is also excited to upload photos that showcase her best snacks. Tina then completes the form and submits the request. A message that the form has been submitted and that it may take up to 24 hours for the form to be accepted appears and Tina acknowledges the information. Happy to have a chance to give back to students and create a new branch of business, Tina waits for her approval.

Admin: Kris



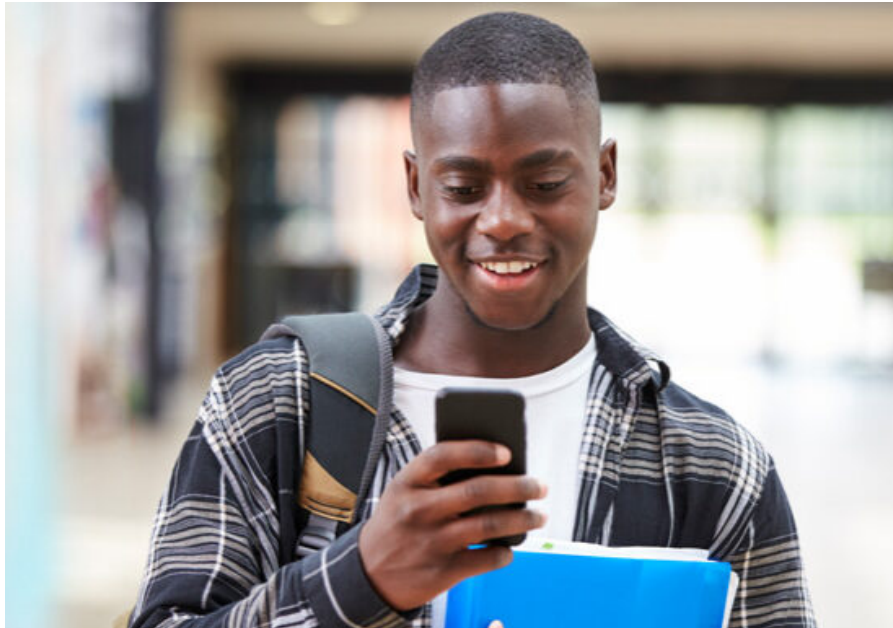
Kris is the **admin** for Hungry Gator. His main goal is to observe and act upon requests handled on the application. Kris is the guy who acknowledges and accepts the requests for photos uploaded, restaurants requesting to be featured on the site, and pending account information. Kris can also decline the requests if necessary. Kris is able to assist the customers and clients through email and has access to all the database information so he is able to review all of the data.

Student: Sophia



Sophia is a student that has been stuck doing assignments all day in her dorm. Being busy finishing assignments, she doesn't have time that she needs to go out and buy food herself. Thankfully, she heard of the Hungry Gator application and its ease of use. She decides to use it to order food and discovers that by signing up as a SFSU student, she gets discounts and has the option of having her food delivered at the front desk of her dorm where she can go pick it up.

Delivery Driver: Lucas



Lucas is an SFSU student who wants a job that is flexible with his schedule as a student. Friends convinced him to apply for Hungry Gator. When starting his job, he finds the app easy to use and navigate. He signs in and various orders instantly pop up in his phone that he can decide to take. Being able to decide when to work gives him peace of mind about having time to do his assignments and attending classes. Besides being able to fit in his job at Hungry Gator in his busy schedule, Lucas feels safe making deliveries since the app gives him the choice of meeting up at a secure point on campus.

Undergraduate Advisor/ Staff: Manuel



Manuel is an undergraduate advisor and professor at SFSU. His responsibilities as an undergraduate advisor include meeting with students at specific times and assisting in the overall academic progress of students at SFSU. In addition to his staff responsibilities, he is also teaching several courses throughout the day. Due to his busy schedule, he finds it nearly impossible to enjoy his lunch and doesn't always prepare his own meals for the day. After hearing about the Hungry Gator application through one of his colleagues, Manuel decided to download the application and browse through the list of Indian restaurants. He was happy to find his favorite local restaurant and was even surprised by the option to have it delivered directly to his office. Manuel was happy with his purchase and was even given a membership discount after signing up with his SFSU email.

3. List of Main Data Items and Entities

Entity:

1. Unregistered Users
 - Searching/browsing for restaurants.
 - Able to register for an account using a valid SFSU email.
2. Registered Users
 - Ordering food and applying discount codes.
 - Selecting dropoff location on any purchase.
 - Editing user profile.
 - Associated with one SFSU email.
3. Admin
 - Manages the application's database.
 - Approves posts and assists users with registering.
4. Restaurant Owner (Restaurant)
 - Registering their restaurant on the site and posting images of their dishes.
5. Delivery
 - In charge of delivering food.

Main data items:

1. Restaurant
 - Contains the name, location, and price of each dish.
2. Account
 - Account is associated with one user.
 - Contains a username, valid SFSU email, and password.
3. Discount or Promotion
 - Visible to any registered user.
 - Applicable to any order via a discount code.
4. Media
 - Any image used in the application that is contained in the database.

4. Initial List of Functional Requirements

1. Unregistered Users

- 1.1. Unregistered users shall be able to make an account.
- 1.2. Unregistered users shall be required to make an account for purchasing.
- 1.3. Unregistered users shall be able to search/browse for a restaurant.
- 1.4. Unregistered users shall be able to view search results and filter by category, price, and delivery time.
- 1.5. Unregistered users shall have view only access to user ratings and reviews.

2. Registered Users

- 2.1. A registered user shall be associated with one student/faculty account.
- 2.2. A registered user shall be able to purchase food.
- 2.3. A registered user shall be able to track their order.
- 2.4. A registered user shall be able to see discount deals on select restaurants.
- 2.5. A registered user shall be able to see their order history.
- 2.6. A registered user shall be able to edit their user profile.
- 2.7. A registered user shall be able to select drop off location on campus.
- 2.8. A registered user shall be able to write reviews on restaurants and rate their food or delivery service.

3. Admin

- 3.1. Admin shall be responsible for verifying and authenticating user accounts.
- 3.2. Admin shall be responsible for managing customer reviews and messages.
- 3.3. Admin shall be responsible for storing encrypted user data in the database.
- 3.4. Admin shall be responsible for providing feedback to users about incorrect account details, searching, and other features.
- 3.5. Admin shall be responsible for retrieving requested user data for registered users.

4. Account

- 4.1. An account shall be associated with only one user email address/phone number and password for login.
- 4.2. An account shall be associated with one student/faculty/staff membership pass and remain valid for a specified period of time.

5. Discount or Promotions

- 5.1. Student discounts shall be applied to students with a valid student ID
- 5.2. All other discounts/promotions shall be applied to anyone with a verified SFSU email

6. Restaurant Owner

6.1. A restaurant owner shall be able to register their restaurant on the app and wait up to 24 hours for admin approval.

6.2. A restaurant owner shall be able to post images of their dishes on the app for users to see. Images and other media must be approved by admin.

7. Delivery Driver

7.1. A delivery driver shall be required to fill out a form to apply for the job.

7.2. Upon employment, a delivery driver shall receive an ID verifying that he/she works as an independent contractor for the company.

5. List of Non-Functional Requirements

1. Application shall be developed, tested and deployed using tools and servers approved by Class CTO and as agreed in M0

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 shall render well on mobile devices

4. Data shall be stored in the database on the team's deployment server.

5. No more than 50 concurrent users shall be accessing the application at any time

6. Privacy of users shall be protected

7. The language used shall be English (no localization needed)

8. Application shall be very easy to use and intuitive

9. Application shall 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 email clients shall be allowed. Interested users can only message to sellers via in-site messaging. One round of messaging (from user to seller) is enough for this application

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. 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. The application UI (WWW and mobile) shall prominently display the following exact text on all pages "SFSU Software Engineering Project CSC 648-848, Spring 2023. For Demonstration Only" at the top of the WWW page nav bar. (Important so as to not confuse this with a real application).

6. Competitive Analysis:

Application	Search Filters	User Registration	Discount Programs	User Reviews & Ratings	SFSU Student/Faculty Pass	On-site delivery
Grubhub	✓	✓	✓	✓	×	×
UberEats	✓	✓	✓	✓	×	×
Postmates	✓	✓	✓	✓	×	×
DoorDash	✓	✓	✓	✓	×	×
<u>Hungry Gator</u>	✓	✓	✓	✓	✓	✓

✓ - Supported, × - Not supported

Unlike our competitors, the Hungry Gator application is tailored to students at SFSU. This presents several unique features that are unavailable in current applications. Those features include an exclusive student membership pass that will allow students to enjoy exclusive discount deals and a \$0 delivery fee on select restaurants. The pass will be free of charge and will activate upon user registration, and will expire after the student's expected graduation date. Students will be able to enjoy a variety of discount deals for free without having to worry about paying a monthly subscription fee like DashPass and Grubhub+. Another feature is on-site delivery, which will ensure that food is delivered to students anywhere on campus. Using a full map layout of the campus, drivers will be able to deliver food to students, whether at a specific building on campus, the library, or even student dorms. This application is also available to campus faculty and staff, who can enjoy the same benefits as students by signing up with their respective SFSU emails. Students and Faculty will have a reliable system that ensures fast delivery times and affordable food.

7. High-Level System Architecture and Technologies Used:

1. Cloud Server
 - Amazon Web Services (AWS)
2. Operating System
 - Ubuntu 18.04 Server
 - For class CTO:** Upgraded from OS version 16.04. Requesting the change since the previous version is no longer supported.
3. Web Server
 - NGINX v1.14.0
4. Database
 - MySQL v5.7.41
5. Server-Side Language
 - JavaScript: Node v16.19.1, npm v8.19.3
6. Supported Browsers
 - Google Chrome: v111.0.5563.64, v110.0.5481.177
 - FireFox: v110.0, v109.0.1
7. External API's
 - TBD
 - Considering: Google maps API or Amazon Location Service

For our application, we will implement a fuzzy search functionality similar to Amazon. This means that our application will match the closest terms to what the user types in the search bar and not enforce a strict search that requires 100% accuracy. This will help deal with the issue of misspelled words which could potentially break our application if not handled correctly. We will have one long search bar with a filter button for filtering results. This will open a drop down menu that will include different filter options like specific food categories, pricing options, and delivery times. This ensures that regardless of what the user types in the search bar, our application will display the information relevant to that search.

8. Team 5 Roles:

Team Member Name:	Team Member Role:
Hajime Miyazaki	Back End Lead
Scott Nguyen	GitHub Master
Mario Leyva Moreno	Front End Lead 1
Aneida Guadalupe Blanco Palacio	Front End Lead 2
Maliah Chin	Team Lead

9. Checklist:

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

NEW: Use of any GenAI tool like ChatGPT: say if you used ChatGPT or like and how and for what segment of Milestone 1 (brief paragraph). As per class policy: this is allowed as a help BUT you cannot copy and paste its output and claim it is your own text, you need to put it in quotes or modify it, and only for short sentences You also are responsible for accuracy of your submission, so any ChatGPT content needs to be checked by you. – We did not use ChatGPT for Milestone 1