

# “SW Engineering CSC648-848 Spring 2025”

## Gator Savvy

### Team 5

Yu-Ming Chen (Team Lead) - [ychen88@sfsu.edu](mailto:ychen88@sfsu.edu)

David Cabanela (GitHub Master) - [dcabanel@mail.sfsu.edu](mailto:dcabanel@mail.sfsu.edu)

David (Jun) Chang (Backend Lead) - [dchang6@mail.sfsu.edu](mailto:dchang6@mail.sfsu.edu)

Alexis Perez (Frontend Lead) - [aperez75@sfsu.edu](mailto:aperez75@sfsu.edu)

Athan Cheung (Frontend) - [acheung4@mail.sfsu.edu](mailto:acheung4@mail.sfsu.edu)

### Milestone 1

#### History

Updates	Date Submitted	Date Revised
Milestone 1 first meetup		2/26/2025
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Milestone 1 1st submission	3/12/2025	3/11/2025
Milestone 1 meetup		3/12/2025
Milestone 1 2nd submission	3/12/2025	3/12/2025
Milestone 1 meetup		3/16/2025
Milestone 1 Final Revision	3/16/2025	3/16/2025

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# **1. Executive Summary**

## **Project Name: Gator Savvy**

Students often struggle to make ends meet in today's fast-paced world while balancing their academic responsibilities. The rising cost of living, textbooks, and everyday essentials can leave students searching for affordable options. Gator Savvy aims to solve this problem by creating a dedicated online marketplace that connects SFSU students with exclusive discounts and deals from campus services, student organizations, and university-affiliated vendors. By centralizing these offers, Gator Savvy ensures that students can access the discounts they need, all in one place.

Gator Savvy will function as a one-stop shop for students looking for deals on everything from food, clothing, and tech gadgets to textbooks, transportation, and entertainment. Students can access a wide array of verified, time-sensitive discounts through an intuitive website. The platform will also include features like personalized recommendations based on location and student preferences and a user-friendly interface that allows businesses to update and offer new promotions easily. Using Gator Savvy, students can save money on the products and services they need most, while businesses gain access to a loyal and targeted customer base.

What makes Gator Savvy unique is its specific focus on the student experience. Unlike other general coupon sites, Gator Savvy is designed exclusively for the student community, ensuring that all deals are relevant and beneficial to students' everyday needs. Additionally, the platform will partner with local San Francisco businesses and offer exclusive, campus-specific discounts that students can't find elsewhere. This personalized approach to discounts and its seamless integration with campus events and student life ensures that Gator Savvy stands out as a vital tool for SFSU students.

Our startup team comprises driven SFSU students who understand the challenges of managing finances during school. We are a group of passionate individuals with tech, marketing, and business development backgrounds. We are committed to creating a marketplace that saves students money and strengthens the relationship between SFSU and the local community. Funding this project will allow us to refine the platform, expand our reach, and ensure that Gator Savvy becomes a must-have resource for students looking to make the most of their time at SFSU.

## 2. Personae

### Persona 1: The Budget-Conscious Student (Sophia)



About: Business Administration Major, 21 years old, Junior

- Very Busy
- Balancing her budget with school and social life.
- Familiar with shopping apps and comfortable with many technologies.
- Difficulty finding, trusting(third-party sellers), and keeping track of limited deals.
- Lack of time to search

Goals:

- Looking for deals and savings promptly.
- They want quick and easy access to deals on food and school-related items.

How Gator Savvy Helps:

Gator Savvy simplifies Sophia's shopping experience by offering a curated marketplace of student discounts in one place. It saves her time by providing tailored offers based on her preferences and location. The platform's student verification ensures all deals are trustworthy, and personalized notifications alert her to relevant deals she might have missed otherwise.

## Persona 2: Faculty Member that supports Gator Savvy (Professor Jen)



About: Busy full-time Business Professor at SFSU, 38 years old

- Wants to help students save money
- Doesn't have time to search for discounts or suggest them to students
- Finds it hard to connect students with helpful campus resources outside of class

Goals:

- Needs an easy way to direct students to helpful and affordable deals
- Needs to get rid of old textbooks and some old furniture
- Needs to find a way to share cheaper lecture materials or second-hand textbooks for students

How Gator Savvy Helps:

Gator Savvy makes it easy for Professor Jen to share discounts with her students by offering all the best SFSU deals in one place. The platform saves her time by showing verified offers on things like textbooks, food, and transportation. She can quickly share these deals with students, making sure they get the savings they need. She also wants to get rid of old textbooks and some old furniture, Gator Savvy helps make it simple to list and sell these items for people who need them on the platform.

### Persona 3: The Tech-Savvy Freshman (James)



About: Computer Science Major, 18 years old, freshman

- Very comfortable with technology.
- Frequently uses technologies to simplify tasks.
- Can be overwhelmed with too much information.
- Can get frustrated if a site requires too much effort to navigate.
- Wants to save money

Goals:

- Looking to explore any available resources as a new student.
- Prioritize convenience and quick access.

How Gator Savvy Helps:

Gator Savvy's user-friendly interface makes it easy for James to find discounts that match his needs quickly. The platform can show him the best options to buy, exchange, or rent that item quickly and simply. With Gator Savvy, he can access discounts with just a few taps, simplifying his search for savings.

### **3. High-level Use cases**

#### **1. Search for Affordable School Supplies**

Sophia (Persona 1) is looking for cheaper ways to get some tools for class. She logs into Gator Savvy using her school email and searches for exclusive deals on school supplies and groceries.

#### **2. Explore Alternative Options for School Supplies**

Sophia clicks on SFSU Exclusive deals, but she doesn't need that item for too long. From the item page, she can look for other options, including renting, borrowing, exchanging, or purchasing second-hand items.

#### **3. Shop for Textbooks and Supplies**

Jen (Persona 2) is looking for some textbooks and school supplies for her students in her finance class. She's able to register her account via her SFSU email to shop for supplies and extra lecture materials with ease and reasonable values for her students.

#### **4. List Items for Sale**

Jen is not that good with technology. With the simple design of our website, she can put her items, for example, old textbooks and furniture that she wants to sell, with ease.

#### **5. Search for Related Items**

James (Persona 3) is trying to look for some related items to purchase for his robot project. He can look up related items or textbooks using our simple categorized search, which refreshes in real time, along with the search conditions.

## **4. List of main data items and entities – data glossary/definition**

### **Users & Roles:**

#### **Registered User**

Verified user who can interact with the entirety of the website and has access to student deals. For a user to be verified, they must have an SFSU email. Items can also be traded or even donated between Registered Users.

- View, search, and purchase items.
- Like and review items.
- Update their profiles.
- Make posts and sell items.
- Give a listed item the option to rent.
- Can access special offers
- Message sellers.

#### **Guest User**

Common user with limited access. This provides a preview for our app.

- View and search events and items.
- Read reviews.
- Can navigate to any section that does not require signing up.

### **Key entities:**

#### **Student Profile**

Stores the registered user's information and preferences.

- Username
- Full name
- Student Email
- Student id
- Major
- Preferences(categories)
- Liked/Wishlisted items
- Verification Badge (if any)
- Seller's Rating & Reviews/Comments
- Items list (if any)
  - For sale
  - Sold



### **Item Listing**

Provides a full description of everything you need to know about an item. This listing is where registered users can also message the sellers.

- Item Name
- Description
- Pictures
- Videos(if any)
- Price
- Category(can be multiple)
- Reviews
- Quality description(new, like new, etc.)
- Chat with seller
- Location
- Rental option(if provided by Seller)

### **List of Items**

This would be a general view after you search for something. You get a list of items for quickly viewing the picture name and price of each item.

- Item name
- Picture
- Price
- Location/Distance

### **Verification Badge**

A “verified” badge icon, visible on a Registered User's profile, indicating that they are a more reliable/trusted seller. Users with little to no sales will not have a badge.

### **Categories**

Used to categorize items for our website. Example categories: textbooks, furniture, electronics, clothing, etc.

### **Search**

Simple search functionality that allows users to specify categories or plain text to find items they are looking for.

## 5. List high-level functional requirements

1. **Student Verification:** To ensure the platform is restricted to students and faculty, users shall only be able to register and post items with an SFSU email address.
2. **Classifieds by Category:** Sales shall be organized into categories such as textbooks, furniture, electronics, clothing, and event tickets to help students quickly find what they are looking for.
3. **Price Comparison Tool:** Students shall be able to compare prices for similar items posted by different sellers (or even compare with online stores).
4. **Customizable Alerts:** Students shall be able to set up price drop or availability alerts for specific items they are looking for.
5. **Student-to-Student Reviews:** Buyers and sellers shall be able to leave reviews specifically about the transaction experience, product quality, and communication.
6. **Wishlist & Save for Later:** Users shall be able to create a wishlist and "save for later" items they're interested in but not ready to buy yet.
7. **Instant Messaging for Buyers & Sellers:** In-app messaging shall be available for direct communication between students, with the option to send quick replies or images.
8. **Event-based Deals:** The platform shall offer a space to share event-based promotions, such as discounts on textbooks during registration periods or specials during finals week.
9. **Item Rental Option:** Users shall be able to list items for rent (e.g., textbooks, cameras, or even bicycles) for a fixed period.
10. **Geo-location-based Search:** Deals or sellers who are geographically close to the user's campus or dorm shall be displayed to help with local transactions.
11. **Barter System:** Students shall be able to exchange items (e.g., "I'll trade my old bike for your old laptop") instead of just buying and selling.
12. **Limited-time Flash Sales:** Timed sales events shall be available, where certain items are discounted for a limited period or have a specific number of products available.
13. **Verification Badges:** Badges shall be introduced for top-rated sellers, verified sellers, or trusted students to build community trust.
14. **Student ID Integration:** The platform shall integrate with the SFSU student ID to get special offers or student-specific deals.
15. **Donation Feature:** Students shall be able to donate items directly to other students in need (for example, textbooks for students who can't afford them).
16. **Video Listings:** Sellers shall be able to upload short videos showcasing their items to give buyers a better idea of the product's condition.
17. **Transportation Deals:** The platform shall offer a space for students to sell or share transportation options (e.g., carpooling or bike-sharing).

18. **Cultural Event Tickets:** Access shall be provided to discounted tickets or merchandise for SFSU-related cultural events, sports, or student gatherings.
19. **Community Polls for Popular Items:** Users shall be able to vote on which items or types of deals they'd like to see more of (e.g., "Would you prefer discounted winter jackets or tech accessories this semester?").
20. **"Take My Stuff" Section:** Students shall be able to post about items they want to give away for free (e.g., old furniture, clothes, or kitchen appliances), contributing to sustainability efforts.

## **6. List of non-functional requirements**

1. The application shall be developed, tested, and deployed using tools and cloud servers approved by Class CTO and as agreed in M0
2. The application shall be optimized for standard desktop/laptop browsers, e.g., it must render correctly on the two latest versions of two major browsers
3. All or selected application functions shall render well on mobile devices (no native app to be developed)
4. Posting of sales information and messaging to sellers shall be limited only to SFSU students
5. Critical data shall be stored in the database on the team's deployment server.
6. No more than 50 concurrent users shall be accessing the application at any time
7. The privacy of users shall be protected
8. The language used shall be English (no localization needed)
9. The application shall be straightforward to use and intuitive
10. The application shall follow established architecture patterns
11. The application code and its repository shall be easy to inspect and maintain
12. Google analytics shall be used
13. No e-mail clients or chat services shall be allowed. Interested users can only message the sellers via in-site messaging. One round of messaging (from user to seller) is enough for this application
14. Pay functionality, if any (e.g., paying for goods and services), shall not be implemented nor simulated in UI.
15. Site security: basic best practices shall be applied (as covered in the class) for the main data items
16. Media formats shall be standard as used in the market today
17. Modern SE processes and tools shall be used as specified in the class, including collaborative and continuous SW development and GenAI tools
18. The application UI (WWW and mobile) shall prominently display the following exact text on all pages: "SFSU Software Engineering Project CSC 648-848, Spring 2025. For Demonstration Only" at the top of the WWW page Nav bar. (It is important to not confuse this with a real application). You have to use this exact text without any editing.

## 7. Competitive analysis (functions/features only, not business or marketing):

Feature	Gator Savvy	Student Beans	Craigslist	UNiDAYS	Amazon
Text Search	+	+	+	+	++
SFSU Student Verification Login	+	-	-	-	-
Shopping Cart	+	+	+	+	+
Browse	++	+	+	+	++
Giveaway free items	+	-	-	-	-
Rental System	+	-	-	-	-

\*\* + feature exists; ++ superior; - does not exist

Gator Savvy's focus on local, campus-specific, and personalized student deals in San Francisco sets it apart from the competition. While platforms like Student Beans, Craigslist, UNiDAYS, and Amazon offer student discounts, Gator Savvy differentiates itself by integrating deeply into the student experience at SFSU. Gator Savvy provides exclusive SFSU student verification, ensuring that all discounts are legitimate and tailored to the campus community. Additionally, the platform includes a Giveaway Free Items feature and a Rental System, which none of the competitors offer, allowing students to exchange or borrow items sustainably. The Text Search, Shopping Cart, and Browse features are common across platforms, but Gator Savvy's unique offering of community-based, verified discounts and the ability to rent and give away items are crucial advantages that directly address the needs of SFSU students.

## **8. High-level system architecture and technologies used**

Server Host: Amazon AWS EC2

Operating System: Ubuntu Server 24.04.2 LTS (GNU/Linux 6.8.0-1024-aws x86\_64)

Database: MySQL Ver 8.0.41-0ubuntu0.24.04.1 for Linux on x86\_64 ((Ubuntu))

Web Server: NGINX 1.26.3

Server-Side Language: Python 3.12.3

Web-Side Language: JavaScript

Backend Framework: Flask 3.0.2

Frontend Framework: Vue.js v3.5.13

IDE: PyCharm, vs code

Web Analytics: Google Analytics

SSL Cert: Lets Encrypt (Cert Bot)

Documentation: Doxygen (1.13.2)

Supported Browsers: Safari 18.3 & Chrome LTS-126

## **9. Use of GenAI tools like ChatGPT and copilot for Milestone 1**

AI models used:

ChatGPT (GPT-4o) - HIGH

ChatGPT:

We used ChatGPT to give us ideas for our marketplace application, and Gator Savvy is one of them.

**Task 1: Find the port and IP for the MySQL server and allow access from everywhere.**

(<https://chatgpt.com/share/67bab863-1cc8-800d-abe7-d26b5873914d>)

Helpfulness: Very helpful

This is very clear and straight to the point. I got it going within 15 minutes

**Task 2: Setting up NGINX**

(<https://chatgpt.com/share/67bab8b9-d25c-800d-964f-14100aff63e7>)

Helpfulness: Not so helpful

It was going well at first, but it provided too much extra/unnecessary information and kept looping answers that weren't working before.

**Task 3: Suggesting front-end languages**

Helpfulness: Very helpful

We asked ChatGPT for suggestions on an easy-to-learn and useful front-end language for our website, and we chose Vue.js.

**Comment on anything else you found useful:**

- Brainstorming ideas
- Resolving merge errors

## 10. Team and roles

Name	School Email	Role
Yu-Ming Chen	ychen88@sfsu.edu	Team Lead
David (Jun) Chang	dchang6@mail.sfsu.edu	Back-End Lead
Alexis Perez	aperez75@sfsu.edu	Front-End Lead
Athan Cheung	acheung4@mail.sfsu.edu	Front-End
David Cabanela	dcabanel@mail.sfsu.edu	Github Master

## 11. Team Lead Checklist to be completed by the team lead

For each item below, the team lead must answer with only one of the following: **DONE/OK**; or **ON TRACK** (meaning it will be done on time and no issues perceived); or **ISSUE** (you have some problems, and then define the problem with 1-3 lines)

- So far, all team members are fully engaged and attending team sessions when required **DONE**
- The team found a time slot to meet outside of the class. **DONE**
- The team is ready and able to use the chosen back and front-end frameworks, and those who need to learn are working on learning and practicing **ON TRACK**
- The team reviewed class slides on requirements and use cases before drafting Milestone 1 **DONE**
- The team reviewed non-functional requirements from the “How to start...” document and developed Milestone 1. **DONE**
- The team lead checked the Milestone 1 document for quality, completeness, formatting, and compliance with instructions before the submission **DONE**
- The team lead ensured that all team members read the final M1 and agreed/understood it before submission **DONE**
- The team shared and discussed the experience with GenAI tools among themselves **DONE**
- GitHub is organized as discussed in class (e.g., master branch, development branch, folder for milestone documents, etc). **DONE**