SW Engineering CSC648/848 Fall 2019

Gator-Aid

Section 02

Team 09

TEAM LEAD

Nayan Pandey

npandey1@mail.sfsu.edu

Nikhil Mohan – Front-end Lead

George Pernov – Back-end Lead

Stephanie Sechrist – Github Master

Ali Nasralla

Jackie Huang

October 2, 2019

Revision	Date	Description
-	10/02/2019	Initial Submission

Table of Contents

1. Executive Summary

The following is a proposal for our Senior Computer Development Project consisting of the adaptation of similar buying and selling websites such as Amazon or Craigslist. Our goal with Gator-Aid is to create a better website, optimized for San Francisco State University students that consists of functional applications coded ourselves to create a pure online merchant with face-to-face meetings in a safe place while cutting shipping costs. Our motivation for this project is that we are all students at SFSU, and we see the issues that our fellow students have. The importance of our application is that since we these issues, we are able to create a better product than Amazon by simply offering local, monitored meet-ups. We would like a better way to buy and sell books, furniture, and whatever else we may need to sell with convenience and while staying safe.

The main advantages of Gator-Aid that makes it unique are that users have local pick up; can search by class number, which will save students a lot of time; can easily review the product before buying it; and would be able to meet the seller again if there are any issues with the product. Furthermore, Gator-Aid is going to be user-friendly with features such as being able to browse or search for an item and even sort by category. Our aim is to help college students at our school by letting them sell or buy products as soon as possible by making the school itself an ideal spot to meet up for transactions. Since students already come to SFSU to attend class, it would be very convenient for buyers and sellers to meet on campus. The meet-ups are also able to be monitored, as there are many places on campus that have cameras, such as the MWC and the Cesar Chavez building and restaurants. Users of Gator-Aid are also able to sort by date so the users can see how recent the posts are and be able to decide if they want to try to negotiate the price lower.

We are a student startup team that all go SFSU, which is why we are the optimal candidates to make this application. Our team consists of Nikhil, the front-end lead; Jackie, the co-front-end lead; Stephanie, the Github master; George, the back-end lead; Nayan, the team leader; and Ali, the co-back-end lead. We are all enjoying this class so far, as it is giving us great real-life applications and allowing us to practice different methods we learned in class, such as feature prioritization and teamwork. and SCRAM, which is really helping us prioritize.

2. Personae and Main Use Cases

2.1 Personae

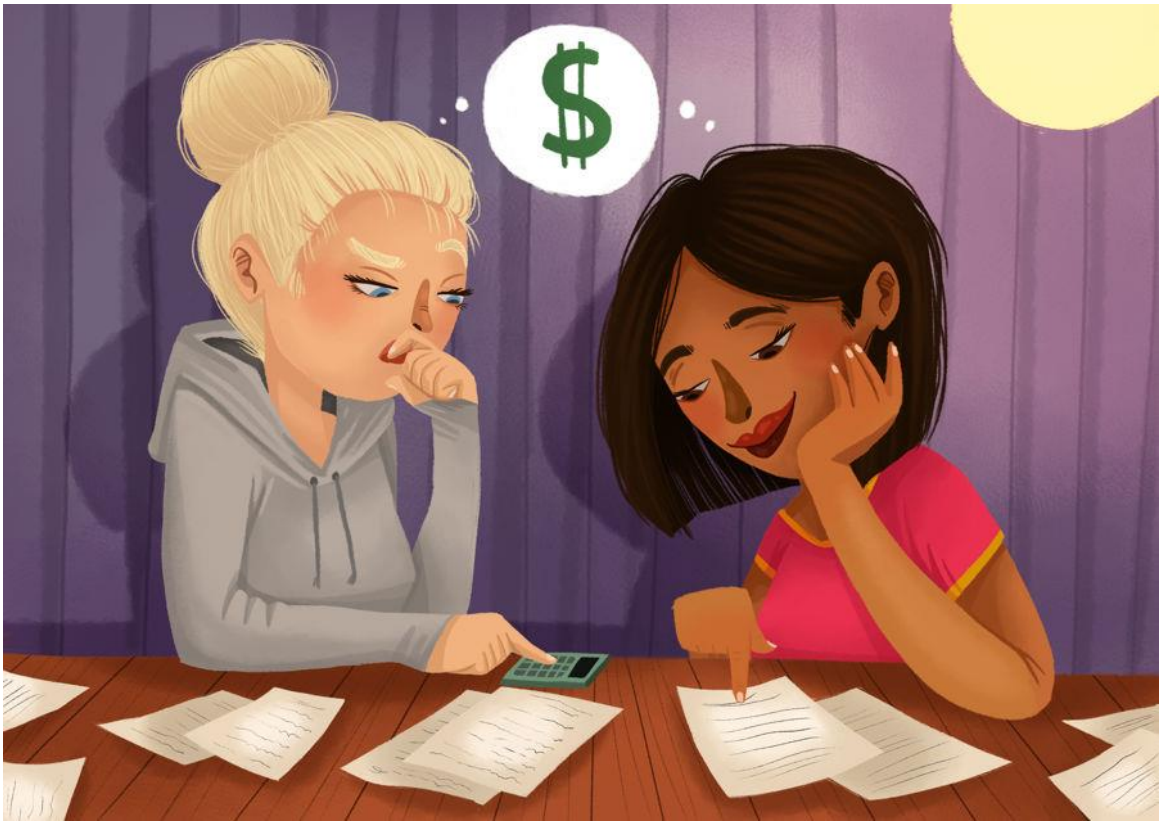
Alexa: Second year student at San Francisco State University

- Perfectionist
- Loves to be organized
- Cannot function well when things are out of order
- Loves to browse around the web looking for interesting websites and facts

Goals:

- Visit interesting websites that she can function well in
- Buy new electronics she needs for her course

Jennifer: Finished third year at San Francisco State University



- Very Busy
- Works part-time out of campus
- Struggling financially
- Has too many books cluttered at home

Goals:

- Have the convenience to clear the clutter of books at her house and by doing so, help with financial problems
- Wants to sell her items without having to use too much time

Stan: Started his first year of College at San Francisco State University

- Lives on campus
- Loves to read knowledgeable books
- Ambitious and spirited
- Enrolled in eighteen courses
- Resourceful

Goals:

- Being impatient, Stan is eager to get his textbook as fast as possible with the least inconvenience.

John: San Francisco State University alumnus

- Professional
- Practices good work ethics
- Cares about his work environment and makes sure clients and colleagues have the best experience
- On time and unbiased when it comes to work
- Good communicator

Goals:

- Make the website appropriate and free of conflict
- Provide the best user experience for users

2.2 Use Cases

1. Unregistered User: Alexa stumbles across Gator-Aid while surfing the web. She was amazed at the organization when she clicked the search button. She was able to search for the items she wanted by name and sort the listings by price. She also saw that there were different categories for items, which was convenient for her, because she wanted to buy electronics specifically. She clicked the item she wanted, and it displayed information about the item. She clicked buy and was prompted to login or register. After registering with her SFSU email address, she was then able to message the seller for more information.

2. User/Seller: In class, Jennifer heard from a friend of hers that there is a website called Gator-Aid that is catered to San Francisco State University student. Jennifer visited the website and clicked on the sell option. After selecting the textbook category, she was then prompted to fill out a template with information about the book she wanted to sell. After uploading a picture of the book, filling out the information with the title, author, and class number, and clicking Post, she was then prompted to sign in or register in order to continue. After registering and logging in, all the information she typed was still saved and ready to be posted.

3. User/Buyer: A roommate of Stan recommended Gator-Aid to buy cheap books. Stan went to the website and clicked the category "Book by Course." He typed in the course number and was able to quickly find the book he needed for that class. After clicking on the listing, and clicking "Contact the Seller," he was then prompted to sign up or register. Finishing this part brought him to a page where he could write a message to the seller. He then messaged the seller for more information about the books and to arrange a meet-up.

4. Administrator: Every day and night, John goes to Gator-Aid and clicks the login button. He then sees that he has a notification about new listings. He has the ability to approve or disapprove the listing to go live on the website. After approving the listings, he sees that there are some that have been reported as inappropriate by users. John has the option to remove existing listings, so he goes through those reported and deletes some. One day, John saw an abusive user that did not follow the protocols of the website and had no choice but to ban the user account and associated SFSU email.

3. List of Main Data Items and Entities

- Unregistered User: Any user that is utilizing Gator-Aid who does not have an account on the website or is currently not logged in.
- Registered User: Any user who is logged in. To authenticate users, the site checks for "sfsu.edu" to be present in the email address. A registered user can list his or her own products on Gator-Aid, can communicate with other registered users, and can flag other posts as inappropriate.
    - username
    - email
    - password
- Administrator: A registered user that must accept or decline listings and has the power to delete inappropriate posts.
    - username
    - email

    - password
- Tag: User search will match tags on listings, making it easier to narrow the search. When a user lists an item, he or she can put tags allowing people to find the listing faster through search.
    - tag
- Category: User can browse by category. When a user lists an item, he or she will choose which category the item belongs to.
    - Furniture
    - Electronics
    - Books
    - Tutoring
    - Miscellaneous
- Listing: Reference to items that users post on Gator-Aid.
    - title
    - description
    - category
    - date
    - photo
    - price
- Book: Specific listing that a user can make. This is a category that users can search within by course number.
    - title
    - course number
    - author
    - condition
    - photo

4. Initial list of functional requirements

Unregistered Users

1. Shall be able to search items
2. Shall be able to browse items
3. Shall be able to view listings
4. Shall be able to sort listings by price and post date
5. Shall be able to register an account with a valid SFSU email account

Registered Users (includes above)

6. Shall be able to post items for sale as listings
7. Shall be able to contact sellers
8. Shall be able to edit their own listings

9. Shall be able to remove their own listings
10. Shall be able to respond to messages from buyers

Administrator (includes above)

11. Shall be able to approve or reject listings
12. Shall be able to remove listings
13. Shall be able to ban accounts

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 (some may be provided in the class, some may be chosen by the student team but all tools and servers have to be approved by class CTO).
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. Selected application functions must render well on mobile devices.
4. Data shall be stored in the team's chosen database technology 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 and all privacy policies will be appropriately communicated to the users.
7. The language used shall be English.
8. Application shall be very easy to use and intuitive.
9. Google analytics shall be added.
10. No e-mail clients shall be allowed.
11. Pay functionality, if any (e.g. paying for goods and services) shall not be implemented nor simulated in UI.
12. Site security: basic best practices shall be applied (as covered in the class).
13. Modern SE processes and practices shall be used as specified in the class, including collaborative and continuous SW development.
14. The website shall prominently display the following exact text on all pages "SFSU Software Engineering Project CSC 648-848, Fall 2019. For Demonstration Only" at the top of the WWW page. (Important so as to not confuse this with a real application).

6. Competitive Analysis

Features	eBay	craigslist	Amazon	SFSU Bookstore	Gator-Aid
Sell	+	++	+	+	++
Review product before purchase	-	++	-	+	++
Local pickup	-	+	+	++	++
Find books by SFSU class number	-	-	-	+	++

+ feature exists
++ feature is superior
- feature does not exist

Gator-Aid excels in all four of the above features. It is free for users to sell products or services that students may need, including but not limited to textbooks, tutoring, or furniture. Although it is possible to sell products on eBay and Amazon, it costs a fee to do so. The SFSU Bookstore will buy back textbooks, so there is some sell function, but the criteria are very strict. Because most of the users will be students, it is expected that textbooks will be one of the most sought-after products. On Gator-Aid, one can find all the books he or she needs by searching based on the class department and/or course number without having to check syllabi. On eBay, craigslist, and Amazon, the name, author, or ISBN of the book must be known to browse the selection; even at the SFSU Bookstore, the textbooks are now sorted by author's last name. When ready to purchase something, the buyer meets the seller at an agreed-upon location, which is similar to craigslist. It is therefore easy for the buyer to review the product before purchasing to make sure the condition is acceptable; plus, local pickup means the buyer gets what he or she needs without having to pay or wait for shipping. Of course, pickup is just as local at the SFSU Bookstore, but the buyer cannot always see the product before buying; sometimes it is shrink-wrapped or in a box. Craigslist is also local, but the seller may be farther away. On Gator-Aid, the buyer and seller can be sure that meeting on campus at a safe location is possible. When using eBay or Amazon, there are shipping issues when sending, receiving, or returning that are avoided with our product. It is possible to do local pickup with Amazon with the use of Amazon

Lockers, but safety is not be guaranteed and one still has to wait for the item to arrive. These four features that Gator-Aid excels in are what makes our product unique and optimal for SFSU students.

7. High-Level System Architecture and Technologies Used

1. Application shall be hosted on Amazon Web Services.
2. Application shall use Ubuntu 16.04 Server.
3. Application's data shall be stored using MySQL version 8.0.17 database.
4. Application's Web Server shall be Node.js.
5. Application's Service-Side Language shall be JavaScript.
6. Application's Front-End framework shall be Bootstrap.
7. Application shall be developed using IntelliJ, Sublime Text and Visual Studio Code.
8. Application shall be able to work on either mobile, laptop or website browsers including Google Chrome and Mozilla Firefox.
9. Application shall use Web Analytics as Google Analytics.
10. Git and Github shall be used as a form of version control.

8. Team and Roles

Name	Role(s)
Nayan Pandey	Team Lead
Stephanie Sechrist	GitHub Master, Back-end Engineer
George Pernov	Back-end Lead, Back-end Engineer
Nikhil Mohan	Front-end Lead, Front-end Engineer
Ali Nasralla	Back-end Engineer
Jackie Huang	Front-end Engineer

9. Checklist

Task	Status
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 (e.g. master branch, development branch, folder for milestone documents etc.)	DONE