# Software Engineering CSC648/848 Fall 2020
# The Gator Store
# Team #2

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October 15, 2020

History Table

| Date Submitted: 10/15/2020 | Date Revised: |
|---|---|

# Executive Summary

Gator Store is the latest and greatest new store to sell items among San Francisco State University students, faculty, and staff. Gator Store offers the fun of making money without the fees, and with an added layer of security of making sure that the users are verified. All members of the platform are going to have to provide a SFSU email to make sure that they are indeed SFSU students or students or faculty or staff. Gator Store administrators will need to approve the postings to make sure it meets the laws and regulations making sure nothing illegal is being sold on the website. The motivation behind Gator Store is that students that do not have a safe place where they can shop freely for books, and other items that would otherwise need to be bought for a lot more money elsewhere. It is important that students have a way to safely communicate together on a platform that makes sure all it's members are verified through SFSU emails.

Gator Store will include a unique feature where a student can search for a book or an item being sold using the course that it was used in and/or the professor that taught that course. This convenience feature will make students much more likely to use the app making sure that the searching criteria is well defined so that a student can look for a course's material quickly and effectively. A security feature that Gator Store offers is making sure that all incoming users need to be checked and verified to have an SFSU email. SFSU revokes email access as soon as the student or faculty or staff member leaves the University, which makes this way of verifying the students, faculty, and staff reliable.

The Gator Store web app is all based on suggestions and comments by SFSU students, faculty, and staff. It is our goal to come up with an app that is tailored for the needs and requests of SFSU Users. We took every suggestion and comment seriously and based on that we had gone ahead to create an app that would be best serving the needs of SFSU students, faculty, and staff. The Gator Store is aimed to be the best app that will be the hub of all university students to be able to come and meet each other to exchange items and save SFSU Users money.

## 2. List of main data items and entities

1. Unregistered user

    1.1.    An unregistered user does not have a User Account.

    1.2.    An unregistered user can browse and search the website without login or registration.

    1.3.    An unregistered user can register using their SFSU email.

2. Registered user

    2.1.    A registered user has a User Account with their SFSU email.

    2.2.    A registered user can buy, sell, or exchange items on the website.

    2.3.    A registered user needs to log in before posting anything on the site.

3. Admin

    3.1.    An Admin shall have a special Admin account to manage posts and registered user accounts.

    3.2.    An Admin must verify/approve posts before they are posted to the website.

    3.3.    An Admin shall be able to delete any illegal/inappropriate posts or user accounts.

4. User Account

    4.1.    A User Account is an overall list of registered users on the site, confirmed by SFSU email domain.

    4.2.    A User Account shall be managed by registered users.

    4.3.    A User Account can be deleted by an Admin.

5. Posts

    5.1.    Posts is an overall list of products available for sale or exchange, sorted into different categories.

    5.2.    Each post shall have a price, a category, a description, and an image.

    5.3.    Each post shall have a visit count.

6. Categories

    6.1.    Each post will be placed into an appropriate category for easy browsing/searching.

    6.2.    Categories shall be managed by admins to ensure proper placement of item posts.

7. Messaging

    7.1.    Shall be the only point of contact between all registered users.

7.2.   No personal information shall be shared without consent. Phone numbers may be shared between registered users as an external point of contact.

7.3.   A message shall be one way from buyer to seller.

7.4.   Message recipient must be the seller.

## 3. Initial list of functional requirements

→ Unregistered users

◆ Unregistered users shall be able to browse the home page

◆ Unregistered users shall be able to register for an account

◆ Unregistered users shall be able to view the product description

◆ Unregistered users shall be able to see published posts

◆ Unregistered users shall be able to search by title and/or description

◆ Unregistered users shall be able to search for the product by name and/or class number and/or Professor's name

◆ Unregistered users shall be able to filter posts by most visited

→ Registered users

◆ Registered users shall be able to login

◆ Registered users shall be able to sign out

◆ Registered users shall provide their email as part of registration

◆ Registered users shall be able to post an item for sale

◆ Registered users shall be able to contact the seller

◆ Registered users shall be able to modify their profile

◆ Registered users shall be a member or admin

◆ Registered users shall be able to report to the administrator about any illegal activity

◆ Registered users shall be able to filter posts by most visited

◆ Registered users shall have a dashboard to edit and see their posts

→ Admin

◆ Admin shall be required to approve all posts before they go live

◆ Admin shall be able to delete inappropriate posts

◆ Admin shall be able to block, disable and enable any user accounts

◆ Admin shall have a dashboard to approve and report posts.

**Priority 1:**

- ➔ Unregistered users
  - ◆ Unregistered users shall be able to browse the home page
  - ◆ Unregistered users shall be able to register for an account
  - ◆ Unregistered users shall be able to view the product description
  - ◆ Unregistered users shall be able to see public posts

- ➔ Registered users
  - ◆ Registered users shall be able to login
  - ◆ Registered users shall be able to sign out
  - ◆ Registered users shall provide their email as part of registration
  - ◆ Registered users shall be able to post an item for sale
  - ◆ Registered users shall have a dashboard to edit and see their posts

- ➔ Admin
  - ◆ Admin shall be required to approve all posts before they go live

**Priority 2:**
- ➔ Unregistered users
  - ◆ Unregistered users shall be able to search by title and/or description
  - ◆ Unregistered users shall be able to search for the product by name and/or class number and/or Professor's name

- ➔ Registered users
  - ◆ Registered users shall be able to modify their profile
  - ◆ Registered users shall be a member or admin
  - ◆ Registered users shall be able to contact the seller

- ➔ Admin
  - ◆ Admin shall be able to delete inappropriate posts
  - ◆ Admin shall have a dashboard to approve and report posts.

**Priority 3:**
- ➔ Unregistered users

- ◆ Unregistered users shall be able to filter posts by most visited

- ➔ Registered users
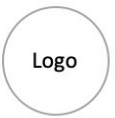  - ◆ Registered users shall be able to filter posts by most visited

- ➔ Admin
  - ◆ Admin shall be able to block, disable and enable any user accounts

# 4. Mockups and Storyboards

**Case 1.**Function - Create an account, searching, buying books, messaging

Categories Page: Sally, as an unregistered user, she he can browse the categories and search for the textbook that she is looking for. She found the textbook, but cannot contact the seller without being a registered user. Sally clicks on the Sign Up button to create an account.

Create Account Page: Sally fills the create Account form with her information, but a very important detail, that she needs to use her SFSU email to be able to create an account at The Gator Store.

Logo | All ▽ | [search field] | 🔍 | About  Sell  Login  Sign Up

# Create Account

First Name        Last Name

✉ Email (sfsu.edu)

🔒 Password

🔒 Confirm Password

☐ I read and agree to **Terms and Conditions**

**Create Account**

Already have an account? **Login**

Contact                    Term                    Privacy

Item's page: Now that Sally is a registered user, she can message the seller about the textbook that she needs to buy.

**Logo**

All ▽ [                                    ] 🔍    **Home   About   Sell   Account** ▽

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### Book Title:

| Book Image | Course:<br>Instructor:<br>Description:<br>Price: |
|---|---|

### Message:

[                                                        ]

[                          Send                          ]

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**Contact**            **Term**            **Privacy**

**Case 2.** Function - Logging into account, buying a clicker, searching by categories

Login and User Dashboard pages: Joe, a registered user, logs into his account before looking for the item he needs. After he logs in he is brought to his account dashboard, where he can view the verification status of any items he may have posted for sale and any messages sent to him regarding the items.

| Logo | All ▽ | | 🔍 | About  Sell  Login  Sign Up |

# Log In

✉ Email (sfsu.edu)

🔒 Password

**Forgot Password?**

LOGIN

or

Create an account

Contact          Term          Privacy

Logo

All ▽ 🔍

Home  About  Sell  Account ▽

Dashboard
Profile
Logout

# Dashboard

**Recently Verified Posts**

Item 1
Description:
Price:

Item 2
Description:
Price:

See all...

**Pending Verification**

Item 3
Description:
Price:

Item 4
Description:
Price:

See all...

**Messages**

Item 5

**From:**
Message Body:

Item 5 Title

**From:**
Message Body:

Item 6

**From:**
Message Body:

Item 6 Title

Contact                    Term                    Privacy

Electronics Category page: After logging in and viewing his dashboard, Joe goes to the Electronics category page to browse through the selection of items and find the clicker he needs for his class.

Logo | All ▽ | [search box] 🔍 | Home  About  Sell  Account▽

⇦ Return to Categories

# Electronics

| | | | |
|---|---|---|---|
| Item 1<br>Description:<br>Price: | Item 2<br>Description:<br>Price: | Item 3<br>Description:<br>Price: | Item 4<br>Description:<br>Price: |
| Item 5<br>Description:<br>Price: | Item 6<br>Description:<br>Price: | Item 7<br>Description:<br>Price: | Item 8<br>Description:<br>Price: |

Contact                    Term                    Privacy

**Case 3:**

Function - Approving submitted posts, delete users not following rules, email verification
Matt logs onto The Gator Store through his administrator account and reviews the website and database.  He checks the newest editions to his website that students or professors may have submitted.  Then makes sure illegal or dirty posts have been unapproved before going live.  He approves all the posts that were acceptable.  Matt also deletes the users who posted inappropriate things.   The school year has just started and he has a busy checklist to go through.  He sees his website is doing well and has many new users.  All SFSU students of course,  he prioritized student emails in the registration process.

We decided to use Workbench for our admin dashboard.

**Case 4.** Function -  mobile functionality

Login and Electronics section page's - Mobile version: Professor Fox is in a rush, needs a calculator as soon as possible, so on his way to school he logs onto The Gator Store and browse on the Electronics section. He browses through the posts, to find the calculator that he has been looking for.

Logo    Home    About    Signup

All  [                        ] 🔍

## Login

✉ Email address

🔒 Password

Forgot Password?

LOGIN

or

Create an account

Contact      Terms      Privacy

Logo    Home    About    Account ▽

All  [                        ] 🔍

⇐ Return to Categories

## Electronics

Item 1
Description:
Price:

Item 2
Description:
Price

Item 3
Description:
Price

Item 4
Description:
Price

Contact      Term      Privacy

Item's page - Mobile version: After finding the calculator that Fox was looking for, he messages the seller hopping that the calculator was still available and would be possible to meet the seller to finalize the purchase.

# 5. High level Architecture, Database Organization:

Users:
- Email
- Password
- First name
- Last name
- Id
- Role: Member/Admin

Posts:
- Date
- Id
- Title
- Description
- Image
- Visits
- Approval flag
- Instructor
- Course
- Reported flag
- Price

Messages:
- Date
- Id
- Content
- Post (as fk)

Category foreign key:
- Name
- Id

## Digital Media Storage:

Our digital media storage will be stored as files in AWS S3 which is protected. We will store the link, to the images, on each post or wherever needed.


## Search/Filter Architecture and Implementation:

We will have a text search that will use SQL's %Like. Also you will be able to search by categories. Our categories are: Books, Electronics, Furniture, Clothing, School supplies, Household items.

## API's:

**Frontend-** AWS SDK

**Backend-** AWS SDK

The backend will send a presigned url based on the file name and file type and that will be used by the front end application to initiate a PUT request to the AWS S3 server to be able to upload the specified image and also show progress of the upload. The server will only provide the presigned url and will not upload the image to aws s3. The frontend is going to be initiating the PUT request to the URL provided by the backend.


## New or removed Software Tools and Frameworks:

None

## Non-trivial algorithm or process:

Most visited - This sorting algorithm will ensure that users get the most trending items first to keep them engaged with the app. This will be done by keeping track of visits per post and that will give a more relevant search to the user since they will be the items that have the highest demands. For each query on the posts being pulled from the database the results will be ordered by the visit count.

## 6. Key Risks

**Technical risk** - We had trouble connecting to MySQL.
*Resolution* - We all made sure to download MySQL and wrote down our root password so we can connect.  To connect to the server we searched online if anyone had a similar problem and we found the solution. We took out the database key and added an injection to the database, then it worked.

## 7. Project Management

We have decided to use Trello for our project management.  Ramy has experience with Trello so he gave us a tutorial on how to use it.  It was fairly easy to learn and we have assigned tasks on it now.  Trello is nice because it gives a section for things that need to be done.  We have our to do lists and from there we assign them to the different sections.  The sections we use are backend and frontend as well as our individual tasks.  Our individual tasks are all of our names and from there we can assign those to the backend or frontend section, depending on where they belong.  For milestone 2 we have the frontend doing the mockups and storyboards, while the backend does the high level database architecture and vertical prototype.  For the smaller tasks we did those as a group instead of breaking them up by team.  Trello will help us organize our tasks better and finish them on time.  Everyone will know what they are supposed to be doing and any confusion will be avoided.