

**SW Engineering CSC 648/848 Fall 2020**  
**SFSU Trade Mart**  
**Team 7**

Team Members:

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*Front-End Lead:* Jonathan Pak

*Back-End Lead:* Valeria Vallejo

*Github Master:* Ricardo Carretero

*Member:* Chandler Cruz

*Member:* Chris Manaoat

**Milestone 1**  
**September 28, 2020**

History Table

Date Submitted: September 22, 2020
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## **1. Executive Summary:**

Students sometimes have a need to partake in exchanges to get what they need and get rid of what they don't need. Whether that be getting rid of old electronics, furniture, books, etc. or maybe they are in need of services such as tutoring or essay editing. They may know they want these services, but to go through the work to carry out that exchange can quickly become difficult. Our website will relieve students of the anxiety that comes with trying to find or sell the items and services they desire and ensures they will get the best deal whenever possible.

On our site, Dragutin, faculty and alike can sell and buy items and services to other people at SFSU safely and efficiently. Sellers can make their item/service easy to find by tagging the category the item/service falls under. They can choose to list things as electronics, furniture, books, or services like tutoring. This allows buyers to narrow down what they're looking for by selecting the category they want. For books specifically, the user will be able to search for books by class, allowing students to easily find the materials they'll need before classes even start. We know that item quality is a major factor for a lot of students and our site requires that all sellers provide detailed descriptions of the product condition.

The site has lazy registration as buyers are only forced to register/log in once they want to make an offer to a seller, and sellers when they want to send the item/service post off to be approved. Sellers may choose from any bids and offers that come their way. They also have the option to set a suggested price to help give buyers an idea of what they expect to get from the transaction or even a fixed price so the buyer knows they won't accept anything else. While the site helps buyers and sellers agree on a price, the site does not actually handle any payment processing, and is instead handled by the buyers and sellers themselves. Our sellers can be sure that they'll receive what they believe their product is worth.

Our unique system also gives buyers and sellers reviews in order to give people peace of mind that they are buying from or selling to a trustworthy person. When deciding on where to meet, the site offers predefined places in the school so users are comfortable knowing they will carry out their exchange in a public place.

Our student team is ready to offer a fast, easy to use website that SFSU staff, students, and faculty can accept as their go to trade website.


## 2. Personae and Main Use Cases:

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# Kahleed



**Demographics**

Age: 23  
Occupation: College Student




**Goals**

- Fast experience
- Minimal Interaction


**Pain Points**

- Forced customization
- Requires too much person-to-person interaction

**Traits**

- Time Efficient 
- Precise 
- Introvert **1**
- Safety Focused 

# Donald



**Demographics**

Age: 30  
Occupation: College Student





**Goals**

- Form connection with other user
- Know quality of product and reliability of other user

**Pain Points**

- Slow Connection
- Site Aesthetic Is Ugly

**Traits**

- Tech Savvy 
- Business Oriented 
- Extrovert 
- Artistic 

# Prof. Pugman



## Demographics

Age: 51

Occupation: College Professor





## Goals

- Simple navigation
- Fast order update notifications

## Pain Points

- Too complicated
- Not able to provide details she wants to

## Traits

- Busy 
- Basic Tech Skills 
- Detailed 
- Prompt 

# Lisa



## Demographics

Age: 42

Occupation: Administrator





## Goals

- Options to enforce rules effectively
- Various options for conflict resolution

## Pain Points

- Disapproving without giving reason
- Weak admin options

## Traits

- Thorough 
- Diplomatic 
- Empathetic 
- Rule Oriented 

*Use Case #1:* A **student** needs to get his book before the midterm. He thought he wouldn't need it since he has google, but it was not enough. The bookstore would take a few days to stock, so he is looking for a used copy. After talking with classmates he learns about **SFSU Trade Mart**. He goes to the site and browses through to see if anyone is selling what he needs. He **browses by class** and finds what he is looking for. Knowing about the multiple versions available made him hesitant, but he found his book after looking at **images** on the **items for sale** section. Once he finds what he needs, he is asked to make an account through **lazy registration** to **make an offer to the seller**, which he does without much hassle on his part. He also wants as little communication as possible so he was relieved to see that the only communication was to **choose from one the predefined locations at SFSU** and time to meet.

*Use Case #2:* A **student** has a pretty large group of friends in their major. While the student was able to order all of their books and class materials ahead of time, some of their friends taking similar classes weren't able to grab the books or Clickers before the items sold out at the bookstore. Since they're always eager to help their friends out, the student looks at the **items on sale** and **new arrivals** in hopes to help find the materials for everyone. The student then utilizes the search function, and due to the clean and easy to read **object listings**, they were able to find what they were looking for. The student takes note of the **post id number** listed and notifies their friends about this site. After searching for the material themselves and browsing through the **diverse selection of items**, the friends decided to **register with their SFSU emails** and were then able to contact the sellers and make deals.

*Use Case #3:* A **professor** just finished teaching her class. She has some additional resources for her class, so she **registers on the homepage and logs** into her SFSU TradeMart account and lists them as optional materials in the **class resource form**, so her future students can see them when they **search by class**. On hand, she also has extra copies left over from previous years so she **posts some listings** on the site. The site is easy to navigate and she completes this process in a couple of minutes with the details she wants to include. Afterwards, the site provides **notifications** that inform her of **pending offers**. The simple **accept/accept but with location or time change/counter with different price/denial options** allows her to easily manage and finalize all of her transactions. For the next semester, she is able to **update her class resource form** to account for the new version of the textbook she is using.

**Use Case #4:** An office worker has just finished sending out a batch of emails to her colleagues and has a free moment to **approve listings**. Since she has such scattered moments of reprieve throughout her workday, she can't devote long stretches of time to navigating through the website as an **admin** to approve all incoming student and teacher listings. However, since the UI was easy and quick to navigate, she was able to **approve** a healthy amount of posts and **disapprove posts** with reasons while reading over the necessary details of each one during her small break.

**Use Case #5:** A student is moving out of her dorm and has some furniture that she doesn't want to take. She remembers that SFSU Trademart has a section for **furniture listings**. She makes sure to take plenty of **pictures to show the conditions** and is easily able to make detailed posts for everything she needs to get rid of. Before sending her first post off to be approved, she is **asked to log in or register an account**, which she fills out quickly and gets on with submitting the rest of her posts. Since she is on a time crunch, she **allows for bids and offers from buyers** rather than forcing buyers to offer only a fixed price.

### **3. List of main data items and entities – data glossary/description:**

- Image database: Houses the collections of images used to visually describe items.
- Object listing: The data structure of the item for sale.
  - Name of person selling
  - Rating
  - Items listed
  - Items sold
  - Price
  - Description
  - Image
  - Category
- Database table:
  - ID
  - Date
  - Text
  - Sender
  - Location
- Users: Anybody browsing or using the website.
  - Unregistered: Users using the site who haven't registered with an account yet.
  - Registered: Users using the site who have previously created an account.

Admin: School faculty who have registered with the site and browse it to moderate posts according to TOS.

- Contacts: Data structure containing the users information, items for sale, and registered users transactions.
- List of past orders: Sub class that is stored in one of the contact data structures containing all orders by the subject
  - Array of items purchased or sold
- Comment history: Data structure containing all the comments an offer chain(the optional messages that can be attached on the offers between one buyer and the seller) has received.
- Notification history: Data structure containing all the notifications the user has received.
- Registration form: Using this form, unregistered users can create accounts with the website.
  - Name
  - Email with sfsu.edu suffix
  - Password
- Login form: Using this form, registered users can login to the website to interact with it further such as with purchasing items.
  - Email
  - Password
- Class resource form: Using this form, staff can easily input all required and optional resources that students will need for their class.

#### **4. Initial List of Functional Requirements:**

1. Unregistered users shall be able to register accounts with the website.
2. All users who have not logged in shall be able to access the login/register page, and log in through any page of the website. Unregistered users will be offered the chance to register.
3. Registered users have all the access that unregistered users do and more.
4. Users who are not logged in shall be suggested the option to log in or register upon making an offer or submitting a post for approval.
5. Users who are logged in shall be able to log out.
6. Registered users shall be able to create listings for their items and put them on sale through the website, thus known as posts. Postings contain the name of the seller, condition, price and whether it is negotiable.
7. Unregistered Users shall be able to view listings on the website.
8. Unregistered Users shall have the ability to search for specific listings based on words in its title or description.
9. Unregistered Users shall be able to filter their search results based on the prices of the listings.
10. Unregistered Users shall be able to filter their search results based on the available book versions of any textbook listings.
11. Unregistered Users shall be able to filter their search results based on which materials are required for specific courses.

12. Unregistered Users shall be able to filter their search results based on which class materials are required for classes taught by specific professors.
13. Unregistered Users shall be able to filter their search results based on which class materials are required for classes taken for specific majors.
14. Registered Users looking to purchase items on the website shall be able to comment on their questions or concerns on the listing.
15. Descriptions of the items for sale shall be visible to a(n) unregistered/registered user on the search results and browsing pages of the website.
16. Admins shall be required to approve or disapprove listings according to the TOS.
17. Admins shall be required to remove users for violating the TOS.
18. Registered Users shall receive notifications when their listing is accepted/rejected, someone purchases their listing, they receive a message, or they receive a rating.
19. Registered Users purchasing products on the website shall be able to choose the meeting location and time on the website.
20. Registered Users interested in specific listings shall be able to make bids and offers to the sellers of those listings.
21. Registered Users who receive bids and offers from users about their listings shall be able to connect with the sellers and negotiate.
22. Registered Users shall be able to rate buyers and sellers they've had transactions with on a 5 point rating scale.

## **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. All or selected application functions must 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 and all privacy policies will be appropriately communicated to the users.
7. The language used shall be English (no localization needed)
8. Application shall be very easy to use and intuitive
9. Application should 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 e-mail 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, Fall 2020. For Demonstration Only"* at the top of the WWW page. (Important so as to not confuse this with a real application).

## 6. Competitive analysis:

	Craigslist	Amazon	Ebay	Trade mart
Search by Item/Service name	y	y	y	y
Search by class	n	n	n	y
Barter	y	n	y	y
Version compare	n	n	n	y
Rate/review seller	y	y	y	y

One feature our product has that is advantageous compared to other sites is that they do not have the ability to produce listings of goods for sale that are relevant to that semester only. This can be managed through the class resource form that sellers will complete to organize the products in categories. The ability to search by class has to be one of the most useful features compared to our competitors, this allows any student to purchase their books for the upcoming semester easily.

## 7. High-level system architecture and technologies used:

- Server Host: AWS, 1 3.3 Ghz Intel Scalable Processor, 1 GB Ram
- Operating System: Linux 20.04
- Database: MySQL 8.0.21
- Web Server: Nginx 1.14.0
- Server-Side Language: Python 3.8.2
- Additional Technologies:
  - Web Framework: Bootstrap, Flask
  - IDE: VS Code, Vim

## 8. Team and roles:

<i>Team Lead/Document Master:</i>	Alicia Ramirez
<i>Front-End Lead:</i>	Jonathan Pak
<i>Back-End Lead:</i>	Valeria Vallejo
<i>Github Master:</i>	Ricardo Carretero
<i>Member:</i>	Chandler Cruz
<i>Member:</i>	Chris Manaoat

## 9. Checklist:

- So far all team members are engaged and attending ZOOM sessions when required - **DONE/OK**
- Team found a time slot to meet outside of the class - **DONE/OK**
- Back end, Front end leads and Github master chosen - **DONE/OK**
- Team decided and agreed together on using the listed SW tools and deployment server - **DONE/OK**
- 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 - **ON TRACK**
- Team lead ensured that all team members read the final M1 and agree/understand it before submission - **DONE/OK**
- Github organized as discussed in class (e.g. master branch, development branch, folder for milestone documents etc.) - **DONE/OK**