SW Engineering CSC648-848
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Milestone 2 Part I - March 23rd, 2024

Project Title:
"From Here to There"
"The SFSU Exclusive Site for Buying and Selling Items"

Team 03

Gurpreet Natt (TL)   gnatt@sfsu.edu
Omar Dajani (GL)   odajani@sfsu.edu
Douglas Cheung (FL)   dcheung5@sfsu.edu
Justin Isidro (BL)   jisidro@sfsu.edu
Gursimran Singh   gsingh8@sfsu.edu
Gio Jung   gjung1@sfsu.edu

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1. Executive Summary:

Introducing "From Here to There, an SFSU Exclusive Site for Buying and Selling Items" a platform uniquely designed for the San Francisco State University (SFSU) community. Developed with the spirit of innovation and collaboration, this application offers an exclusive marketplace for buying, selling, and renting items within the SFSU community. From essential class books to the perfect living room sofa, "From Here to There" facilitates a seamless exchange of goods and services among students, alumni, and staff, strengthening our community bonds.

"From Here to There" is a unique marketplace platform that enables students, alumni, and staff to buy, sell, and rent items within the SFSU community with the ease of entering their SFSU ID. From crucial academic resources to that perfect piece of furniture that makes a space feel like home, our application streamlines these exchanges, fostering a supportive, sustainable community.

Key features include a sophisticated search function that allows users to navigate offerings by category, class archetype (CSC, MATH, ENGL, etc.), and specific course numbers, offering a level of specificity unmatched by other platforms. This precision ensures that users can find exactly what they need when needed, fostering an environment of support and mutual benefit.

Behind "From Here to There" is a dynamic student startup team from SFSU, bringing together diverse talents in technology, design, and business. This team not only understands the unique challenges of campus life but also shares a commitment to creating a solution that strengthens the sense of community and support among SFSU students, faculty, and staff.

Our diverse and dedicated team is the driving force behind "From Here to There," united by the shared goal of enriching the SFSU community experience. Prioritizing a seamless user interface, we are crafting a marketplace that is both intuitive and engaging. Under the leadership of CEO Dragutin Petkovic and CTO Anthony Souza, whose expertise anchors our project, we are well-equipped to bring this innovative platform to life.

2. List of main data items and entities:

1. **Types of Users**:
   -**Description**: The main types of users registered on the marketplace app, includes but is not limited to:
   - Registered users.
   - Unregistered users.
   - Students.
   - Staff members.
   - Professors.
   - Administrators.

2. **Sales Item and its Main Sub-items**:

   - **Description**: The primary entity representing items available for sale on the marketplace app. This includes various sub-items (which may be repeated) or categories, which include but are not limited to:

1. School supplies (all *required* except the last five, those are *optional*):
   - Pencils.
   - Pens.
   - Textbooks.
   - Notebooks.
   - Erasers.
   - Led.
   - Rulers.
   - Water bottles.
   - Water warmer.
   - Trash cans.
   - Sticky notes.
   - Tape measure.
2. Office supplies (all *required* except the last item, that is *optional*):
   - Chairs.
   - Office chairs.
   - Pens.
   - Sticky notes.
   - Tape measure.
   - Business cards.
   - Stapler.
   - Printing ink.
   - Printing papers.
   - Trash cans.
3. Furniture (*all* are required):
   - Chairs.
   - Office chairs.
   - Coat hangers.
   - Desk.
   - Fake plants.
   - Tables.
   - Mini-tables.
   - Mini-fridges.
   - Microwaves.
   - Trash cans.
4. Games (*all* of this is optional):
   - Ouija Board.

- ○ Monopoly.
- ○ Game of Life.
- ○ Clue.
- ○ Uno.
- ○ Chess.
5. Miscellaneous (***all*** of this is optional):
- ○ Tea bags.
- ○ Coffee bags.
- ○ Wallets.
- ○ SFSU merch.
- ○ SFSU clothing.
- ○ Club merch.
- ○ Club clothing.
- ○ Random giveaway items.
- ○ Random tutorial videos.
- ○ Random lecture recordings.
- ○ One voucher for eating for free from any of the food spots on campus once per year.

3. **User Registration Record**:
  -**Description**: The record associated with each user's registration on the marketplace app. It includes but is not limited to:
- ● Username.
- ● Email address.
- ● Password.
- ● Contact information.
- ● Security question(s).
- ● Recovery email address.
- ● IP address.
- ● Cookie settings.
- ● Search history.

4. **Messages**:
  -**Description**: The communication system within the marketplace app that allows users to send and receive messages. Messages enable users to communicate with each other regarding but not limited to:
- ● Listing-related messages.
- ● Purchase-related messages.
- ● Inquiry-related messages.
- ● Various other interactions on the app.
- ● Search functionality to look through all messages.

5. **User Profile**:
  -**Description**: The profile associated with each user account on the marketplace app. It includes but is not limited to:
- ● Personal information.
- ● Full name.

- Preferred names.
- Contact details.
- University level.
- Address.
- Profile picture.
- Bio.
- Wishlist.
- Reviews.
- Socials.
- Search functionality to search user's posts.

6. **Listing**:

   -**Description**: Individual item listing created by users for sale on the marketplace app. Each listing includes but is not limited to: details such as item description, price, condition, photos, and contact information of the seller.
- Item name.
- Item description.
- Price.
- Condition.
- Photos.
- Contact information of the seller.
- Reviews.
- Reviews of the user.
- Date posted.

7. **Purchase Record**:

   -**Description**: Record of purchases made on the marketplace app by users. Purchase records document details such as but not limited to:
- Item bought.
- The buyer.
- The seller.
- Transaction date.
- Payment information.
- Refund information.

3. Functional requirements - prioritized:

*Priority 1:

-Registered users:
1. Shall be able to search for listings using keywords, categories, and filters.
2. Shall be able to store the items they've posted in the inventory.
3. Shall be able to communicate with moderators, sellers, and buyers through given contact information provided by them.
4. Shall inherit all the functions of a non-registered user.

-Unregistered users:
5. Shall be able to create/register an account. (only with SFSU email)

6. Shall be able to view the post details, including the title, description, and images.
7. Shall be able to access help and FAQ sections.
8. Shall be able to navigate through the site's public sections without logging in.

-Admin:

9. Shall be able to access the server and perform maintenance or updates as needed.
10. Shall be required to moderate users, posts, and review listings for guideline compliance.
11. Shall be able to remove or edit any posts that do not meet site guidelines.
12. Shall be able to generate reports on site usage, popular listings, and user activity.
13. Shall be able to create and manage site-wide announcements or notifications.

**Priority 2*:

-Registered users:

1. Shall be able to edit or delete their own posts.
2. Shall be able to rate and review other users based on transactions.

-Unregistered users:

3. Shall be able to contact the site administration through a contact form.
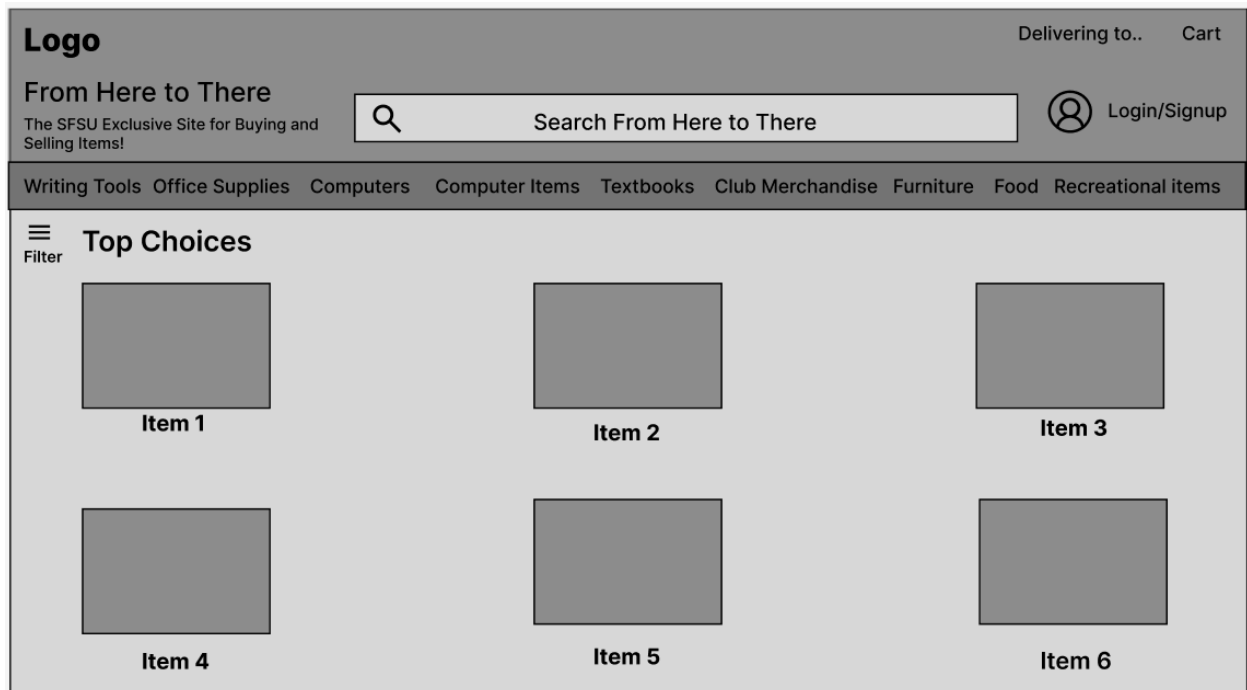
-Admin:

4. Shall be able to ban or suspend users who repeatedly violate the guidelines.

**Priority 3*:

-Registered users:

1. Shall be able to report posts or users that violate guidelines to administrators.
2. Shall be able to save searches or favorite listings for easy access later.
3. Shall be able to update their profile information, including password, and profile picture.

# 4. High-level mockups and storyboards:

Logo
Delivering to..   Cart

From Here to There
The SFSU Exclusive Site for Buying and Selling Items!

Q   Search From Here to There

Login/Signup

Writing Tools   Office Supplies   Computers   Computer Items   Textbooks   Club Merchandise   Furniture   Food   Recreational items

≡
Filter   **Top Choices**

Item 1   Item 2   Item 3

Item 4   Item 5   Item 6

-Use Case for Mia: It showcases a range of categories Mia might be interested in, like textbooks and club merchandise. The "*Top Choices*" section and the advanced "*filter*" functionality allow Mia to find items relevant to her studies and extracurricular interests quickly.

Logo

From Here To There

Login

Email or Username

Password   Forgot Password

Login

New Here?

Create a new account

-General Use Case: This is a straightforward *login* interface that applies to all users for accessing their accounts.
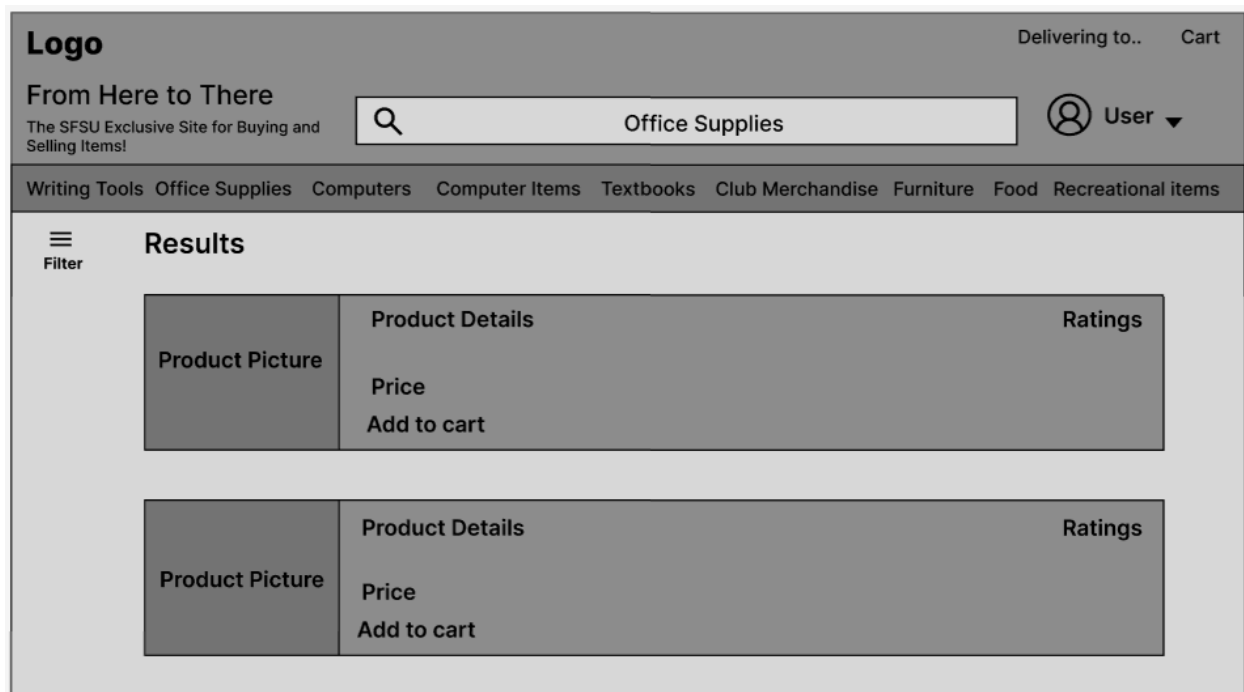
-Use Case for Tom and Dr. Patel: This page can display results for both *office supplies* and *club merchandise*. *Filters* can be used to narrow down the search.
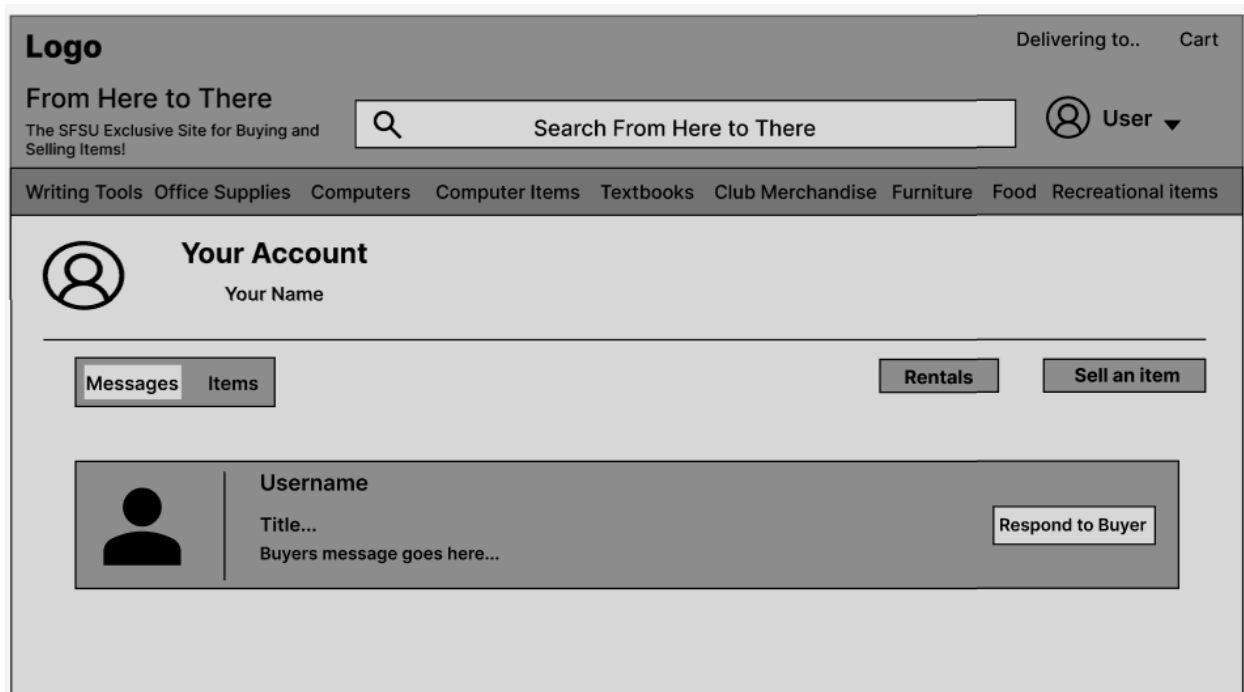
-Use Case for Tom: This could include administrative functionalities for Tom to manage orders or access insights. The app does not allow for direct messaging but encourages clear communication through the provided contact details.

-Use Case for Dr. Patel: The "*Sell an Item*" button streamlines the process of posting new club merchandise for sale, with tools for tracking and managing listings directly from his account dashboard. After adding all the necessary info, pictures, and etc, Dr. Patel asserts that the item he is selling is in good condition and is then informed that an admin will review his listing and it will be live in the next 24 hours.

-General Use Case: This is a rental page for items that may be relevant to that service/choice.
-Use Case for Tom: In his administrative role, Tom may need to arrange for equipment or supplies for university events or workshops. The rental system provides him with an efficient method to obtain these items temporarily, helping to manage resources and budget effectively.
-Use Case for Mia: Mia rents textbooks for the semester through the marketplace's rental system, saving money and avoiding the need to visit multiple stores.

Logo

Delivering to.. Cart

From Here to There

The SFSU Exclusive Site for Buying and
Selling Items!

Q Search From Here to There

(user icon) User ▾

Writing Tools Office Supplies Computers Computer Items Textbooks Club Merchandise Furniture Food Recreational items

≡
Filter

Messages

You have [Number] new Message(s)

Name	Time Sent Here	Message Title
Supplementary information Example: Product Details	Message goes here..	Reply

Name	Time Sent Here	Message Title
Supplementary information Example: Product Details	Message goes here...	Reply

-General Use Case: This is a page for the display of all messages, including a counter for how many new ones are there.

Logo

Delivering to.. Cart

From Here to There

The SFSU Exclusive Site for Buying and
Selling Items!

Q Search From Here to There

(user icon) User ▾

Writing Tools Office Supplies Computers Computer Items Textbooks Club Merchandise Furniture Food Recreational items

≡
Filter

Enter Title here:
Receiver Name Here
Contact Information goes here...
Message here....

Send

-General Use Case: This is a page for composing responses to messages. This will also be for composing messages themselves.

5. High-level DB organization:

- **DB organization:**
  PK - "Primary Key"
  FK - "Foreign Key"
- **User Types:**
  - **Admin:** Users who manage the platform.
  - **Seller/Buyer:** Users who list products for sale or rent, and who purchase or rent products.

  User:
  - UserID (PK)
  - Email (Unique, Mandatory)
  - Password (Mandatory)
  - FirstName (Mandatory)
  - LastName (Mandatory)
  - UserType (Enum: Admin, Seller/Buyer, Mandatory)
  - SFSUEmailVerified (Boolean, Optional)

  Message:
  - MessageID (PK)
  - SenderID (FK to User)
  - ReceiverID (FK to User)
  - ProductID (FK to Product)
  - Content (Text, Mandatory)

  Product:
  - ProductID (PK)
  - UserID (FK to User.UserID, Seller/Buyer, Mandatory)
  - Title (Text, Mandatory)
  - Description (Text, Mandatory)
  - Price (Numeric, Optional)
  - RentalPrice (Numeric, Optional)
  - IsRental (Boolean, Mandatory)
  - CourseNumber (Text, Optional)

  ProductRequest:
  - RequestID (PK)
  - UserID (FK to User.UserID, Seller/Buyer, Mandatory)
  - Title (Text, Mandatory)
  - Description (Text, Mandatory)

  Category:

- CategoryID (PK)
  - Name (Enum: Books, Furniture, Electronics, etc., Mandatory)
  - **ProductCategory**:
  - ProductID (FK to Product.ProductID, Mandatory)
  - CategoryID (FK to Category.CategoryID, Mandatory)
- **Media storage**:
  - Decided to use File Systems for storing media files, with references stored in the database
- **Search/filter architecture and implementation**:
  - Columns including individual data characteristics (Item type, Description, Category, Seller, etc)
  - Searches keywords relating to the contents of the tables
  - Filtered Searches
  - Will use a combination of indexed columns and possibly full-text search for efficient searching. Keywords can relate to product Title, Description, Category.Name, Price, and seller information (User.FirstName, User.LastName).

6. Risks with our project:
- *Skill risks*:
  - Team members may not initially have all the necessary skills for the project, such as web development, database management, or UI/UX design. To solve this, we have been reviewing necessary material on our time outside of class and team meetings.
- *Schedule risks*:
  - N/A
- *Technical risks*:
  - N/A
- *Teamwork risks*:
  - Miscommunication, conflicts, or lack of collaboration among team members could hinder project progress. To correct this, we have set weekly team meetings and plan to use Trello in the future to make tasks aware to everyone and keep us on the same page.
- *Legal/content risks*:
  - There *may* be an issue with us trying to match the SF State branding as much as we can with our website. Our final design will incorporate the SF State colors and even the mascot, but this should

not be a problem as both don't seem to be copyrighted. There also may be an issue with Amazon, which may stem from us having a similar website layout. Nothing will likely come out of this either, however, as Amazon doesn't own the copyright to a design.

7. Project Management:

For this Milestone, we used Discord primarily to communicate. Team Lead made a TO-DO channel on Discord server to delegate tasks to the team. In addition, we hold team meetings to go over our tasks and questions we may have as a team. Going forward, we will incorporate Trello to manage our tasks.

8. Use of GenAI tools:

- *Omar*: N/A as none were used.

- *Gursimran*: N/A as none were used.

- *Gurpreet*: N/A as none were used.

- *Douglas*: N/A as none were used.

- *Justin*:
    GenAI Used: ChatGPT (4.0)
    Tasks Used: High level Architecture, Database Organization
    Effectiveness: MEDIUM
    Details: GPT was mainly used in the guiding of backend related to DB, seeking guidance. I found the usage to be very useful in giving a rough idea on how to set up the tables and its contents.

- *Gio*:
    GenAI Used: ChatGPT (3.5)
    Tasks Used: High level Architecture, Database Organization
    Effectiveness: MEDIUM
    Details: In this Milestone, GPT was used in #5 where we had to create tables for SQL. Once GPT generated the basic tables for our market system, we still had to edit/add for more columns or for new tables of certain functions. However, it was useful for us to have the basic tables of mySQL DB.

9. Team lead checklist:
- So far all team members are fully engaged and attending team sessions when required. 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 reviewed suggested resources before drafting Milestone 2. DONE
-Team lead checked Milestone 2 document for quality, completeness, formatting and compliance with instructions before the submission. DONE
-Team lead ensured that all team members read the final M2 and agree/understand it before submission ON TRACK
-Team shared and discussed experience with genAI tools among themselves DONE