SW Engineering CSC648/848 Spring 2022

PurpleMarket

TEAM 8

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Contents

Section I: Executive Summary

PurpleMarket is a web application that will connect students, staff, and faculty from San Francisco State together via a virtual marketplace. In this marketplace, they will be able to communicate with each other, as well as buy and sell products on a user to user basis. There will be no intermediate and no surprises. What one user posts will be verified and will be exactly what is sold to another user. With this in mind we hope to create a safer, open community at San Francisco State, while also providing our users with a more convenient way to shop.

PurpleMarket is easy to navigate, and easy on the eyes. There isn't any clutter which makes the site much more presentable to our users. Our users is presented a clean design that will make it much easier for users to navigate our site to find exactly what they are looking for. If they have any trouble at all finding their specific product, they are able to narrow their search in two ways. The first method to finding their desired product is by browsing different categories. The second method will be a simple and easy to use search that would allow the user to type specific titles, names, or descriptions where the user will be presented with the results of the search. Once a user finds what they are looking for they can sign up and create a PurpleMarket account that will allow them to communicate with the user that listed the product directly on our site and the rest is history. So what about listing products? Any verified user who opens an account will be able to list a product. Finally, PurpleMarket will be able to facilitate on-campus meetings between buyer and seller, which simplifies the transaction experience.

Our team of passionate San Francisco State students know the frustrations of navigating online classifieds and the unique needs of the people associated with the school. It is because of this that we are exceptionally equipped to understand the San Francisco State community and provide them with the experience that they desire.

Section II: Personae & Use Cases

Persona 1
Actor: Kobe (Admin)

About:
- Busy student
- Loves to explore computer technologies
- Likes simple and clean user interfaces

- Expert in maintaining and troubleshooting computer technologies

Goals & Scenario:

- Wants to ensure a safe and efficient user experience for students, staff, and faculty of San Francisco State University.

- Loves to explore computer technologies

- Likes simple and clean user interfaces

- Expert in maintaining and troubleshooting computer technologies

Use Case:

Kobe is an admin user of the app. He opens his laptop and browses to the web page of the app while he is sitting in front of a desk at his home. After logging into his account, he needs to troubleshoot the app to ensure all features and functionalities of the app are working correctly. After that, he wants to review and validate the new posts of products to ensure that they are appropriate and follow company guidelines. Valid posts will be approved by Kobe and can be viewed by all users. Kobe will deny invalid posts and give an explanation for why the post is invalid. Finally, Kobe reviews the feedback from app users and decides any future actions need to handle.

Persona 2

Actor: Claire (Student)

About:

- Busy student that's proud of attending SFSU.

- Spends most of time at the university library or attending classes

- Active and loves to exercise

- Very comfortable with web apps

Goals & Scenario:

- Decided to go to the library. Checks to see if she has all her required notes and materials on her laptop.

- While at the library, she likes the idea of finding SFSU merchandise for sale by other students.

- Carries her gym clothes in her bag so she can go exercise after her study session.

Use Case:

Claire is laying on her bed while she thinks about her next swimming event. She thinks that her SFSU suit is worn out and definitely needs an upgrade. She takes her smartphone and opens the web browser. She googles PurpleMarket and opens the website. She goes on categories and clicks "SFSU Apparel". She browses through the different options on her phone and reads their reviews. While browsing, she decides to also look for more SFSU merchandise and browses through SFSU mugs, keychains and SFSU

notebooks for her desk. While she is at it, she also goes through some of the notes which are offered by past students for her classes. Finally, she's happy and messages the sellers in the web application to set up a time and place to meet to purchase the items. Because Claire in on campus most of the time, it is easy for her to meet up on campus to complete the transaction.

Persona 3

Actor: Anna (Faculty)

About:

- Likes to have everything in order.
- Not very comfortable with web apps.
- Plans far into the future.
- Interested in e-textbooks and other e-content for her students.
- Loves reading literature and exploring different texts.

Goals & Scenario:

- Is reading a research paper on the community history of geographies of displacement and taking mental notes of points that must be shared to her students at class today.
- She uses her notebook and pens them down. She creates a questionnaire for students using google docs which must be uploaded on ilearn later.

Use Case:

Anna is sitting on her front desk one day before the beginning of the first day of instruction. She wants to share handwritten notes of her past student and is hoping to contact him for the same. She opens the www website and looks for the notes under the class. Thankfully she finds the student having a post about the same and contacts him about it. They take it through from there.

Persona 4

Actor: Curry (Staff)

About:

- Has a regular working schedule
- Work in an establishment with administrative functions such as accounting and finance.
- Have a university educational level.
- Have higher-level responsibilities of being a university administrator.
- Prefer to follow their job orders and university principles

Goals & Scenario:

- When he has a meeting with someone, he always wants the person arrives on time. As a result, he

desires that the person will have a reminder when the meeting comes soon.

- When he sets up a meeting to buy something from other people associated with SFSU, he wants to be able to set up a meeting place and time that is convenient for him, since his schedule is very tight.

Use Case:

Curry is an SFSU full-time university staff. He wants to shop for some items on the secondary market held by the SFSU community, so he opens the web application and browses posts of items in his office during his break. First, he just randomly browsed items by categories including books, electronic products, and household supplies. After a couple of minutes, he realizes that there is a book that he was interested to buy recently. He enters the name of that book to search listed posts, and then there are a couple of listed posts that show up. He clicks on one post in order to find more information about the item and sell information. He messages the seller telling him that he wants to buy the book. Finally, using the website, Curry sets up a meeting time and place on campus to complete the transaction.

Section III: Main Data Items and Entities

1. **user**

    first_name: First name of user

    last_name: Last name of user

    email: Email of user

2. **item**

    item_name: Name of item

    item_description: Item description

    item_price: Item price

    item_category: Item category

3. **category**

    cat_name: Category name

4. **account**

    acct_type: Account type (e.g. admin, registered_user, etc)

    acct_privileges: Account privileges

5. **location**

    loc_name: Location name

    loc_description: Location description

loc_coords: Coordinates for location

6. **message**

   message_sender: Message sender

   message_recipient: Message recipient

   message_contents: Contents of message

7. **review**

   reviewed: User being reviewed

   reviewer: User reviewing

   review_details: Contents of review

Section IV: List of Functional Requirements

Unregistered User

1. Unregistered users shall be able to search the site for certain posts.

   This function is needed to narrow down posts that fit what the user is looking for.

2. Unregistered users shall be able to filter search results.

   This function is needed to narrow down posts that fit what the user is looking for.

3. Unregistered users shall be able to register for an account.

4. Unregistered users shall click on a post

   Unregistered user can click on a post, even though he doesn't have an account.

5. Unregistered users shall not send contact the seller

   They can't send a message unless they have an account

Registered User

6. Registered users shall be able to do everything an unregistered user can do.

7. Registered users shall be able to create posts.

   The user needs this function in order to sell their products.

8. Registered users shall be able to get in contact with the poster/seller.

   Either contact information is available or there's a messaging chat box on the site. This function
   is needed for transactions to take place between users.

9. Registered users shall be able to edit and correct and/or delete their own post after it was sub-
   mitted.

   If there is some mistake on the original post, then users should be able to edit their post. If
   suddenly the user cannot offer the product anymore, then the user shall be able to delete the

post.

10. Registered users shall be able to report violations of terms of service of another user.

    If the user doesn't get the product as it was displayed or described, then they should be able to report the selling user. If the selling user gets paid with fake money or they were robbed at their transaction meetup, then the user should be able to report the buying user.

11. Registered users shall be able to login to their account.

    They need to login to do their admin duties of approving posts and doing regular things like buying and selling items.

12. Registered users shall be able to logout of their account.

    They need to logout to secure their account from anyone else using the same computer.

13. Registered users shall be able to request/reset their password if they forgot.

    Users shall be able to access their account they made so password reset will be provided if they forgot their password.

14. Registered users shall be able to leave reviews of other users regarding completed transactions.

    They shall be able to leave a review of transaction experience of the other party in a transaction.

15. Registered users shall be able to propose meeting locations or modify location proposals to complete transactions.

16. Registered users shall be able to inspect their transaction history.

Admin

17. Admins shall be able to do everything a registered user can do.

18. Admins shall be able to delete and edit posts done by any user.

    If admins find any posts that do not follow terms of service, they should be able to delete or edit the offending content.

19. Admins shall be able to contact any user.

    The admins should be able to contact any user for administrative purposes (i.e. warnings).

20. Admins shall be able to ban users.

    Admins should be able to ban repeat offenders from the platform.

21. Admins shall be able to approve posts.

    Admins should be able to approve posts waiting for approval.

22. Admins shall be able to inspect any user's transaction history.

Section V: 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

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

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, Spring 2022. For Demonstration Only" at the top of the WWW page nav bar. (Important so as to not confuse this with a real application).

Section VI: Competitive Analysis

Specification	PurpleMarket	Amazon	Ebay	Craigslist
Short time to make post	-	+	++	+
Easy to contact seller	++	+	+	++
Credibility of seller	++	+	-	-
Ability to meet seller in person	++	-	+	+
Propose on-campus meeting location	++	-	-	-
Refunding items	+	+	++	-

++ = Specification is Outstanding

+   = Specification is Good

-    = Specification is Bad

Our web app has numerous planned advantages compared to our competitors. One of the advantages is that our app can guarantee the credibility of the seller. We make sure that all users of our app are SFSU students, staff, or faculty. We make sure that buyers can easily contact the seller. Another advantage is that our seller and buyer will be able to meet in person, in a safe and public environment, whether it be on campus or otherwise. We also have a site administrator that guarantees the validity of each item posted and swiftly approves each post or rejects inappropriate posts.

Section VII: System Architecture

Server Host: Amazon EC2 2vCPU 4GB Ram

Operating System: Amazon Linux 2

Database: MySQL v8.0.19

Web Server: Nginx v1.19

Server-Side Language: JavaScript/Node.js 10.19.0

Web Framework: React.js 16.14.0

IDE: VSCode

Web Analytics: Google Analytics

Section VIII: Team & Roles

Name	Role
Ernesto Diaz	GitHub Master/Front End Dev
Jesus Cervantes Fajardo	Back End Dev
Khushboo Gandhi	Front End Lead
Cody Huang	Back End Lead
Mark Kim	Team Lead/Document Master
Vivian Kuang	Back End Dev
Jiasheng Li	Front End Dev

Section IX: Checklist

Task	Status
So far all team members are engaged and attending ZOOM sessions when required	ON TRACK
Team found a time slot to meet outside of the class	DONE
Back end, Front end leads and Github master chosen	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	ON TRACK
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.)	ON TRACK