SW Engineering CSC648/848 Fall 2018

Team 9

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Milestone 1

10-10-18

Initial Submission: 10-1-18
Revised: 10-10-18

1. Executive Summary

Each year, students attending SFSU are faced with the high costs necessary for course materials, and new students may have to purchase expensive living essentials, such as furniture. These expenses can add up quickly, especially considering that many students do not need the materials they purchased after the conclusion of each semester. Most materials are sold back to the original vendor for a fraction of the cost that they purchased it for, and many students who graduate no longer need the furnishings they purchased for college. Currently, there is not a platform on the market that offers a place for students to buy and sell school related materials locally. Our product will remedy that and provide a place for SFSU students who are seeking to sell their old school materials and furnishings to students who need them, for a price that satisfies both the buyer and seller.

Our application will provide a platform for people who wish to sell to SFSU students, and a place for students seeking deals on school materials and living essentials. We will combine key elements from competitive websites such as eBay and Amazon, but design our website to specifically cater to SFSU students. Our website will display featured posts on our homepage for new shoppers to view and provide categories for viewers to browse. Our categories will be specifically tailored for SFSU students, such as categories for materials for specific courses offered at SFSU. All listing will be sortable and interested buyers will be able to contact sellers through in app messaging to arrange meetings on their own. If any students or local residents are seeking to post items on our website, they will only need to fill out a posting and register with the site. Ultimately, our website will serve as a blueprint for other college campuses besides SFSU.

Our team consists of seven SFSU students. As students, we are aware of the high costs of attending college and are dedicated to bringing the best buyer and seller platform that we can to our fellow students.

2. Personas and Use Cases

Personas

Zachary
- SFSU first year student
- Uses shopping sites such as eBay, Amazon, etc.
- Prefers to stay on or close to campus since he is only familiar with campus area, also does not have a car
- Not from California
- Wants to sell items before returning home for summer

Robert
- SFSU second year student
- Has used shopping sites like eBay and Amazon
- Willing to meet at any location in Bay Area since he has a car
- Wants to save as much money as possible

Alice

- Administrator
- Trained in using administrator dashboard
- Has done moderating on other websites

Use Cases

Use Case 1: Administrating posts

Alice is an administrator for the application. She views all new post requests and approves them for the site as long as they are not inappropriate. Alice's account allows her to remove posts that are offensive or inappropriate and review reports from users. Alice can also ban users if they are found to be abusing the site rules and delete their accounts. Alice's account does not need the functionality of buying or selling since she is administrator, and only needs to have the functionality to read and remove posts as well as banning users. Alice also has a dashboard which allows her to read the complaints and reports from users that flag a post for inappropriate content.
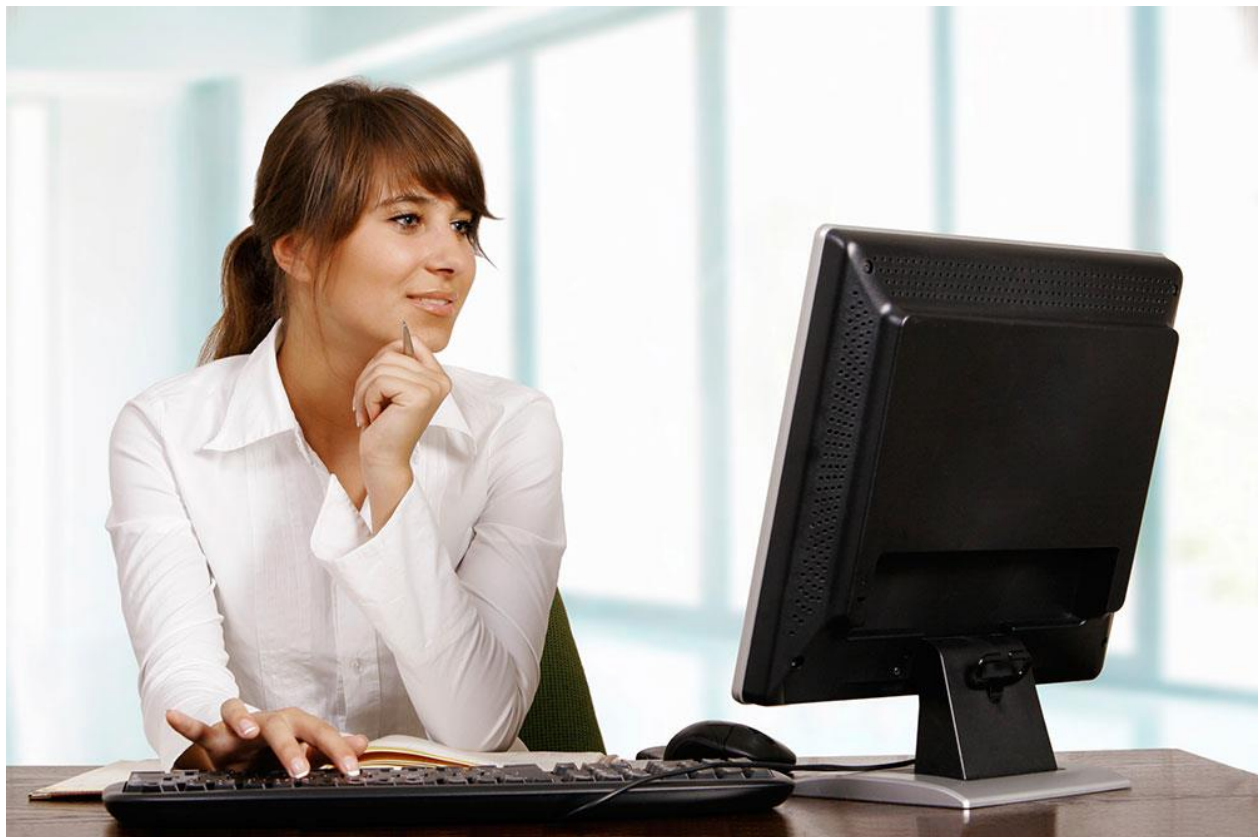
Use Case 2: Selling items and using the seller's dashboard

Zach is a first year SFSU student who needs to sell a television after the school year. Zach lives out-of-state, so he does not want to bring his television back home. Zach uses shopping websites like eBay and Amazon, but he wants to sell the television to fellow students. His friend tells him about the application, and Zach searches it up online. He looks around on all the links and pages and decides to list the sofa on the website. He starts creating his post by posting a picture of the item he wants to sell, the description of the item, and his contact information on the website for any potential buyers to contact him. He is then asked to register on the website and is brought to the application's dashboard. Then he can view his posted item on the website's dashboard and check to see if anyone has viewed his post, and monitor any messages sent to him.

Use Case 3: Browsing and purchasing items

Robert is a student who wants to buy a used textbook for his humanities class. He doesn't want to pay full price for a new book, so he wants to get a cheaper used textbook. He uses the web application to search for the book that he needs. He filters his search to find the cheapest textbook he can. Once he has found the right listing, he writes a message to the seller and asks about the condition of the book, and is asked to register with the website to send his message. Robert registers with the website and sends the message, and once he has received a response from the seller that the book is in good condition, he buys the book and drives to the place where the seller has arranged to meet.

3. Data Definitions

1. Unregistered user: Any entity viewing our service without registering. Users without an account shall be able to view listings, but are not able to interact with other users without making an account first.
2. Registered user: A user that has created an account with our website. Registered users shall be able to message other registered user's about postings, and shall be able to request post listings, as well as view messages from other registered users about their posts.
3. Administrator: A user that will monitor post requests from sellers and verify whether a post is safe.
4. Post: A page about a good a seller makes, that needs to be verified as family friendly by an administrator. Posts shall have:
   - A picture of the posted item
   - A text description of the posted item
   - An approval status: each post must be approved by an administrator before it is posted for buyers to view
   - The categories that the item belongs too, so it can be sorted by viewers
5. Category: Categories are general descriptions about an item, which are used to sort posts when being viewed.
6. Messages: Registered users shall be able to send messages to other registered users about their posts discuss prices, details, or purchasing.
7. User Record: Each registered user shall have a record of their previous posts so administrators can monitor negative behavior.

4. Initial list of functional requirements

Non-Registered Users: Can access posts from sellers, view pictures, browse categories, register, message sellers.

Registered Users: Can access the seller dashboard, post listings, respond to buyer messages, buy from other sellers, browse categories, message other sellers.

Administrator: Can accept requested listings for approval before they go online, can browse categories, can message Registered and Non-Registered Users, can edit the TOS, can ban a user, can delete listings, can browse listings.

1. Selling: Registered Users shall be able to post an item with or without a picture uploaded and containing the price, condition, contact information, description, subject, and any SFSU classes that use this item. Shall need a registered account to keep track of selling posts.
2. Buying: Non-Registered Users shall be able to buy an item with or without an account as long as contact information is exchanged. Non-Registered Users shall be able to view posts and description without an account and payment option shall only be in person to negotiate.

3. Browsing: Non-Registered Users shall be able to browse and search for items they are looking for. They shall be able to use a filter to filter by price from lowest to highest or vice versa. By default, the prices should already line up from lowest to highest.
4. Categories: In addition to Browsing, Non-Registered Users shall be able to click on categories that turns into sub categories. For example, after clicking "Math", the SFSU math courses and their course number shall appear.
5. Registering: Non-Registered Users shall have to sign in to post an item for sale. Registering shall require an email and a password.
6. Terms of Service (TOS): Registered Users shall have to accept the TOS once for their account before they can begin posting items. Inappropriate items or illegal items shall not go live after reviewed from the admin.
7. Administering: After a Registered User submits a post for sale, it shall not go live until an Administrator review and approves of the post. If the post is rejected, the post shall be saved as a draft for that Registered User to change and resubmit.
8. Messaging: Each item/post shall have a button to send a message to the Registered User (Seller) and start a chain of messages in order by date. Each user shall have a different colored text bubble.
9. Seller Dashboard: The Registered User (Seller) shall have access to the seller dashboard which they can sort, manage, and edit their listings. They can choose to create new listings, delete existing listings, or edit a listing's properties; price, picture, title, condition, etc.

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 all major browsers: Mozilla, Safari, Chrome.
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. MySql 14.14 shall be the database that is used for storage. Apache 2.4.7 shall be the web server, hosted on Google Compute Engine 1vCPU 3.75 memory.
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.
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-Fulda Software Engineering Project CSC 648-848, Fall 2018. For Demonstration Only" at the top of the WWW page. (Important so as to not confuse this with a real application).

6. Competitive Analysis

Feature	Craigslist	Amazon	SFSU Bookstore	eBay	Our Product
Clean User Interface	-	+	+	+	+
Categories	+	+	++	+	++
Filtering	+	++	++	++	+
Featured Items	-	+	+	+	+
Easy to sell	+	-	-	+	+

Our product will provide an aesthetically pleasing interface comparable to our competition, as well as a featured items list on our home page. In addition, our product will provide categories targeted for SFSU students that websites like Amazon and eBay can't provide, such as textbooks for specific courses, similar to the SFSU Bookstore's website. We will also provide a filtering system to sort items, but not as comprehensive as the filtering that Amazon or eBay offers. Finally, our product will offer an easy platform for the average person to sell on, such as Craigslist or eBay. Ultimately our product will combine the key buyer/seller elements from leading competitors and cater to SFSU students specifically.

7. High-level system architecture

Deployment Platform:
1. Server Host: Google Compute Engine 1vCPU 3.75 memory
2. Operating System: Ubuntu 14.04
3. Database: MySql 14.14
4. Web Server: Apache 2.4.7
5. Server-Side Language: Python 3.4.3

Frameworks:
1. Flask 1.0.2
2. Bootstrap 4.1.3

Tools:
1. Pip 1.5.4
2. Virtualenv 1.11.4
3. Mysql 14.14

Supported Browsers:
Latest 2 versions of:
1. Mozilla Firefox
2. Google Chrome

8. Team

Wagner Ayllon – Team leader, front end
Gordon Su – Front end
Alvin Lee – Back end team lead
Jake Carter – Back end
Tina Nguyen – Front end team lead
Martin Lee – Front end
Gary Deng – Back end

9. Checklist

Meeting Time	DONE
Github Master	DONE
SW tools and deployment server	DONE
Back and front end frameworks	DONE
All team members have read final M1	DONE