SW Engineering CSC 648/848 Section 02 Spring 2017
SFSU Marketplace

Team 12

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Milestone 1

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Revision History:

v1 - Preliminary Document for 2/28
v2 - Added suggestions from Dr. Petkovic

Executive Summary

There are many online marketplaces today, allowing people to buy and sell items from other people, anywhere in the world. However, these immense marketplaces might not be ideal for a student that needs a textbook in a short amount of time. Imagine being able purchase an item from someone, and having the convenience of meeting that person on the same day because you both will be on campus. SFSU Marketplace, a buy and sell website exclusively for SFSU students, will make that possible.

The difference between SFSU Marketplace and its competitors is that you must have a valid SFSU email address to register. This smaller member base will increase the quality of each transaction, because it is a guarantee that members will be dealing with another reliable SFSU student. The main thing that SFSU Marketplace offers that our competitors do not have is convenience and price flexibility. Sometimes, a buyer and seller will be miles apart, meaning both parties must travel to an agreed meeting place, or the seller must ship the item. On SFSU Marketplace, students can arrange a meetup when both parties are on campus, resulting in a quick transaction, without any unnecessary shipping time or travel. Also, students will understand that college is a time of financial struggle for many, and will be willing to lower prices to help a fellow student out, allowing SFSU Marketplace to be competitive pricewise.

Team Twelve, our student startup team, is a group of ambitious software engineers that are familiar with the cutting edge technology that will be used to create this website. With our combined expertise in web development, we will ensure that SFSU Marketplace provides an intuitive and easy-to-use experience that will become the #1 choice for students to buy and sell their items. We have a development plan that will bring this project to completion by May 15, 2017. This will allow light deployment testing throughout SFSU's Summer session, allowing us to refine the website for higher traffic before the majority of students return for the Fall semester.

SFSU Marketplace has a lot of room for expansion. When it is proven to be successful, it will be very easy to expand this website for other universities across the country, or even internationally. Students will no longer look at EBay or Craigslist to buy textbooks or housing needs from a complete stranger, when they can buy or sell to another student nearby.

Use Cases

Use Case 1: Buying

Actors: Unregistered Guest, Registered Seller

Jane Doe is a sophomore at San Francisco State University. She wants to save money by buying used or new books at a cheaper price in comparison to large retailers. She also wants to receive the items as soon as possible. She decides to use her laptop to search for online options, and comes across the SFSU Marketplace website from the school page. She directly looks up the name of a textbook she needs by using the search bar. Jane clicks on the first matched listing, and attempts to contact the seller. She is prompted to register to make an account. After confirming her account via her SFSU student email, she is able to contact the seller about payment options, and work out a meeting time.

Use Case 2: Selling

Actors: Unregistered Guest, Registered Buyer

John Doe is a Senior at San Francisco State University. He wants to sell some of his old textbooks without dealing with mail and packaging for shipping. On the SFSU Marketplace website, he chooses the option to sell, and is prompted to register for an account. After confirming his account via his SFSU email, he is able to display items he would like to sell. He fills out a form to list information for the textbook to be sold, and uploads a picture of it. He then waits to be contacted by users interested in purchasing his listing.

Use Case 3: Administration

Actors: User Administrator, Registered Users

Adam is a user who has administrative rights on SFSU Marketplace, and has access to managing user records. A registered user fails to login multiple times and has forgotten their password, which results in their account being locked. The user manually contacts Adam, who has the ability to view their logs and activity, and unlock their account. Another registered user has had their listing reported by other users for NSFW content. Adam has the ability to temporarily or permanently ban this user based on their past activity.

Use Case 4: Special Feature - Convenient Meetup

Actors: Registered Buyer, Registered Seller

Mary is a Junior at San Francisco State University who commutes to school from San Mateo. She is already a registered user on SFSU Marketplace. Using the website, she has messaged Ted, who is selling a textbook she needs for a class. She and Ted have different schedules and are on the SFSU campus on different days. Mary wants to meet Ted outside of the school campus. On the SFSU Marketplace, a special feature provides them suggestions of public places, near by or within the vicinity of their locations, to meet up for a safe exchange.

Data Definition

Guest () - Is a person that can browse items only.

Seller () - A student or registered user allowed to post items, message buyers and also buy

Buyer () - Is student or registered user allowed to purchase items, message sellers and also sell.

Registered_User () - A user that has permission to buy and sell after filling out register form correctly and approved. Seller and Buyer fall into this term.

Unregistered_User () - A person that has no permission to buy and sell but can view items and website and browse items.

Administrative_User () - A buyer/seller and also has permission to report inappropriate user activity and allowed to manage other sections of website.

Item () - Consists of item, item description, picture(s), price and seller information

Categories () – An array of containers holding items

Messages () – Text messages written by buyer or seller.

Inbox () – A container holding messages.

Post_Expired () – A message stating whether a post is current or expired.

Post_Active () - Notes that post is currently active.

Item_Posts () – Contains Item and Seller information

Tag () - Defines items for quicker search.

Initial List of Functional Specs

1. Unregistered users shall be able to:
    a. Browse: The user shall be able to look through all the listings via a list of links to ads posted by other users.
    b. Search: The user shall be able to search through all listings via keywords and tags for similar postings.
    c. Filter: The user shall be able to look at certain listings via filters that reduce the amount of listings seen via certain tags (i.e. – history, art, science, etc.).
2. Registered users shall be able to:
    a. Messaging: Registered users shall be able to communicate through the online messaging feature implemented on the website between users wishing to sell and users wishing to buy items.
    b. Posting Ads: Registered users shall be able to post ads for the item they wish to sell. Only one item is to be listed per ad. Each ad will require, at minimum, a title and price. Optionally, users can add descriptions, up to 5 pictures, tags, and quality of item.
    c. Ad Editing: registered users shall be able to revisit their posted ads and update the posting with newer information
    d. Ad Reporting: Registered users shall have the ability to flag ads deemed unsafe. This will alert administrative users who will have the authority to take necessary action against the ad.
3. Administrative users shall be able to:
    a. Ad Editing: Administrative users shall be able to edit/delete listings as needed. If an ad is considered against community guidelines, admins shall have the ability to directly contact the user and delete their postings.
    b. User Ban: Administrative users shall have the power to ban, temporarily or permanently, users who post unsafe content or exhibit misconduct on the site.
    c. Password Reset: Administrative users shall be able to edit passwords for registered users should they have issues with logging in.

List of Non-Functional Specs

1. Application shall be developed using class provided LAMP stack
2. Application shall be developed using pre-approved set of SW development and collaborative tools provided in the class. Any other tools or frameworks must be be explicitly approved by Anthony Souza on a case by case basis.
3. Application shall be hosted and deployed on Amazon Web Services as specified in the class
4. Application shall be optimized for standard desktop/laptop browsers, and must render correctly on the two latest versions of all major browsers: Mozilla, Safari, Chrome.
5. Application shall have responsive UI code so it can be adequately rendered on mobile devices but no mobile native app is to be developed
6. Data shall be stored in the MySQL database on the class server in the team's account
7. Application shall be served from the team's account
8. No more than 50 concurrent users shall be accessing the application at any time
9. Privacy of users shall be protected and all privacy policies will be appropriately communicated to the users.
10. The language used shall be English.
11. Application shall be very easy to use and intuitive. No prior training shall be required to use the website.
12. Google analytics shall be added
13. Messaging between users shall be done only by class approved methods to avoid issues of security with e-mail services.
14. Pay functionality (how to pay for goods and services) shall not be implemented.
15. Site security: basic best practices shall be applied (as covered in the class)
16. Modern SE processes and practices shall be used as specified in the class, including collaborative and continuous SW development
17. The website shall prominently display the following text on all pages "SFSU Software Engineering Project, Spring 2017. For Demonstration Only". (Important so as to not confuse this with a real application).

Competitive Analysis

Feature	Uloop	Ebay	Amazon	SFSU Marketplace
Appealing GUI	+	+	++	++
Shopping Cart	-	+	++	+
Boolean Search	-	++	(+)	-
Text Search	+	++	++	+
Browse	+		++	+
Buy/Sell Student Exclusive	+	-	-	+
No Fees to Sell	(+)	-	(+)	+
Suggested meetup location	-	-	-	++

(+) FEATURE IS INCOMPLETE; + FEATURE EXISTS; ++ SUPERIOR; - DOES NOT EXIST.

In general, any website for selling or buying products must appear professional, reliable and safe, more than any other attribute. Otherwise, the seller/buyer will immediately browse away from the site and suspect it of fraud. One appeal of our product will likely be the professional and credible design of the GUI, which would be better than the student-only main competitor: Uloop. In order to appear credible, a text search and shopping cart is also necessary, even though they must not necessarily be technically advanced (they may be added after launch). The special feature of the product will be that it suggests a public meeting place for SFSU students, either near campus or their respective locations.

High-Level System Architecture

For this project our team will be using a LAMP Stack (Linux, Apache HTTP Server, MySQL, PHP 7) to host the website and data on the group and individual servers. In order to access the servers team members will use PuTTY or FileZilla, depending on preference, while MySQL Workbench will be used to access the database on the server. The website itself will be created using the CodeIgniter PHP backend framework, which emphasises speed and allows a Model-View-Controller approach to web design. Bootstrap will be used for the frontend framework, allowing the team to quickly create attractive pages that work on multiple browsers and on mobile. The team will use PHPStorm as the primary IDE to develop pages, and will use Github for version control. Google Analytics will be added to the page.

Team

Nicholas Hoffman: Team Lead

Steven Soult: Team CTO

Vivian Lee: Programmer

AJ Culanay: Programmer & GitHub Admin

Jonas Vinter-Jensen: Programmer

Matthew Serna: Programmer

Checklist

Form of Communication: done

Meeting Time Outside of Class: done

CTO: done

GitHub Master: done

Framework: done

Skills: done

Milestone 1 Agreement: done