

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

Team 12

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Milestone 2

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Milestone 2 - Revision History:

V1 3/14/17

V2 3/15/17

V3 3/31/17

V4 4/18/17

1. Use Cases V2

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 option. Jane clicks on the first matched listing, and attempts to contact the seller. She is prompted to register to make an account. After, 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. John is already a registered user on the SFSU Marketplace website. He logs in and chooses the option 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 inappropriate 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 already a registered user on the SFSU Marketplace. Using the website, she has messaged Ted, who is selling a textbook she needs for a class. To avoid confusion and make the

exchange easier, Ted uses our special feature that suggests locations on the SFSU campus where he and Mary can meet. Ted decides on one, and notifies Mary of a date and time.

2. Data Definition V2

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

- User () - A student or registered user allowed to post items, message buyers/sellers and also buy/sell

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

AdministrativeUser () - 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, link to the picture, price, seller information, category, date posted, and duration of the listing.

Category () - Used to separate items based on their similar use. Search can be filtered to show only a set category.

Message () – Text messages written by buyer or seller, which is displayed on the messaging page. Only available to RegisteredUser(s).

3. Functional Requirements V2

Priority 1:

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:

Registered users shall have all capabilities as unregistered users plus...

 - 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 a Listing: Registered users shall be able to post a listing for the item they wish to sell. Only one item is to be listed per posting. Each post will require, at minimum, a title, category and price. Optionally, users can add descriptions, up to 5 pictures, tags, and quality of item.
 - c. Convenient Meetup: Registered users shall be able to have the website recommend a convenient meetup location on the SFSU campus.
3. Administrative users shall be able to:
 - a. Password Reset: Administrative users shall be able to edit passwords for registered users should they have issues with logging in.

Priority 2:

1. Registered users shall be able to:
 - a. Reporting a Posting: Registered users shall have the ability to flag posts of items that are deemed unsafe. This will alert administrative users who will have the authority to take necessary action against the ad.
 - b. Saved Postings: Registered users shall be able to save an ad to their account for later viewing.
 - c. Editing a Posting: Registered users shall be able to revisit their posted listings and update the posting with newer information.
2. Administrative users shall be able to:
 - a. User Ban: Administrative users shall have the power to ban, temporarily or permanently, users who post unsafe content or exhibit misconduct on the site.

4. Non-Functional Requirements V2

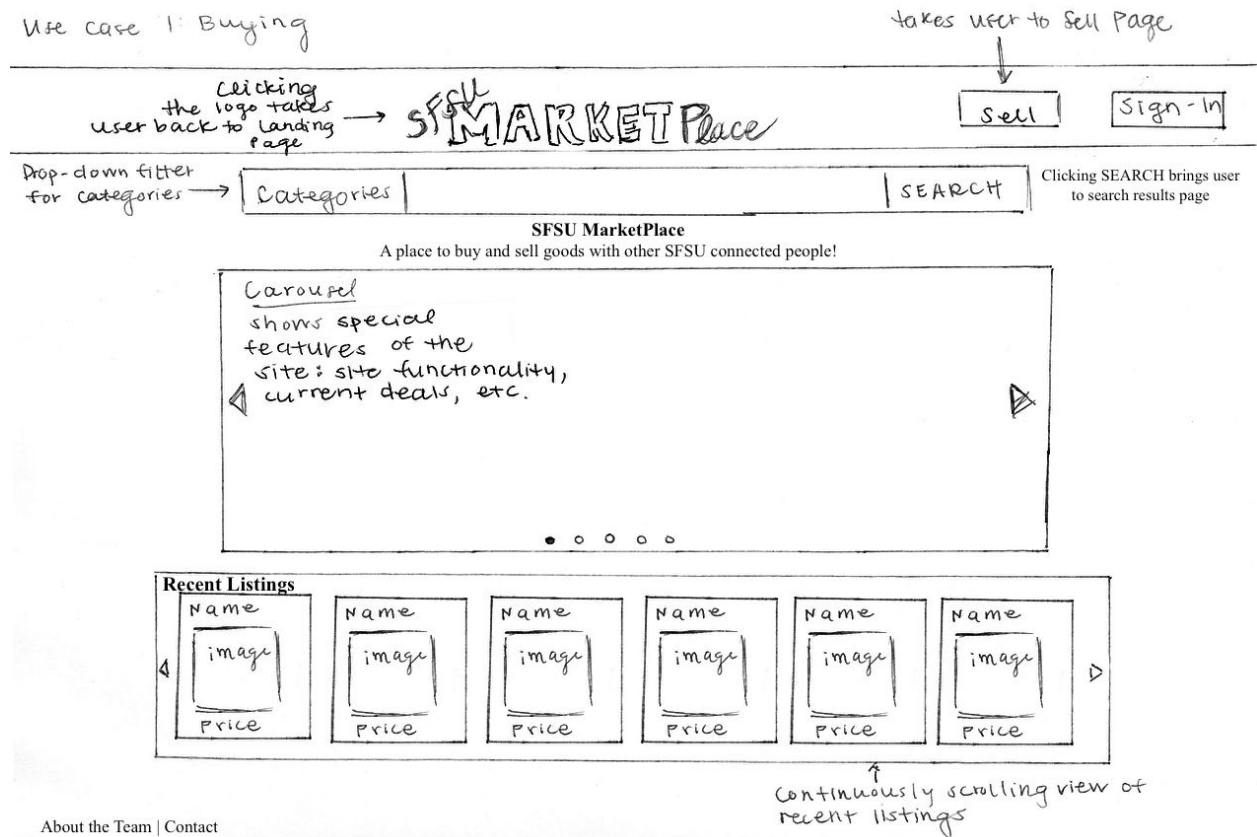
1. Application shall be developed using class provided LAMP stack
2. Application shall be developed using pre-approved set of SW development and collaborative tools provided in the class. Any other tools or frameworks must be explicitly approved by Anthony Souza on a case by case basis.
3. Application 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).

5. UI Mockups

1. Use Case 1 Storyboard: Buying

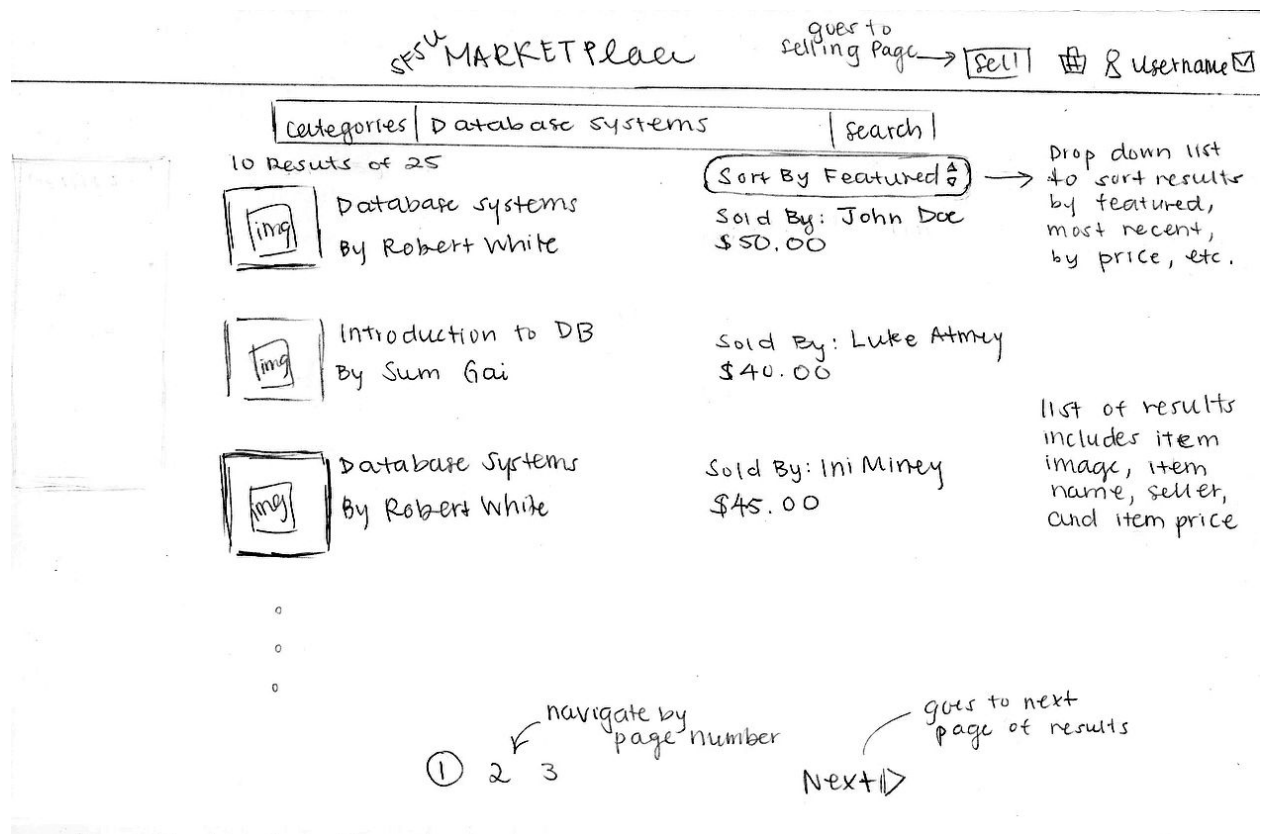
Landing Page



When Jane first access the SFSU Marketplace site, she sees the Landing Page / Home Page. There is is carousel module in the center, that shows different pictures of the site's features, current deals, explanations of site functionality, etc. Above the carousel is a search bar that Jane will use to search for the book title she needs. There is a "Categories" filter that may also be used to narrow down her search.

On the lower half of the page, Jane sees a sliding module of most recent book listings. She chooses to use the search bar below the logo to see if the textbook she wants is available on the site. After pressing Search, she arrives at the Search Results Page.

Search Results Page



On the Search Results Page, Jane sees multiple listings that are relevant or close to the textbook title. The search results are default sorted as “Featured”, which can be manually changed to “New Listings”, “Oldest Listings”, “Lowest Price”, etc.

Jane chooses the first listing, which is the book she is looking for and is at a low price she is looking for.

Listing Page

SFS^U MARKETPLACE

SELL ☐ & username ☒

Categories Search

Search Results Page

The resulting page after clicking on a specific listing. Unregistered and registered users can view this page and observe additional details about the product and seller.

Database Systems

image
of
product

other pictures of the product →

Report

☐ Spam
☐ Inappropriate

↑
pressing the Report button shows radio buttons to choose the reason for reporting

Box of product descriptions

Author: Robert White
 Condition: Used
 Description: _____


 Keywords:

 Message is auto filled with item information

CONTACT

pressing CONTACT enables a pop-up that allows the user to send the seller a message

Photo is optional, will default to silhouette

SELLER

 Name

CONTACT

Only the seller can edit or delete their listing

Edit Delete

On the Listing Page, Jane sees a photo of the book, and some additional information such as a description and that the book is used. She also sees the seller's information, as well as small window of a map that shows the seller's location based on zip code on the right. She presses the "CONTACT" button.

Sign-In Page

SFSU MARKETplace

Welcome, GUEST!

SIGN-IN

Username:

Password:

Authenticate user, if successful, user is taken back to landing page

Take Guest to Forgot Password? ← Forgot Password?

New User? Register here → Take Guest to Registration Page

Since Jane is not logged in, she cannot contact the seller yet. She is redirected to the Sign-In Page. She does not have an account, so she chooses the link, "New User? Register Here" to be taken to the Registration Page.

Registration Page

SFSU MARKETplace

Create a New Account:

Required Fields

First Name*:

Last Name*:

Username*:

E-mail*:

Password*:

Confirm Password*:

SFSU ID*:

Zip Code:

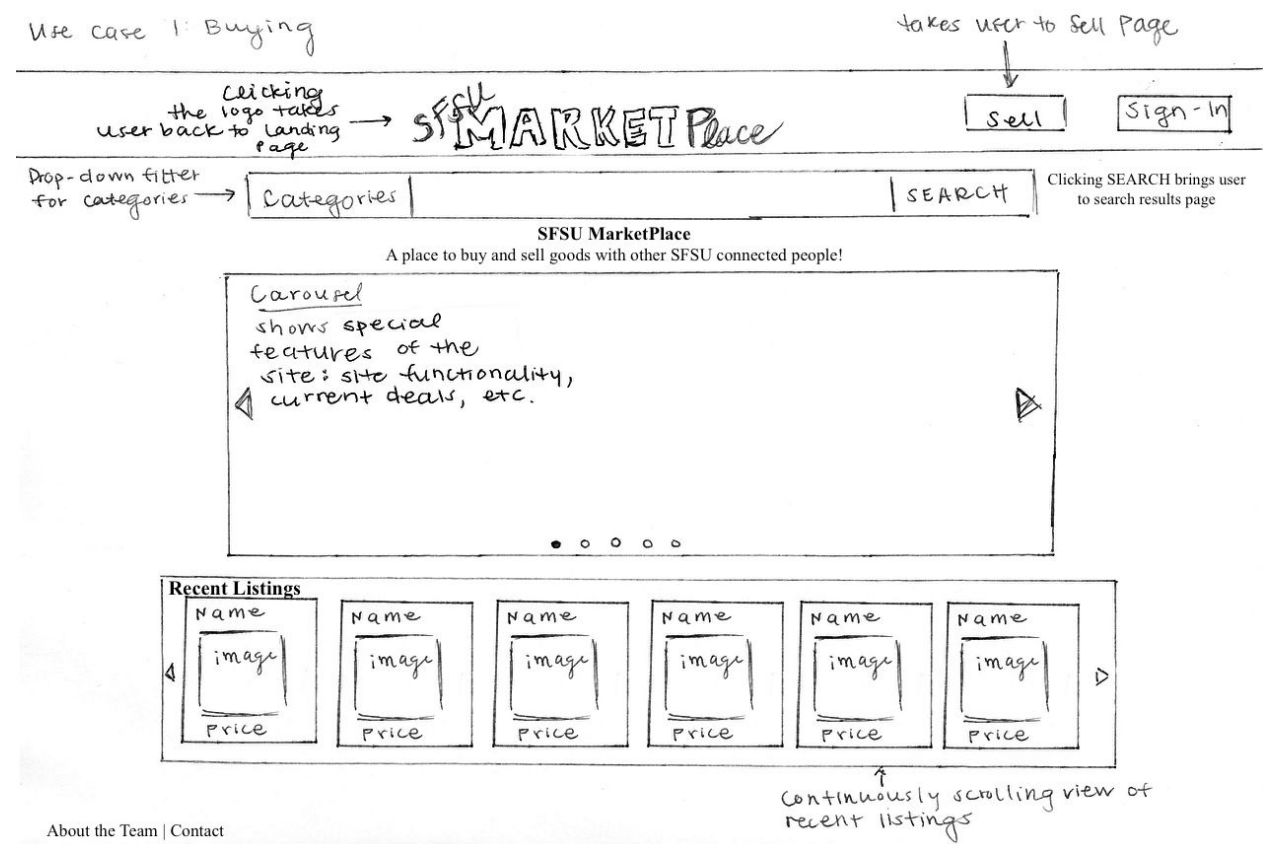
☐ Agree to Terms of service

Jane must fill out all of the required fields (marked with an asterisk *) in order to be able to successfully register. Her SFSU ID is an important field that should be verified with a database, as the SFSU Marketplace should only be used by SFSU students.

After Jane is registered, she can return to the Listing Page and presses “CONTACT” again. This time, it brings up a pop-up that allows Jane to type a message to the seller to set up the transaction.

2. Use Case 2 Storyboard: Selling




Landing Page



John Doe wishes to sell an old textbook on the site. After logging in on the homepage, he hits the 'Sell' button and is taken to where he can fill out information on his listing.

Sell an Item Page

SF ^W MARKETPlace

sell   username 

Sell an Item

Describe Your Item

Title*:

Category*: → Drop-down of all Categories

Condition*: → Drop-down of conditions (used, new, etc.)

Photos: → add up to four images

Description:

FONT | 12 | B | I | U | = |

 ← HTML text editor

Price*:

Listing Duration*: → Drop down for how long the listing will be up

CANCEL

Allows seller to view the listing before posting → **Preview**

SUBMIT ← Takes seller to Listing Page

John must enter a title for the item he is selling. There are also drop downs for category and condition, since those are restricted options. He can upload up to four photos of this item. He can enter a more informational description and change the font. Keywords are used similar to

“tags”, which help his listing appear in relevant searches. After entering a price, he can choose how long the listing stays up. John can “Preview” the page, or press “Submit” to finalize it.

Listing Page

SELL MARKETPLACE

SELL ☐ & username ☒

CategoriesSearch

Search Results Page

The resulting page after clicking on a specific listing. Unregistered and registered users can view this page and observe additional details about the product and seller.

Database Systems

image
of
product

other pictures of the product

Report

o spam
o inappropriate

pressing the Report button shows radio buttons to choose the reason for reporting

Box of product descriptions

Author: Robert White
Condition: Used
Description: _____


Keywords:

Message is auto filled with item information

CONTACT

pressing CONTACT enables a pop-up that allows the user to send the seller a message

Photo is optional, will default to silhouette

SELLER

Name

CONTACT

Only the seller can edit or delete their listing

EditDelete

John presses “Submit”, which processes his action and brings him to the public listing. At the bottom of the page, he sees two buttons: “Edit” to edit his listing, or “Delete” to delete the listing.

3. Use Case 3 Storyboard: Administration

Password Reset:

A registered user has failed to login to their account several times and attempts to reset their password. From the login screen, they select 'Forgot password?' Which takes them to the page below.

Forgot Password Page (A)

SJSU MARKET Place

Account Help

Email:

Username:

Forgot Password Page (B)

SJSU MARKET Place

Account Help

A site administrator has been contacted and will assist you shortly.

After entering their username, a message is sent to the site administrator who receives a notification.

Administrator ~~Home Page~~ Notification

SFSU MARKET Place



Hello,
Admin

Home Page

↑
When users go through
'Forgot Password', a
message is sent to
the site admin.

Administrator Messages (A)

SFSU MARKET Place

Hello,
Admin

Inbox

! • Password Reset 8:15am March 14, 2017
• ~~~~~ 11:47pm March 13, 2017
• ~~~~~ 4:15pm March 12, 2017
• ~~~~~ 10:23am March 10, 2017

Notification
of new/
unread message:

Administrator Messages (B)

SFSU MARKET Place

5 Password Reset 8:15am March 14, 2017

Hello. User (username) has forgot
their password and needs assistance.

↑
Administrator can send
a link via onsite
messaging to user to
reset password.

The administrator is now able to change the password of the user to allow them to login again.

Hand-drawn sketch of a "Password Reset" page for "SFSU MARKET Place".

The page has a header with "SFSU MARKET Place" and a greeting "Hello, Admin".

On the right side, there is a sidebar with "Messages" and a link "Acct. Edit" with an arrow pointing to it.

The main content area has three input fields:

- Username:
- New Password:
- Re-Enter Password:

Report Listing:

Hand-drawn sketch of a "Report Listing" page for "SFSU MARKETPlace".

The page has a header with "SFSU MARKETPlace" and a search bar with "SELL" and "username" filters.

The main content area is titled "Search Results Page" and contains the following elements:

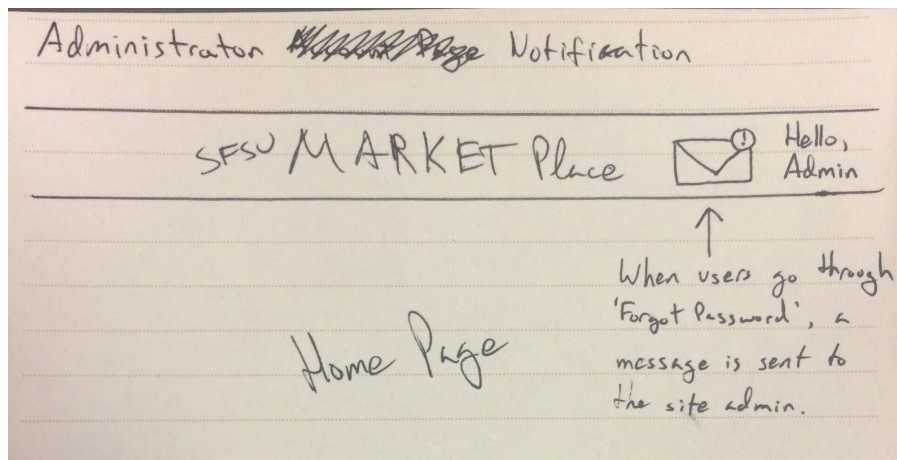
- Database Systems**: A section with an "image of product" and "other pictures of the product" (indicated by three small squares).
- Box of product descriptions**: A section containing:
 - Author: Robert White
 - Condition: Used
 - Description:
 - Keywords:
- Photo is optional, will default to silhouette**: A section with a "SELLER" profile picture and a "Name" field.
- Report**: A section with a "Report" button and radio buttons for "spam" and "Inappropriate".
- CONTACT**: A section with a "CONTACT" button and a "Message is auto filled with item information" field.

Annotations and notes:

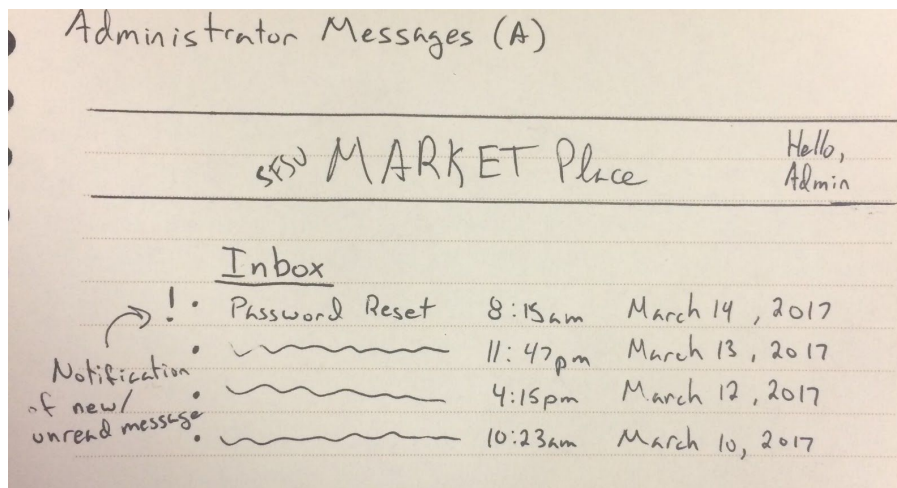
- "pressing the Report button shows radio buttons to choose the reason for reporting"
- "pressing CONTACT enables a pop-up that allows the user to send the seller a message"
- "Only the seller can edit or delete their listing"

At the bottom, there are "Edit" and "Delete" buttons.

A registered user is looking at a listing for an item being sold and notices it contains inappropriate content. The user hits the 'Report' button under the product image on the 'Listing' page, which notifies a site administrator who is able to review the listing. At the bottom of the listing are hidden buttons only viewable by the seller who posted the listing, or a logged in administrator, who is able to edit or delete the listing.



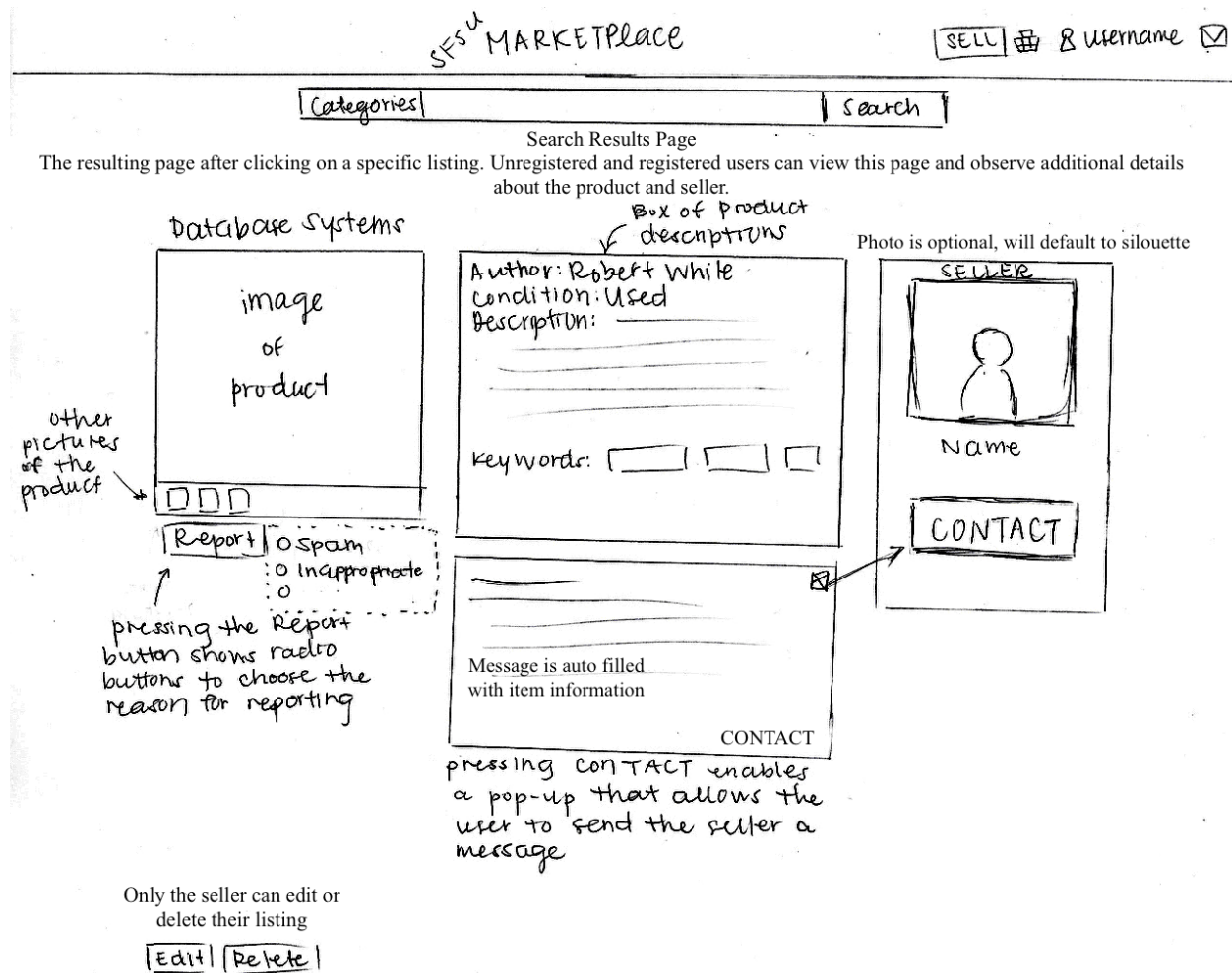
The administrator receives a notification, which he or she can view at the top right of any page.



The administrator can see all inbox messages, which will have an indication of whether it is unread or read.

4. Use Case 4 Storyboard: Special Feature - Convenient Meet up

Mary has found a listing for a textbook she needs for class. She hits 'Contact' to write a message to Ted showing her interest in his textbook.



Upon logging in, Ted sees he has received a new message from Mary about his listing. He opens the message and is able to hit the 'Suggested Meet-up Location' button which suggests several on-campus locations they can meet. Ted sets the location so Mary knows exactly where to find him.

Registered User Messaging

SSU MARKET Place

Envelope icon with notification bubble

Hello, User

Categories

Search

Carousel of Features

◀

▶

Registered User Messaging Inbox

SSU MARKET Place

Envelope icon

Hello, User

Inbox

! • A user is interested in your Listing Title 8:17pm ~

Notification • Buyer Alert 4:36pm February 12, 2017

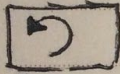
- ~~~~~
- ~~~~~

Registered User
Contact Message

SFSU MARKET Place



Hollo,
User



Back to
inbox

A user is interested in your Listing Title 8:17pm

Message from interested buyer:

"Hi. I saw your book for sale and would like
to arrange a time and place for that."

Reply



Find Suggested
Meetup Location

94132



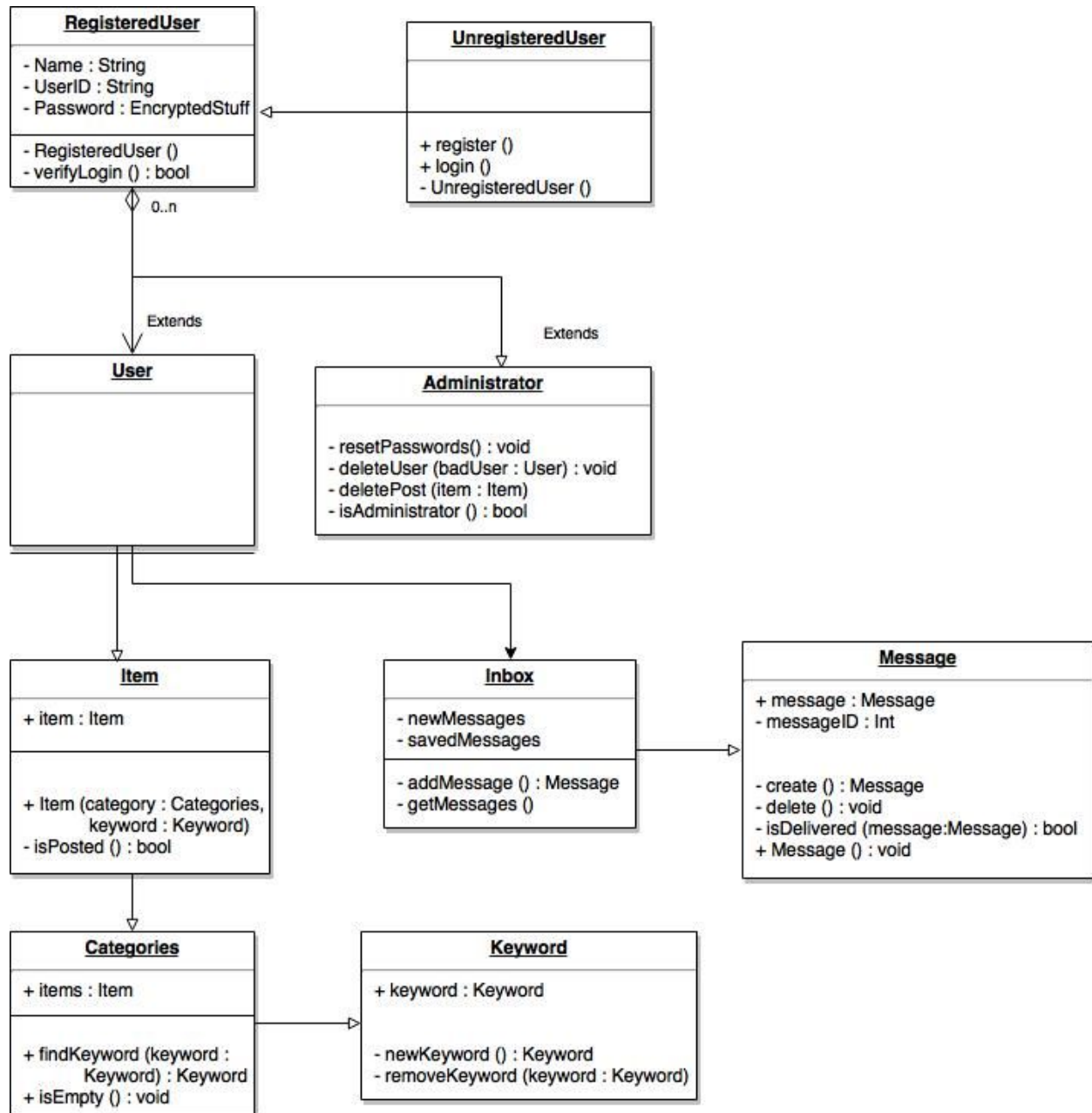
6. High-Level System Architecture and Database Organization

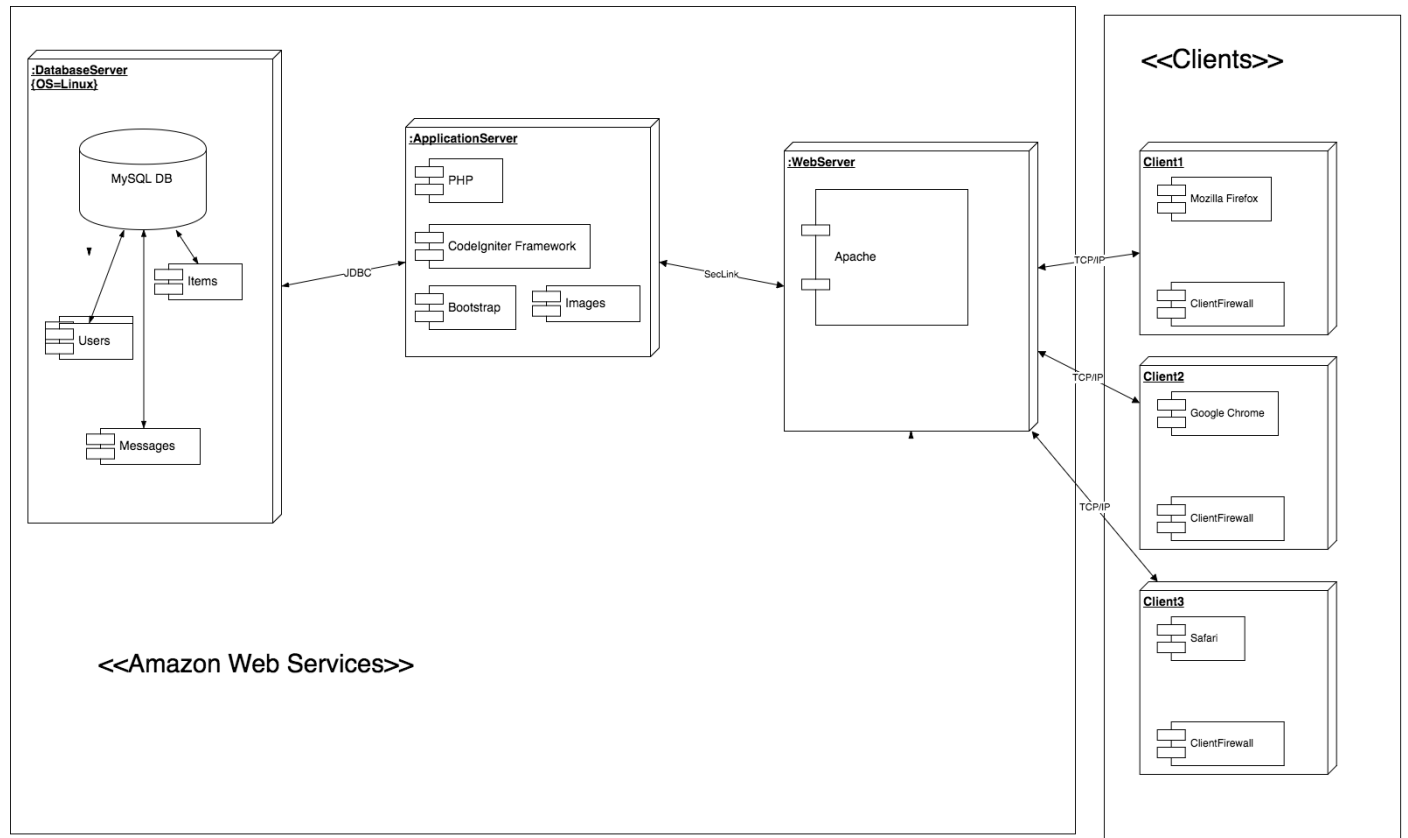
For this project our team will be using:

- LAMP Stack (Linux, Apache HTTP Server, MySQL, PHP 7) to host the website and data on the group and individual servers.
- PuTTY/FileZilla to access individual team member servers
- MySQL Workbench will be used to access the database on the server
- CodeIgniter PHP backend framework will be used for website creation
 - This emphasises speed and allows a Model-View-Controller approach to web design
- Bootstrap will be used for frontend development
 - This allows for the team to quickly create attractive web pages with compatibility across multiple browsers and mobile devices
- PhpStorm will be the team's primary IDE for development
- GitHub will be used for version control
- Google Analytics will be added
- Database Organization:
 - Items(itemid: integer, username: string, name: string, price: double, description: string, category: string, condition: string, duration: date, image: string)
 - Users(username: string, password: string, firstname: string, lastname: string, email: string, sfsuid: integer, zipcode: integer, tos: bit)
 - Messages(messageid: integer, sender (FK): string, recipient (FK): string, subject: text, contents: mediumtext, read: bit, timestamp: int)
- Passwords will be encrypted/hashed before being stored in the database.
- The search will use the like/or_like operators on item name, descriptions, and keywords to create results. It can be narrowed by category from a drop down list.
- Images will be stored in the file system, not in blobs.
 - The link to the image will be stored in the database instead.

- Standard image files will be accepted (accept="image/*").
- Thumbnails will be created on upload of the image, scaled down to around 200x200 pixels, maintaining aspect ratio.

7. High-Level UML Diagrams





8. Key Risks

Skills Risks: A mild risk as the majority of the team consists of advanced computer science students with real world experience.

Schedule Risks: A moderate risk as there is a strict deadline with a clearly defined end product that might present a greater challenge as the deadline approaches. The scope of the project must be kept firmly in mind to accomplish all Priority 1 objectives.

Technical Risks: Slim to none as there is a highly skilled class CTO who has taken care of the more difficult backend requirements.

Teamwork Risks: Little to no risks here. Our team has already shown to work well together through consistent communication and efficiently finish tasks on time.

Legal Risks: We will have minimal, if any, because we will be using free and/or open sources programs and resources.

9. Team Organization

Nicholas Hoffman: Team Lead

Steven Soult: Team CTO

Vivian Lee: Programmer

AJ Culanay: Programmer & GitHub Admin

Jonas Vinter-Jensen: Programmer

Matthew Serna: Programmer