SW Engineering CSC648/848 Summer 2016

Application: Gatorslist

Milestone 1

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Team 1

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1. Executive Summary

Online trading and selling are today the most popular commercial service. They provide many convenient ways in shopping process that allows the shoppers to not need to go directly to the physical stores, and in the meantime, let shoppers to save shopping time or avoid traffic interruptions. One of the great features that they provide is the delivery service that allows the products to be shipped to the specified location/address without much efforts from shopper. The existence of service has revolutionized and alternated the shopper's attitude whenever they think of shopping. The growth trend in online delivery service has been increasing and expanding across multiple cultures, regions, countries in the recent years. By recognizing the great utility from delivery, we plan to spread and benefit the idea into local campus.

This system would target the small campus for SFSU students only - the users - to exchange or sell items such as books, accessories, class tools, and more. It also allows the users to be able to make purchasing commitment and also able to suggest their selling products through the webpages. In other words, the system grants two authorities for the users in which they can act as a buyer and also a seller. As a buyer, a user can browse items, search items, sort items, offer prices. As a seller, a user can post items to sell, suggest pickup dates, adjust prices, accept/deny offer from buyer. Rather than having a capability of delivering items, the seller are granted with a number of options to hand in his items to the buyer. The delivery can be made through the location pickup option which as the option is chosen, both seller and buyer are committed to meet on a certain time at the specified location to do their transaction. For now, the current migration for the project would cover the most basic features to let those interactions to be happened.

The team involves in the project would include five developers in which two people would concentrate in managing the front-end tasks for UI, UX, webpage flows and the other two developers would be in charge of managing the back-end development for database, flows of data and maintainability. The last person is a team lead and responsible in managing the subgroups and modify necessary changes if applicable to the projects during the developing time.

2. Use Cases

User-Friendly Home Page

John is an SFSU student currently in his sophomore year. John had a bad experience buying textbooks directly from the campus store because of how expensive they are, and so this time he decides to go to Gatorslist. On the home page he is presented with a simple layout of textbook images and their titles. He can easily browse through the images and search for the textbooks he needs at an affordable and competitive price.

Search (Unregistered User)

Consuela wants to head-start her semester at SFSU and organize her life a little better. Instead of waiting a week or two to get the textbooks required for her classes, she decides to start shopping a little earlier. Only problem is the professors haven't posted the syllabus yet and she doesn't know what books she might need, so she goes to Gatorslist. There, she can search and browse by category like Philosophy, or Science for example. She can modify the search and filter by price, date posted, or even write down the major prefix.

Register and Sell Textbooks

Rebecca is graduating from SFSU this semester. Over the years at SFSU she has bought many textbooks, and has accumulated a massive collection as a result. But now she's planning to move out, and doesn't have the space to take her books with her, so she decides to go to Gatorslist and sell them. On the website's homepage she can register for a new user account and after that's done, she' can go to her account page where she can post her textbooks with the price she prefers and images, along with other optional descriptions of the books. After she submits the post, her account page is updated with the new post.

Buy Textbooks

Marc is on the 2nd month of the semester at SFSU, and realizes that he should've bought the book for his major class. The book store has just sold out, and will require a special order that will take a long time. Marc can't wait that long as he needs the book right now. This is where he finds Gatorslist. He searches for the books he needs, and buys whichever satisfies his conditions. He registers for a new account if not yet registered, enters his payment method of choice, and sets up the meeting with the seller within SFSU campus. He can then confirm the transaction after he has picked up the book. Marc is pleased with the time it took to get the book he needed.

Administrator

Gatorslist is maintained by an admin user that looks over and manages user accounts along with product listings. If a user submits a book to be sold, it will have to be verified by an admin first before the post become visible to everyone. This insures that users follow post submission guidelines and protects the website's users from unwanted content.

3. Data Definition

3.1 Term Description

Term		**Description**
Unverified User	Guest	Browse the website. Search products. View products.
Verified User	Buyer	Have all rights of unverified users. Create, login and logout account. Order products on the website. Review seller.
	Seller	Have all rights of unverified users. Create, login and logout account. Upload and delete products. Set/Reset a price for products.
	Administrator	Have all rights of unverified users. Login and logout account. Manage all accounts. Manage all products.
Product		Information about a particular product includes: • Product title. • Product id number. • Seller's id number. • Price. • Quantity. • Description of this product including images. • Post date. • Condition. • Status.
Search		Our site provides search: • By category. • By seller.
Filter		Filters provides better control to achieve a more effective and efficient search. Our site provides filters by: • Price. • Condition. • Category. • Class prefix.

Registration Information	Includes: • Username • Password • Email Address
Order Information	Information about a particular order includes: • Order number. • Product id number. • Buyer’s id number. • Order Date. • Pickup location. • Pickup time. • Detail. • Total price. • Status.

a. Users Permission

	Guest	Buyer	Seller	Admin
Browse website	+	+	+	+
Search products	+	+	+	+
View products	+	+	+	+
View user’s profile	+	+	+	+
Reset their own password		+	+	+
Edit their own profile page		+	+	+
Order products		+		
Cancel order		+	+	
Rate seller		+		
View order history		+		
View saved search		+	+	+
Add products			+	
Edit products			+	
Delete products			+	+
Set/reset price			+	
Delete user account				+

‘+’: Permission approved.

4. Initial List of Functional Specs

4.1 Guests

- Guests shall be able to browse the website.
- Guests shall be able to search for products.
- Guests shall be able to filter products (by price/condition/category).

4.2 Verified Users

- Verified Users shall be able to browse the website.
- Verified Users shall be able to search for products.
- Verified Users shall be able to filter products (by price/condition/category).
- Verified Users shall be able to have their own account profiles.
- Verified Users shall be able to upload their own products for sale.
- Verified Users shall be able to remove products from their own profiles.
- Verified Users shall be able to set/reset price from their own profiles.
- Verified Users shall be able to order products from the website.
- Verified Users shall be able to review the seller.

4.3 Administrators

- Administrators shall be able to browse the website.
- Administrators shall be able to search for products.
- Administrators shall be able to filter products (by price/condition/category).
- Administrators shall be able to have their own account profiles.
- Administrators shall be able to delete accounts and site content.
- Administrators shall be able to delete products.

5. 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 have to be explicitly approved by Marc Sosnick 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 shall render correctly on the two latest versions of all major browsers: Mozilla, Safari, Chrome and IE. It shall degrade nicely for different sized windows using class approved programming technology and frameworks
5. Data shall be stored in the database on the class server in the team's account
6. Application shall be served from the team's account
7. No more than 50 concurrent users shall be accessing the application at any time
8. Privacy of users shall be protected and all privacy policies will be appropriately communicated to the users.
9. The language used shall be English.
10. Application shall be very easy to use and intuitive. No prior training shall be required to use the website.
11. Google analytics shall be added for major site functions.
12. Messaging between users shall be done only by class approved methods to avoid issues of security with e-mail services.
13. Site security: basic best practices to be applied (as covered in the class)
14. Modern SE processes and practices must be used as specified in the class, including collaborative and continuous SW development, using the tools approved by instructors
15. The website shall prominently display the following text on all pages "SFSU/FAU/Fulda Software Engineering Project, Summer 2016. For Demonstration Only". (Important so as to not confuse this with a real application).

6. Competitive Analysis

Features	Amazon	eBay	Craigslist	Gatorslist
Filter by				
Price	+	+	+	+
Condition	+	+	-	+
Category	++	+	-	+
Sort by				
Price	+	+	+	+
Best Match	+	++	+	+
Newest Listings	+	+	+	+
Buy/Sell				
Local	-	+	+	++
Seller Reviews	+	++	-	+
Images	+	++	+	+
User Accounts				
Registration	++	++	+	++
Messaging	+	+	-	++
Order History	+	+	-	+
Saved Searches	-	+	+	+

- ++ : Feature is refined
- + : Feature is sufficient
- - : Feature is absent

Comparing to the leading marketing competitors, we will include features that offer a more streamlined and user friendly experience. By developing this website for SFSU students only, we can improve our filtering and sorting by allowing students to search for items under a specific college major in addition to basic filtering and sorting capabilities offered by the leading competitors. Complementing our search will be a verified student registration system to keep our user base restricted to students. In doing so, we are able to maximize safety of the users and the integrity of the items sold because it creates transparency if the sale goes poorly. Finally, because we are supporting local transactions between students rather than global trades between strangers, we will implement an easier process of completing sales. The buyer and seller can select from a set of predetermined, safe and appropriate locations on the SFSU campus for both parties to meet. Additionally, users will be able to view one another's schedules so they can smoothly decide on a meeting time. Gatorslist is made by SFSU students for SFSU students and thus, we can optimize our website for our targeted users by improving the user experience in ways that the market leaders cannot.

7. High-Level System Architecture

The following list below describes our main software components, products, APIs, tools and systems we will be using to create our final project:

LAMP stack

- **Linux**
  Our application will use Linux platform, and it will be hosted using Amazon Web Services (AWS), which is a subsidiary of Amazon.com and offers a suite of cloud computing services that make up an on-demand computing platform.

- **Apache**
  Our application will be served through the Apache HTTP web server, which is the world's most used web server software. This will allow users to access our application using the web.

- **MySQL**
  The database will be managed using MySQL to store information such as users, invoices, items for sale and tutors. The database will be useful to store and retrieve meaningful data using SQL statements.

- **PHP**
  The use of PHP scripting language will allow us a create a dynamic website and it will nicely work with MySQL and Apache server. These technologies are free to license.

Frameworks and APIs

- **MINI**
  MINI is an extremely simple and easy to understand skeleton PHP application, reduced to the max. It simplifies the MVC pattern needed for the web app.

- **Bootstrap**

Bootstrap is the most popular HTML, CSS, and JavaScript framework for developing responsive web apps. Using this framework will allow us to use templates, themes, and other components.

- **jQuery**
  A cross-platform JavaScript library designed to simplify the client-side scripting of HTML. It uses its own API and provides wrappers to existing functions. This allow us to write less and cleaner JavaScript code.

- **Google Analytics API**
  Use to collect, configure, and report on user-interactions with the online content.

- **Supported Browsers**
  Our application will be optimized to run in a standard/laptop browsers and it will support the latest two versions of the following browsers:
  1. Chrome
  2. Safari
  3. Firefox
  4. IE

8. Team

Name	**Initial Role**
Khalid Alrashed	Team Lead
Eric Chen	Tech Lead/Frontend
Robert Chung	Backend
Tai Nguyen	Frontend
Guoyi Ruan	Backend