SW Engineering CSC648/848 Summer 2016

Application: Gatorslist

Milestone 1

June 20th, 2016

Rev 1.0

Team 1

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# 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 – 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.

1. 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 this time. On Gatorslist he is presented with a simple layout of textbook images and their titles underneath, sorted by the most recently added. He can then easily navigate through the list and look search for the textbooks he needs at an affordable and competitive price.

**Register and Post to Textbook Listing**

Rebecca is graduating from SFSU this semester. Over the years at SFSU she has bought many textbooks for her classes, and has 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 sees a big “Sell Your Books!” button on the left and clicks on it. This prompts her to register, and after that’s done, she’s taken to her account page where she can post her textbooks with their images and specify the price, category, and for which major, along with a description of the book’s condition. After she submits the post, her page is updated with the post listings.

**Local Market**

Marc has just gone through the first month of the semester at SFSU, and realizes that he should’ve bought the book for his core engineering class. But there’s a problem. The book store has just sold out, and will require a special order that will take at least 7 business days. Marc can’t wait that long, midterm is coming soon, and he needs the book right now. This is where he finds Gatorslist. He types the books’ name, finds the posted listing, clicks on the “BUY” button. He registers a new account, then enters his payment method of choice, and sets up the meeting within SFSU campus. After he gets the book, he goes to his account page where he finds the active buying list, and confirms the transaction. Marc is very pleased with the service and the time it took him to get the book he needed. No need to wait for more than a week anymore.

**Advanced Search (Unregistered Buyer)**

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 finds on the right a list of categories of majors like Philosophy, Computer Science, and so on with the major abbreviation appended in parenthesis. She’s looking for a History book, so she clicks on History from the list. That takes her to listings of history books only. She can modify the search and go further by searching by price, date posted, or even right down the major abbreviation followed by the class number if she knows what she’s looking for. Consuela rights down the class’ name on the search box, clicks submit and is taken to the listing with the exact book she was looking for.

1. Data Definition

|  |  |  |
| --- | --- | --- |
| **Term** | | **Description** |
| Unverified User | Guest | Browse website.  Search products.  View products. |
| Verified User | Buyer | Have all rights of unverified users.  Create, login and logout account.  Order products on the website. |
| Seller | Have all rights of unverified users.  Create, login and logout account.  Upload and delete products.  Set a price for products. |
| Administrator | Have all rights of unverified users.  Login and logout account.  Manage all accounts.  Manage all products. |
| Products | | Has description of this product including images.  Has price.  Has seller’s name.  Has quantity.  Has keyword of the product. |

1. Initial List of Functional Specs
2. Users shall be able to browse for items.
3. Users shall be able to search for items.
4. Users shall be able to filter items (by price, used/new, etc)
5. Users shall be able to upload their own items for sale.
6. Users shall be able to message to buyers/sellers.
7. Administrators shall be able to manage accounts and site content.
8. System shall have an interface for administrators.
9. Users shall be able to have their own account profile.
10. Users shall be able to remove items from their own profiles.
11. Users shall be able to set/ reset price from their own profiles.
12. (Feel free to add more)
13. List of Non-Functional Specs
14. Application shall be developed using class provided LAMP stack
15. 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.
16. Application shall be hosted and deployed on Amazon Web Services as specified in the class
17. 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
18. Data shall be stored in the database on the class server in the team's account
19. Application shall be served from the team's account
20. No more than 50 concurrent users shall be accessing the application at any time
21. Privacy of users shall be protected and all privacy policies will be appropriately communicated to the users.
22. The language used shall be English.
23. Application shall be very easy to use and intuitive. No prior training shall be required to use the website.
24. Google analytics shall be added for major site functions.
25. Messaging between users shall be done only by class approved methods to avoid issues of security with e-mail services.
26. Site security: basic best practices to be applied (as covered in the class)
27. 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
28. 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).
29. Competitive Analysis

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Features** | **Amazon** | **eBay** | **Craigslist** | **GatorsList** |
| **Filter by** |  |  |  |  |
| Price | + | + | + | **+** |
| Condition | + | + | - | **+** |
| Category | ++ | + | - | **+** |
| Reviews | + | - | - | **+** |
| **Sort by** |  |  |  |  |
| Price | + | + | + | **+** |
| Best Match | + | ++ | + | **+** |
| Highest Reviews | + | - | - | **+** |
| Newest Listings | + | + | + | **+** |
| **Buy/Sell** |  |  |  |  |
| Local | - | + | + | **++** |
| Global | + | + | - | **+** |
| Buying Suggestions | ++ | + | - | **-** |
| Price Trends | - | + | - | **-** |
| 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 primarily SFSU students, 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. Complimenting 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.

1. 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**

* **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 3. Firefox
2. Safari 4. IE
3. Team

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