

SW Engineering CSC648/848 Spring 2020

SFSU Access

Team 02

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Milestone 1

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History

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1. Executive Summary

As technology advances, we see that everyone has easy access to at least one electronic device, and people create numerous amounts of media content everyday. These contents could have many uses, and the ability to access other people's content opens so much more creative possibilities. SFSU students and faculty need a safe, easy, and convenient place to purchase, exchange, and share media contents. To this, we created SFSU Access, an online e-commerce platform exclusively designed and specialized for SFSU students and faculty.

The main function of this project is providing an e-commerce platform for SFSU students and faculty to buy, exchange and share media contents. By targeting a specific user demographic allows us to address the specific needs of the users better, and be more efficient in marketing. Users need to provide a valid SFSU ID number to register the website, and contents could be organized according to SFSU course numbers for students to look up easily.

SFSU Access' market function allows people to browse media contents posted by other members or themselves. The member login function allows users to post, buy, and download contents after they have logged in to their accounts. The admin function allows website administrators to manage the contents posted by users to make sure the contents are safe and appropriate.

Our team consists of six SFSU CS students. Three of them are on the Back end team with a very experienced leader and git master. Other three are on the Front end team also with an experienced React leader. Our team is familiar with the technical skills that are being used in this project, hence we are confident about delivering the project on time.

2. Personae and Main Use Cases

Jimmy is a junior student pursuing a Bachelor of Arts in History and works part-time

- Jimmy has to manage his time between work and school
- Jimmy has a limited budget for his education materials, and wants to get the materials for his classes as soon as possible
- Jimmy lives far away from campus, so his commute takes up a lot of his time
- Jimmy tends to spend his free time reading a historical fiction novels
- Jimmy has basic internet skills, mostly doing online searching and shopping.



Alex is a Senior Electrical Engineering student who is graduating soon, and currently has an internship at a Fortune 1000 company

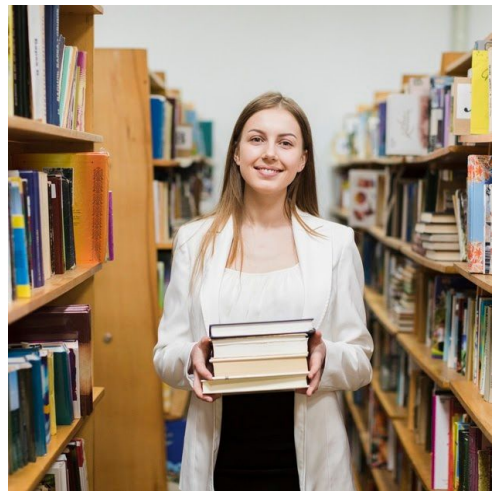
- Alex is a busy person, who currently works 32 hour weeks
- Alex enjoys helping others with their studies, often showing up in the Science labs to tutor others
- Alex is saving up his earnings to use to take care of his parents when they go into retirement
- Alex is a very focused person, usually seen taking notes in every class session
- Alex lives close by campus, so he takes public transportation in support of a better environment



- Alex is familiar with using any online services.
Such as online registration, account management,
upload and download content.

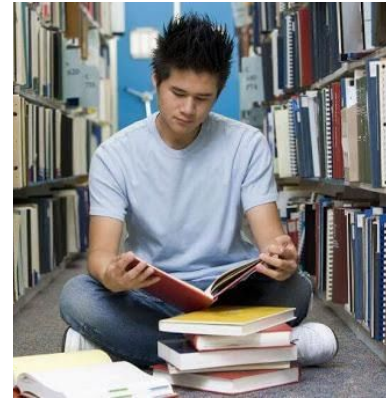
Katie is a Professor in Computer Science who has over ten years of experience in the industry

- Katie is knowledgeable with using online apps
- Katie is knowledgeable of her profession
- Katie has lots of computer science notes, PDF, documents
- Katie cares about her students
- Katie wants to share her own notes with students and inspire people who are interested in CS to join the community
- Katie is selling extra CS materials with a lower price



Kevin is a Computer science student who is graduating soon, and serves as the admin of SFSU Access.

- Kevin has a backlog of list of things to do and is very busy.
- Kevin is always looking for utilities that can allow him to operate SFSU Access more efficiently.
- While he is a Computer Science student, he is still looking for a software solution for managing his content that requires little to no effort to operate



Use Case 1: Buying second-hand PDF documents

Jimmy enrolled in Greek Mythology in the Spring semester. He was informed that a specific textbook was needed to sufficiently learn and pass the course. Jimmy is already spending his hard earned money from his job on other courses, so he didn't have enough to purchase the textbook until later down the road. Thankfully, he remembered to search on SFSU Access to see if someone was listing a PDF version of the textbook up for sale. He couldn't remember the textbook name off the top of his head, so he just searches for his course name and number and finds a listing for a decent price. Opening up the listing, he uses the messaging feature to send a message to the seller to inquire about the book. Within a few hours, Jimmy receives a response and was able to confirm how the transaction would work. Jimmy was able to begin reading his new textbook within the day.

Use Case 2: Selling old class guides and notes

Alex is a senior graduating this May. Throughout his years at SF State, he has amassed quite a lot of class materials, including hand-written notes, his personal study guide, tips and tricks, and more. Being adept with the latest technology, He wants to post his materials by scanning all his documents into PDFs and images to list on SFSU Access. He was prompted to create/logged into

his account and added each document along with item information, such as pricing and descriptions. Alex is able to make some extra cash from his sales and help fellow and future students with any similar studies.

Use Case 3: Department Faculty lists extra materials

Professor Katie is a professor starting her first semester at SFSU. During the first two weeks, she is eager to instruct her new students but many students have not been able to acquire professor Katie's authored textbook or class slides from the Student Bookstore due to long lines or schedule conflicts. Professor Katie seeks to also offer an alternative format for students who are unable to visit the bookstore in person. She wants to post her class slides on SFSU Access and share them with her students, in order to help them to get through the difficulties. This would benefit students and professors to stay on schedule with the course.

Use Case 4: Administrative moderation

Kevin is the server administer and content moderator of SFSU Access. As SFSU Access grows more popular, there is an increasing amount of pending posts awaiting authorization. Kevin needs an easy to use interface to view the large amount of content to approve or deny. SFSU Access provides him with a simple-to-use UI.

3. List of main data items and entities

1) Users: A user is any person that uses SFSU Access

1.1) Non-registered Users are:

- Able to view, search, and see the details of all listed items on the website
- Able to create an SFSU Access account
- Unable to list or purchase items
- Unable to message the sellers of listed items

1.2) Registered Users are:

- Able to perform anything that Non-registered Users can
- Users that have registered an account on the website
- Users that can log in on the website
- Able to create listings of new items, purchase listed items, or contact any sellers on the website when logged in

1.3) Administrators are:

- Users that have privilege to approve or deny listings submitted by Registered Users
- Unable to modify the contents of listings, such as pricing or item descriptions

2) Items:

2.1) An item is any photo, document, video, or other digital media type listed for sale by a Registered User

2.2) A listed item contains a name, price, description, any number of images, category and licensing info

3) Messages:

3.1) Interested buyers can send sellers a message through our messaging feature

3.2) Messaging can be used as a way to communicate conditions of the sale

4) Categories:

- 4.1) Users can choose to search for listed items by filtered categories
- 4.2) Each category generalizes the type of item being sold on the website
- 4.3) Sellers can select which category their items best fit in when listing their products

4. Initial list of functional requirements

Non-registered users

- 1. All listings provided by registered users shall be made viewable by non-registered users.
- 2. Users shall register before being able to purchase or download items.
- 3. Users shall be able to create an account to engage in activity on the service. Registration shall require an SFSU email address.

Registered users

- 1. Users shall be able to do everything that Non-registered users can
- 2. Posting items to the store shall be subject to Admin approval.
- 3. After an item is no longer available, the user shall mark the item as these attributes.
- 4. Users shall be able to log in on the website
- 5. Users shall be able to send and receive messages
- 6. A user shall wish to no longer engage in business within the service. They shall be able to use the delete user account functionality to remove their account and data.

Administrator

- 1. Content moderation is needed to protect users. Before a user listing is presented live, it shall be under review with the administrator. The admin shall approve or deny the listing.
- 2. The administrator reserves the right to delete any post at his or her discretion. This functionality provides that ability.

5. List of non-functional requirements

1. Application shall be optimized for standard desktop/laptop browsers e.g. must render correctly on the two latest versions of two major browsers
2. Selected application functions must render well on mobile devices
3. Data shall be stored in the team's chosen database technology on the team's deployment server.
4. Full resolution free media shall be downloadable directly, and full resolution media for selling shall be obtained after contacting the seller/owner
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 (no localization needed)
8. Application shall be very easy to use and intuitive.
9. Google analytics shall be used
10. No email clients shall be allowed
11. Pay functionality, if any (e.g. paying for goods and services) shall not be implemented nor simulated in UI.
12. Site security: basic best practices shall be applied (as covered in the class) for main data items
13. Media formats shall be standard as used in the market today
14. Media material shall be either free or for sale, as determined by media owner
15. Each media material shall have its license info as one of the following: a) free use and modification; b) free but only allowed for SFSU related projects; c) for sale
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 exact text on all pages *"SFSU Software Engineering Project CSC 648-848, Spring 2020. For Demonstration Only"* at the top of the WWW page. (Important so as to not confuse this with a real application)

6. Competitive analysis

Features	iLearn	CourseHero	Etsy	SFSU Bookstore	SFSU Access
Messaging	+	-	+	-	+
General Search	-	+	+	+	+
SFSU Search	-	-	-	+	+
Organization-specific	+	-	-	+	+
Free Items	N/A	+	-	-	++
No Listing Fee	N/A	N/A	-	N/A	+

+ exists; ++ superior; - does not exist; N/A not applicable

SFSU Access' Competitive Relationships:

6.1) Messaging: Our website will have a messaging feature for registered users, where messages can be sent directly between the seller and buyer. Most platforms' messaging systems are similar.

6.2) Search/Filters: Any user can enter a search term to list items that similarly matches the term, and/or choose a specific category of item to filter the results further.

6.3) Organization-specific: Registering on SFSU Access is only available to San Francisco State University students and faculty, which requires an SFSU email. Faculties and students can search, post, and download media by SFSU course numbers.

6.4) Free Items: Registered users can list items or purchase/download for no price or payment. Except for some platforms with a content "unlock" model, no other platform allows this.

6.5) No Listing Fee: SFSU Access does not apply a listing fee nor take a cut of any purchase made. No other platform provides their sellers the full amount they sell for.

7. High-level system architecture and technologies used

- Server Host: AWS
- Operating System: Ubuntu
- Database: MySQL
- Web Server: Apache
- Server-side language: Python/Flask
- Web framework: React.js
- IDE: VScode, JetBrains Suite: WebStorm + pycharm
- Web Analytics: Google Analytics

8. Team and roles

- Team leader: Yan
- Front team leader: JunMinLi
- Front-end team: JunMinLi, Cody and Yan
- Back team leader: Kevin Luong
- Back-end team: Kevin Luong, Aitor and David
- Github master: Kevin Luong

9. Checklist

Team found a time slot to meet outside of the class **DONE**

- Github master chosen **DONE**
- Team decided and agreed together on using the listed SW tools and deployment server **DONE**
- Team ready and able to use the chosen back and front end frameworks and those who need to learn are working on learning and practicing **ON TRACK**
- Team lead ensured that all team members read the final M1 and agree/understand it before submission **DONE**

- Github organized as discussed in class (e.g. master branch, development branch, folder for milestone documents etc.) **DONE**