SW Engineering CSC648/848 Fall 2022

SFSU MEDIA STORE TEAM 3

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Milestone 5

12/09/2022

Revisions History

Date Submitted	Date Revised
12/17/2022	

1) PRODUCT SUMMARY:

Name of the product – SFSU Media Store

When we joined this college, we needed to get access to the previous year recordings of the courses we had enrolled for. We went and checked on iLearn which is a go to platform for any course related contents. Unfortunately, it contains the content of the present semester only. We then had to ask my peers in college to share any recordings they had. This is when we decided to develop and launch a web platform "SFSU Media Store" for sharing media which is used only by SFSU students and faculty. SFSU Media Store will let SFSU students and faculty browse through numerous digital media present on the web platform. Users can directly download the content if it is available for free. In case the content, is not available for free, the user can contact the seller by sending them a message via the application itself Any student or faculty can upload the content and on submission they need to register on the application. To make sure no unsafe content goes live to the audience, every uploaded item will need the post approval for publishing from the admin.

Functionalities:

- 1. Unregistered users will be able to browse items.
- 2. Unregistered users will be able to search items using media categories.
- 3. Unregistered users will be able to view item details.
- 4. Unregistered users will be able to search media using the item's title, description.
- 5. Unregistered users will be able to register to the website.
- 6. Registered Users will be able to download the free item.
- 7. Registered Users will be able to login into their personal account.
- 8. Registered Users will be able to contact sellers to buy paid media item.
- 9. Registered Users will be able to post an item.
- 10. Registered Users will be able to view the dashboard for their posts.
- 11. Registered Users will be able to view the dashboard for their messages.
- 12. Admin will approve the appropriate posts (before they go live).
- 13. Admin will reject the posts (from going live) which are inappropriate.

URL: http://35.88.249.97:3000/

3) Milestone documents - M1-M4

Milestone 1

SW Engineering CSC648/848 Fall 2022

SFSU MEDIA STORE

TEAM 3

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10/08/2022

Revisions History

Date Submitted	Date Revised
10/08/2022	10/23/2022

1) EXECUTIVE SUMMARY:

When we joined this college, we needed to get access to the previous year recordings of the courses we had enrolled for. We went and checked on iLearn which is a go to platform for any course related contents. But unfortunately, it contains the content of the present semester only. We then had to ask my peers in college to share any recordings they had. In between all this painful process, we felt there was the need for a platform where any student could get access to any recordings for the courses they were looking for, as well as any other digital media useful for studying, without troubling others. This is when we decided to develop and launch a web platform "SFSU Media Store" for sharing media across SFSU students and faculty. Not only this, users can buy and sell any kind of digital media such as images, audios, videos, etc. on our web platform. It will be like a One Stop Store for all SFSU students and faculty to gain access to digital media. Our application will make searching for tutorials and class recordings/ presentations a lot easier since it will all be in one place. It will make the hassle of trying to find different information easier.

SFSU Media Store will let students and faculty browse through numerous digital media present on the web platform. Users can directly download the content if it is available for free. In case the content, is not available for free, the user can contact the seller by sending them a message via the application itself to discuss moving forward with downloading the contents. Any student or faculty can upload the content and on submission they need to register on the application. To make sure no unsafe content goes live to the audience, every uploaded item will need the post approval for publishing from the admin.

To make browsing simpler, users will be provided with a search bar wherein they can search by title, course number, class, etc.. Also the contents on the web application are listed in different categories, which will help users navigate to the content easily. Users can also rate the content which will help other users in making wise decisions about buying that content in the future. Also, there will be a like and comment button on each content on the application. This will give users ideas on what topics are getting popular at SFSU.

We are a group of 6 SFSU students who started this Startup as a part of one of our course projects. Two of us are graduate students whereas the others are in their senior year of undergrad. Our expertise lies in diverse skills ranging from backend technologies like Python and Flask to front end technologies like Bootstrap and ReactJS. We have divided our group into three frontend engineers and three backend engineers. This way we have an equal work distribution within our group. Not only that but some have a lot of experience in one area but are curious about the other so this project gives us the opportunity to learn and explore different technologies. We also get to strengthen the skills we already have and create something unique.

2. PERSONAE AND MAIN USE CASES:

A. Jane - an SFSU student



Photo source : <u>Unsplash</u>

About Jane	Goals and senarios
 Computer Science student at SFSU 	 She has an assignment deadline by tonight.
Has a busy class scheduleSufficiently familiar with web	 She is looking for the class recordings she
applications, and sometimes uses various applications to buy the products she needs online, or download books or videos for her classes.	missed.
 She is not too patient and often needs access to her purchased product (class material) immediately. 	

B. John - a faculty at SFSU



Photo source : <u>Unsplash</u>

About John	Goals and scenarios	
 He teaches multiple classes and has a busy schedule He is not very familiar with web applications and only has some basic skills 	 He wants to make his class recordings to be available to all students of SFSU. 	
He is not very patient with learning how to navigate through a website	 He also has some eBooks which he wants to sell to SFSU students. 	

C. Jim - a student at SFSU



Photo source : <u>Unsplash</u>

About Jim	Goals and senarios
He is a senior year student	He is looking for free resources for interview
 He is very busy preparing for full time job interviews 	preparation.
He has basic web app skills	
He is not very patient.	

D. Joe - admin (moderator)



Photo source : <u>Unsplash</u>

About Joe	Goals and senarios
 This is his job and he allocates a certain amount of time just for his admin tasks He has good knowledge of web applications He has good knowledge of database. 	He is looking for a database moderator role in a startup/company.

Use cases:

1. Instructor posts a media on the website

John is an **instructor** at SFSU. He uses our web app to **post** the class material (lecture videos, books, pdfs, etc.) for his students. These class materials are to be used only by SFSU students.

He uses the **upload** function to select and upload the materials. He will choose which class and subject the material should be categorized as, and he will enter the price for each material. On submission he will then be asked to register or log in (if he has previously made an account on our web app) using his SFSU email or ID. The upload will be then pending approval from the website **admin** (moderator). John will see the message that his post is pending for approval.

2. Student contacts the seller to buy paid item

Jane is a **student** at SFSU. She uses our web app to find and buy the media she needs. She browses the website and looks at the different media. She uses the **search** function to search for a certain SFSU class or a specific SFSU product. She can choose the category of the product when searching. Once she finds the product and clicks purchase she will be asked to **register** or **login** (if she has previously made an account on our web app) using her SFSU email or ID. She will then be able to **send a message** to the seller with her contact details and will wait for seller to contact her via the contact info she provided in the message.

3. Student posts the item

Jane is a **student** at SFSU, she is part of a student organization. She creates resources and media for this student organization. She uses our web app to share these media with other SFSU students, faculty or staff. She uses the **post** function to select and upload the media. She will choose the category and subject of the media, and she will enter the price for it. After clicking upload she will then be asked to register or login (if she has previously made an account on our web app) using her SFSU email or ID. The upload will be then pending approval from the website admin (moderator). Jane will see the message that her post is pending for approval.

4. Admin approves / denies the upload request

Joe is the **admin** for this web app. He will use **Workbench** to monitor the activity of the website. He approves or denies all the **upload requests** before they are posted on the website. He will **suspend** a user's account if they try to upload inappropriate media more than once or if they don't follow the website guidelines.

5. Student downloads a free item

Jim is a senior year **student** at SFSU. He is preparing for interviews. He **browses** our web app to **search** for free videos available on the topic he is interested in. He attempts to download the content but is prompted to register/ login. He then **downloads** the content he is interested in.

3) LIST OF MAIN DATA ITEMS AND ENTITIES

- Item
 - (title, category, price, description, file)
- Rating
- Comments
- Post_category
 - i.e. audio, video, image
- Messages
- Downloads
- User registration record
- Users
 - see types of users below

Type of users

- Unregistered User
 - a customer who visits the webpage but hasn't registered
 - Viewing permissions
 - Not able to post nor send message
- Registered User
 - a customer who has registered for the web application and can post / upload a media
 - Elevated permissions than unregistered user. Eg: Able to post and send message

- Admin
- An administrator with different set of permissions than an usual user
- Has obligation to approve / reject posts before they go live.

4) INITIAL LIST OF FUNCTIONAL REQUIREMENTS

<u>Unregistered users:</u>

- 9. Shall be able to browse items.
- 10. Shall be able to search items using media categories.
 - Can search media using a category menu that will present media based on the type of content the media shows.
- 11. Shall be able to view item details.
- 12. Shall be able to search media using the author's name.
 - 1. The first and/or last name of an author can be searched.
- 13. Shall be able to search media using the item's title, class number, etc...
- 14. Shall be able to view comments on posts.
- 15. Shall be able to view likes on posts.
- 16. Shall be able to view ratings on posts.
- 17. Shall be able to preview media.
- 18. Shall be able to register to the website.

Registered Users

All of the above functionalities of unregistered users plus the following:

19. Shall be able to download the free item.

- 20. Shall be able to login into their personal account.
- 21. Shall be able to contact sellers to buy paid media item.
- 13. Shall be able to post an item.
- 14. Shall be able to delete item.
- 15. Shall be able to edit item.
 - 1. Users will be able to change the title of published media.
- 16. Shall be able to delete their account.
- 17. Shall be able to post ratings on item.
- 18. Shall be able to change their personal account settings.
 - 1. This includes changing: password, user details.
- 19. Shall be able to comment on other user's posts.
- 20. Shall be able to like other user's posts.

Admin:

- 22. Admin is required to approve the posts (before they go live) which are appropriate.
- 23. Admin shall be able to reject the posts (from going live) which are inappropriate.
- 24. Admin shall have access to all registered users' data.
- 25. Admin shall have the permission to suspend registered users accounts.
- 26. Admin shall be able to view users' data (Data including media downloaded, media rating given, etc.)

5) LIST OF NON FUNCTIONAL REQUIREMENTS:

- 1. Application shall be developed, tested and deployed using tools and servers approved by Class CTO and as agreed in M0
- 2. Application shall be optimized for standard desktop/laptop browsers e.g. must render correctly on the two latest versions of two major browsers
- 3. All or selected application functions must render well on mobile devices

- 4. Data shall be stored in the database on the team's deployment server.
- 5. No more than 50 concurrent users shall be accessing the application at any time
- 6. Privacy of users shall be protected
- 7. The language used shall be English (no localization needed)
- 8. Application shall be very easy to use and intuitive
- 9. Application should follow established architecture patterns
- 10. Application code and its repository shall be easy to inspect and maintain
- 11. Google analytics shall be used
- 12. No e-mail clients shall be allowed. Interested users can only message to sellers via in-site messaging. One round of messaging (from user to seller) is enough for this application
- 13. Pay functionality, if any (e.g. paying for goods and services) shall not be implemented nor simulated in UI.
- 14. Site security: basic best practices shall be applied (as covered in the class) for main data items
- 15. Media formats shall be standard as used in the market today
- 16. Modern SE processes and practices shall be used as specified in the class, including collaborative and continuous SW development
- 17. The application UI (WWW and mobile) shall prominently display the following exact text on all pages "SFSU Software Engineering Project CSC 648-848, Fall 2022. For Demonstration Only" at the top of the WWW page nav bar. (Important so as to not confuse this with a real application).

6) <u>COMPETITIVE ANALYSIS</u>

	Facebook Market Place	Amazon	Ebay	Etsy	Our Future Product
Text Search	+	++	+	++	+
Boolean Search	+	+	+	+	+

Browse	+	++	+	++	+
Download	-	+	-	+	++
Digital Media Variety	-	+	-	+	++
Messaging	++	-	+	++	+

+ feature exists; ++ superior; - does not exist

Looking at our competitors, our planned advantages is that our product will be geared towards SFSU students, by giving an option to search using class number as well. It will be fully digital, i.e. we will be supporting all kinds of digital media ranging from audio, videos, images, etc.. Users will be able to buy, sell, and share digital media. Users will also have the ability to download any free material and message sellers for buying the paid content. Looking at our competitors such as Facebook market place and Ebay, those are features they lack in. Some companies such as Amazon and Etsy have those features but not at the level that our future product will be at. That being said, we do want to get inspiration from their browsing abilities and their search abilities.

7) HIGH LEVEL SYSTEM ARCHITECTURE AND TECHNOLOGIES USED:

Sever Host: Amazon AWS

Operating System: Ubuntu 16.04 Server

Database: MySQL

Web Server: NGINX 1.12.2

Server-Side Language: Python 3

Additional Technologies: Web Framework: Flask , Bootstrap

IDE: PyCharm and VSCode,

Web Analytics: Google Analytics

8) TEAM & ROLES

Member Name	Role
Himani Varshney	Team Lead, Document Master, Back-end developer
Donnovan Jiles	Back-end Lead
Olimpia Aguillon	Front-end Lead
Josef Fiedler	Github Master, Back-end developer
Yasaman Pakdel	Front-end developer
Robert Peter Swanson	Front-end developer

9) CHECKLIST

- So far all team members are engaged and attending ZOOM sessions when required On
 Track
- · Team found a time slot to meet outside of the class **Done**
- Back end, Front end leads and Github master chosen 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.) **On Track**

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Yasaman Pakdel

Robert Peter Swanson

Milestone 2

10/29/2022

Revisions History

Date Submitted	Date Revised
10/29/2022	11/10/2022

1) EXECUTIVE SUMMARY:

When we joined this college, we needed to get access to the previous year recordings of the courses we had enrolled for. We went and checked on iLearn which is a go to platform for any course related contents. But unfortunately, it contains the content of the present semester only. We then had to ask my peers in college to share any recordings they had. In between all this painful process, we felt there was the need for a platform where any student could get access to any recordings for the courses they were looking for, as well as any other digital media useful for studying, without troubling others. This is when we decided to develop and launch a web platform "SFSU Media Store" for sharing media which is used only by SFSU students and faculty. Users can buy and sell any kind of digital media such as images, audios, videos, etc. on our web platform. It will be like a one stop store for all SFSU students and faculty to gain access to digital media. Our application will make searching for tutorials and class recordings/ presentations a lot easier since it will all be in one place. It will make the hassle of trying to find different information easier.

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To make browsing simpler, users will be provided with a search bar wherein they can search by title, course number, class, etc.. Also the contents on the web application are listed in different categories, which will help users navigate to the content easily. Users can also rate the content which will help other users in making wise decisions about buying that content in the future. Also, there will be a like and comment button on each content on the application. This will give users ideas on what topics are getting popular at SFSU.

We are a group of 6 SFSU students who started this Startup as a part of one of our course projects. Two of us are graduate students whereas the others are in their senior year of undergrad. Our expertise lies in diverse skills ranging from backend technologies like Python and Flask to front end technologies like Bootstrap and ReactJS. We have divided our group into three frontend engineers and three backend engineers. This way we have an equal work distribution within our group. Not only that but some have a lot of experience in one area but are curious about the other so this project gives us the opportunity to learn and explore different technologies. We also get to strengthen the skills we already have and create something unique.

2. <u>LIST OF MAIN DATA ITEMS AND ENTITIES (EXPAND AS NECESSARY):</u>

- 1) Item (Any image or a video, etc)
 - o Item_id
 - o Item_title
 - o Item blob
 - Item_size
 - Item_category (I.e. Audio, Video, Class, etc. Item category will be derived from this information)
 - Item_created_time
 - o Item_description
 - o Item edited
 - Item_rating
 - o Item likes count
 - o Item_comments_count
- 2) Item_likes
 - o Item_id
 - o User_id
- 3) Item_comments
 - o Item id
 - User_id
 - Comment_text
- 4) Message
 - Message_id
 - Message_created_date
 - Message sender user id
 - Message_recipient_user_id
 - Message_text
- 5) Downloads
 - Download_id
 - o Item id
 - User id
- 6) Category
 - Item_category
- 7) User_records
 - o User_id
 - User_type (Registered User, Admin)
 - User_username

- User_first_name
- User_last_name
- User_email
- User_password
- 8) Rating
 - o Item id
 - User_id
 - Rating

3) FUNCTIONAL REQUIREMENTS - PRIORITIZED

- Priority 1

Unregistered users:

- 22. Shall be able to browse items.
- 23. Shall be able to search items using media categories.
 - Can search media using a category menu that will present media based on the type of content the media shows.
- 24. Shall be able to view item details.
- 25. Shall be able to search media using the author's name.
 - 1. The first and/or last name of an author can be searched.
- 26. Shall be able to search media using the item's title, description, category.
- 27. Shall be able to register to the website.
- 28. Shall be able to sort items by price.

Registered Users

All of the above functionalities of unregistered users plus the following:

- 29. Shall be able to download the free item.
- 30. Shall be able to login into their personal account.

- 31. Shall be able to contact sellers to buy paid media item.
- 10. Shall be able to post an item.
- 11. Shall be able to view the dashboard for their posts.
- 12. Shall be able to view the dashboard for their messages.

<u>Admin</u>

- 13. Admin is required to approve the appropriate posts (before they go live).
- 14. Admin shall be able to reject the posts (from going live) which are inappropriate.

- Priority 2

Unregistered users:

- 15. Shall be able to view comments on posts.
- 16. Shall be able to view likes on posts.
- 17. Shall be able to view ratings on posts.

Registered Users

All of the above functionalities of unregistered users plus the following:

- 18. Shall be able to post ratings on item.
- 19. Shall be able to comment on other user's posts.
- 20. Shall be able to like other user's posts.

Admin:

- Priority 3

Unregistered Users

21. Shall be able to view thumbnail.

Registered Users

All of the above functionalities of unregistered users plus the following:

- 22. Shall be able to delete item.
- 23. Shall be able to edit item.
 - 1. Users will be able to change the title of published media.
- 24. Shall be able to delete their account.
- 25. Shall be able to change their personal account settings.
 - a. This includes changing: password, user details.

Admin:

26. Admin shall have the permission to suspend registered users accounts.

4) UI STORYBOARDS FOR EACH MAIN USE CASE:

1) User Browses the items on home page

	WOOD the items	en neme page			
Logo	About Us			Post	Sign in/Register
	Welco		ou can find useful m es on our website	edia for	your
	Categ	ory			
	Price Contact seller	Price Contact seller	Price Contact seller		Price ontact seller
Cont	act Us	Policy			Logo

2) User Search results using item title and then all items with that search string will come

Logo	About Us	V 1,0	Product Name	Post Sign in/Register
# res	sults found			Sort By
	Price Contact seller	Price Contact seller	Price Contact seller	Price Contact seller
	Price Contact seller	Price Contact seller	Price Contact seller	Price Contact seller
Contac	ct Us	Policy		Logo

3) Unregistered user shall register

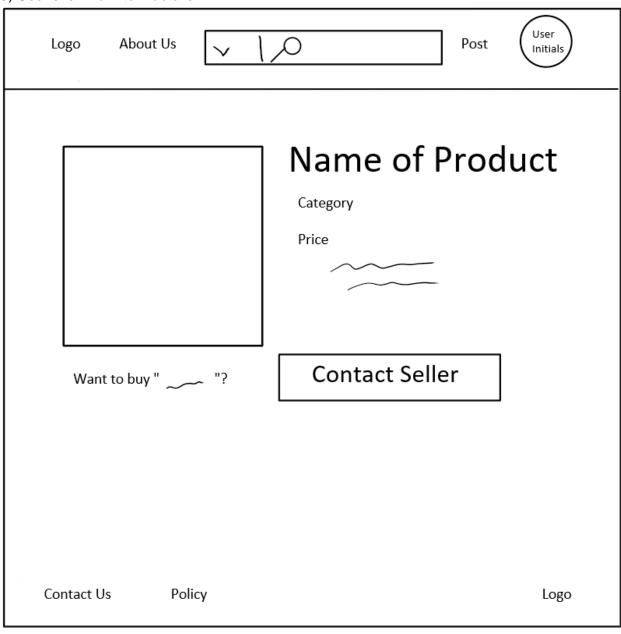
First name	Sign Up		
Last name			
SFSU Id			
Email			
Password			
Accept terms and conditions	Sign Up	Already have an account? <u>Sign in</u>	

:

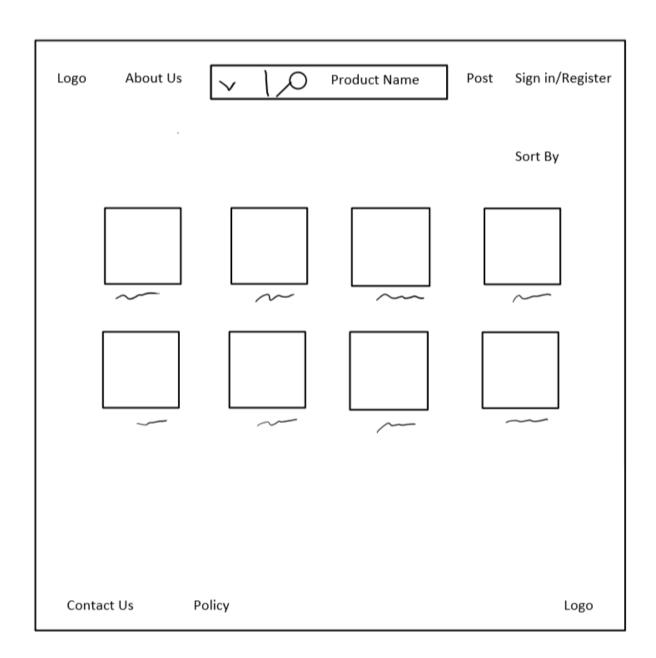
4) User shall sign in:

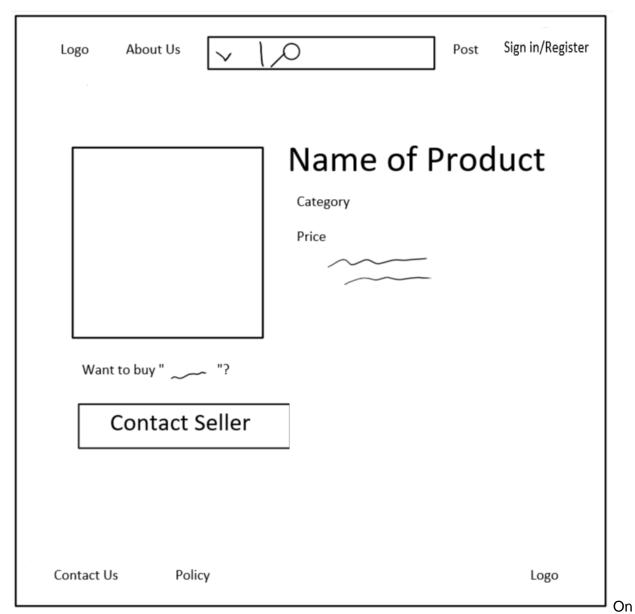
	Do not have an account? Sign u
Submit	
	Submit

5) User shall view item details:



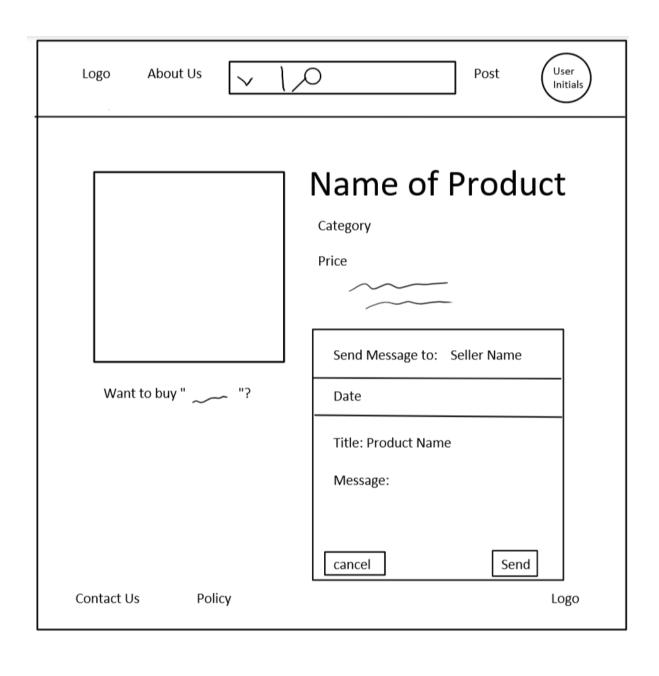
6) User shall Contact Seller to buy product after signing in : User searches for the item





click of Contact Seller he is asked to sign in

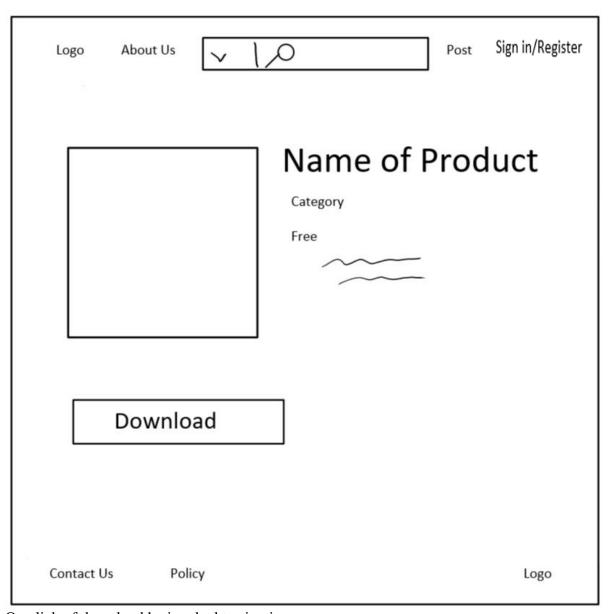
	Sign In
Email Address	
Password	
Forgot Password?	Do not have an account? <u>Sign u</u>
	Submit



7) Download free product:

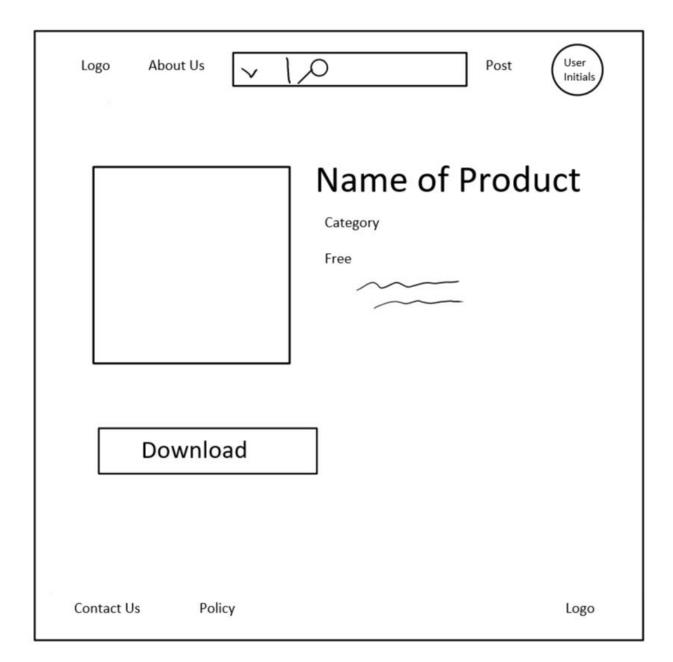
User search and finds the item

Logo	About Us	v 1,0	Product Name	Post Sign in/Register
				Sort By
	~			
Conta	ct Us	Policy		Logo

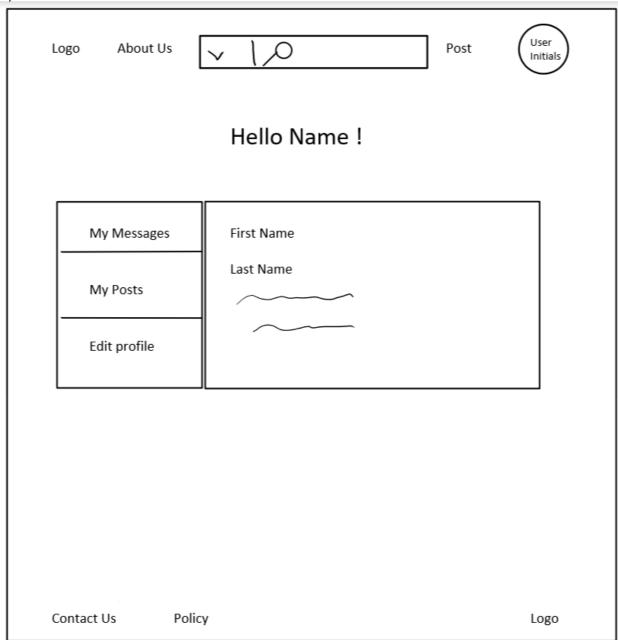


On click of download he is asked to sign in:

	Sign In
Email Address	
Password	
Forgot Password?	Do not have an account? <u>Sign u</u>
	Submit



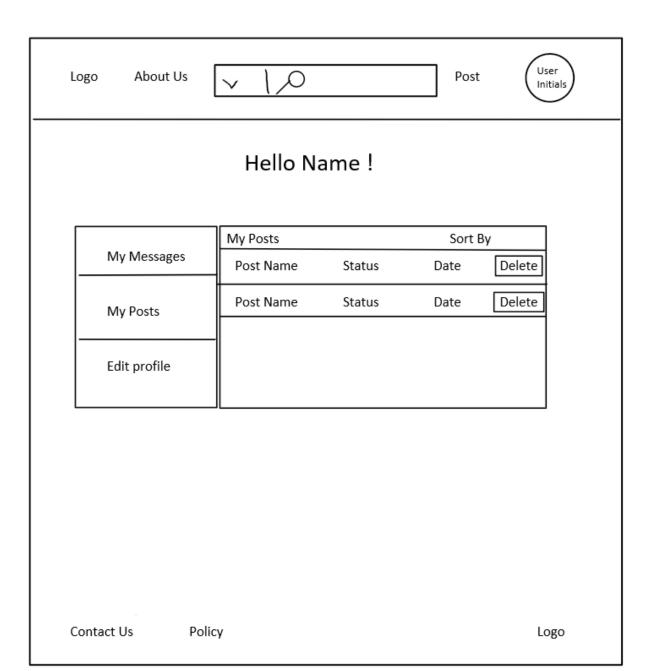
8)Dashboard:



Dashboard my messages:

Logo About Us	V 1,0	Post User Initials		
	Hello Name !			
	My Messages	Sort By		
My Messages	Message 1	Delete		
My Posts	Message 2	Delete		
	Message 3	Delete		
Edit profile				
Contact Us Police	cy	Logo		

Dashboard my posts:



9)Post an Item : User opens the home page

Logo About Us	Post Sign in/Register
Category	
Contact Us Policy	Logo

User can then post an item

Logo About Us	V 1,0	Sign in/Register
Product Name: Category: Price: Description:	Select category V	
	Upload File	Post
Contact Us Po	blicy	Logo

On click of Post he is asked to Sign In

	Sign In
Email Address	
Password	
Forgot Password?	Do not have an account? <u>Sign u</u>
	Submit

Logo About Us	Post	User Initials
	Post an item	
Product Name: * Category: * Price: * Description:	Select category V \$ Upload File	
Contact Us Pol		Post

User is informed that post is pending for approval

Thank you your post is pending for approval!

Continue Shopping

For admin use cases we will be using workbench.

5) <u>HIGH LEVEL ARCHITECTURE, DATABASE ORGANIZATION</u> <u>SUMMARY</u>

- DB Organization Our MySQL db will have following tables (high level):
- 9) Item (Any image or a video, etc)
 - o Item_id
 - o Item_title
 - o Item_blob
 - o Item_size
 - Item_category (I.e. Audio, Video, Class, etc. Item category will be derived from this information) Foreign key to Category table
 - o Item created time
 - Item_description
 - o Item_edited
 - Item_rating
 - Item_likes_count
 - Item_comments_count
 - Item_created_date
- 10) Item likes
 - Item_id
 - User_id
- 11) Item_comments
 - o Item id
 - User_id
 - Comment text
- 12) Message
 - Message_id
 - Message_created
 - Message_sender_user_id
 - Message_recipient_user_id
- 13) Downloads
 - Download_id
 - o Item_id
 - User_id
- 14) Category
 - o Item_category
- 15) User records
 - User id
 - User_type (Registered User, Admin)
 - User_username
 - User_first_name
 - User_last_name

- User email
- User_password

16) Rating

- o Item id
- User id
- Rating
- Media Storage We will be storing our media as File paths in MYSQL database. Files
 will be stored at a safe place on the drive. We will be using standard file types for each
 like mp4 for videos, mp3 for audios, and so on.
- Search filter and architecture Item category will be used to filter search results. We will
 be using SQL precise search for categories from DB column called Item_category anded
 with MYSQL "%LIKE" search on text field like item_description, item_title, etc. In case
 our MYSQL query returns 0 search results we will be displaying a page of items with 6
 popular items.

6) ACTUAL KEY RISKS FOR PROJECT AT THIS TIME:

- **Skills risks:** The team is not very strong in front end development as no one from the team had earlier worked on any of the front-end frameworks. That being said, the team front end developers are learning front end frameworks like React and Bootstrap, as well as trying hands on React before the actual website development.
- **Schedule risks:** Given this covid times, there is a risk associated of being a team member getting infected which may impact his/ her deliverables. However, everyone is asked to let team lead know about this situation at the earliest so that lead can reassign the tasks to other team members based on bandwidth.
- **Technical risks:** The team is not very familiar with the deployment part on AWS. However, team is learning how to deploy websites on AWS using tutorials.
- **Teamwork risks:** As of now we don't see any risk associated with team work. Team has found time other than the class meetings to collaborate and update on tasks.

7) PROJECT MANAGEMENT:

We have been assigning tasks in our class team meetings and using discord and ZOOM meetings to update our progress on tasks up until now. For keeping record of who is doing which task, the team lead assigns the tasks to each team member based on their preferences and skills. Team keeps track of it using Google Spreadsheet. The team lead then shares a Google doc which is used by the team to work on their task. The work of each task member can be seen by everyone else using this Google doc. However, we will be soon moving to Trello (from next team meeting) to manage tasks as it will provide a more accurate and up to date account of the progress of each task and who is responsible for what. With Trello we can see who is responsible for what task, their progress on said task, and what tasks are completed or have yet to be started.

Milestone 3

Summary of Milestone 3 meeting review with Prof. Petkovic and plans for further development

Team number: 3

Meeting date: 11/16/2022

• Summary of feedback on UI (record all pages that need revision)

Although overall Prof. was happy with the work we had done he gave us minor UI comments for revision of the following pages:

Home page – To add disclaimer at top and list top items sorted by date. Sign in and Register should be closer.

Search Results - Give button to contact seller on the Search Result page.

Contact Seller – Details of the item should be pre-filled.

Sign Up – Checkbox to agree with Terms of Service should be before Submit button.

Dashboard – Align the dashboard to center.

Post page – Right justify the field names in post form.

Summary of feedback on code and architecture

Prof. reviewed the code and the folder structure. He helped us in pointing out that Header comments were missing in some files.

• Summary of feedback on github usage

Prof. reviewed our github repository and was satisfied with our commits history. He told us the importance of maintaining meaningful Commits messages.

Summary of feedback on DB

Prof. reviewed our database on Mysql workbench and gave us the following feedback: Some of the tables like User_records were missing from the database. We told him that since we haven't done the backend integration of Sign up page, that table is missing. Having said that, we have updated our db and added these missing tables.

• Summary of feedback on teamwork and risk management

Prof. enquired about how the team work is going on and strongly told the team lead to report any kind of negligence to him. He made us realize that very less time is left for the final delivery and we need to gear up to complete it by the due date.

For risk management, he told us to keep the P1 requirements to the minimum so that we can complete the project on time.

• Confirm that you have done architecture review to check that developers adhere to MVC pattern, coding style, minimal agreed documentation etc. Record if OK or list the issues found. Request developers follow up on corrections and follow up later by doing code reviews

Developers are adhering to MVC pattern by segregating the Front end, Backend Code and Database.

• List below agreed upon P1 list of features for final delivery which constitute product plan. NOTE: after this meeting the team focuses solely on this P1 list of features, e.g. the development is in "feature freeze mode". All listed P1 features (no more no less) MUST be delivered in usable way, free of bugs

<u>Unregistered users:</u>

- 1. Shall be able to browse items.
- Shall be able to search items using media categories.
- 3. Shall be able to view item details.
- 4. Shall be able to search media using the item's title, description.
- 5. Shall be able to register to the website.
- 6. Shall be able to sort items by price.

Registered Users

All of the above functionalities of unregistered users plus the following:

- 7. Shall be able to download the free item.
- 8. Shall be able to login into their personal account.
- 9. Shall be able to contact sellers to buy paid media item.
- 10. Shall be able to post an item.
- 11. Shall be able to view the dashboard for their posts.
- 12. Shall be able to view the dashboard for their messages.

<u>Admin</u>

- 13. Admin is required to approve the appropriate posts (before they go live).
- 14. Admin shall be able to reject the posts (from going live) which are inappropriate.

• Any other comments and issues

N/A

• Check Point (CP) if given, DUE:

N/A

Milestone 4

SW Engineering CSC648/848 Fall 2022

SFSU MEDIA STORE

TEAM 3

Himani Varshney (Team Lead) hvarshney1@sfsu.edu

Donnovan Jiles (Back-end Lead)

Olimpia Aguillon (Front-end Lead)

Josef Fiedler (Github Master)

Yasaman Pakdel

Robert Peter Swanson

Milestone 4

12/09/2022

Revisions History

Date Submitted	Date Revised

12/09/2022	

1) PRODUCT SUMMARY:

Name of the product – SFSU Media Store

When we joined this college, we needed to get access to the previous year recordings of the courses we had enrolled for. We went and checked on iLearn which is a go to platform for any course related contents. But unfortunately, it contains the content of the present semester only. We then had to ask my peers in college to share any recordings they had. This is when we decided to develop and launch a web platform "SFSU Media Store" for sharing media which is used only by SFSU students and faculty. Users can buy and sell any kind of digital media such as images, audios, videos, etc. on our web platform. It will be like a one stop store for all SFSU students and faculty to gain access to digital media. Our application will make searching for tutorials and class recordings/ presentations a lot easier since it will all be in one place. It will make the hassle of trying to find different information easier.

Functionalities:

- 1. Unregistered users will be able to browse items.
- 2. Unregistered users will be able to search items using media categories.
- Unregistered users will be able to view item details.
- 4. Unregistered users will be able to search media using the item's title, description.
- 5. Unregistered users will be able to register to the website.
- 6. Registered Users will be able to download the free item.
- 7. Registered Users will be able to login into their personal account.
- 8. Registered Users will be able to contact sellers to buy paid media item.
- 9. Registered Users will be able to post an item.
- 10. Registered Users will be able to view the dashboard for their posts.
- 11. Registered Users will be able to view the dashboard for their messages.
- 12. Admin will approve the appropriate posts (before they go live).
- 13. Admin will reject the posts (from going live) which are inappropriate.

URL: http://35.88.249.97:3000/

2) <u>Usability test plan:</u>

Test Objectives:

To test the usability of the SEARCH functionality. It will help to measure the efficiency, effectiveness and satisfaction of the search usage for the users. Feedback of the same will help in designing a more user centred design for the product.

Test background and setup -

The user needs to have a Windows/Mac PC. He / She can use Windows OS / Linux OS. The user needs to have a web browser like Google Chrome / Microsoft Edge. The URL of the system to be tested is http://35.88.249.97:3000/Home

The intended users of the system are the SFSU students and the faculty who can have zero to advanced level of computer knowledge. This usability testing is done to measure the effectiveness, efficiency and satisfaction of users using Likert test.

Usability Task description:

The tester should access the URL in the web browser and go to the home page of the website. The user needs to test usability of the search bar by giving different input to the search bar.

Evaluation of Effectiveness:

To measure the effectiveness of the search functionality, we will measure the percentage of people who were able to search for the desired items within 2 minutes. We will also record the count of errors per task by the users.

Evaluation of efficiency:

To measure the efficiency of the search functionality, we will measure the average time users took to search for an item. We will also measure efficiency by the average time in which the image is loaded on click of search.

Evaluation of user satisfaction:

To measure the user satisfaction, we will use the results of the Likert survey. Likert Survey:

	Strongly	Agree	Neutral	Disagree	Strongly
	Agree				Disagree
It is easy to change category in the search bar.					
I had no problem in finding the search bar.					

I can easily see the			
number of results			
returned on click of			
search			

3) QA test plan

Test objectives:

To test the Search functionality of the SFSU Mediastore as per specs defined

HW and SW setup (including URL):

Windows OS Google Chrome Version 108.0.5359.98 Microsoft Edge Version 108.0.1462.46 URL: http://35.88.249.97:3000/Home

Feature to be tested:

Search Bar

QA Test plan:

Test #	Test Title	Test Description	Test Input	Expected Correct	Test Results
				Output	(PASS /
					FAIL)
0001	Search_test_like	Test % like	Go to the	2 items	
		in search for	specified	should be	
		the search	URL. On	displayed	
		field	the home	having	
			page, click	gator in	
			on search	their title	
			bar. Type		
			"gator" in		
			the search		
			bar. Click		
			on Search		
			button.		
0002	Search_test_null	Test the	Go to the	8 items	
		search field	specified	should be	
		by giving	URL. On	displayed.	
		blank input	the home		
			page, click		
			on search		

			bar. Do not type anything in the search bar and click on Search button.		
0003	Search_test_dropdown	Test for the category dropdown in the search bar	Go to the specified URL. On the home page, select 'Image' from the Search dropdown menu and enter 'gator' in the search bar. Click on Search button.	Only 1 item should be displayed having gator in their title	

QA test results on Google Chrome Version 108.0.5359.98

Test #	Test Title	Test	Test Input	Expected	Test
		Description		Correct	Results
				Output	(PASS /
					FAIL)
0001	Search_test_like	Test % like	Go to the	2 items	PASS
		in search for	specified	should be	
		the search	URL. On	displayed	
		field	the home	having	
			page, click	gator in	
			on search	their title	
			bar. Type		
			"gator" in		
			the search		
			bar. Click		
			on Search		
			button.		

0002	Search_test_null	Test the search field by giving blank input	Go to the specified URL. On the home page, click on search bar. Do not	8 items should be displayed.	PASS
			type anything in the search bar and click on Search button.		
0003	Search_test_dropdown	Test for the category dropdown in the search bar	Go to the specified URL. On the home page, select 'Image' from the Search dropdown menu and enter 'gator' in the search bar. Click on Search button.	Only 1 item should be displayed having gator in their title	PASS

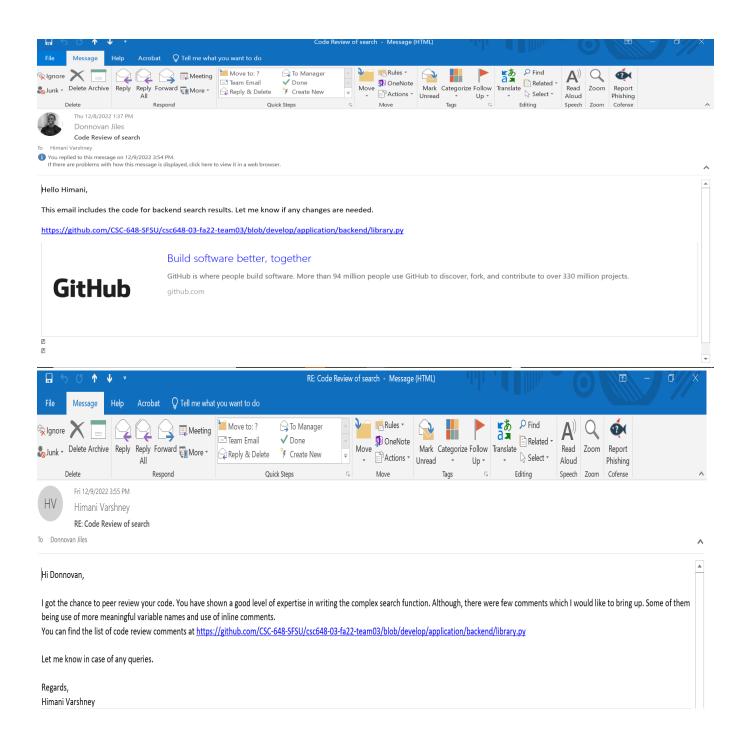
QA test results on Microsoft Edge Version 108.0.1462.46

Test #	Test Title	Test	Test Input	Expected	Test
		Description		Correct	Results
				Output	(PASS /
					FAIL)
0001	Search_test_like	Test % like	Go to the	2 items	PASS
		in search for	specified	should be	
		the search	URL. On	displayed	
		field	the home	having	
			page, click	gator in	
			on search	their title	
			bar. Type		

			"gator" in the search bar. Click on Search button.		
0002	Search_test_null	Test the search field by giving blank input	Go to the specified URL. On the home page, click on search bar. Do not type anything in the search bar and click on Search button.	8 items should be displayed.	PASS
0003	Search_test_dropdown	Test for the category dropdown in the search bar	Go to the specified URL. On the home page, select 'Image' from the Search dropdown menu and enter 'gator' in the search bar. Click on Search button.	Only 1 item should be displayed having gator in their title	PASS

4) Code Review:

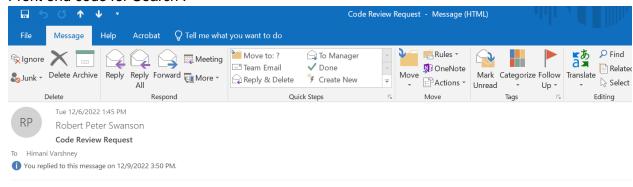
Back end code for Search -



Github Repo screenshot:

```
145
         Code reviewed by - Himani Varshney
146
147
          Comments - 1) Remove print statements before deploying the code on server.
148
                     2) Use more meaningful variable names.
                     3) Use more inline comments for each if else condition.
149
150
151
      #endpoint for search
152
      @app.route('/search', methods=['GET', 'POST'])
153
      def search():
155
          print("Hello World")
if request.method == "POST":
156
157
              print(request)
158
              # request user input from <input> with name="book"
159
              print(dir(request))
              print("###########"")
160
161
              #request.json['book']
162
              #print(request.body)
              #book = request.form['book']
163
              book = request.get_json()
165
              print(request.get_json())
print(book['book'])
166
              print("###########"")
168
              conn = mysql.connect()
169
              cursor = conn.cursor()
              if(book['book']=="" and book['Category'] == 'all' ):
170
171
                  cursor.execute("SELECT item_title,item_description, user_username, item_path, item_price, item_category FROM item JOIN user_records ON item_creator_id =
172
                  conn.commit()
                  data = cursor.fetchall()
173
                  print(data)
```

Front end code for Search:

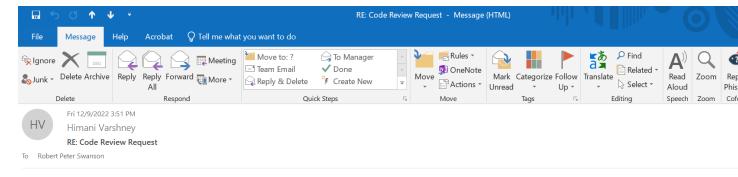


Hello Himani,

Please review the code for search results and let me know if any changes are needed. https://github.com/CSC-648-SFSU/csc648-03-fa22-team03/blob/develop/application/client/src/NavBar.js

Best,

Robert Swanson



Hi Robert,

I got the chance to peer review your code. I must say you have written very good quality code by showing good use of header comments and inline comments. You can find the code review comments on the file at https://github.com/CSC-648-SFSU/csc648-03-fa22-team03/blob/develop/application/client/src/NavBar.js Please remove commented code blocks before deployment and use a separate file to store static urls. Rest everything looks good.

Regards, Himani Varshney

Github Repo screenshot:

```
* File: NavBar.js
      * Author: Robert Swanson
      * Description: NavBar for webapp with search functionality and links to About Us, Post,
                    Dashboard, Sign in, and register. And contains disclaimer that this is student
                    project
10 Code reviewed by - Himani Varshney
11
    Date - 12/09/2022
    Comments - 1) Please remove commented block of code before moving to deployment server.
12
               2) Good use of header comments and inline comments
               3) All URL can be moved to one place and imported from there.
    import { Link, useNavigate } from "react-router-dom"
    import { useEffect,useState } from 'react';
        const [category, setCategory] = useState("all");
21
        const [searchText, setSearchText] = useState("");
22
        const navigate = useNavigate();
23
24
        function setCategories() {
25
            //Categories return from DB goes here
26
            const categories = { 'cat': ['Audio', 'Video','Image', 'Class'] }; //Hard coded for testing
27
            const options = []; //Array of <option> to be returned to dropdown
28
```

5) Self - check on best practices for security -

Asset to be protected	Types of possible /	Strategy to protect /	
	expected attacks	mitigate the asset	
Media items	Loss / Theft of media	All the media items are	
		securely stored on the file	
		disk of server, where in only	
		admin has the access to the	
		server and no one else	
User Information	Theft of user's personal data,	DB is on the server with only	
	SQL Injection	admin having the access. All	
		the confidential data like	
		password is encrypted. Input	
		Validation (like limiting input	
		length to 40 alpha numeric	
		characters) is done to	
		prevent SQL injection. Only	
		users with sfsu.edu can	
		access the website.	

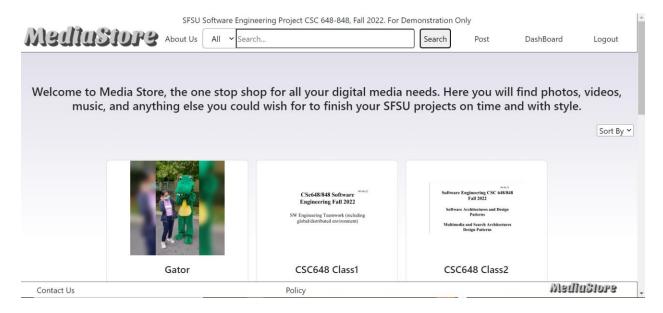
Encrypt PW in the DB – DONE using md5 encryption algorithm Input data validation – search bar input for up to 40 alphanumeric characters – ON TRACK registration e-mail to include "sfsu.edu" at the end – DONE

6) Self-check of the adherence to original Non-functional specs -

- 1. Application shall be developed, tested and deployed using tools and servers approved by Class CTO and as agreed in M0 On track
- 2. Application shall be optimized for standard desktop/laptop browsers e.g. must render correctly on the two latest versions of two major browsers Done
- 3. All or selected application functions must render well on mobile devices On track
- 4. Data shall be stored in the database on the team's deployment server. Done
- 5. No more than 50 concurrent users shall be accessing the application at any time On track
- 6. Privacy of users shall be protected Done
- 7. The language used shall be English (no localization needed) Done
- 8. Application shall be very easy to use and intuitive Done
- 9. Application should follow established architecture patterns Done
- 10. Application code and its repository shall be easy to inspect and maintain On track
- 11. Google analytics shall be used On track

4) Product Screen Shots:

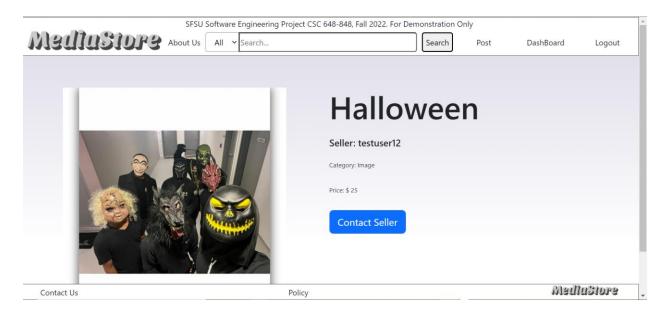
Home page



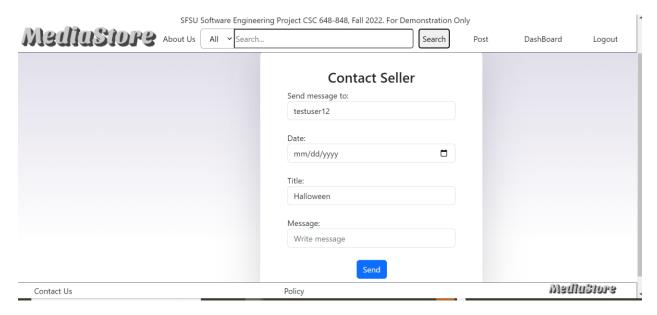
Item details page for free item:



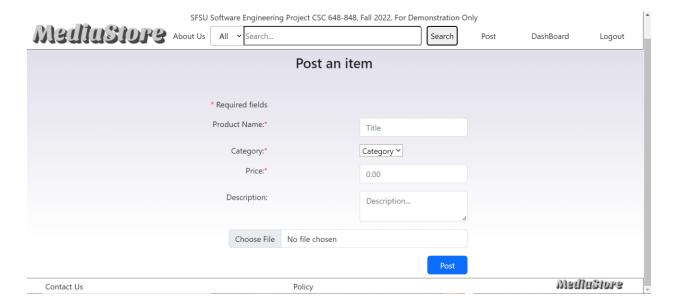
Item details page for paid item:



Contact Seller to buy an item:

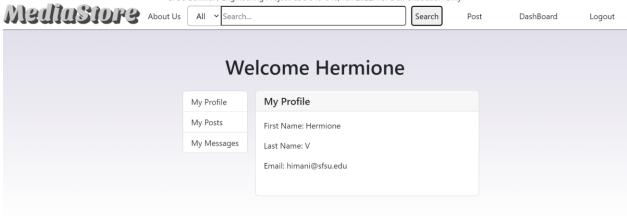


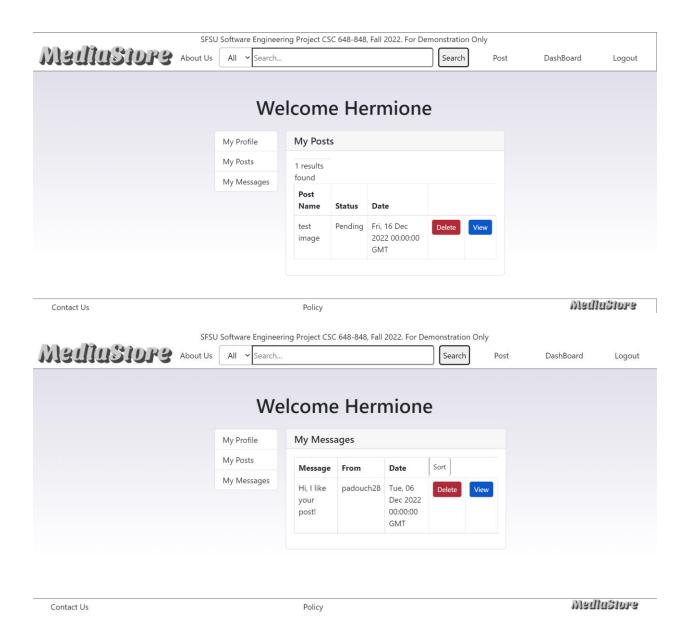
Post an Item:



Dashboard

SFSU Software Engineering Project CSC 648-848, Fall 2022. For Demonstration Only

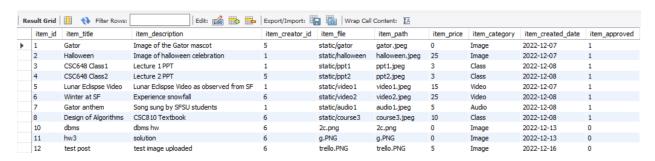




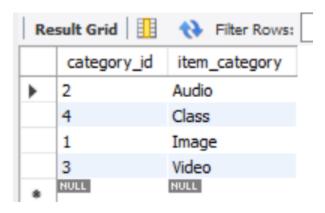
5) Database Organization:

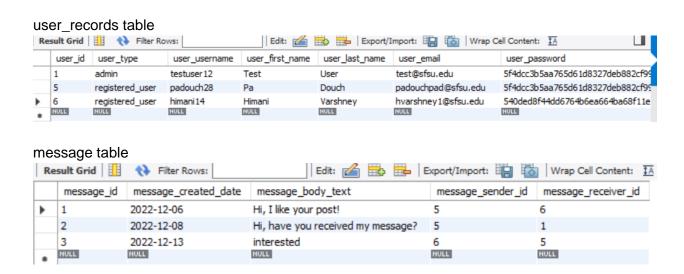
We used Mysql workbench to organise our data base. Four of our main tables are:

item table - where item_category is foreign key to category table



Category table

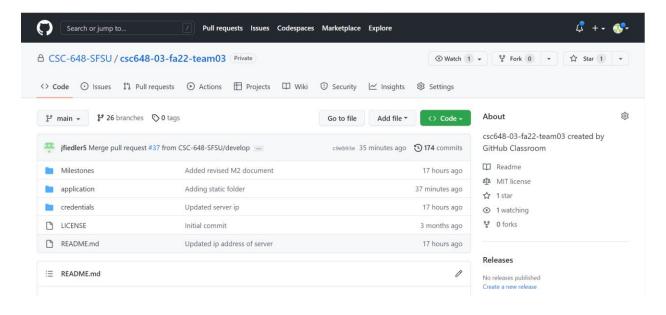




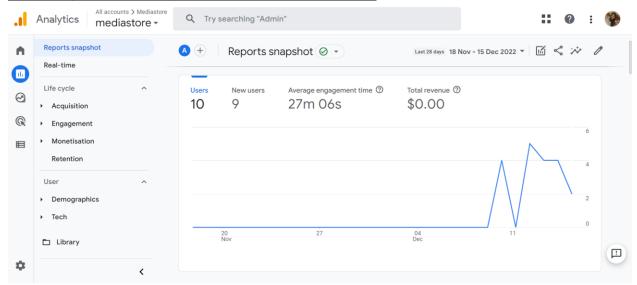
6) Github organization:

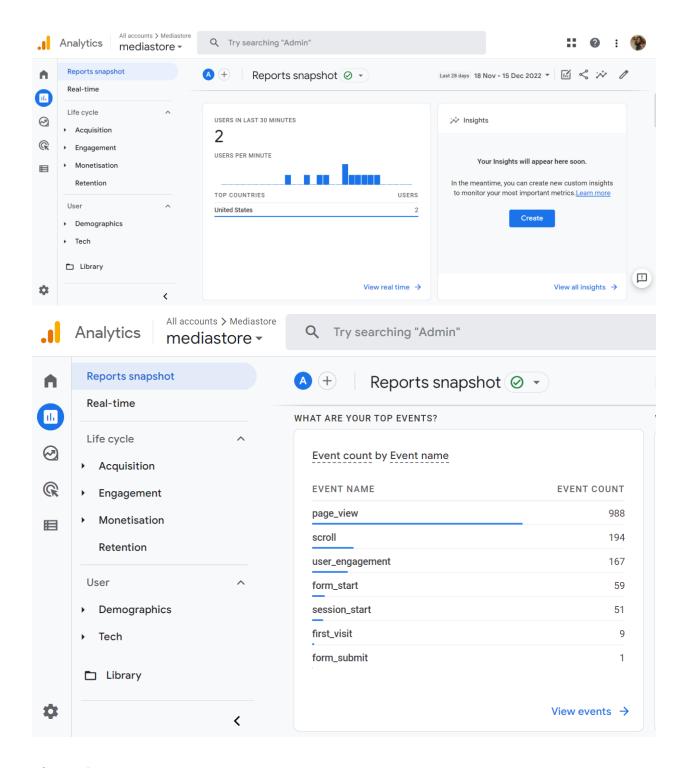
In our github repository, we have a main branch and a develop branch. We used develop branch for development by the individual developers and the code was pushed to main branch only after integration testing of a milestone. Time to time some other branches were made from develop by a specific developer to push his/her changes. All team members had access to the develop branch whereas only the team lead and the github master had access to master branch.

Our github application folder is organised as per the MVC architecture to have front and code separated from the back-end code. Inside the application folder we have a "client" folder for front end code and the "backend" folder for backend code.



7) Google analytics stats plot for web site

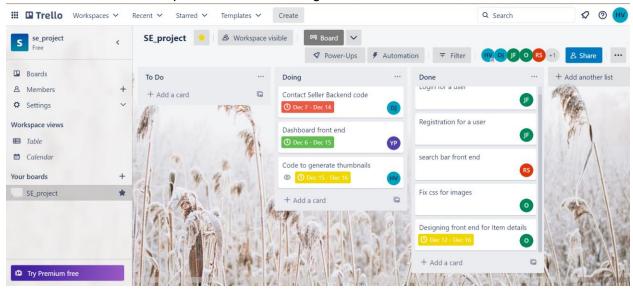




8) Project Management

We have been assigning tasks in our class team meetings and using discord and ZOOM meetings to update our progress on tasks up until now. For keeping record of who is doing which task, the team lead assigns the tasks to each team member based on their preferences and skills. Team keeps track of it using Trello. With Trello we can see who is responsible for what task, their progress on said task, and what tasks are completed or have yet to be started.

For the documentation of product we used Google docs.



9) Team member self-assessment and contributions



CSC 648 Fall 2022 Milestone 5 Section 9 Team 3- Robert Swanson

To Himani Varshney; Donnovan Jiles; Olimpia Aguillon; Yasaman Pakdel; Josef Fiedler

- 1. Contributions I made
 - a. Created the navbar and linked search functionality with the backend
 - b. Created the footer
 - c. Created the homepage
 - d. Created the search results page
 - e. Created the Upload page and linked functionality with backend
 - f. Created state tracking to track whether a user is logged in
 - g. Implements lazy registration on all pages that requires the user to be logged in
 - h. implemented log out functionality
- 2. Commits
 - a. I have made 39 commits to dev branch
- 3. Challenges
 - a. My main challenge was working in a frontend framework for the first time. I have only every coded front end in html and it took some adjustment using a framework instead of plain html. My other main challenge was figuring out how to pass data and maintain state be tween pages while working in react.
- 4. What would i do differently
 - a. The main thing I would do differently is to learn the framework i am useing at a much higher level beforehand. I ended up coding things that could have been implemented better from the start if I had a better understanding of the full picture of how to do things in react. Instead, I had to make the decision of rebuilding things from the ground up or trying to find different ways to be able to use the code I have already written. So, to sum it up I would say I needed to understand the framework better to make everything more scalable.



Fri 12/16/2022 5:13 PM

Donnovan Jiles

CSC 648 Fall 2022 Milestone 5 Section 9 Team 3- Donnovan Jiles

Cc Himani Varshney; Robert Peter Swanson; Yasaman Pakdel; Josef Fiedler

The contributions I made to the team project include: development of functional requirements (prioritized and non-prioritized), implementation of search functionality, implementation of post functionality, implemented message functionality, established flask server configuration and database connection, QA testing.

I made 9 commits to develop. My commit count is relatively low due to Himani committing collaborative work.

One of the main challenges I ran into while doing this project was correctly saving files locally. Our React server was not sending the form data to our Flask server and I was confused on whether it was a front-end or back-end issue. After tons of google searches I found that there exists a React constructor called FormData() that creates a new FormData object which enables React to send form data properly to the Flask server.

What I would Do differently next time is focus more on time management and getting things done in a timely manner. I would also have read documentation more thoroughly, because the learning curve for React was steep.



Sat 12/17/2022 11:31 AM

Josef Fiedler

Team Contributions

Cc Robert Peter Swanson; Yasaman Pakdel; Donnovan Jiles; Olimpia Aquillon

The main areas in which I contributed are server deployment, setting up a CICD pipeline, creating the database, implementation of login and registration functionalities and dashboard info (user, messages, posts) functionality.

I made 55 commits to the develop branch.

The biggest challenge was making the several pieces of software (react, node, nginx, flask) work together on our AWS server. Another big challenge was to assure good practices using Github, but the team has handled this task very well.

I would implement a swagger as soon as backend development started for an easier work with the flask APIs.

Hope to see you guys all today! 😊 Josef



Dragutin Petkovic; Himani Varshney; Robert Peter Swanson; Yasaman Pakdel; Josef Fiedler; Donnovan Jiles 💌

0 1 4:21 PM

CSC 648 Fall 2022 Milestone 5 Section 9 Team 3- Olimpia Aguillon



a)

- 1. Created login page- Requires SFSU email and password. Provided options for users to click on forgot password link or signup link.
- 2. Created the forgot password page- Requires users to input their email.
- 3. Created signup page- Requires first name, last name, SFSU id, SFSU email, password, and checking off the terms and conditions box. Provided a link to go to the login page for users with existing accounts.
- 4. Created details page for both free posts and contact seller posts- Displays the image, the title, the author, the category, and the price. Also shows the download button or the contact seller button according to the post selected.
- 5. Created the contact seller messaging page. This is a form that has prefilled the seller's name and the title of the item. Which then leaves the user to provide the date and the message they want to send.
- I made 17 commits to the develop branch.
- c)
 The first main challenge I had was getting familiar with react.js and bootstrap. I had never used it and setting up my ide was a bit challenging to figure out, but once I knew which commands to run I was able to get started. The next thing that was challenging was creating the contact seller button. For some reason when I tried to use the button tag it wouldn't link to my message page so instead, I dressed up the link to look like a button using css. The most challenging thing was connecting the backend. I had to figure out how to send data as well as how to receive data but luckily there were many tutorials online and I was also able to look at my classmate's code for reference.
- u) If I had to do this again I would have not hard coded, to begin with. I know that during milestone 3 we had to show what the design would be. So I know that's why we did it, but I think it was really challenging transiting from it being hardcoded to having the backend provide data. I feel like the time I spent hardcoding could have been spent thinking about receiving and giving data from/to the backend.

Best, Olimpia Aguillon (Team 3)



Sat 12/17/2022 8:37 AM Yasaman Pakdel

Milestone 5 part 9 - my team contributions

To Himani Varshney; Robert Peter Swanson; Olimpia Aguillon; Donnovan Jiles; Josef Fiedler

- a) My contributions were:
 - a. Created user profile page
 - b. Created user posts page
 - c. Created user messages page
- b) I have made 3 commits to the develop branch. This number is small because I made most of my commits to other sub-branches and merged them later on.
- c) The main challenge for me was learning React and Bootstrap, as this was the first time I was working on the front end. Connecting the front end to backend was also very challenging for me.
- d) One thing I would do differently is that I would study the front end framework more in advance and spend more time on it before our project actually begins. I also wished I could help my team more and do more tasks, which could have been possible if I had spent more time learning the framework.

Happy Holidays, Gators! ITS wishes you a safe and Happy New Year 2023!!

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My contributions:

- Integrating Google Analytics to the website
- Deploying the app on AWS server
- Integrating front end to back end apis
- Adding backend code to generate thumbnails
- Helping both front end developers and backend developers in resolving some showstopper technical issues
- Document editor for milestone documents.
- Effectively managing the team by ensuring team members deliver on time.
- Motivating team members time to time.
- Enhancing collaboration among the team
- Setting up softwares likeTrello for team management and encouraging the team to use them.
- Setting up Zoom meeting for continuous communication within the team and getting daily updates.

The number of submissions I made to github dev branch is 40. It is so because I was more involved in the integration and the deployment part of the application.

Main challenges encountered:

One of the main challenges I faced while doing this project was the deployment of application on server. I had limited knowledge of AWS and had to go through several online tutorials to get the app deployed for milestone 0. In fact, there were times when the app was running fine on local but gave issues on the server. As a team lead, the main challenge I faced was the communication gap within the team. There were times when I had to coordinate between them to get things done. However, I saw improvement over time and the team collaboration improved. They were helping in resolving each other's technical issues. One more challenge which I noticed was, some developers pushing the code to github without proper unit testing. This created problem while integration and I had to spend lot of time in fixing bugs.

What I would do differently based on my leanings in the class would be better Usability testing to make the application more user centered. I would also have frequent QA to detect bugs in early stage. As a team lead, I would encourage team members to better collaborate with the team and bring up issues at the earlier stage. I would use team management tools like Trello more effectively. I have learnt a lot through this course and I would definitely carry these learnings when I start working.