SW Engineering CSC648/848 Fall 2022

GatorExchange

(WWW site for Buy/Sell/Share of Digital media exclusively for SFSU students and faculty)

Team 4

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Milestone 2

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1. Executive Summary

Nowadays, in a digital era, we are well aware that most communication and collaboration occur through digital devices and primarily through media, whether formal or informal interaction. This inflated the existence and the use of digital media like digital photos, videos, audio, soft copy of documents, etc. As students, we empathize with how difficult it is for us to search for the relevant documents and files for our projects, assignments, presentations, and self-study. Not only for students, but sometimes the professors, instructors, and teaching assistants also require some document or file related to their subject. Searching for the required and relevant files from the whopping internet is a time-consuming and tiresome process, especially when we have to work with an approaching deadline; locating the supporting material is more burdensome than completing the work. So, we came up with the idea of building a platform called "GatorExchange" that provides an easy-to-share, sell, and buy interface for exchanging digital media among SFSU students and staff members.

GatorExchange enables the students and staff members of the SFSU to share digital materials related to their interests without any login and sign-up process. It also allows them to upload their original media like handwritten notes, presentation, supplementary textbooks, musical sequence, etc. Moreover, these media can be shared freely or posted to sell. It works two ways, i.e., one can get an appreciation for their efforts, and the other can easily access the material either free of cost or with nominal pay. As our project is exclusive to SFSU, it allows searching from limited and most relevant materials posted by someone from the same community rather than futile efforts to explore the entire internet. Apart from that, the uniqueness involved in the project is the posts being associated with category that allow users to search by filtering categories.

We, as a team, are a group of students from Computer Science and Business major. Our vision is to build an interface that connects people with similar interests, hobbies, or majors to sell, buy and share digital media among SFSU. Also, we aim to design this application to be very user-friendly, enabling the people from SFSU to access the digital content easily.

2. List of main data items and entities

2.1 User:

The user can be of 3 types, as listed below.

- Admin: Admin can approve the post of the registered user to b displayed on the web.
- Registered user: Registered users can buy, sell and share the media.
- Guest user: Guest users can search but must register to buy, sell or share the media. The user who are not registered in the database are guest users.

- **id**: Unique integer id of each user
- **first_name**: First name of the user
- **last_name**: Last name of the user
- **email**: Email will be used as the username of the user
- **password**: Password of the user *(encrypted)*
- **preferences:** Preference of the user such as interests or major

2.2 Post:

The post contains the data that is included in a post done by the user. It will have all the information that is shown in the post including the user who posted, type of the post, tile, description, price and the category.

- **post_id**: Unique integer id of each post
- **uploader_id**: User who posted (Foreign key from the User table)
- **post_type**: Type of the post (image/video/audio/document)
- **title**: Title of the post
- **file**: Media file of the post
- **description**: Description of the post
- **price**: Price of the post (0 if Free)
- **approved**: Post approval flag (True if approved by admin otherwise False)
- **category**: Category of the post (Foreign key from the Category Table)
- **created_timestamp**: Post time

2.3 Category:

Each Post is attached with some category. This category will be the foreign key in the Post table. Some of the examples of categories are:

- Presentation
- Lecture Recording
- Music
- Poetry

- Art
- Computer Science
- Software Engineering
- Philosophy
- Sports
- Photography
- Travel
- Gaming
- Food
- Technology

- **category_name**: Name of the category as listed above

2.4 Message:

This table will store the information about who sends message to whom and for which post, it does not include any payment activity.

- **message_id**: Unique integer id of each transaction
- **post_id**: Post for which transaction is occurred (Foreign key from the Post table)
- **buyer**: User id of the user who sends message (Foreign key from the User table)
- **seller**: User id of the user who receives the message and owner of the post (Foreign key from the User table)
- **message**: Message content send by the buyer to seller
- **status**: Status of the activity
- **timestamp**: Time stamp when the message is sent

3. Functional Requirements

Priority 1:

Guest users

1.1. Shall be allowed to register for an account: Guest user needs to register for buying, selling, or sharing any digital media.

1.2. Shall be able to search: Guest users can still search for the media without registration.

1.4: Shall be able to browse.

1.5: Shall be able to view item details.

Registered users

2.1. Inherit all the functional requirements of the Guest user.

2.2. Shall be able to create a post with uploaded media: Can create a post for selling/sharing digital media along with the title, description, and category.

2.3. Shall be allowed to message sellers to inquire about listed content: Can send the message to the seller for sharing contact details to buy the digital media

2.4. Shall be allowed to bookmark posted content: Can save the post for future reference

2.9. Shall be able to view their posts using Dashboard.

2.10. Shall be able to view their messages using Dashboard.

Administrator

3.1. Inherit all functional requirements of Registered users.

3.2. Shall be required to approve or reject user-submitted media for sharing and marketplace.

3.3. Shall be able to delete posts that break community guidelines.

3.5. Shall be able to view the analytics of the website, showing overall users, interactions, and the number of posts.

3.6 Shall be able to remove users.

Priority 2:

Registered user

2.6. Shall see notifications when a buyer is interested in posted content.

Priority 3:

Registered user

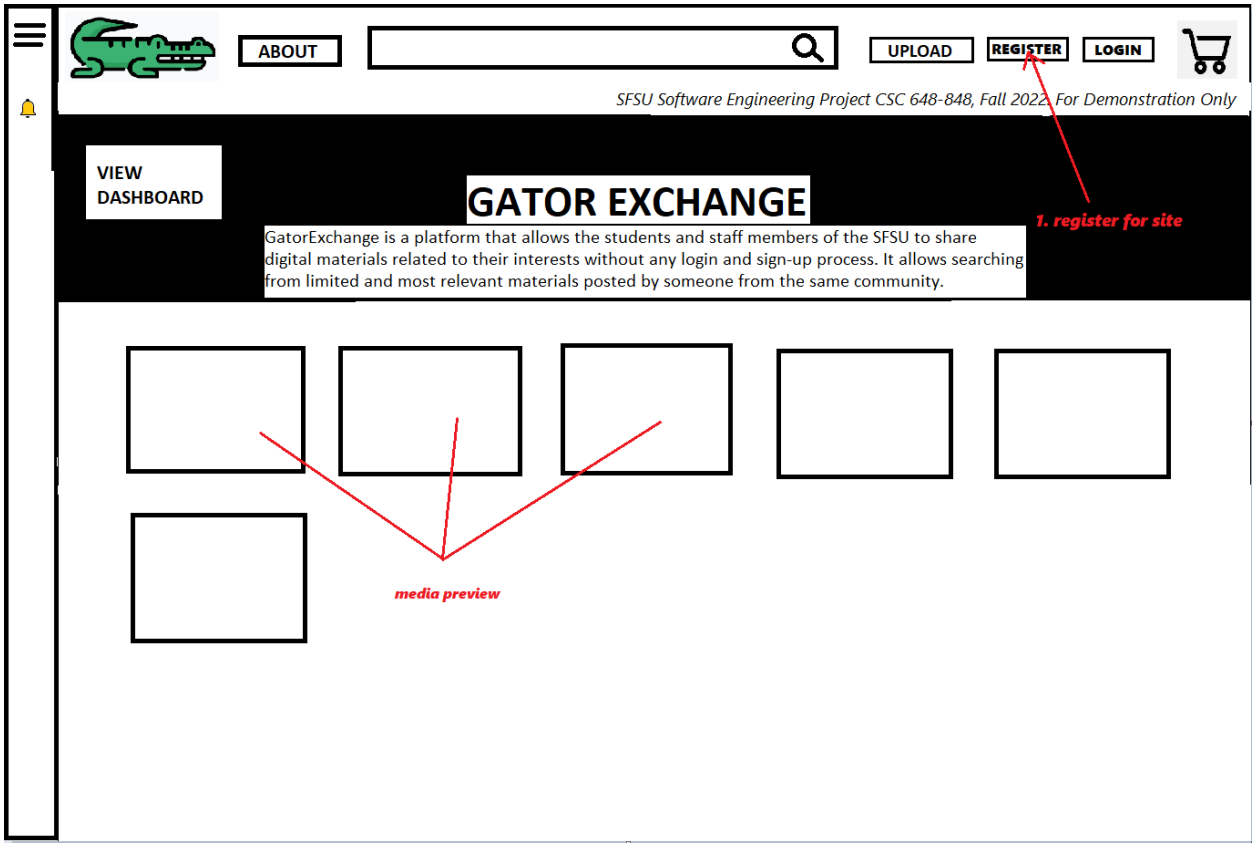
2.5. Shall be allowed to rate posted content

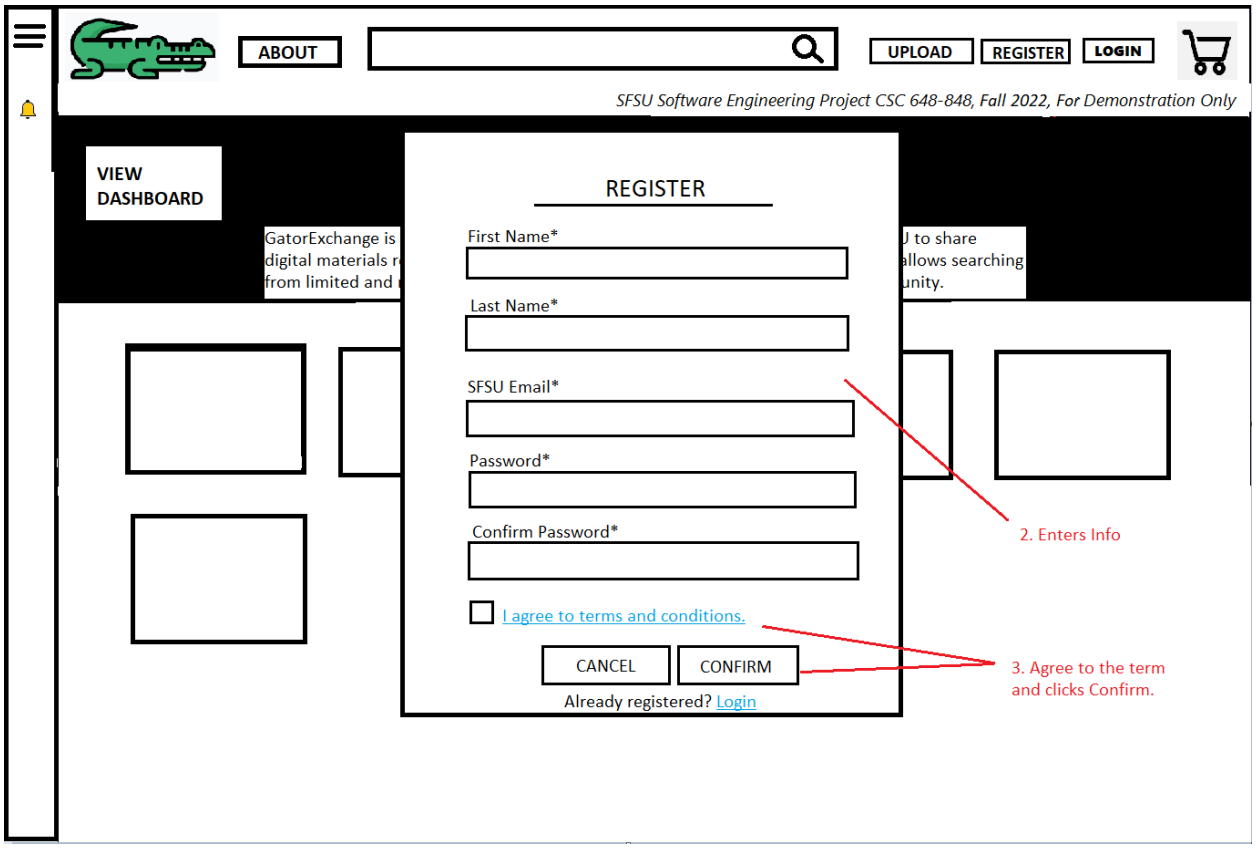
2.8. Shall be allowed to follow other users to get notified of new posts.

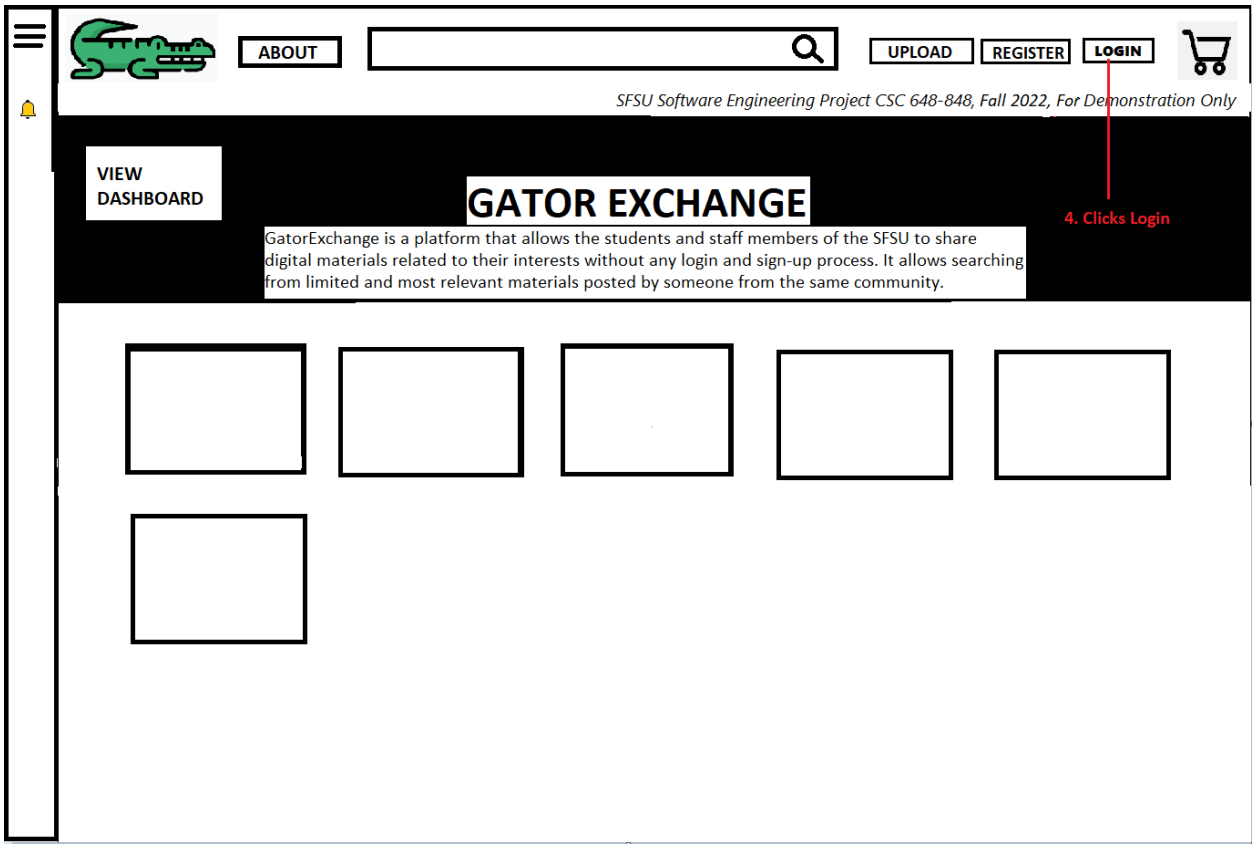
4. UI Storyboards for each main use case (low-fidelity B&W wire diagrams only)

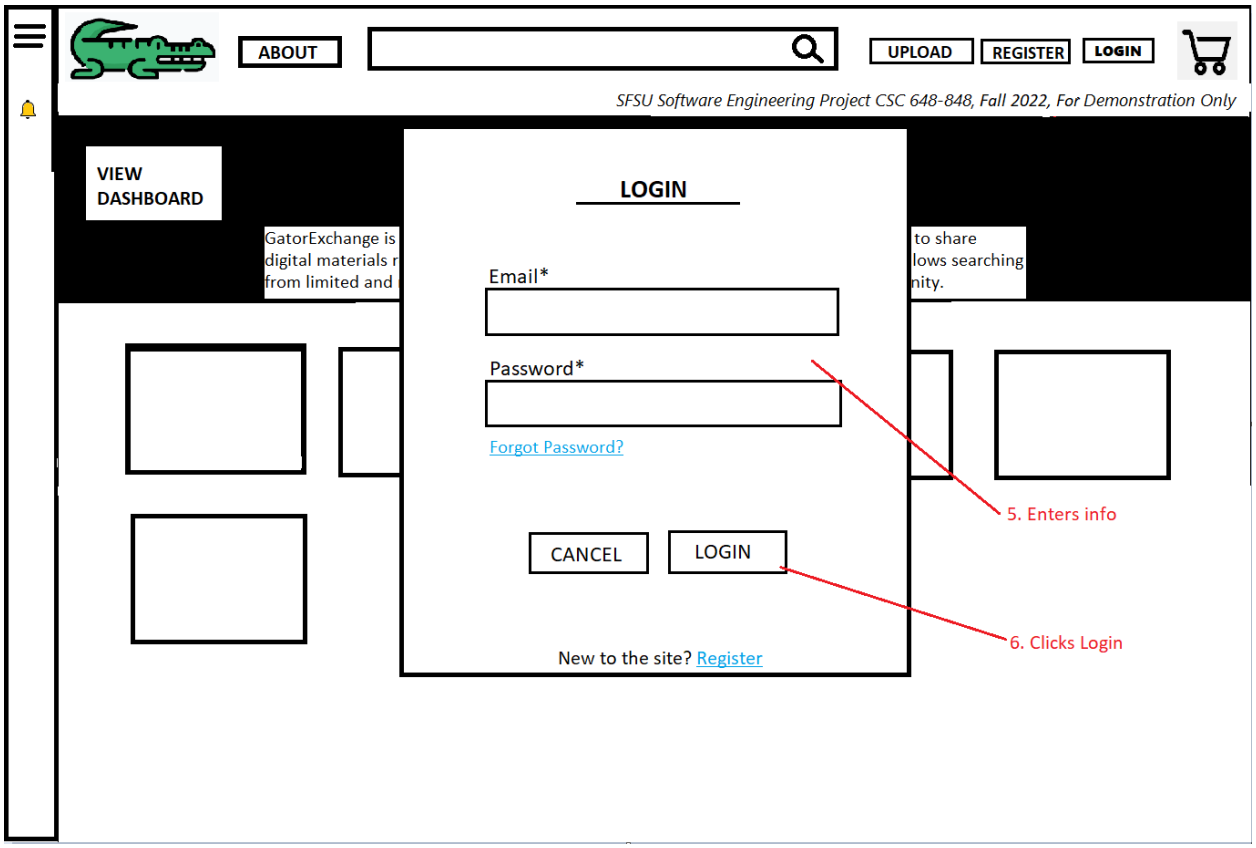
USE CASES:

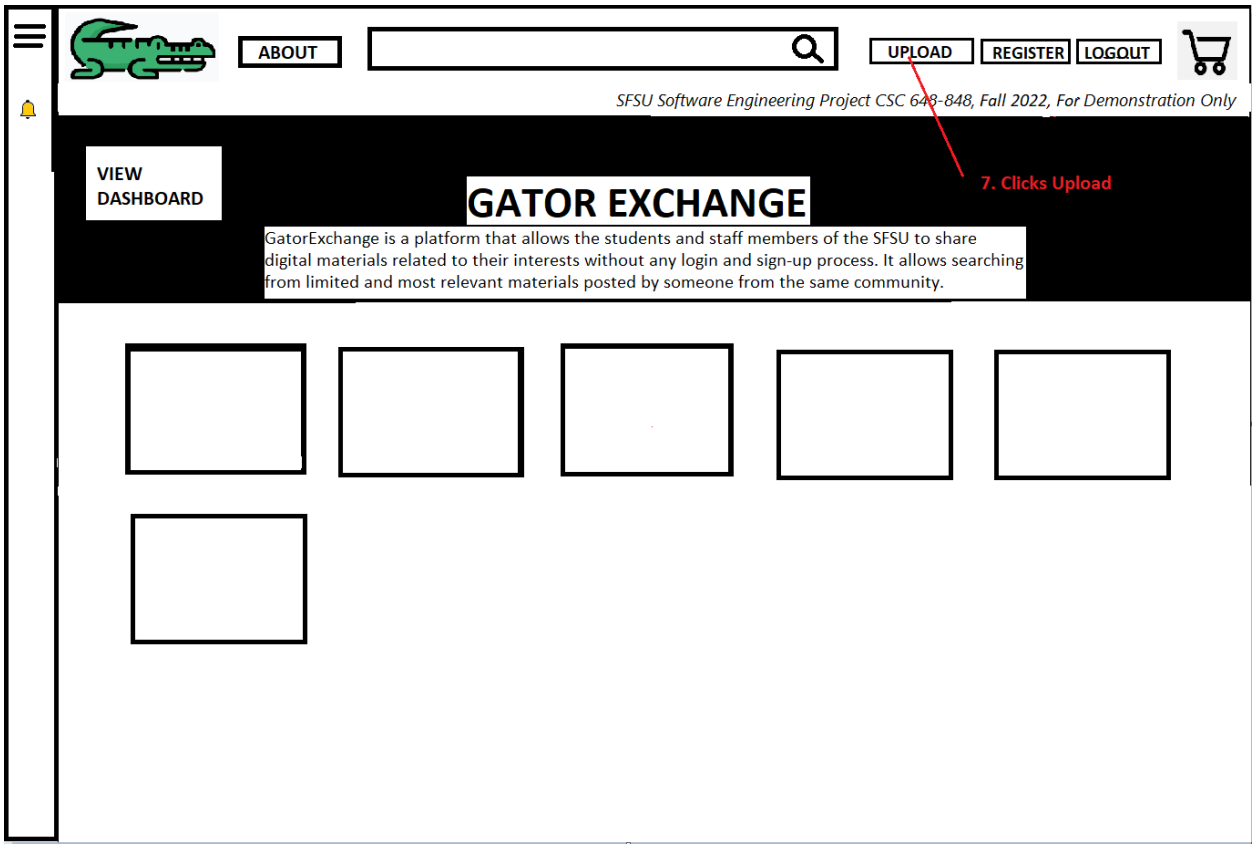
1. **Post:** A guest user, previews the website, decides to register, and goes through that process. He then login and creates a post. It then informs him that the post will be reviewed soon by the admin and will be available on the website.




ABOUT
UPLOAD
REGISTER
LOGIN
SFSU Software Engineering Project CSC 648-848, Fall 2022, For Demonstration Only
VIEW DASHBOARD
REGISTER
First Name*
Last Name*
SFSU Email*
Password*
Confirm Password*
I agree to terms and conditions.
CANCEL
CONFIRM
Already registered? Login
2. Enters Info
3. Agree to the term and clicks Confirm.


ABOUT
UPLOAD
REGISTER
LOGIN
SFSU Software Engineering Project CSC 648-848, Fall 2022, For Demonstration Only
VIEW DASHBOARD
GATOR EXCHANGE
GatorExchange is a platform that allows the students and staff members of the SFSU to share digital materials related to their interests without any login and sign-up process. It allows searching from limited and most relevant materials posted by someone from the same community.
4. Clicks Login


ABOUT
UPLOAD
REGISTER
LOGIN
SFSU Software Engineering Project CSC 648-848, Fall 2022, For Demonstration Only
VIEW DASHBOARD
LOGIN
Email*
Password*
Forgot Password?
CANCEL
LOGIN
New to the site? Register
5. Enters info
6. Clicks Login


ABOUT
UPLOAD
REGISTER
LOGOUT
SFSU Software Engineering Project CSC 648-848, Fall 2022, For Demonstration Only
VIEW DASHBOARD
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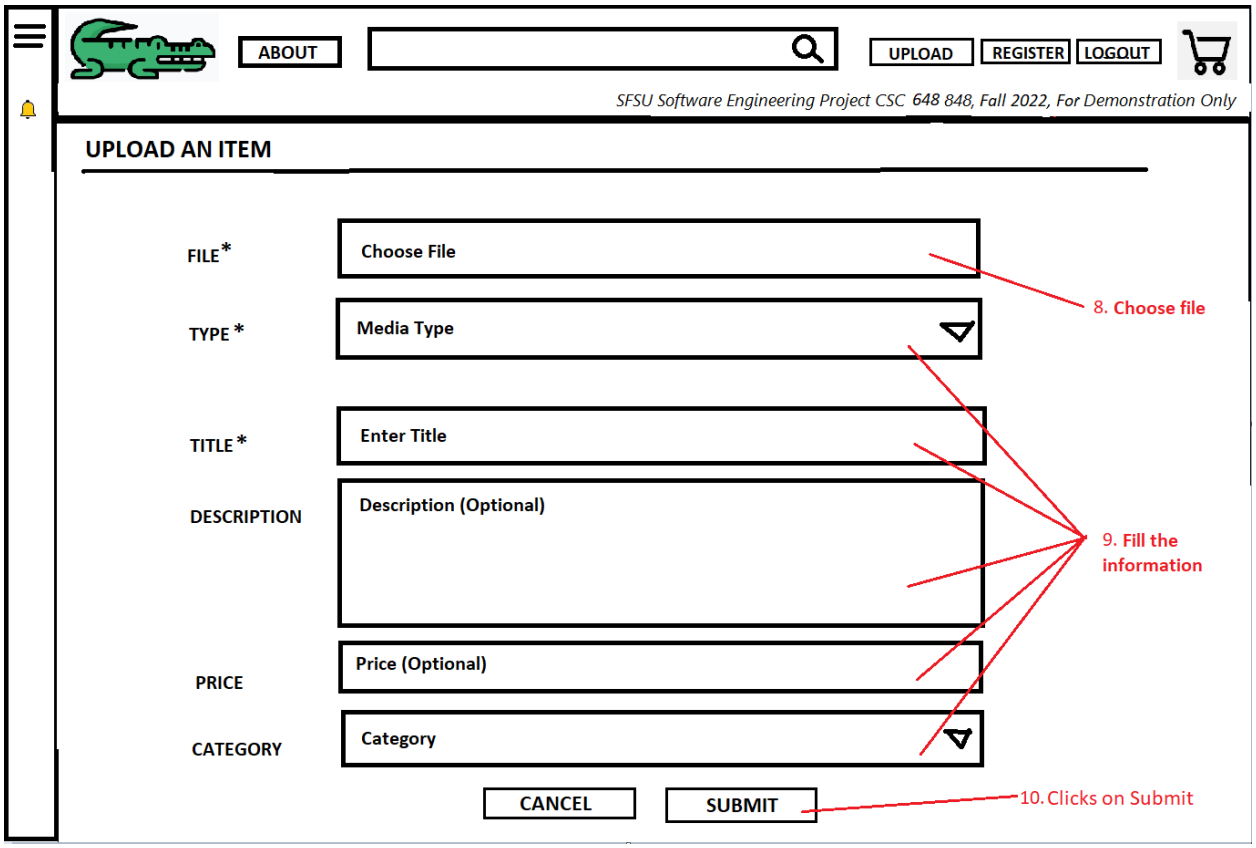
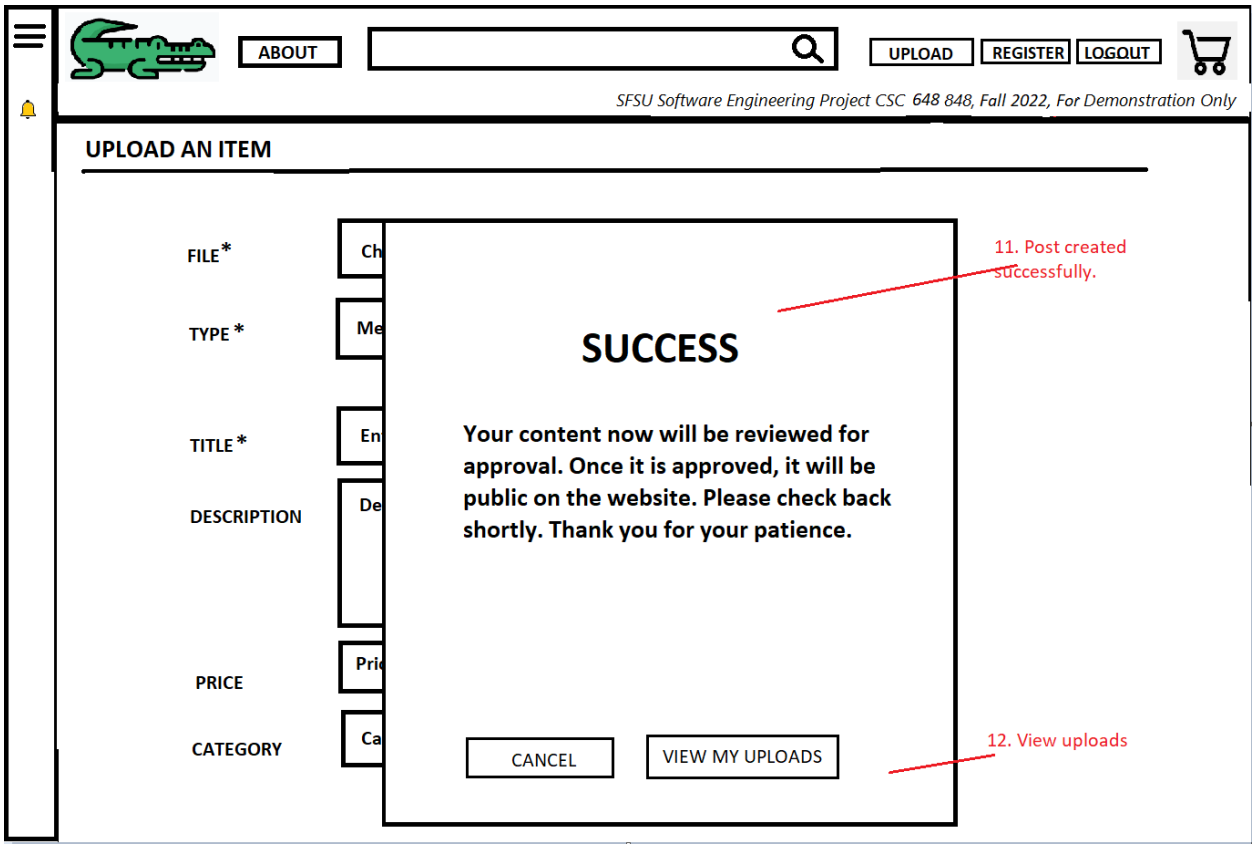
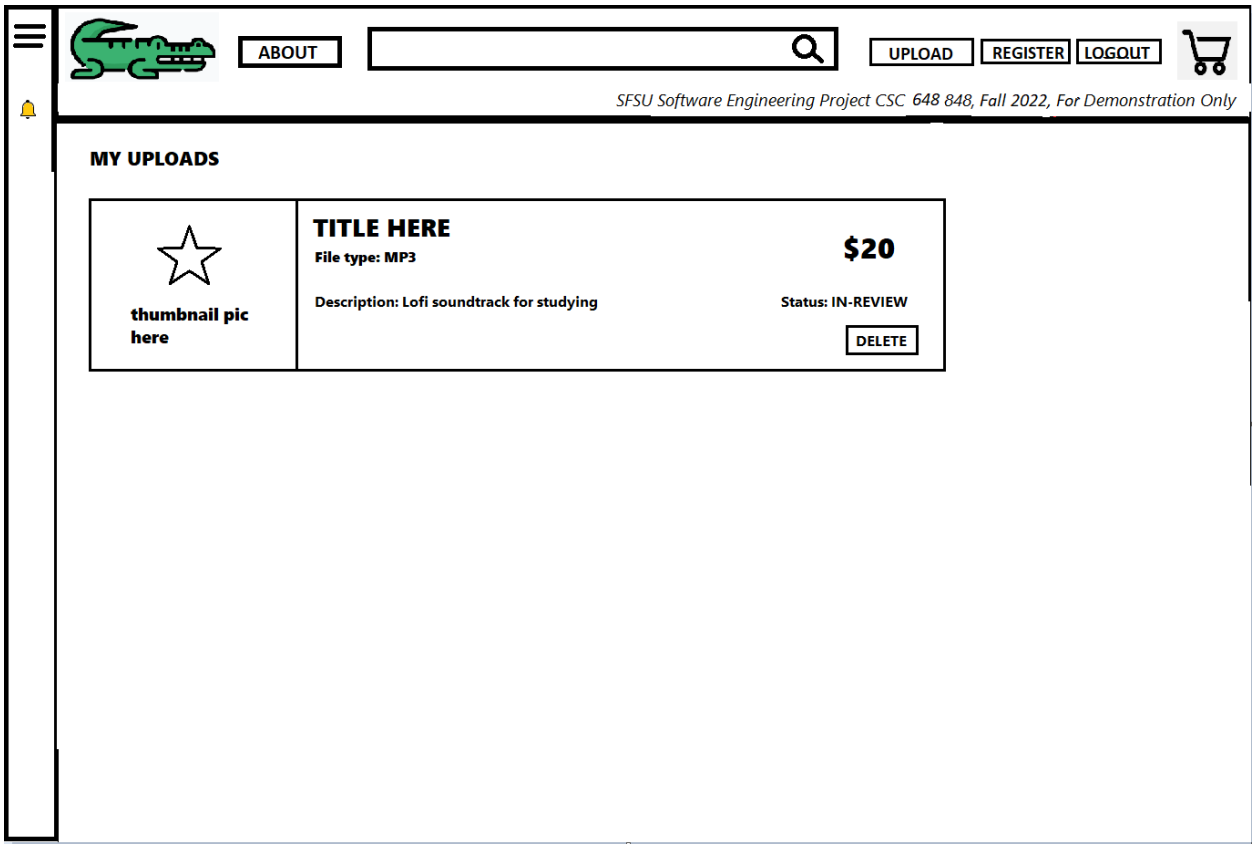
7. Clicks Upload

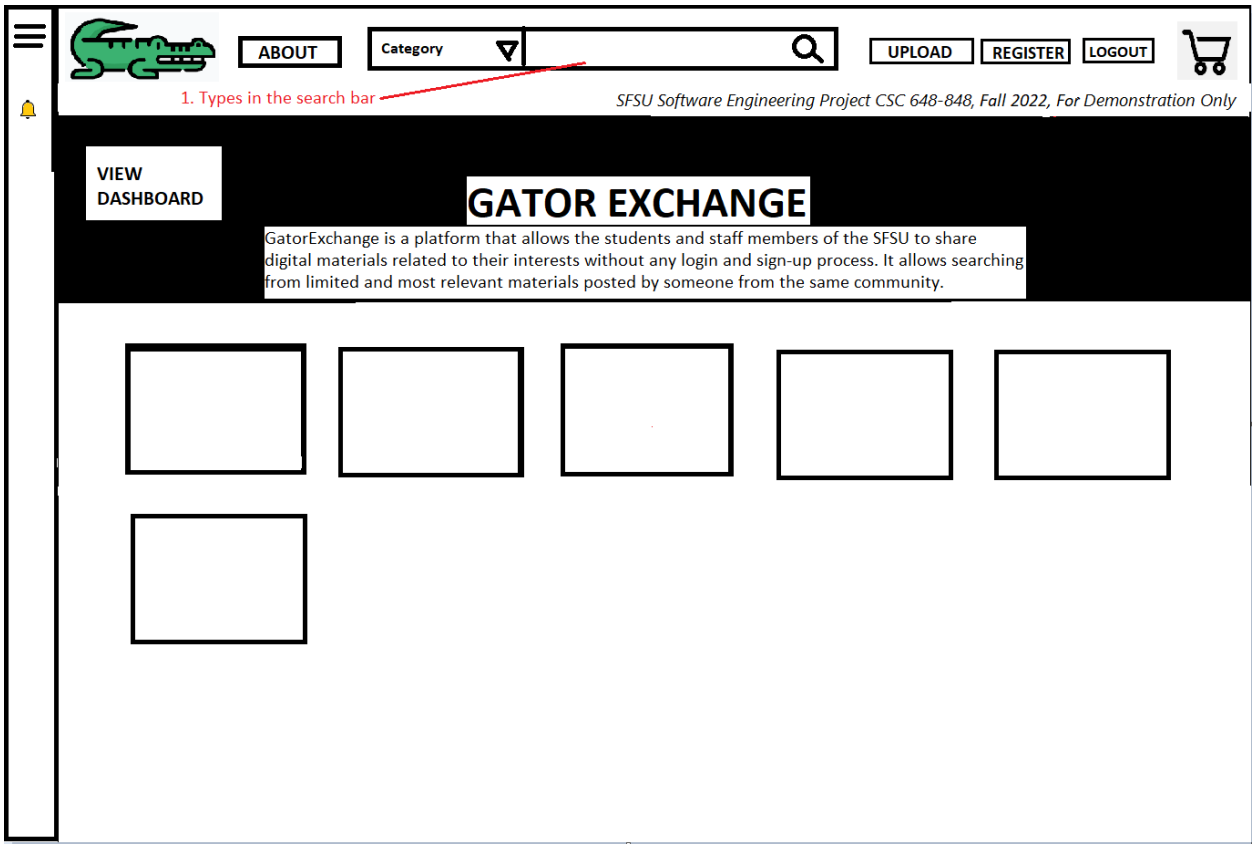

ABOUT
UPLOAD
REGISTER
LOGOUT
SFSU Software Engineering Project CSC 648 848, Fall 2022, For Demonstration Only
UPLOAD AN ITEM
FILE*
Choose File
TYPE *
Media Type
TITLE *
Enter Title
DESCRIPTION
Description (Optional)
PRICE
Price (Optional)
CATEGORY
Category
CANCEL
SUBMIT
8. Choose file
9. Fill the information
10. Clicks on Submit

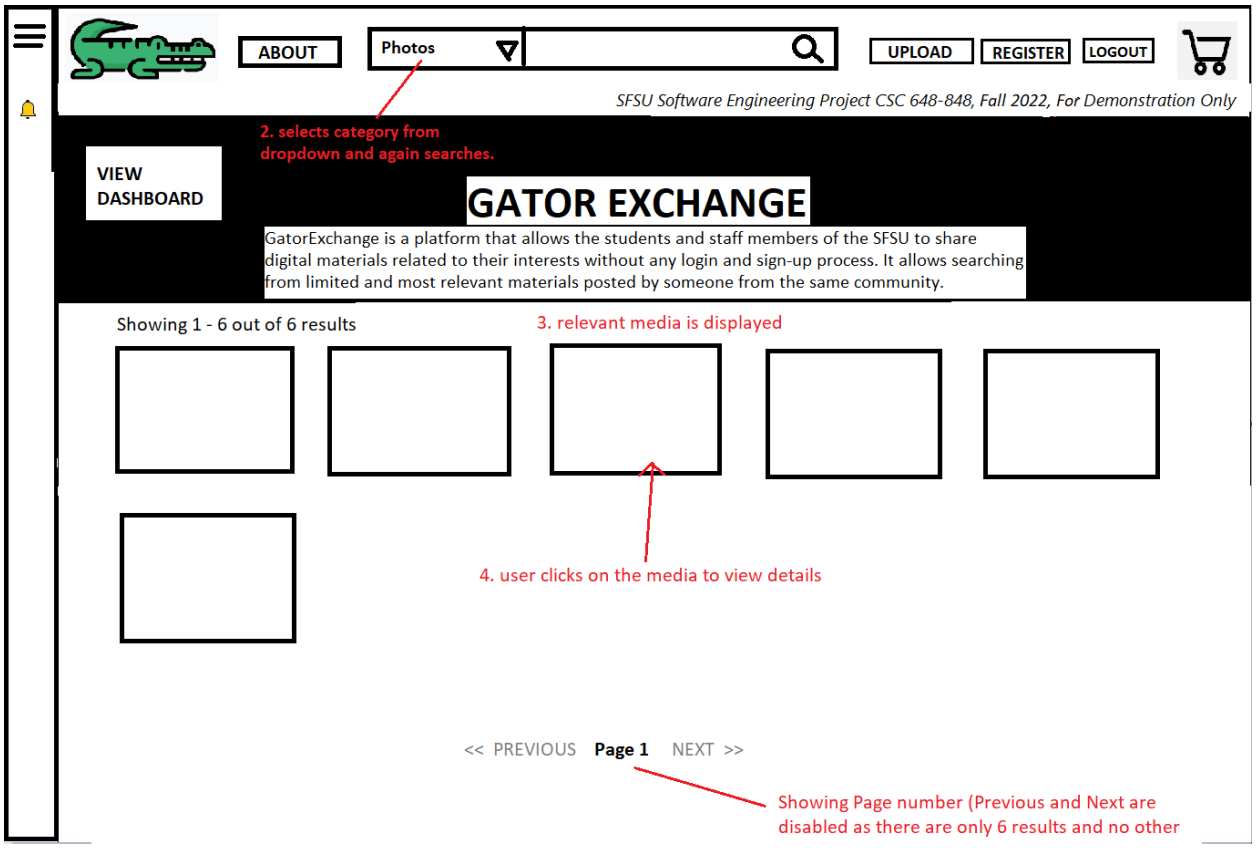

ABOUT
UPLOAD
REGISTER
LOGOUT
SFSU Software Engineering Project CSC 648 848, Fall 2022, For Demonstration Only
UPLOAD AN ITEM
FILE*
TYPE *
TITLE *
DESCRIPTION
PRICE
CATEGORY
SUCCESS
Your content now will be reviewed for approval. Once it is approved, it will be public on the website. Please check back shortly. Thank you for your patience.
CANCEL
VIEW MY UPLOADS
11. Post created successfully.
12. View uploads

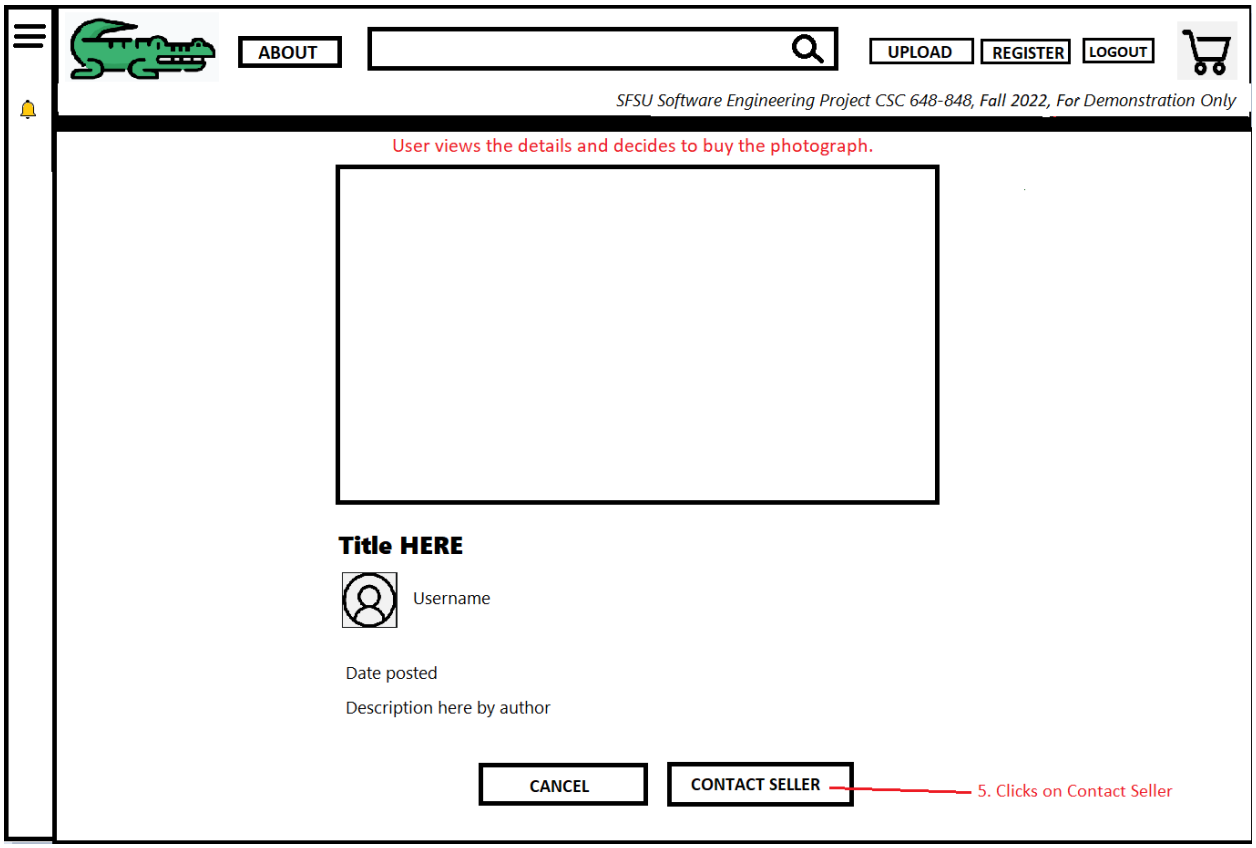

ABOUT
UPLOAD
REGISTER
LOGOUT
SFSU Software Engineering Project CSC 648 848, Fall 2022, For Demonstration Only
MY UPLOADS
thumbnail pic here
TITLE HERE
File type: MP3
$20
Description: Lofi soundtrack for studying
Status: IN-REVIEW
DELETE

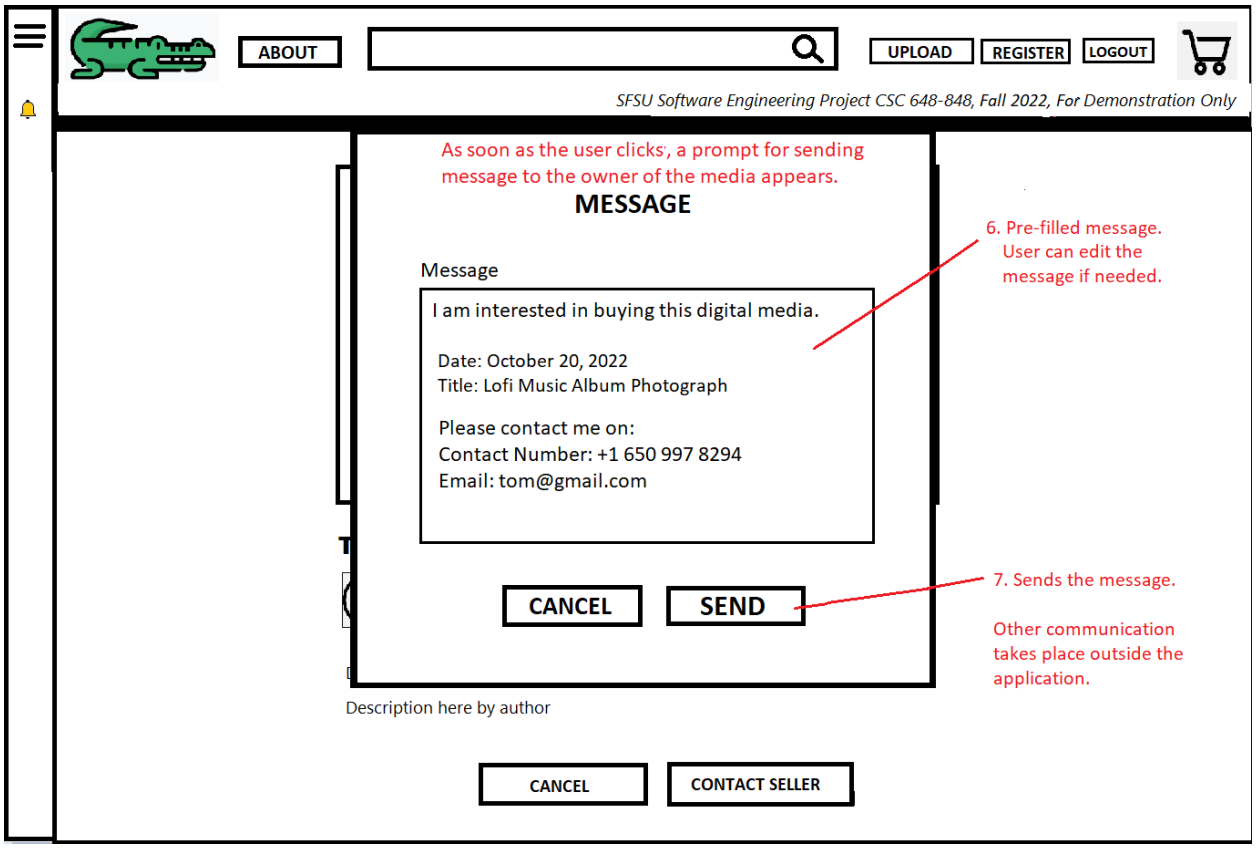
2. **Search and Contact Seller:** A registered user decides to use the search to find photographs that have been posted by other registered users. He then finds a post he likes and decides to contact seller. He then messages the seller with the contact details so they can further communicate outside of the website. If both are in agreement, they will use a 3rd party app to complete the payment transaction.

A user is already registered and logged in to his account.

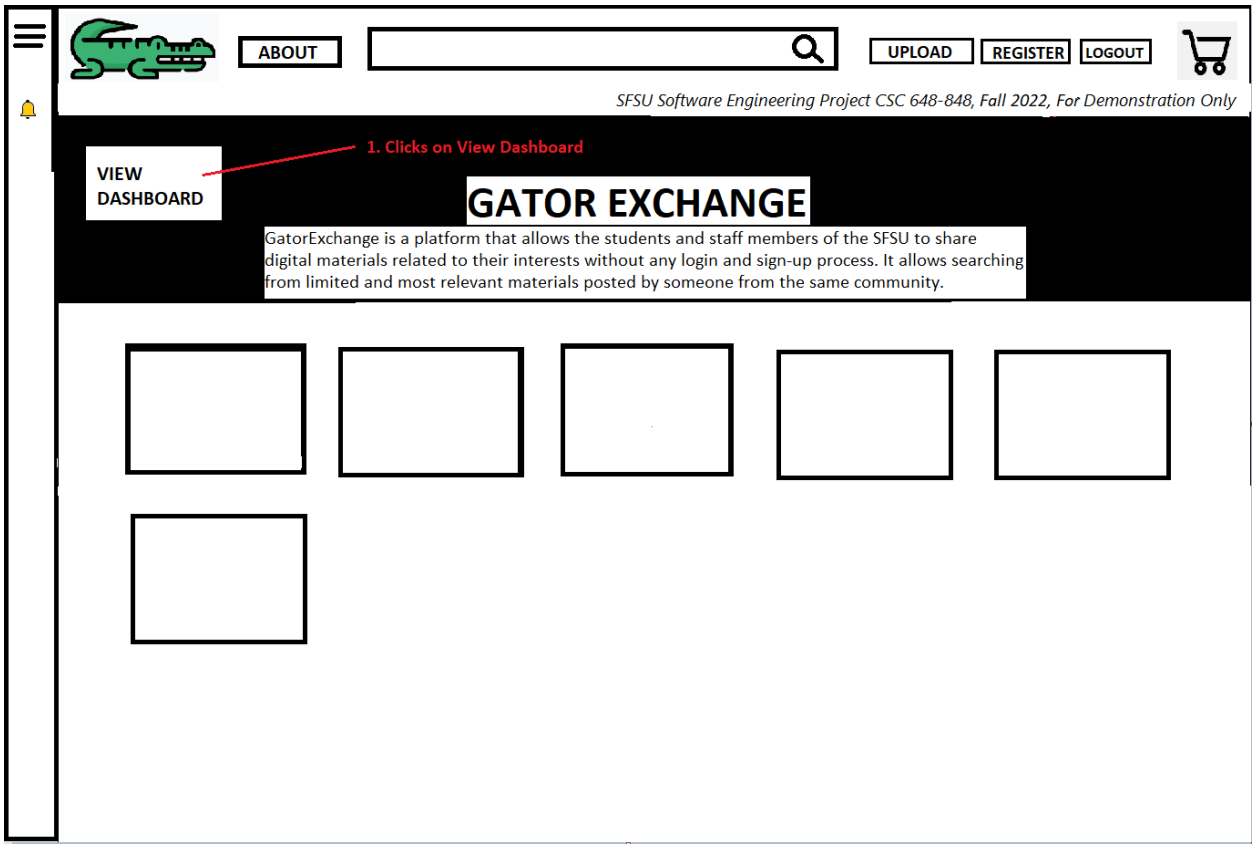



ABOUT
Photos
UPLOAD
REGISTER
LOGOUT
SFSU Software Engineering Project CSC 648-848, Fall 2022, For Demonstration Only
2. selects category from dropdown and again searches.
VIEW DASHBOARD
GATOR EXCHANGE
GatorExchange is a platform that allows the students and staff members of the SFSU to share digital materials related to their interests without any login and sign-up process. It allows searching from limited and most relevant materials posted by someone from the same community.
Showing 1 - 6 out of 6 results
3. relevant media is displayed
4. user clicks on the media to view details
<< PREVIOUS
Page 1
NEXT >>
Showing Page number (Previous and Next are disabled as there are only 6 results and no other


ABOUT
UPLOAD
REGISTER
LOGOUT
SFSU Software Engineering Project CSC 648-848, Fall 2022, For Demonstration Only
User views the details and decides to buy the photograph.
Title HERE
Username
Date posted
Description here by author
CANCEL
CONTACT SELLER
5. Clicks on Contact Seller



3. **View Messages:** A user who posted his digital media for sale, receives a message. He then views the message on the dashboard and note the contact details send by the interested buyer.


ABOUT
UPLOAD
REGISTER
LOGOUT
SFSU Software Engineering Project CSC 648-848, Fall 2022, For Demonstration Only
VIEW DASHBOARD
1. Clicks on View Dashboard
GATOR EXCHANGE
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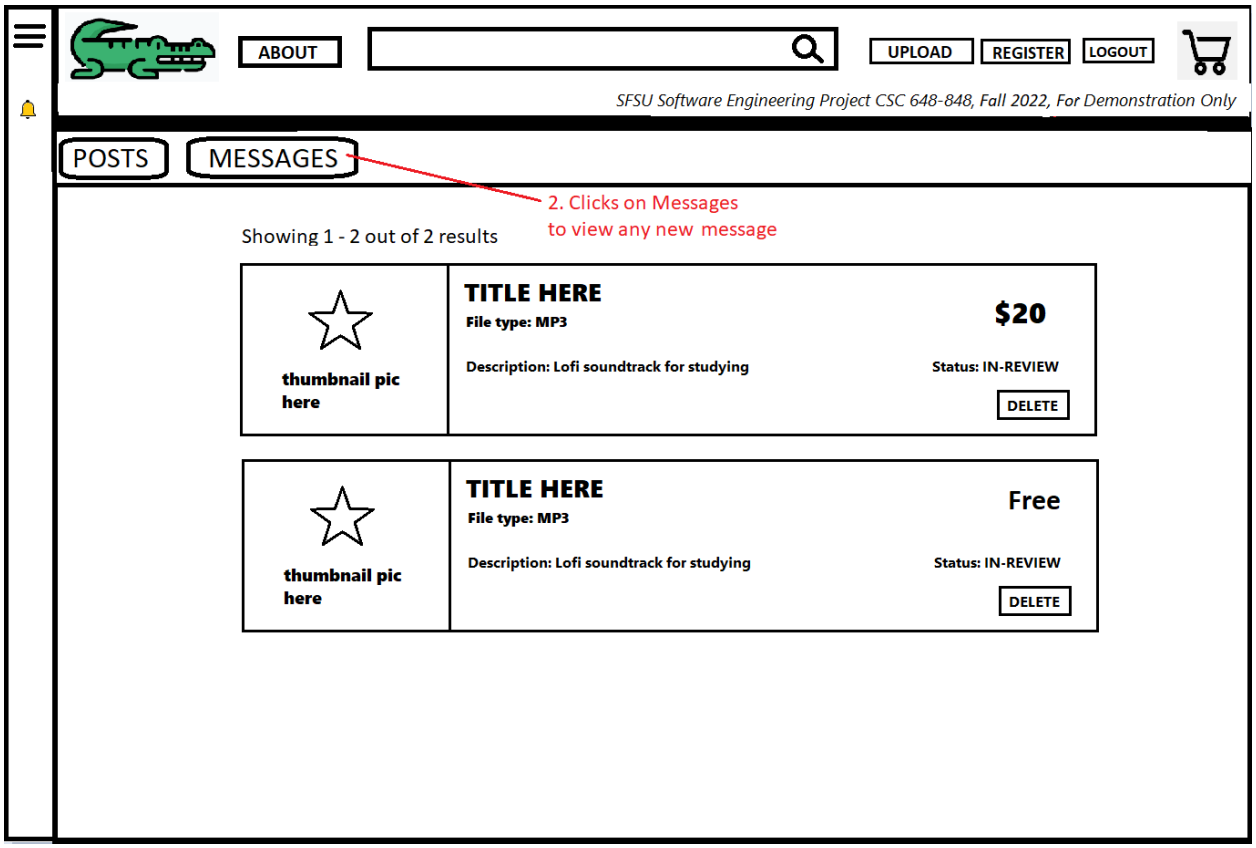
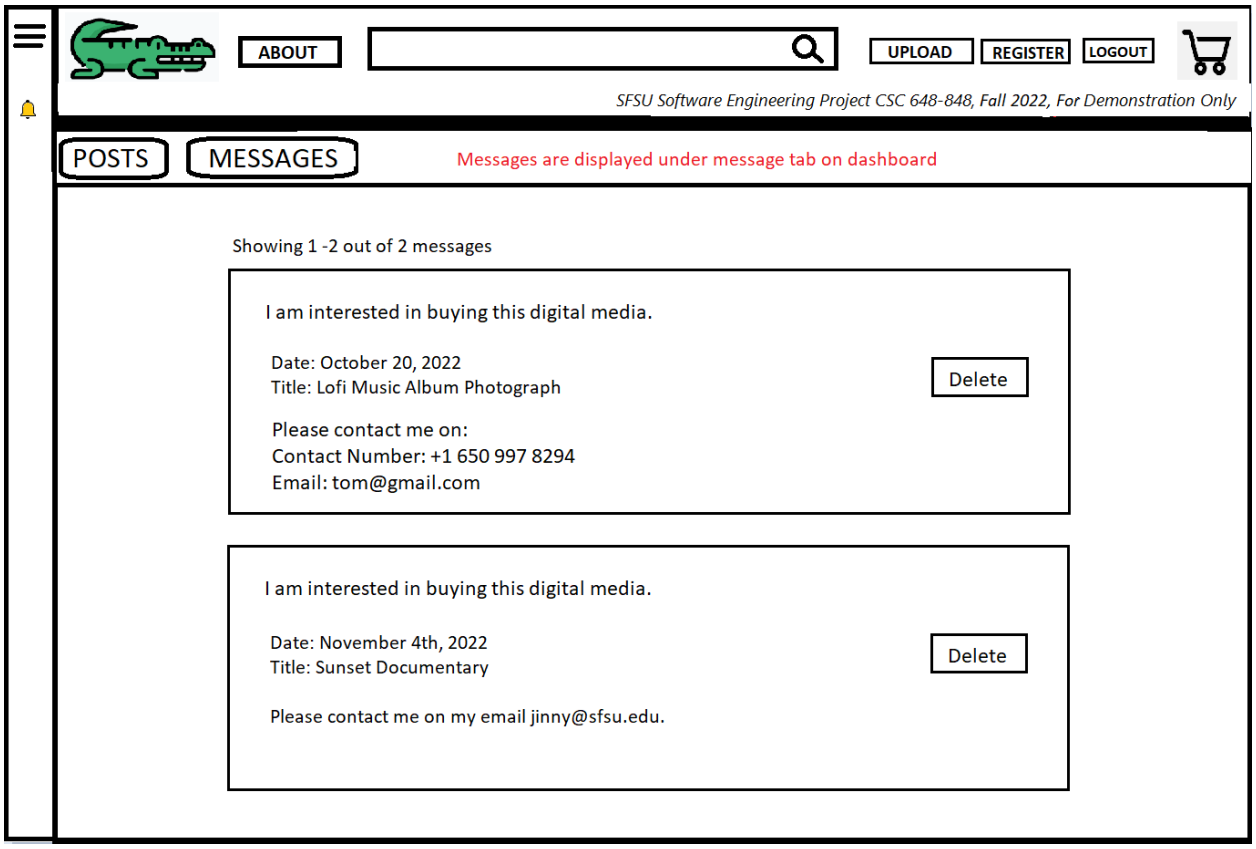

ABOUT
UPLOAD
REGISTER
LOGOUT
SFSU Software Engineering Project CSC 648-848, Fall 2022, For Demonstration Only
POSTS
MESSAGES
2. Clicks on Messages to view any new message
Showing 1 - 2 out of 2 results
thumbnail pic here
TITLE HERE
File type: MP3
$20
Description: Lofi soundtrack for studying
Status: IN-REVIEW
DELETE
thumbnail pic here
TITLE HERE
File type: MP3
Free
Description: Lofi soundtrack for studying
Status: IN-REVIEW
DELETE



4. **Approving post:** The admin approves the post by going to the workbench and editing the field approved in Post Table after the post is created by the user. The post won't be displayed on the website until the admin approves it.

   The admin can also delete any post or user if any rules or regulations is being violated. That banned user won't be able to access the website anymore.

5. High-level Architecture, Database Organization summary only

1. **DB Organization**

   User:

   - **id**: INT
   - **first_name**: VARCHAR
   - **last_name**: VARCHAR
   - **email**: VARCHAR
   - **password**: VARCHAR
   - **preferences**: VARCHAR

Post:

- **post_id**: INT
- **uploader_id**: INT (Foreign key from the User Table)
- **post_type**: VARCHAR
- **title**: VARCHAR(45)
- **file**: VARCHAR (255)
- **description**: VARCHAR(255)
- **price**: FLOAT
- **approved**: VARCHAR
- **category**: VARCHAR (Foreign key from the Category Table)
- **created_timestamp**: DATETIME

Category:

- **category_name**: VARCHAR

Message:

- **message_id**: INT
- **post_id**: INT (Foreign key from the Post Table)
- **buyer**: INT (Foreign key from the User Table)
- **seller**: INT (Foreign key from the User Table)
- **message**: VARCHAR(255)
- **status**: VARCHAR
- **timestamp**: DATETIME

2. **Media Storage**
   - Our application will be storing different types of media files such as documents, videos, images, and audio files on the server. The location (file path) of the media will be stored in the database.

3. **Search/filter architecture and implementation**
   - We will be using the '*%like'* feature provided by SQL which will search on the category and title.
   - Also, items will also be organized by categories. Our search function will search posts by categories. If the post has the requested category, all posts with that category will be shown in the results.

4. **API**
   - login(email, password): *create a session entry for the user*
   - register(details): *get all details and save a new user + login*

- home(user): *get main screen data (relevant posts) for the logged-in user/guest user.*
- search_posts(keywords): *search posts and categories based on keywords entered.*
- get_my_posts(user): *get all the posts posted by and bought by the logged-in user.*
- upload_post(details): *get all details and save the post.*
- get_post_details(post): *get all the details of a post.*
- send_message(buyer, seller, post): *send a message to the buyer from the seller about a post.*

6 . Risk

- Skill risks:

The skill risk that might occur is that not every member of the team is well aware with the technologies and tools that we are going to use. (Python, Reactjs, SQL, Flask). To address this issue the team will watch videos either the ones provided by the professor or ones we find on our own. As well as we will help each other learn through personal experience or what we found and limit the scope to features in Priority 1.

- Schedule risks:

The risk is not having time to meet to discuss our progress or upcoming deadlines. We will address this issue by finding a time that a majority of the group can meet even if it is a 30 min time slot either in person or virtually via zoom meeting.

- Technical risks:

The technical risk is the admin not being able to review the media from the Workbench. We will address this issue by training the admin to view the media file by directly copying the link and playing it into the local system.

- Teamwork risks:

There can be a disagreement when it comes to this project. To address this issue we all will have a voice and create a way to communicate our ideas and have an open mind.

Another teamwork risk is having everyone on the same page and doing a task at an appropriate time. To address this issue we will create a task list and set deadlines for these tasks to be completed.

- Legal/content risks:

The legal risk includes finding media that will not cause us legal trouble in the future. We will address this issue by making our own media. Also, we will find free media online that have no copyright issues to use for the project.

7 . Project Management

GitHub Issues: The team will use GitHub Issues for Project Management.

As we are using GitHub for our Project, it is easier to maintain our tasks in Github itself to avoid managing different tools. GitHub provides an easy-to-use portal for managing GitHub Issues where we can assign the task with a description, assignee, labels, and deadline.

- Team leads (Frontend/Backend) will assign the task through GitHub Issue to the team members along with the deadline, title, description, etc. The team member will be able to push the relevant files to GitHub and it will be reviewed and approved by the respective team lead and then finally it will be approved by the Team Lead of the Project.
- Changes done to the project can be linked to the issues, with appropriate labels and milestones to categorize them.
- Push Requests will be linked to the issues to be tracked.