

Software Engineering Summer 2023

Milestone 2

Art Villa

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Kyle Humphrey

History Table

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Table of Contents

Executive Summary	3
Use Cases	4
Data Structures & Entities	7
Functional Requirements	8
Non-Functional Requirements	16
Technological Stack	17
Final Note	18

1. Executive Summary

Art Villa is a simple web application designed to provide an online social media network for people who want to display their artwork. Art Villa encourages public posting of artwork, thus users who register have their accounts public by default. Registered users can interact with each other's posts and purchase artwork from one another. Additionally art contests are held each month, where the winner can receive a monetary prize. Art Villa is a website that allows artists to have an engaging social media experience whilst showcasing and selling their artwork at the same time.

2. Use Cases

Use Case Descriptions

1) Users

a) Casual Unregistered User (Bob)

Bob liked to view artwork for inspiration for his projects. Bob can search through Art Villa and find posted artwork that he enjoys viewing.

b) Casual Registered User (James)

James loves to showcase his artwork and view artwork from other people online. James can register for an account, go to the posting page, post his artwork, and watch the interactions on his post. Additionally, James can view other users' posts and give a Like or Comment.

c) Selling Registered User (Maria)

Maria wants to showcase her artwork and raise some money for her career. Maria can register for an account, go to the posting page, set her artwork to be sold, post her artwork, wait for a buyer to purchase her item, then message the buyer on how they would want the item delivered, and then deliver it.

d) Buying Registered User (Erica)

Erica loves buying art for her art collections. Erica can register for an account, view a sellable art post, purchase it, then message the seller on how they would want the item to be delivered, and then receive it.

e) Art Competitor Registered User (Patricia)

Patricia is a very competitive artist and winning a public contest gives her a special thrill. She can register for an account, and if an art contest is open, go to a contest posting page, pay a contest fee, enter an artwork to be posted in the contest, wait for the contest results, and view the results of the contest and her contest post.

f) Dispute Reporting Registered User (Ocelia)

Ocelia sees another user is harassing her, engaging in underhanded/fraudulent practices, or is posting inappropriate content, she can contact the site admins to mention her dispute. The site admins would investigate the matter, possibly inquire more from Ocelia about the situation, and ultimately resolve the issue.

2) Admins

a) Contest Creator Admin (Regina)

Regina's role in the company is to create art contests. Regina's account is created as a super user within the system. Regina can log in, go to the contest creating page, create a post with a picture and description, and post it.

b) Contest Judge Admin (Wesley)

Wesley's role in the company is to manage art contests. Wesley's account is created as a super user within the system. Wesley can log in, go to the contest viewing page, view the latest contest, view the posts of each entered artwork, and select a winner.

c) Dispute Admin (Randall)

Randall sees a contact message from a registered user about a dispute. Randall's account is created as a super user within the system. Randall can log in, inquire more about the dispute, investigate all parties of the dispute, and resolve the dispute by a warning, correction, and/or termination.

Use Case Page Diagrams

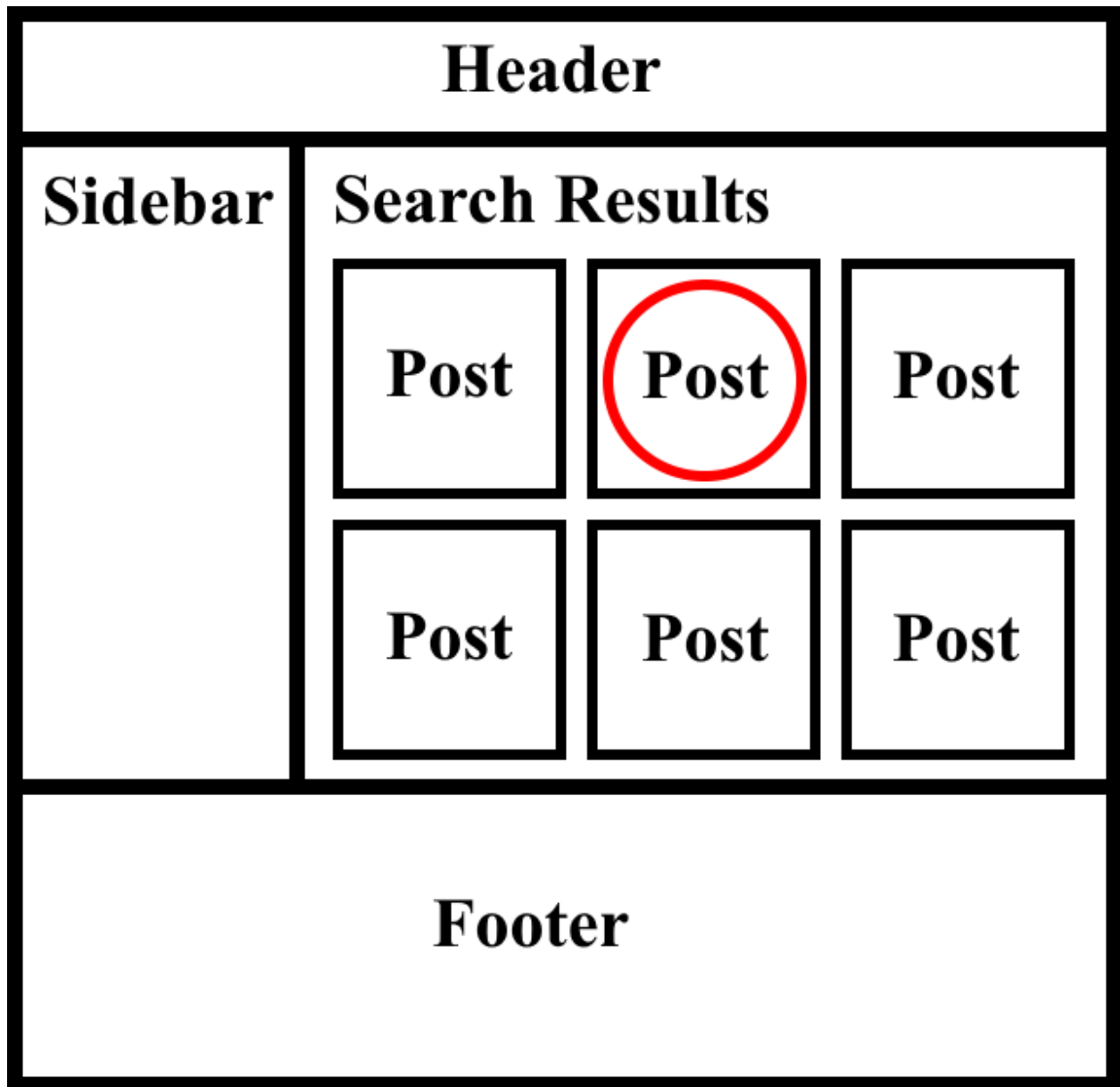
Use Case Page #1-1

Bob arrives at the Home Page and uses the Search Bar to search for a post he likes.

Logo	Search		Login	Sign Up
Content Types	Popular Posts			
	Post	Post	Post	
Genres	Post	Post	Post	
	Post	Post	Post	
	Post	Post	Post	
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.		

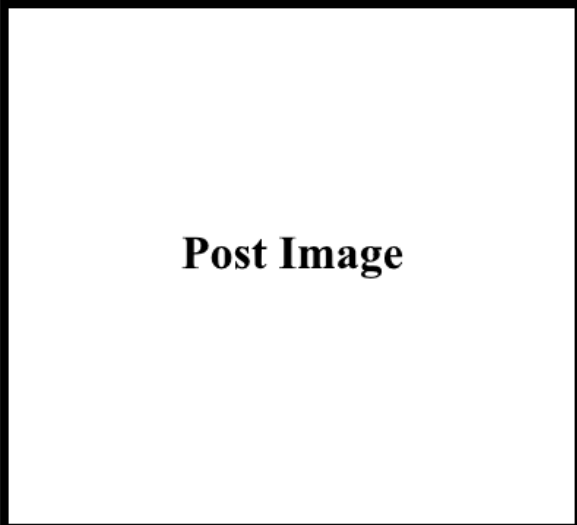
Use Case Page #1-2

Bob clicks on a post he likes.



Use Case Page #1-3

Bob enjoys viewing a post from the website.

Header			
Title	Related Posts		
	Related Post		
	Related Post		
	Related Post		
	Related Post		
Like	Related Post		
Comment	Related Post		
Post Statistics	Related Post		
Author	Related Post		
Description	Related Post		
Comments	Related Post		
<table border="1"><tr><td>Author</td><td>Comment Text</td></tr></table>	Author	Comment Text	Related Post
Author	Comment Text		
<table border="1"><tr><td>Author</td><td>Comment Text</td></tr></table>	Author	Comment Text	Related Post
Author	Comment Text		
Footer			

Use Case Page #2-1

James would like to sign up to register for an account.

Logo	Search		Login	Sign Up
Content Types	Popular Posts			
	Post	Post	Post	
Genres	Post	Post	Post	
	Post	Post	Post	
	Post	Post	Post	
	Post	Post	Post	
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.		

Use Case Page #2-2

James fill out his information and registers his account.

Logo	
<div><div>Sign Up</div><div><div><div>Username</div><div>Email</div><div>Password</div><div>...</div><div>Register</div></div></div></div>	
Footer	

Use Case #2-3

James is given an email verification prompt for him to confirm his email to use his account.

Logo	
<div><div>Sign Up</div><div><div>Username</div><div>Email</div><div>Password</div><div>...</div><div>Register</div></div></div>	
Footer	

Use Case Page #2-4

James goes to his email and clicks a link to verify his account. He is redirected back to his logged in account home page with an email verification success message. James clicks his account logo icon.

Logo	Search		Account Logo
Content Types	<div>Email Verification Success Message</div>		
Genres	Popular Posts		
	Post	Post	Post
	Post	Post	Post
	Post	Post	Post
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #2-5

James selects the Upload option to upload a new post.

Logo	Search		Account Logo
Content Types	Email Succ	Popular P	Account My Profile Page My Posts My Cart My Offers My Messages My Transactions My Contests Upload
Genres	Post	Post	Post
	Post	Post	Post
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #2-6

James enters the information for his post and uploads it. James disallows commissioning for his post.

Logo	
New Post	
Title	
File Upload	
Description	
Commissioning Data	
Upload	
Footer	

Use Case Page #2-7

James can view his post statistics and edit his post.

Logo	
New Post	
<input type="text" value="Title"/>	
<input type="text" value="File Upload"/>	
<input type="text" value="Description"/>	
<input type="text" value="Commissioning Data"/>	
<input type="button" value="Upload"/>	
Footer	

Use Case Page #3-1

Maria arrives at the Home Page and logs in.

Logo	Search		Login	Sign Up
Content Types	Popular Posts			
	Post	Post	Post	
Genres	Post	Post	Post	
	Post	Post	Post	
	Post	Post	Post	
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.		

Use Case Page #3-2

Maria enters her information and logs into her account.

Logo	
<div><div><div>Log In</div><div><div><div>Username</div></div><div><div>Password</div></div><div><div>Log In</div></div></div></div></div>	
Footer	

Use Case Page #3-3

Maria clicks on her account logo.

Logo	Search		Account Logo
Content Types	Popular Posts		
	Post	Post	Post
Genres	Post	Post	Post
	Post	Post	Post
	Post	Post	Post
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #3-4

Maria chooses to upload a post.

Logo	Search		Account Logo		
Content Types	Popular		Account My Profile Page My Posts My Cart My Commissions My Messages My Transactions My Contests Upload		
	Post				
Genres	Post				
	Post				
	Post	Post	Post		
	Post	Post	Post		
Logo	About Contact T.O.S.		Privacy Policy Copyright Policy F.A.Q.		

Use Case Page #3-5

Maria uploads a new post while setting the commissioning to be enabled at a price.

Logo	
New Post	
<input type="text" value="Title"/>	
<input type="text" value="File Upload"/>	
<input type="text" value="Description"/>	
<input type="text" value="Commissioning Data"/>	
<input type="button" value="Upload"/>	
Footer	

Use Case Page #3-6

Maria has not set up her payment info yet. She is prompted to set it up. She enters her information and registers her payment info.

Logo	
<div><div>Payment Info</div><div><div>Payment Options</div><div>Full Name</div><div>Credit Card Number</div><div>...</div><div>Set Up Payment Info</div></div></div>	
Footer	

Use Case Page #3-7

Maria can view her post with the price.

Header		
Title		Edit
Post Image		Related Post
		Related Post
		Related Post
		Related Post
Like	Comment	Related Post
Post Statistics		Price
Author		Related Post
Description		Related Post
Comments		Related Post
Author	Comment Text	Related Post
Author	Comment Text	
Footer		

Use Case Page #3-8

Eventually people purchase the artwork of her post. She goes to “My Commissions”.

Logo	Search		Account Logo
Content Types	Popular	Account My Profile Page My Posts My Cart My Commissions ② My Messages My Transactions My Contests Upload	
Genres	Post		
	Post		
	Post	Post	Post
	Post	Post	Post
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #3-9

She chooses to message one of her buyers.

Logo	Search		Account Logo
My Commissions			
!			
User Image	Username	Price	
	Post Title	Message	Resolve
!			
User Image	Username	Price	
	Post Title	Message	Resolve
User Image	Username	Price	
	Post Title	Message	Reopen
Proceed to Checkout			
Logo	About	Privacy Policy	
	Contact	Copyright Policy	
	T.O.S.	F.A.Q.	

Use Case Page #3-10

She then can converse with her buyer to set up how the artwork would be delivered.

Logo	Search		Account Logo
Messages			
<div>User Profile Image</div>	Username		...
<div><div>Message</div><div>Message</div><div>Message</div></div>			
Message Text			Send
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #3-11

Once the exchange is done, she can resolve the commission, marking it as inactive.

Logo	Search		Account Logo
My Commissions			
!			
User Image	Username	Price	
	Post Title	Message	Resolve
!			
User Image	Username	Price	
	Post Title	Message	Resolve
User Image	Username	Price	
	Post Title	Message	Reopen
Proceed to Checkout			
Logo	About	Privacy Policy	
	Contact	Copyright Policy	
	T.O.S.	F.A.Q.	

Use Case Page #4-1

Erica is already a registered user.

Logo	Search		Login	Sign Up
Content Types	Popular Posts			
	Post	Post	Post	
Genres	Post	Post	Post	
	Post	Post	Post	
	Post	Post	Post	
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.		

Erica logs in.

Logo	
<div><div>Log In</div><div><div>Username</div><div>Password</div><div>Log In</div></div></div>	
Footer	

Use Case Page #4-3

Erica clicks a post she likes.

Logo	Search		Account Logo
Content Types	Popular Posts		
Genres	Post	Post	Post
	Post	Post	Post
	Post	Post	Post
	Post	Post	Post
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #4-4

Erica decides to buy the artwork from that post.

Header		
Title		Related Posts
<div>Post Image</div>		Related Post
		Related Post
		Related Post
		Related Post
		Related Post
Like	Comment	Add to Cart
Post Statistics		Price
Author		Related Post
Description		Related Post
Comments		Related Post
Author	Comment Text	Related Post
Author	Comment Text	
Footer		

Use Case Page #4-5

Once she is finished buying all the artwork she wants, Erica goes to her account logo.

Logo	Search		Account Logo
Content Types	Popular Posts		
	Post	Post	Post
Genres	Post	Post	Post
	Post	Post	Post
	Post	Post	Post
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #4-6

Erica goes to the “My Cart” page.

Logo	Search		Account Logo		
Content Types	Popular	Account My Profile Page My Posts My Cart ③ My Commissions My Messages My Transactions My Contests Upload			
	Post				
Genres	Post				
	Post				
	Post	Post	Post	Post	
	Post	Post	Post	Post	
	Post	Post	Post	Post	
	Post	Post	Post	Post	
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.			

Use Case Page #4-7

Erica confirms buying all her selected artwork.

Logo	Search		Account Logo
My Cart			
<div>Post Image</div>	<div>Post Title Price</div>	<div>Remove Item</div>	
<div>Post Image</div>	<div>Post Title Price</div>	<div>Remove Item</div>	
<div>Post Image</div>	<div>Post Title Price</div>	<div>Remove Item</div>	
<div>Proceed to Checkout</div>			
Logo	<div>About Contact T.O.S.</div>	<div>Privacy Policy Copyright Policy F.A.Q.</div>	

Use Case Page #4-8

Erica confirms the total purchase.

Logo	Search		Account Logo
Checkout			
Payment Method		Price Sum	
		Checkout	
Cart Items			
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #4-9

After waiting for contact from the seller(s), Erica checks her account.

Logo	Search		Account Logo
Content Types	<div>Checkout Success Message</div>		
Genres	Popular Posts		
	Post	Post	Post
	Post	Post	Post
	Post	Post	Post
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #4-10

Erica goes to her messages to respond to her seller.

Logo	Search		Account Logo
Content Types	Popular	Account My Profile Page My Posts My Cart My Commissions <u>My Messages</u> ①	
Genres			
	Post	My Transactions My Contests Upload	
	Post	Post	Post
	Post	Post	Post
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #4-11

Erica enters the chat with her seller.

Logo	Search		Account Logo
My Chats			
<input type="text" value="Search"/>		<input type="button" value="New Chat"/>	
<div><div><div>User Image</div><div>Username</div></div><div>1</div></div>			
<div><div><div>User Image</div><div>Username</div></div></div>			
<div><div><div>User Image</div><div>Username</div></div></div>			
<input type="button" value="Proceed to Checkout"/>			
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #4-12

Erica arranges how she wants her artwork to be delivered.

Logo	Search		Account Logo
Messages			
<div>User Profile Image</div>	Username	...	
<div><div>Message</div><div>Message</div><div>Message</div></div>			
Message Text			Send
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #5-1

Patricia arrives at the home page and sees that a contest is active. She enters the contest.

Logo	Search		Account Logo
Content Types	Contest Title		
Genres	Contest Image		
	Contest Description		
	Enter		
	Popular Posts		
	Post	Post	Post
	Post	Post	Post
Logo	About	Privacy Policy	
	Contact	Copyright Policy	
	T.O.S.	F.A.Q.	

Use Case Page #5-2

Patricia is prompted to enter a contest post. She cannot edit her post, upload another contest post, or make the post commissionable to others. She fills in the information and uploads the contest post.

Logo	
New Contest Post	
<input type="text" value="Title"/>	
<input type="text" value="File Upload"/>	
<input type="text" value="Description"/>	
<input type="button" value="Upload"/>	
Footer	

Use Case Page #5-3

Patricia can see the post she entered for the contest.

Header	
Title	Related Posts
<div>Post Image</div>	Related Post
	Related Post
	Related Post
	Related Post
<div>Like</div>	Related Post
<div>Comment</div>	Related Post
Post Statistics	Related Post
Author	Related Post
Contest Description	Related Post
Description	Related Post
Comments	Related Post
<div>Author</div>	Related Post
<div>Comment Text</div>	
Footer	

Use Case Page #5-4

If Patricia's post is a winner in the contest, her post will be commemorated with a ribbon and a description of her winning the contest in the contest description.

Header	
★ Title	Related Posts
Post Image	Related Post
	Related Post
Like	Related Post
	Related Post
Comment	Related Post
Post Statistics	Related Post
Author	Related Post
Contest Description	Related Post
Description	Related Post
Comments	Related Post
Author	Related Post
Comment Text	
Footer	

Use Case Page #6-1

Ocelia received messages from another user which are inappropriate. She clicks on the options button next to the username of the user she is in a chat with.

Logo	Search		Account Logo
Messages			
<div>User Profile Image</div>	Username	<div>...</div>	
<div><div>Message</div><div>Message</div><div>Message</div></div>			
Message Text		Send	
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #6-2

Ocelia clicks the “Report” button to report the user.

Logo	Search		Account Logo
Messages			
<div>User Profile Image</div>	Username	...	
		<div>Report</div>	
		<div>Block</div>	
<div>Message</div>			
<div>Message</div>			
<div>Message</div>			
Message Text		Send	
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #6-3

Ocelia writes a description of the inappropriate behavior and sends the report.

Logo	
Report a User	
Reported Username	
<div>Report Description</div>	
<div>Submit Report</div>	
Footer	

Use Case Page #6-4

Ocelia receives a success message and waits for the conflict to be resolved.

Logo	Search		Account Logo
Content Types	<div>Report Success Message</div> Popular Posts		
Genres	<div>Post</div>	<div>Post</div>	<div>Post</div>
	<div>Post</div>	<div>Post</div>	<div>Post</div>
	<div>Post</div>	<div>Post</div>	<div>Post</div>
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #7-1

Regina is an admin and heads over to the admin site.

Logo	Search		Account Logo		
Content Types	Popular	<div>Admin Site</div> <div>Account</div> <div>My Profile Page</div> <div>My Posts</div> <div>My Cart</div> <div>My Commissions</div> <div>My Messages</div> <div>My Transactions</div> <div>My Contests</div> <div>Upload</div>			
	Post				
Genres	Post				
	Post	Post	Post	Post	
	Post	Post	Post	Post	
	Post	Post	Post	Post	
	Post	Post	Post	Post	
	Post	Post	Post	Post	
Logo	About	Privacy Policy			
	Contact	Copyright Policy			
	T.O.S.	F.A.Q.			

Use Case Page #7-2

Regina chooses to make a new contest.

Logo	Search		Account Logo
Contests Reports Contact Us Messages Users	Contests <div><div>Search</div><div>Add</div></div> <div><div>Type Icon</div>Contest Title</div> <div><div>Type Icon</div>Contest Title</div> <div><div>Type Icon</div>Contest Title</div> <div><div>Type Icon</div>Contest Title</div> <div><div>Type Icon</div>Contest Title</div> <div><div>Type Icon</div>Contest Title</div>		
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #7-3

Regina fills in information for the contest and posts it.

Logo	
New Contest	
Title	
Image Upload	
Description	
End Date	
Upload	
Footer	

Use Case Page #8-1

Wesley is an admin and goes to the admin site.

Logo	Search	Account Logo		
Content Types	Popular	Admin Site Account My Profile Page My Posts My Cart My Commissions My Messages My Transactions My Contests Upload		
Genres	Post			
	Post			
	Post	Post	Post	Post
	Post	Post	Post	Post
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.		

Use Case Page #8-2

Wesley sees an active contest to judged. He clicks on it.

Logo	Search		Account Logo
Contests ① Reports Contact Us Messages Users	Contests <div>Search Add</div> <div><div>Type Icon</div>Contest Title</div> <div><div>Type Icon</div>Contest Title</div> <div><div>Type Icon</div>Contest Title</div> <div><div>Type Icon</div>Contest Title</div> <div><div>Type Icon</div>Contest Title</div> <div><div>Type Icon</div>Contest Title</div>		
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #8-3

Wesley clicks on “View all Contest Posts”.

Logo	Search		Account Logo	
Contests Reports Contact Us Messages Users		Contest Title		
		Contest Image		
		Contest Description		
		Search		
		View All Contest Posts		
		Type Icon	Post Title Status	
		Type Icon	Post Title Status	
Type Icon	Post Title Status			
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.		

Use Case Page #8-4

For each post, Wesley chooses to award it or navigate over to the next post.

Header		
Title		Related Posts
<div>Post Image</div>		Related Post
		Related Post
		Related Post
		Related Post
Like	Comment	Add to Cart
Post Statistics		Related Post
Author		
Description		Related Post
<div>Award</div>		Related Post
Previous Post	Next Post	Related Post
Footer		

Use Case Page #9-1

Randall is an admin and goes to the admin site.

Logo	Search		Account Logo		
Content Types	Popular	<div>Admin Site</div> <div>Account</div> <div>My Profile Page</div> <div>My Posts</div> <div>My Cart</div> <div>My Commissions</div> <div>My Messages</div> <div>My Transactions</div> <div>My Contests</div> <div>Upload</div>			
Genres					
Logo	About	Privacy Policy			
	Contact	Copyright Policy			
	T.O.S.	F.A.Q.			

Use Case Page #9-2

Randall sees two reports. He clicks on the “Reports” option.

Logo	Search		Account Logo
Contests Reports ② Contact Us Messages Users		Contests <div>Search Add</div> <div>Type Icon Contest Title</div> <div>Type Icon Contest Title</div> <div>Type Icon Contest Title</div> <div>Type Icon Contest Title</div> <div>Type Icon Contest Title</div> <div>Type Icon Contest Title</div>	
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #9-3

Randall sees the active reports and clicks on one.

Logo	Search		Account Logo
Contests Reports Contact Us Messages Users	Reports <div><div>Search</div><div>Add</div></div> <div><div><div>Type Icon</div><div>Username 1 Username 2</div></div><div>!</div></div> <div><div><div>Type Icon</div><div>Username 1 Username 2</div></div><div>!</div></div> <div><div><div>Type Icon</div><div>Username 1 Username 2</div></div></div> <div><div><div>Type Icon</div><div>Username 1 Username 2</div></div></div> <div><div><div>Type Icon</div><div>Username 1 Username 2</div></div></div> <div><div><div>Type Icon</div><div>Username 1 Username 2</div></div></div>		

Use Case Page #9-4

Randall sees a report and views its chat.

Logo	
Report	
Reporter Username	
Reported Username	View Chat
Report Description	
Footer	

Use Case Page #9-5

Randall views the chat and decides that the reported user is guilty. He chooses to message the reported user.

Logo	Search		Account Logo
Messages			
<div>User Profile Image</div>	Reported Username		
<div><div>Message</div><div>Message</div><div>Message</div></div>			
Reporter User Information			
Message Reporter User		Message Reported User	
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #9-5

Randall gives the reported user a warning via message.

Logo	Search		Account Logo
Messages			
<div>User Profile Image</div>	Username		...
<div><div>Message</div><div>Message</div><div>Message</div></div>			
Message Text		Send	
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

Use Case Page #9-7

If the reported user does not heed this warning, Randall can go over to the “Users” tab in the admin site and suspend or remove their account.

Logo	Search		Account Logo
Contests Reports Contact Us Messages Users		Users <div><input type="text" value="Search"/> <input type="button" value="Add"/></div> <div><div>Type Icon</div> Username <input type="button" value="Suspend"/> <input type="button" value="Remove"/></div> <div><div>Type Icon</div> Username <input type="button" value="Suspend"/> <input type="button" value="Remove"/></div> <div><div>Type Icon</div> Username <input type="button" value="Suspend"/> <input type="button" value="Remove"/></div> <div><div>Type Icon</div> Username <input type="button" value="Suspend"/> <input type="button" value="Remove"/></div> <div><div>Type Icon</div> Username <input type="button" value="Suspend"/> <input type="button" value="Remove"/></div> <div><div>Type Icon</div> Username <input type="button" value="Suspend"/> <input type="button" value="Remove"/></div>	
Logo	About Contact T.O.S.	Privacy Policy Copyright Policy F.A.Q.	

3. Data Structures and Entities

Data Structures

Cart Item - An item to be purchased.

Chat - A list of messages between two registered users.

Comment - A message in response to a post or another comment.

Commission - A purchase of artwork from a post.

Commissionable Post - A post which other users are able to purchase. A subclass of Post.

Contact Us Message - A private message sent from one registered user to the contact us message list.

Contest - A competition of various contest posts where a winner is determined.

Contest Award - An award given to the winner of a contents.

Contest Post - A post to be entered in a contest. A subclass of Post.

Direct Message - A message from one registered user to another.

Like - An object indicating positivity towards a post.

Post - A public or semi public piece of content showcasing a message or artwork.

Report - A message describing inappropriate, prohibited, or unlawful activity from another user.

Transaction - A paid transaction between two registered users.

User - A user entering the website who has been registered.

Entities

Account - An account associated with a registered user.

Admin - A user who has been registered internally as an admin. A sub-entity of registered user.

Cart Item- An item to be purchased.

Chat - A list of messages between two registered users.

Comment - A message in response to a post or another comment.

Commission - A purchase of artwork from a post.

Commissionable Post - A post which other users are able to purchase. A subclass of Post.

Contact Us Message List - A list of all contact us messages.

Contact Us Message - A private message sent from one registered user to the contact us message list. A sub-structure of message.

Contest - A competition of various contest posts where a winner is determined.

Contest Award - An award given to the winner of a contents.

Contest Post - A post to be entered in a contest.

Direct Message - A message from one registered user to another. A sub-structure of message.

Like - An object indicating positivity towards a post.

Message - A private message from one registered user.

Post - A public or semi public piece of content showcasing a message or artwork.

Post Transaction - A transaction involving a sellable post. A sub-structure of transaction.

Registered User - A user entering the website who has been registered.

Report - A message describing inappropriate, prohibited, or unlawful activity from another user.

Transaction - A paid transaction between two registered users.

Unregistered User - A user entering the website who is not registered.

4. Frontend Module Architecture

Main Frontend Folders

Common - Contains components subclassed or implemented by multiple other components.

Home - Contains components related to the Home Page.

Account - Contains components related to viewing and editing a user account.

Profile Page - Contains components related to viewing and editing a profile page.

Post - Contains components related to viewing, editing, creating, and deleting posts.

Cart - Contains components related to viewing, editing, and deleting cart items.

Commissions - Contains components related to viewing commissions.

Messages - Contains components related to viewing and creating messages.

Transactions - Contains components related to viewing transactions.

Contests - Contains components related to viewing, editing, and creating contests.

Contact Us - Contains components related to viewing and creating contact us messages.

Reports - Contains components related to viewing and creating reports.

Users - Contains components related to viewing users.

Entry Forms - Contains components for entry forms such as Login and Registration Forms.

Info - Contains static information forms.

Architecture Style

The frontend architecture is structured as follows. Lowercase elements are package folders. Capitalized elements with an extension “.js” are frontend component modules and are always children of package folders. Capitalized elements without an extension are frontend

components and are always children of frontend component modules. Elements within brackets are frontend components that are implemented for its parent but declared elsewhere.

Frontend Module Architecture

common

datarecords

cartitems

ViewCartItemsContainer.js

ViewCartItemsContainer

chats

ViewChatsContainer.js

ViewChatsContainer

comissions

ViewComissionsContainer.js

ViewComissionsContainer

contactusmessages

ViewContactUsMessagesContainer.js

ViewContactUsMessagesContainer

contests

ViewContestsContainer.js

ViewContestsContainer

ViewUserContestsContainer.js

ViewUserContestsContainer

posts

ViewPostsContainer.js

ViewPostsContainer

reports

ViewReportsContainer.js

ViewReportsContainer

transactions

ViewTransactionsContainer.js

ViewTransactionsContainer

users

ViewUsersContainer.js

```

    ViewUsersContainer
ViewItemsControlsContainer.js
    ViewItemsControlsContainer
    ViewItemsSearchBarContainer
    ViewItemsAddControlContainer
ViewListItemsContainer.js
    ViewListItemsContainer
        {ViewItemsControlsContainer}
        {ViewItemsSearchBarContainer}
        {ViewItemsAddControlContainer}
    ListItemsContainer
ViewGridItemsContainer.js
    ViewGridItemsContainer
        {ViewItemsControlsContainer}
        {ViewItemsSearchBarContainer}
    GridItemsContainer
Header.js
    Header
Footer.js
    Footer
SitePage.js
    SitePage
        {Header}
        {Footer}
home
    HomePage.js
        HomePage
        HomePagePostsContainer
            {ViewPostsContainer}
        HomePagePostsFilterSideBar
account
    AccountPage.js
        ViewAccountPage
        EditAccountPage
profilepage
    ProfilePage.js
        ViewProfilePage
            {ViewPostsContainer}
        EditProfilePage
```

cart

CartPage.js

ViewCartPage

{ViewCartItemsContainer}

commission

CommissionPage.js

ViewCommissionsPage

{ViewCommissionsContainer}

posts

ViewPostsPage.js

ViewPostsPage

{ViewPostsContainer}

ViewPostPage.js

ViewPostPage

PostContentContainer.js

PostContentContainer

PostTitle

PostContent

PostControlsContainer

PostStatisticsContainer

PostTextDataContainer

PostContestTextDataContainer

PostCommentsContainer

PostCommentsContainer.js

PostCommentsContainer

PostCommentsControlContainer

PostViewCommentsContainer

PostRelatedPostsContainer.js

PostRelatedPostsContainer

{ViewPostsContainer}

EditPostPage.js

EditPostPage

messages

ViewChatsPage.js

ViewChatsPage

{ViewChatsContainer}

ChatPage.js

ChatPage

ChatUserContainer
ChatMessagesContainer
ChatControlsContainer

transactions

ViewTransactionsPage.js
ViewTransactionsPage
{ViewTransactionsContainer}

contests

ViewContestsPage.js
ViewContestsPage
{ViewContestsContainer}
ViewUserContestsPage.js
ViewUserContestsPage
{ViewUserContestsContainer}
ContestPage.js
ContestPage
ContestContentContainer
ContestWinnerContainer
ContestPostsContainer
{ViewPostsContainer}

reports

ViewReportsPage.js
ViewReportsPage
{ViewReportsContainer}
ReportPage.js

contactus

ViewContactUsMessagesPage.js
ViewContactUsMessagesPage
{ViewContactUsMessagesContainer}
ContactUsMessagePage.js
ContactUsMessagePage

users

ViewUsersPage.js
ViewUsersPage
{ViewUsersContainer}

entryforms

LoginPage.js
LoginPage
RegistrationPage.js

RegistrationPage
PaymentInfoPage.js
PaymentInfoPage
info
AboutUsPage.js
AboutUsPage
FaqPage.js
FaqPage
TosPage.js
TosPage
PrivacyPolicyPage.js
PrivacyPolicyPage
CopyrightPolicyPage.js
CopyrightPolicyPage

5. Backend Module Architecture

Main Backend Folders

Contact Us Message - Contains all queries related to contact us messages.

Contest - Contains all queries related to contests and directly connected components to contests.

Post - Contains all queries related to posts and directly connected components to posts.

Report - Contains all queries related to reports.

User - Contains all queries related to users and directly connected components to users.

Architecture Style

The backend architecture is structured as follows. Lowercase elements are package folders. Capitalized elements with an extension “.js” are backend router modules and are always children of package folders. Children of backend router modules are APIs each with their methods and routes.

Backend Module Architecture

contactusmessage

contact-us-message-router.js

GET /contact-us-message

GET /contact-us-message/:id

POST /contact-us-message

DELETE /contact-us-message/:id

contest

contest-router.js

GET /contest

GET /contest/:id
POST /contest
PATCH /contest/:id
DELETE /contest/:id

contest-post-router.js

GET /contest/post

contest-contest-award-router.js

GET /contest/award
GET /contest/award/:contestId
DELETE /contest/award/:contestId

post

post-router.js

GET /post
GET /post/:id
POST /post
PATCH /post/:id
DELETE /post/:id

post-like-router.js

GET /post/like/:postId
GET /post/like/:postId/:userId
POST /post/like/:postId
DELETE /post/like/:postId/:userId

post-comment-router.js

GET /post/comment/:postId
GET /post/comment/:postId/:commentId
POST /post/comment/:postId
DELETE /post/comment/:postId/:commentId

report

report-router.js

GET /post/report
GET /post/report/:id
POST /post/report
DELETE /post/report/:id

user

user-router.js

GET /user
GET /user/:id
POST /user
PATCH /user/:id

DELETE /user/:id

user-cart-item-router.js

GET /user/cart-item

POST /user/cart-item

PATCH /user/cart-item/:cartItemId

DELETE /user/cart-item/:cartItemId

user-chat-router.js

GET /user/chat

GET /user/chat/:objectUserId

POST /user/chat/:objectUserId

user-commission-router.js

GET /user/commission

GET /user/commission/:commissionId

POST /user/commission

user-post-router.js

GET /user/post

user-contest-router.js

GET /user/contest

user-transaction-router.js

GET /user/transaction

POST /user/transaction/:objectUserId

6. Functional Requirements

Account

1. Accounts shall be able to be viewed by an Unregistered User.
2. Accounts shall be able to be viewed by a Registered User.
3. Accounts shall be able to be viewed by an Admin.
4. Accounts shall have an associated Registered User.
5. Accounts shall have a username.
6. Accounts shall have an email.
7. Accounts shall have a password.
8. Accounts shall have a bio.
9. Accounts shall have a profile picture.
10. Accounts shall be able to have an email modified.
11. Accounts shall be able to have a password modified.
12. Accounts shall be able to have a profile picture modified.
13. Accounts shall be able to have a bio modified.
14. Accounts shall be able to have a profile picture modified.
15. Accounts shall show the Register User's most recent posts.

Admin

16. Admins shall be able to edit their account.
17. Admins shall be able to view a post.
18. Admins shall be able to view a contest post.
19. Admins shall be able to Like a post.

20. Admins shall be able to Comment on a post.
21. Admins shall be able to create a post.
22. Admins shall be able to edit a post.
23. Admins shall be able to delete a comment on their post.
24. Admins shall be able to direct message another registered user.
25. Admins shall be able send a contact us message.
26. Admins shall be able to view all chats with other registered users.
27. Admins shall be able to view a chat with another registered user.
28. Admins shall be able to publish a contest post.
29. Admins shall be able to sell artwork from their own post.
30. Admins shall be able to buy artwork from a registered user's post.
31. Admins shall be able to create a contest.
32. Admins shall be able to modify a contest.
33. Admins shall be able to delete a comment on a post.
34. Admins shall be able to delete a post.
35. Admins shall be able to terminate an account.
36. Admins shall be able to view data tables.
37. Admins shall be able to view transactions.

Chat

38. Chats shall be able to be viewed by an associated Registered User.
39. Chats shall be able to be viewed by an Admin.
40. Chats shall be able to appended by direct messages.

41. Chats shall be able to be created a Registered User.

42. Chats shall be able to be created an Admin.

Comment

43. Comments shall be able to be viewed by an Unregistered User.

44. Comments shall be able to be viewed by a Registered User.

45. Comments shall be able to be viewed by an Admin.

46. Comments shall be able to be deleted by their post's Registered User.

47. Comments shall be able to be deleted by an Admin.

48. Comments shall be able to created by a Registered User.

49. Comments shall be able to created by an Admin.

Contact Us Message List

50. Contact Us Message List shall be able to be created by a Registered User.

51. Contact Us Message List shall be able to be created by an Admin.

52. Contact Us Message List shall be able to be viewed by an Admin.

Contact Us Message

53. Contact Us Messages shall be able to be created by a Registered User.

54. Contact Us Messages shall be able to be created by a Registered User.

55. Contact Us Messages shall be able to be viewed by an Admin.

Contest

- 56. Contests shall be able to be created by an Admin.
- 57. Contests shall be able to be viewed by an Unregistered User.
- 58. Contests shall be able to be viewed by a Registered User.
- 59. Contests shall be able to be viewed by an Admin.
- 60. Contests shall be able to be appended by contest posts.
- 61. Contests shall be able to be ended by an Admin.

Contest Award

- 62. Contest awards shall be able to be created by an Admin.
- 63. Contest awards shall be able to be viewed by an Admin.
- 64. Contest awards shall be able to be viewed by an associated Registered User.

Contest Post

- 65. Contest posts can be created by a Registered User.
- 66. Contest posts shall be able to be created by an Admin.
- 67. Contest posts shall be able to be viewed by an Admin.
- 68. Contest posts shall be able to be awarded by an Admin.
- 69. Contest posts shall be able to be liked by an Admin.
- 70. Contest posts shall be able to be commented by an Admin.
- 71. Contest posts shall be able to be deleted by an Admin.

Contest Transaction

- 72. Contest transactions shall be able to be created by an Admin.

73. Contest transactions shall be able to be viewed by an Admin.

74. Contest transactions shall be able to be viewed by an associated Registered User.

Direct Message

75. Direct messages shall be able to be created by a Registered User.

76. Direct messages shall be able to be created by an Admin.

77. Direct messages shall be able to be viewed by an associated Registered User.

78. Direct messages shall be able to be viewed by an Admin.

Like

79. Likes shall be able to be created by a Registered User.

80. Likes shall be able to be viewed by an Unregistered User.

81. Likes shall be able to be viewed by an Registered User.

82. Likes shall be able to be viewed by an Admin.

Message

83. Messages shall be able to be created by a Registered User.

84. Messages shall be able to be viewed by an Admin.

Post

85. Posts shall be able to be created by a Registered User.

86. Posts shall be able to be created by an Admin.

- 87. Posts shall be able to be viewed by an Unregistered User.
- 88. Posts shall be able to be viewed by a Registered User.
- 89. Posts shall be able to be viewed by an Admin.
- 90. Posts shall be able to be edited by an associated Registered User.
- 91. Posts shall be able to have a comment deleted by an associated Registered User.
- 92. Posts shall be able to have a comment deleted by an Admin.
- 93. Posts shall be able to be liked by a Registered User.
- 94. Posts shall be able to be liked by an Admin.
- 95. Posts shall be able to be commented on by a Registered User.
- 96. Posts shall be able to be commented on by an Admin.
- 97. Posts shall be able to be deleted by an associated Registered User.
- 98. Posts shall be able to be deleted by an Admin.

Post Transaction

- 99. Post transactions shall be able to be created by a Registered User.
- 100. Post transactions shall be able to be viewed by an Associated Registered User.
- 101. Post transactions shall be able to be viewed by an Admin.

Registered User

- 102. Registered users shall be able to create posts.
- 103. Registered users shall be able to like posts.
- 104. Registered users shall be able to comment on posts.
- 105. Registered users shall be able to create contest posts.

- 106. Registered users shall be able to buy artwork from sellable posts.
- 107. Registered users shall be able to direct message other users.
- 108. Registered users shall be able to contact us message admins.
- 109. Registered users shall be able to view posts.
- 110. Registered users shall be able to view contest posts.
- 111. Registered users shall be able to view contest results..
- 112. Registered users shall be able to view the number of likes on posts.
- 113. Registered users shall be able to view the comments on posts.
- 114. Registered users shall be able to view a Register Users' account page.
- 115. Registered users shall be able to edit posts.
- 116. Registered users shall be able to edit their account.
- 117. Registered users shall be able to sell artwork from a post.
- 118. Registered users shall be able to unlike posts.
- 119. Registered users shall be able to delete their comment on a post.
- 120. Registered users shall be able to delete their account.

Transaction

- 121. Transactions shall be able to be created by a Registered User.
- 122. Transactions shall be able to be created by an Admin.
- 123. Transactions shall be able to be viewed by an associated Registered User.
- 124. Transactions shall be able to be viewed by an Admin.

Unregistered User

- 125. Unregistered users shall be able to view posts.
- 126. Unregistered users shall be able to view contest posts.
- 127. Unregistered users shall be able to view the number of likes on a post.
- 128. Unregistered users shall be able to view the comments on a post.
- 129. Unregistered users shall be able to view contest results.

7. Non-Functional Requirements

Performance

1. Results from user actions shall be handled within a certain speed (1ms).

Coding Standards

2. Code shall be easily readable and understandable.
3. Code shall be neat and well-formatted
4. Code shall have a consistent format for maintenance.
5. Code shall invoke code reuse when appropriate.
6. Commenting on obvious things shall be avoided.

Look and Feel

7. User interface shall have an engaging and pleasing look.
8. User interface shall be consistent throughout each section.
9. User interface shall look professional and functional.
10. Results from user actions shall be smooth without delay.

8. Technological Stack

Server Host: AWS

Operating System: Ubuntu

Database: MySQL

Web Server: NGINX

Server Side Language: Express

Additional Technologies:

Web Framework: React

IDE: VS Code

Database Design Tool: MySQL Workbench

9. Final Notes

The 10th use case from the previous milestone has been removed. It has been decided that the first implementation of the project will have the maintenance tasks done by simply observing the database and running queries outside of the website. Additionally, since again this milestone is in the early stages of planning, the above sections may be subject to change.