CS 411W Lab III

Prototype Test Plan

Team Blue

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1. Objectives

2. References

3. Test Procedures

3.1. User Interface Test Category

3.1.1. Login/Sign-Up Page Tests *(O: Ihde)*

Test Category: User Interface	**Description:** Verifies that the login and sign up pages work correctly with the authentication system		
Test Case: 3.1.1	**Case Name:** Login/Sign-up page	**Version:** 1.0	**Written By:** Paolo Ihde
Requirements Fulfilled: 3.1.1.2	**Purpose:** Ensures that users can successfully sign in to accounts and register for new accounts.		
Setup Conditions: 1. Visit art guardian web site 2. Click on either the sign in tab or sign-up tab			

Test Case Activity		**Pass/Fail**	**Comments**	**Expected Result**
1	Click on Sign-In tab			Panel at center of the screen shows an email input box, password input box, and sign-in button.
2	Attempt sign-in with invalid credentials			“Incorrect email or password” text appears above sign-in button
3	Attempt sign-in with valid			Signs user in and redirects user to

	credentials			landing page
4	Click on forgot password link			Redirects user to a page in which they can enter their email, and then a reset password link is sent to their email if their is an associated email with that account.
5	Click on Sign-up tab			Panel at center requests information for account creation such as first name, last name, email, phone number, and password. There is a submit button at the bottom of the panel
6	Attempt account creation without filling in all required information			Account creation does not occur, and missing information fields are highlighted in red.
7	Attempt account creation with all required information			Account creation occurs. Redirects users to an email confirmation page, which requires a code that is sent to their email.

3.1.2. **Landing Page Tests** *(O: Diaz)*

Test Category:	**Description:**
User Interface	This test ensures the correct rendering of the landing page

Test Case: 3.1.2	**Case Name:** Landing Page	**Version:** 1.0	**Written By:** Carlo Diaz
Requirements Fulfilled: 3.1.1.3	**Purpose:** To ensure the landing page renders the correct information pertaining to the user		
Setup Conditions: 1. Log in to Art Guardian			

Test Case Activity		**Pass/Fail**	**Comments**	**Expected Result**
1	View user information			The user's full name must appear correctly in the form "Hello <first name> <last name>"
2	View number of notifications			The number of notifications/alerts pertaining to the user's art must appear in the form "You have <number of notifications> notifications"
3	Click notifications button			If there are notifications available, there will be a "click here" link that redirects the user to the notifications page
4	View general art protection guidelines			Upon scrolling further down, the art protection guidelines shall appear with a darker blue background

3.1.3. Navigation Bar Tests *(O: Diaz)*

Test Category: User Interface	**Description:** This test verifies that the navigation bar works as intended, with each menu button directing the user to its respective page.		
Test Case: 3.1.3	**Case Name:** Navigation Bar	**Version:** 1.0	**Written By:** Carlo Diaz
Requirements Fulfilled: 3.1.1.1	**Purpose:** To ensure the navigation bar buttons correctly displays buttons and redirects the user to the landing/home page, user art gallery/upload page, notifications page, and settings page.		
Setup Conditions: 1. Log in to Art Guardian with an authenticated account			

Test Case Activity		**Pass/Fail**	**Comments**	**Expected Result**
1	Log in to Art Guardian			User is directed to the landing/home page
2	Click on home button			User is directed to the landing/home page
3	Hover over profile button			Dropdown menu appears that leads to art upload or art gallery
4	Click on art upload button			User is directed to the art upload page
5	Click on art gallery button			User is directed to the art gallery page
6	Click on notifications button			User is directed to the notifications page
7	Click on settings button			User is directed to the settings page

3.1.4. User Art Gallery/Art Upload Page Tests

3.1.4.1.

Test Category: User Interface	**Description:** This test verifies that the Art Upload function of the Art upload/gallery page works properly.		
Test Case: 3.1.4.1	**Case Name:** Art Upload	**Version:** 1.0	**Written By:** Autumn Roberts
Requirements Fulfilled: 3.1.1.2	**Purpose:** To ensure the user can upload art to the Art Guardian database.		

Setup Conditions:

1. Log in to Art Guardian with an authenticated account
2. Navigate to Art Upload/Gallery page

Test Case Activity		**Pass/Fail**	**Comments**	**Expected Result**
1	Log in to Art Guardian			User is directed to the landing/home page
2	Click on Art Gallery button			User is directed to the Art Gallery/Upload page
3	Click on File Select button			File window appears
4	Click on desired artwork and click open			Art is uploaded to the database
5	Database is updated and page refreshed			User's art is displayed in the gallery

3.1.4.2.

Test Category: User Interface	**Description:** This test verifies that the art gallery function of the art upload page works as intended		
Test Case: 3.1.4.2	**Case Name:** Art Gallery	**Version:** 1.0	**Written By:** Autumn Roberts
Requirements Fulfilled: 3.1.4.1	**Purpose:** To ensure the gallery displays user art and allows users to edit art information.		

Setup Conditions:

1. Log in to Art Guardian with an authenticated account
2. Navigate to Art Upload/Gallery page

Test Case Activity		**Pass/Fail**	**Comments**	**Expected Result**
1	Log in to Art Guardian			User is directed to the landing/home page
2	Click on Art Gallery button			User is Directed to Art Gallery Page
3	Page Loads Properly			User's Uploaded Art is displayed
4	Click on Artwork			User is displayed information about the art.
5	Click on edit button			User can edit art information.
6	Click on delete button			Art is deleted from gallery and is no longer displayed

3.1.5. Notifications Page Tests *(O: Ihde)*

Test Category: User Interface	**Description:** This test verifies that the notification page displays the correct alerts to users.		
Test Case: 3.1.5	**Case Name:** Notifications Page	**Version:** 1.0	**Written By:** Paolo Ihde
Requirements Fulfilled: 3.1.1.6	**Purpose:** To test that the notifications page displays correct and timely alerts based on the detection of users' art in the NFT marketplace		
Setup Conditions: 1. Log in to Art Guardian 2. Click on notifications page in navigation bar			

Test Case Activity		**Pass/Fail**	**Comments**	**Expected Result**
1	Click on notifications page			Brings user to notification page
2	Empty notification page			Notification page should display no notifications available
3	Notifications page with one or multiple new notifications			The notification icon in the navigation bar should have a red dot next to it. Notifications on the page are displayed in an infinitely scrollable, vertical list
4	Content of an alert			Contains a preview of the stolen art. States that the user's art has been found on the NFT marketplace. Contains a link to the art confirmation page and a link to the NFT

				marketplace
5	Click on art confirmation page link			Redirects user to art confirmation page
6	Click on NFT link			Redirects user in a new tab to the listing of their art on the NFT marketplace

3.1.6. User Art Confirmation Page Tests *(O: Ihde)*

Test Category: User Interface	**Description:** This test verifies the art confirmation page provides the correct information concerning the infringing NFT, and provides the users the ability to confirm it		
Test Case: 3.1.6	**Case Name:** Art Confirmation Page	**Version:** 1.0	**Written By:** Paolo Ihde
Requirements Fulfilled: 3.1.1.6.2	**Purpose:** The art confirmation page allows users to verify that the art detected on the NFT marketplace is infringing on their artwork.		
Setup Conditions: 1. Log in to Art Guardian 2. Navigate to notifications page from navigation bar 3. Click on “Click here for more information” link, which is part of an alert.			

Test Case Activity		**Pass/Fail**	**Comments**	**Expected Result**
1	Click on link from alert to art confirmation page			Redirects user to art confirmation page. The art confirmation page contains NFT information and a

				preview of it on the left side. One checkbox asks the user to verify that they are the original creator of this work. Another checkbox verifies that the user wishes to requests a takedown request for this NFT
2	One or both checkboxes are unchecked			Continue button is grayed out, and user cannot proceed with DMCA process.
3	Both checkboxes are checked			Continue turns blue and is now clickable by user
4	Clicks on continue button			Redirects user to DMCA takedown request page

3.1.7. DMCA Takedown Request Page Tests *(O: Diaz)*

Test Category: User Interface	**Description:** This test verifies the functionality and correctness of information of the DMCA takedown request page		
Test Case: 3.1.7	**Case Name:** DMCA Takedown Request	**Version:** 1.0	**Written By:** Carlo Diaz
Requirements Fulfilled: 3.1.1.7	**Purpose:** To ensure the DMCA takedown request page appears correctly, and that the user may not submit the takedown request unless an e-signature is provided		

Setup Conditions:

1. Log in to Art Guardian
2. User must have a piece of artwork that has been detected on the NFT marketplace
3. Confirm the art in the user art confirmation page

Test Case Activity		**Pass/Fail**	**Comments**	**Expected Result**
1	Scroll through the scroll view of DMCA takedown request text			The text must contain the correct information of the NFT and must be contained within the scroll view
2	Hover over disabled “submit” button		Must NOT have an e-signature provided yet	Clicking will not be allowed, and the cursor will turn into an “error” symbol
3	Draw signature in e-signature field			The user’s signature will be drawn in the field. The submit button will now be clickable
4	Click the “clear” button			The user’s signature will be erased and the submit button is disabled
5	Click the submit button		E-signature MUST be provided	On hover, the cursor will turn into a pointer and the user will be able to click the button to submit the takedown request

3.1.8. User Settings Page Tests *(O:Ihde)*

Test Category: User Interface	**Description:** Verifies that the user can alter their account information from the options within the settings page.		
Test Case: 3.1.8	**Case Name:** Settings Page	**Version:** 1.0	**Written By:** Paolo Ihde
Requirements Fulfilled: 3.1.1.8	**Purpose:** Allows users to change account and security settings.		

Setup Conditions:
1. Log in to Art Guardian
2. Click on settings icon

	Test Case Activity	**Pass/Fail**	**Comments**	**Expected Result**
1	Click on settings icon in navigation bar			Redirects user to settings page, which contains two side tabs. One tab is for account settings. The other tab is for security settings
2	Click on account settings tab			Brings user to account settings page.
3	Click on change profile information in account settings tab			Brings up a pop up window which allows users to edit their, first name, last name, email, and phone number
4	Click on add art account in account settings tab			Brings up a pop up window which displays sign-in links through several social media art platforms

5	Click on delete art account in account settings tab			Creates a pop up window asking the user if they are sure they want to remove the associated account
6	Click on reset password button in account settings tab			A pop up window appears which asks the user to confirm that they want to reset their password. If they select yes, then a password reset link is set to their email.
7	Click on security settings tab			Brings user to account security settings.
8	Click on enable two-factor authentication button			Asks the user if they are sure they want to enable two-factor authentication. If they select yes, then they will be prompted to use their phone number or alternative email address, which a code will be sent to for two-factor authentication.

3.2. Algorithms Test Category

3.2.1. Whitelisting (*O: Zheng*, *M1: Thompson*)

Test Category: Algorithms	**Description:** Verifies that images within a user's library can be whitelisted from Art Detection.		
Test Case:	**Case Name:**	**Version:**	**Written By:**

3.2.1	Whitelisting	1.0	Tobin Zheng
Requirements Fulfilled: 3.1.2.2	**Purpose:** Algorithm responsible for whitelisting images, preventing them from being used in other algorithms.		
Setup Conditions: 1. Obtain the credentials for an Art Guardian account. 2. Log in to the Art Guardian web application. 3. Upload a new image if there are no images associated with the account.			

Test Case Activity		**Pass/Fail**	**Comments**	**Expected Result**
1	Click on the Whitelist button for a selected image.			User is prompted to enter the Token ID of the NFT to be whitelisted.
2	Click on the Unwhitelist button for a selected image.			The Token ID assigned is deleted.

3.2.2. Art Detection (*O: Zheng, M1: Thompson*)

Test Category: Algorithms	**Description:** This test will validate if the Art Detection algorithm is able to search for and return counterfeit NFTs correctly.		
Test Case: 3.2.3	**Case Name:** Art Detection	**Version:** 1.0	**Written By:** Tobin Zheng
Requirements Fulfilled: 3.1.2.3.1	**Purpose:** Algorithm responsible for searching for counterfeit NFTs using NFTportAPI.		
Setup Conditions:			

1. Obtain the credentials for a valid Art Guardian account. 2. Log in to the Art Guardian web application.				
Test Case Activity		**Pass/Fail**	**Comments**	**Expected Result**
1	Upload an image based off of artwork that has not been shared online.			The Art Detection algorithm does not return any counterfeit NFTs based on the artwork.
2	Upload an image based off of artwork that has been shared online.			The Art Detection algorithm returns any possible counterfeit NFTs based on the artwork.
3	Upload an image of a known NFT.			The Art Detection algorithm returns the known NFT and any other NFT based on that image.
4	Upload an image of a known NFT in grayscale.			The Art Detection algorithm returns the known NFT and any other NFT based on that image.
5	Upload an image of a known NFT that has been scaled.			The Art Detection algorithm returns the known NFT and any other NFT based on that image.
6	Upload an image of a known NFT that has been rotated.			The Art Detection algorithm returns the known NFT and any other NFT based on that image.

7	Upload an image of a known NFT that has been flipped.			The Art Detection algorithm returns the known NFT and any other NFT based on that image.
8	Upload an image with all previously mentioned edits applied.			Image Matcher matches the test image and a duplicate of the image with all previously mentioned edits.

3.2.3. **DMCA Generator** (*O: Zheng, M1: Thompson*)

Test Category: Algorithms	**Description:** This test will verify if the DMCA Generator creates valid DMCA takedown notices.		
Test Case: 3.2.4	**Case Name:** DMCA Generator	**Version:** 1.0	**Written By:** Tobin Zheng
Requirements Fulfilled: 3.1.3.1	**Purpose:** Algorithm responsible for creating DMCA takedown notices by filling in a DMCA takedown notice with valid legal information.		

Setup Conditions:

1. Obtain the credentials to a valid Art Guardian account.
2. Log in to the Art Guardian account.
3. Log into the test environment for the DMCA Generator algorithm.

Test Case Activity		**Pass/Fail**	**Comments**	**Expected Result**
1	Generate a test DMCA preview notification.			A DMCA preview is generated and displayed to the user.
2	Submit a digital signature.			The signature is verified.

3	Close the DMCA preview notification.			The DMCA preview is taken off the screen.
4	Attempt to delete the generated DMCA.			

3.2.4. DMCA Filing (*O: Zheng, M1: Thompson*)

Test Category: Algorithms	**Description:** This test will verify if the DMCA Filing algorithm sends DMCA takedown notices via the Gmail API.		
Test Case: 3.2.5	**Case Name:** DMCA Filing	**Version:** 1.0	**Written By:** Tobin Zheng
Requirements Fulfilled: 3.1.3.2	**Purpose:** Algorithm responsible for filing DMCA takedown notices using the Gmail API.		

Setup Conditions:

1. Log into the test environment for the DMCA Filing algorithm.
2. Obtain the credentials to a valid Art Guardian account.

Test Case Activity		**Pass/Fail**	**Comments**	**Expected Result**
1	Generate a test email for an Art Guardian account.			Test email is generated.
2	Delete emails associated with an Art Guardian account.			The emails are removed from the user information database.
3	Send emails to a test NFT marketplace email address.			The test NFT marketplace email receives the emails.

4	View all emails associated with an account.			Display a list of all emails under the account.

3.2.5. DMCA Cataloging (*O: Zheng, M1: Thompson*)

Test Category: Algorithms	**Description:** This test will verify if the DMCA Cataloging algorithm accurately lists all DMCAs and their status.		
Test Case: 3.2.6	**Case Name:** DMCA Cataloging	**Version:** 1.0	**Written By:** Tobin Zheng
Requirements Fulfilled: 3.1.3.3	**Purpose:** Algorithm responsible for cataloging all DMCAs for each user.		
Setup Conditions: 1. Log into the test environment for the DMCA Cataloging algorithm.			

Test Case Activity		**Pass/Fail**	**Comments**	**Expected Result**
1	Generate a test DMCA using the DMCA Generator.			A DMCA has been generated.
2	Delete a test DMCA using the DMCA Generator.			DMCA has been deleted.
3	View all DMCAs associated with an account.			Display all DMCAs under the account.