

Test Plan and Report

ImageGen

03-12-2024

Our testing approach consisted of only manual testing, following the steps and scenarios listed below.

System Test Scenarios:

A. **As a user**, I want to be able to see the caption generated from my uploaded image that will be used to generate a social media caption

Scenario: Caption Generation of an Image (Pass)

1. Start ImageGen Frontend and Backend
2. Select CaptionGen page
3. Click to upload or drag and drop a PNG, JPG, or GIF file then click Upload
4. The user should see a caption describing the uploaded image
5. Click the “Choose a Tone dropdown”, select Funny, and then click Generate
6. The user should see a Funny caption of the uploaded image, along with the original caption

Scenario: Invalid File Uploading to CaptionGen Error (Pass)

1. Start ImageGen Frontend and Backend
2. Select CaptionGen page
3. Click the box to upload or drag and drop a non-PNG, JPG, or GIF file then click Upload
4. The user should see a toast message describing that there was an error generating the caption

Scenario: Missing File in CaptionGen Error (Pass)

1. Start ImageGen Frontend and Backend
2. Select CaptionGen page
3. Click Upload
4. The user should see a toast message describing that a file needs to be inputted

B. **As a user**, I want to generate a picture with a prompt.

Scenario: Image Generation from a Prompt (Pass)

1. Start ImageGen Frontend and Backend
2. Select ImageGen page
3. Enter an image description in the text box
4. Click Generate Image
5. The user should see a generated image that follows the prompt

Scenario: Missing Prompt in ImageGen (Pass)

1. Start ImageGen Frontend and Backend
2. Select ImageGen page
3. Click Generate Image
4. The user should see a toast message describing that a prompt needs to be inputted

C. **As a user**, I want to quickly edit my photos with a prompt so that I can post them on my social media.

Scenario: Image Editing with a Prompt with the RunwayML Model (Pass)

1. Start ImageGen Frontend and Backend
2. Select Edit Image page
3. Click to upload or drag and drop a PNG, JPG, or GIF file
4. Type a prompt into the Enter Prompt textbox describing a change to the uploaded picture
5. Click Generate
6. User should see the edited image next to the original uploaded image, along with the prompt used

Scenario: Image Editing with a Prompt with the StabilityAI Model (Pass)

7. Start ImageGen Frontend and Backend
8. Select Edit Image page
9. Click to upload or drag and drop a PNG, JPG, or GIF file
10. Click the StabilityAI (High Detail) box below the Choose Model text
11. Type a prompt into the Enter Prompt textbox describing a change to the uploaded picture
12. Click Generate
13. The user should see the edited image next to the original uploaded image, along with the prompt used

Scenario: Invalid File Uploading to Edit Image Error (Pass)

1. Start ImageGen Frontend and Backend
2. Select Edit Image page
3. Click Generate
4. The user should see a toast message describing that a file needs to be inputted

Scenario: Missing Prompt in Edit Image (Pass)

1. Start ImageGen Frontend and Backend
2. Select Edit Image page
3. Click to upload or drag and drop a PNG, JPG, or GIF file
4. Click Generate

5. The user should see a toast message describing that a prompt needs to be inputted

D. **As a user**, I want to create an account so that I can use the archive function.

Scenario: Account Creation (Pass)

1. Start ImageGen Frontend and Backend
2. Select Try ImageGen
3. Enter Email, Username, Password, Confirm Password
4. Check the box accepting the terms and conditions
5. Click Create Account
6. The user should be directed to the Explore Page with the new account logged in as shown at the top right account blob

Scenario: Account Login (Pass)

1. Start ImageGen Frontend and Backend
2. Select Log In
3. Enter existing Username
4. Enter existing Password
5. Click Sign In
6. The user should be directed to the Explore Page with the account logged in as shown at the top right account blob

Scenario: Invalid Account Login (Pass)

1. Start ImageGen Frontend and Backend
2. Select Log In
3. Enter non-existing Username
4. Enter non-existing Password
5. Click Sign In
6. The user should be shown an error describing that the account does not exist

E. **As a user**, I want to be able to see what other users created for inspiration and fun.

Scenario: Archiving a generated picture (Pass)

1. Start ImageGen Frontend and Backend
2. Select Edit Image page
3. Click to upload or drag and drop a PNG, JPG, or GIF file
4. Type a prompt into the Enter Prompt textbox describing a change to the uploaded picture
5. Click Generate
6. User should see a generated image that follows the prompt
7. Click Archive Featured

8. Click the account dropdown at the top right
9. Click Archive
10. User should see previous generated image in the archive

Scenario: Seeing other users public images (Pass)

1. Start ImageGen Frontend and Backend
2. Click Explore
3. User should see images that were made public by users

Scenario: Making an archived picture public (Pass)

1. Start ImageGen Frontend and Backend
2. Click the account dropdown at the top right
3. Click Archive
4. User should see previously archived images
5. Click on an image
6. Click the Public Toggle on the top right of the image box
7. Click Explore
8. User should see their image on the Explore page

Unit tests:

Each model(captionGen, imageEdit, imageGen) can be tested individually by running their respective .py file.

Running captionGen.py will run the caption generation models on wildcamping.jpg located in the repo.

Running imageEdit.py will run both image editing models on dogpark.jpg located in the repo. For the generated images to save, uncomment the appropriate line in the generate() functions.

Running imageGen.py will run both image generation models. For the generated images to save, uncomment the appropriate line in the generate() functions.