

Release Summary
ImageGen
03-12-2024

Key user stories and acceptance criteria: Give a list of key user stories with their acceptance criteria that can serve as a guide for an acceptance test.

- **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
 - **Stories/Tasks** done through the sprints to complete this user story:
 - Setup model for caption generation
 - Link the model to frontend
 - Implement LLM to make a caption
 - Add a funny/witty/mysterious/satirical tone for LLM
 - Edit CaptionGen to show both BLIP caption and LLM caption
 - **Acceptance criteria:**
 - User should see a (selected tone) caption of the uploaded image, along with the original caption on the CaptionGen page
- **As a user**, I want to generate a picture with a prompt.
 - **Stories/Tasks** done through the sprints to complete this user story:
 - Implement two different StableDiffusion ImageGen models
 - Link the model to frontend
 - Be able to see each generated image sequentially rather than waiting for a large batch
 - Make images load one by one
 - **Acceptance criteria:**
 - User should see a generated image that follows the prompt on the ImageGen page
- **As a user**, I want to quickly edit my photos with a prompt so that I can post them on my social media.
 - **Stories/Tasks** done through the sprints to complete this user story:
 - Implement StableDiffusion image editing model
 - Link the model to frontend
 - Tune models/add features
 - **Acceptance criteria:**
 - User should see the edited image next to the original uploaded image, along with the prompt used on the Edit Image page
- **As a user**, I want to be able to see what other users created for inspiration and fun.
 - **Stories/Tasks** done through the sprints to complete this user story:
 - Develop Explore Page (another tab)
 - Add an image gallery

- Each image has an associated username to who created it
 - Each image can be clicked on and shows prompt and model info
- Make a database of images users have generated with MongoDB
- As a user, I want to be able to archive my images privately
 - Create an image archive page
 - Toggle between public and private to share to Explore page
- **Acceptance criteria:**
 - Users should see images that were made public by users on the Explore page

Known Problems: List the major bugs (you can reference your Test Report), omissions (missing functionality, edge cases that are not handled), design shortcuts (e.g. hard-coded data), etc.

- A black image may be returned for Edit Image and ImageGen generation if the model detects NSFW content in the image or prompt, for which the reason is not shown to the user
- The account settings page does not correctly save changed settings to the account
- The account dropdown blob at the top right of the page when logged in may not align with the position of the button
- The image preview of the uploaded image for both CaptionGen and Edit Image may appear broken in some system configurations
- If the backend is stopped and restarted while the frontend is still running and an account is logged in, the archive/explore page will not work properly
- Clicking the Advanced Image Settings button on the Edit Image page may cause a visual glitch(whitespace) at the bottom of the page
- The signup page is accessible through the home page when a user is already logged in

Product Backlog: Provide a list of the high-priority user stories and bug fixes that can serve as a guide for a follow-on project.

- Extend functionality to support batch processing of multiple images.
- Expanding the range of tones and customizations available for caption refinement.
- Introduce more granular control over the caption generation process, allowing users to tweak more parameters of the models.
- Implement additional models and tone options to cater to a broader range of content styles and preferences.
- Allow users to generate multiple images based on their input image and prompt for imageEdit
- Allow users to modify more of the model's parameters
- Edit UI to be more fluid and intuitive for users to select images for archiving
- Allow users to select more than 1 image to archive at a time
- Finetune/train the models ourselves