Assignment_02

Assignment 2 for Generative AI and Design, VIZA 626 at Texas A&M University (Spring 2025)

Assinment_2: AI Character Style Exploration and Firefly Generations

My project is trying to encapsulate the idea behind combining AI Image generations and raster-based editing to establish a character style variation development workflow that assists in rapid concept visualization team communication. My primary goals were to maintain visual consistency while pushing the exploration of styles and the abilities of the chosen programs.

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Fig. 1. These are the nine style explorations I did based on my initial image on the top left, using Adobe Firefly's Generations and editing in Photoshop. The styles are: Original, Oil Painting (Impressionism), Art Nouveau, Cubism, Fauvism, Horror Movie (Steven King), Yarn (DreamWorks Trolls), Cut out Paper, Comic Book, Watercolor (Children's Book).

Abstract

I established a character-style development workflow combining AI image generations and raster-based editing, demonstrating effective collaboration between human creativity and AI assistance. It assists rapid concept visualization and team communication, creating a streamlined workflow that maintains the visual consistency of the original image across

the targeted styles. Results show maintained consistency, capabilities for various 2D and 3D styles, and ways to work around AI limitations with a reduced reliance on artistic intervention.

Additional Key Words and Phrases: Adobe Photoshop, Adobe Firefly, Character Style Development, AI Image Generation, Raster-Based Editing, Human AI Collaboration, Visual Consistency, Creative Pipeline, Style Exploration, Visual Refinement, Consistency Maintenance, Digital Workflow

Introduction and Related Works

My interest in Character development has developed from an interest in animation history. For this exploration, I use AI generations to supplement my character designs to demonstrate fast-paced stylistic exploration which "fosters enhanced creative workflows" (Banal). Exploration using AI for a creative pipeline allows one to quickly and efficiently deliver concept art for visual aids where "traditional workflows face challenges in communication due to the differing backgrounds of illustrators and designers"(Long). For this and similar research being done with AI, establishing character consistency throughout selected artistic styles in still images and videos is essential to maintain coherent exploration. (Xu) For this exploration, I utilized Adobe Photoshop and Firefly. While various available AI is being researched and advanced "like DALL-E, Craiyon, Stable Diffusion, Imagen, Jasper, NightCafe, and Deep AI", Firefly is highly receptive to references and allows the user to fine-tune their settings and generate variations (Huang). Photoshop provides multiple tools and methods to edit AI generations to better fit desired looks. Some challenges that I found involve how some styles are harder to replicate, making merging of images or heavy editing necessary, AI often suffers from hallucinations and Firefly has issues with upscaling their images *[Figure 6]*.

Methodology

The process begins with a base drawing, serving as both a compositional reference and consistency anchor *[Figure 2]* For my exploration I decided to use my own character created in Photoshop, using a sketch that holds it as a clearly defined individual. I pre-select styles for artistic exploration and specific images to use for stylistic reference inputs for Firefly *[Figure 3]* My artistic investigation spans diverse mediums and aesthetics, including Oil Painting (Impressionism), Art Nouveau, Cubism, Fauvism, Horror Movie (Steven King), Yarn (Trolls), Cut out Paper, Comic, Watercolor (Children's Book). For each, I carefully select the parameters in Firefly to match artistic elements - color, texture, lighting – and from this, no less than 20 images are generated for each style *[Figure 4]* It is necessary to apply the high-impact of the compositional reference, ensuring the outcomes

will more closely resemble the original piece. The more time is dedicated to selecting the parameters and exploring generations, the closer one will get to an optimal outcome. The generated images then serve as either direct bases or kit-bashing components, which I refine in Photoshop to achieve a final character image that is a balance between the original design and the target style *[Figure 5]* While some styles require minimal editing such as color correcting, others require more refinement, particularly when dealing with expressive and bold styles. In extensive cases, it may be necessary to heavily edit the image and almost entirely eliminate the AI generation elements. This systematic approach to style exploration, combining AI generation with traditional editing techniques, creates a versatile pipeline that can be adapted to various programs with similar toolsets to Firefly and Photoshop. This establishes a streamlined process with creative control and visual consistency across diverse stylistic interpretations, allowing easier visual communication among individuals in a creative pipeline with a reduced reliance on artistic creation.
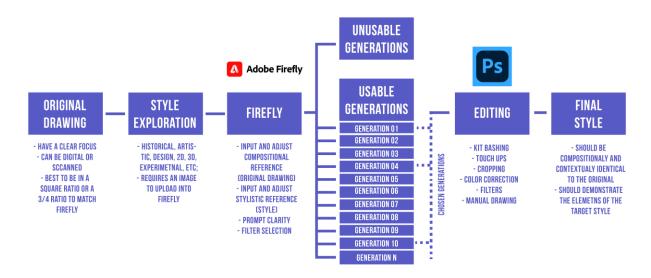

Fig. 2. This is a drawn-out pipeline demonstrating my creative process for this assignment. Starting with a clear original drawing, I pair it with whichever style exploration(s) I collect references to use to influence the generations. In Adobe Firefly, I use compositional and stylistic references on top of prompt input and filters. From this, I generate any number of images, some of which will be unusable. Of the usable generations, I select 1 or multiple to bring into the editing phase in Photoshop. Here is where kit bashing, touch-ups, cropping, color correction, filters, and other editing techniques occur. Depending on the style, this part can be more or less intensive, but the result should be compositionally similar to the original drawing but should demonstrate the elements of the target style.

Fig. 3. Here are examples of stylistic matching within my project. I have selected four of my nine images and compared them to my references which I use as stylistic references in Adobe Firefly.

Fig. 4. This is a range of generations I did for the Yarn style influenced by the screen captures of the DreamWorks movie Trilogy Trolls. While the images largely look similar, there are small differences that persist in color, texture, lighting, etc. For this, I decided to generate no less than 20 images for each style. The more I generated and experimented, the closer I was able to lead Firefly to generate images more to my target style.

COMPOSITIONAL REFERENCE | STYLE REFERENCE 01 | STYLE REFERENCE 02 | SELECTED GENERATION (MAIN) | SELECTED GENERATION (SECONDARY)

CROPPED, AND INTIAL KIT BASH | COLOR CORRECTION | SECONDARY KIT BASH, TOUCH UPS

Fig. 5. Here we see the process of editing, specifically for the Comic Book style image. From the compositional and style references, which I decided to experiment with two different comic covers from Marvel, I selected a main generation to serve as a base for my final and a secondary generation to serve as a kit bash doner. After upscaling the images in Firefly to produce higher quality images, the first step in Photoshop was to extend the crop of the image to include all of the hat. I also pulled the lower legs and feet from the doner generation. After correcting colors to better fit my original drawing, I decided to do more, and kit bash the front of the Scarecrow's torso because the simpler style I found translated more to a comic style. After a few touch-ups, I decided that this image reached a good balance between the references.

Result and Future Work

My results show a mixed range of stylistic interpretations with clear ties back to my original drawing. Of the nine generations, there are three distinct groups. Horror, Yarn, and Paper Cut-Out styles fall into 3D explorations. Oil, Art Nouveau, Comic, and Storybook fall into 2D. Cubism and Fauvism presented the most challenging with extensive editing needed to reach an optimal product *[Figure 7]* I believe my results show how these programs can be pushed to help visual communication, where some styles are more easily replicable and

some, while more involved in creating during the editing process, still benefit from the AI generations. I would try to pick styles that were more distinctive from each other. Some in the 2D category are very similar in principle. The most successful generations I believe come from the 3D category, which shows promise in bridging the gap between 2D references and 3D stylistic interpretations in a creative pipeline. I believe this can be expanded further to push the boundaries of what these programs can do. Other programs will likely show different strengths and weaknesses in stylistic interpretations. I am curious if similar results would stem from different characters or even drawings focusing on landscape.

Fig. 6. Here are examples of some of the unusable renders brought on by Firefly hallucinations. The majority of such hallucinations I found come from the upscale process, where the software messes up and delivers an entirely new image rather than a better-quality version of the selected image. White these are not my intended product, due to diverting more from the compositional reference, this did allow me to look at the elements of the styles in a new way and helped me fine-tune my settings to achieve generations more akin to my target style.

 Fig. 7. Of my nine generations of various styles, I found some consistency in the results. The 3-D styles [Blue: Horror, Yarn, Cut-Out Paper] were the ones that generally required the least amount of editing outside of color correction or simile kit bashing. The general 2D styles [Green: Oil (Impressionism), Art Nouveau Comic Book, Watercolor (Children's Book] required more editing to achieve their styles, whether it involved touch-ups, color correction, outlining, or more involved kit bashing. The abstract styles [Red: Cubism, Fauvism] required the most in the editing phase. This shows that some styles are more easily replicable in Firefly, but there are methods in the editing phase that can combat this by building upon the generations.

Conclusion

The workflow I created successfully demonstrates the potential of AI-assisted character development, showing methods of effective collaboration between AI assistance and human creativity. Using Adobe Firefly and Photoshop, maintaining visual consistency was essential while pushing to create a variety of styles. I found some styles need more editing to better achieve the targeted style. Conversions from the 3D styles were more easily edited, while the more abstract styles required more time to edit. This shows that AI can excel for rapid concept visualization. These programs particularly show promise in parameter tuning and strategic post-processing tools to explore my chosen styles.

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