



# MAT 255 Final

## Narrative Building, Understanding, and Visual Cohesion Across Frames



Autumn Nicole

Fall 23



# Final Analysis

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This final series of images takes into account two main focuses:

1st Analyzing text within the given storyline, its legibility, understanding, and relationship to the scene.

2nd Can Stable Diffusion create a sequence of images or components within a single frame that allows a comprehensible story to unfold in a linear sequence? Conceptually, does the story make sense?

For this project, I used images from my illustration work to do image-to-image sequencing with prompts and parameter adjustments. As an illustrator and fine artist, my graduate work revolves around works dealing with narratives, memory, and time. This series of images focuses on AI's ability to create and understand how to build or execute cohesive storylines across several frames and the passage of time through seasonal shifts.



Original illustration done by the artist, that was used as the seed image for image to image AI created works in the series. Each image is derived or influenced by this as the seed artwork.



Cartoon comic book strip of season passing over the course of several frames in a 1950s style graphic novel.  
Steps: 20, Sampler: DPM++ 2M Karras, CFG scale: 7, Seed: 2967416992, Size: 512x512, Model hash: 7440042bbd, Model: sd\_xl\_refiner\_1.0, Denoising strength: 0.75, Version: v1.6.0

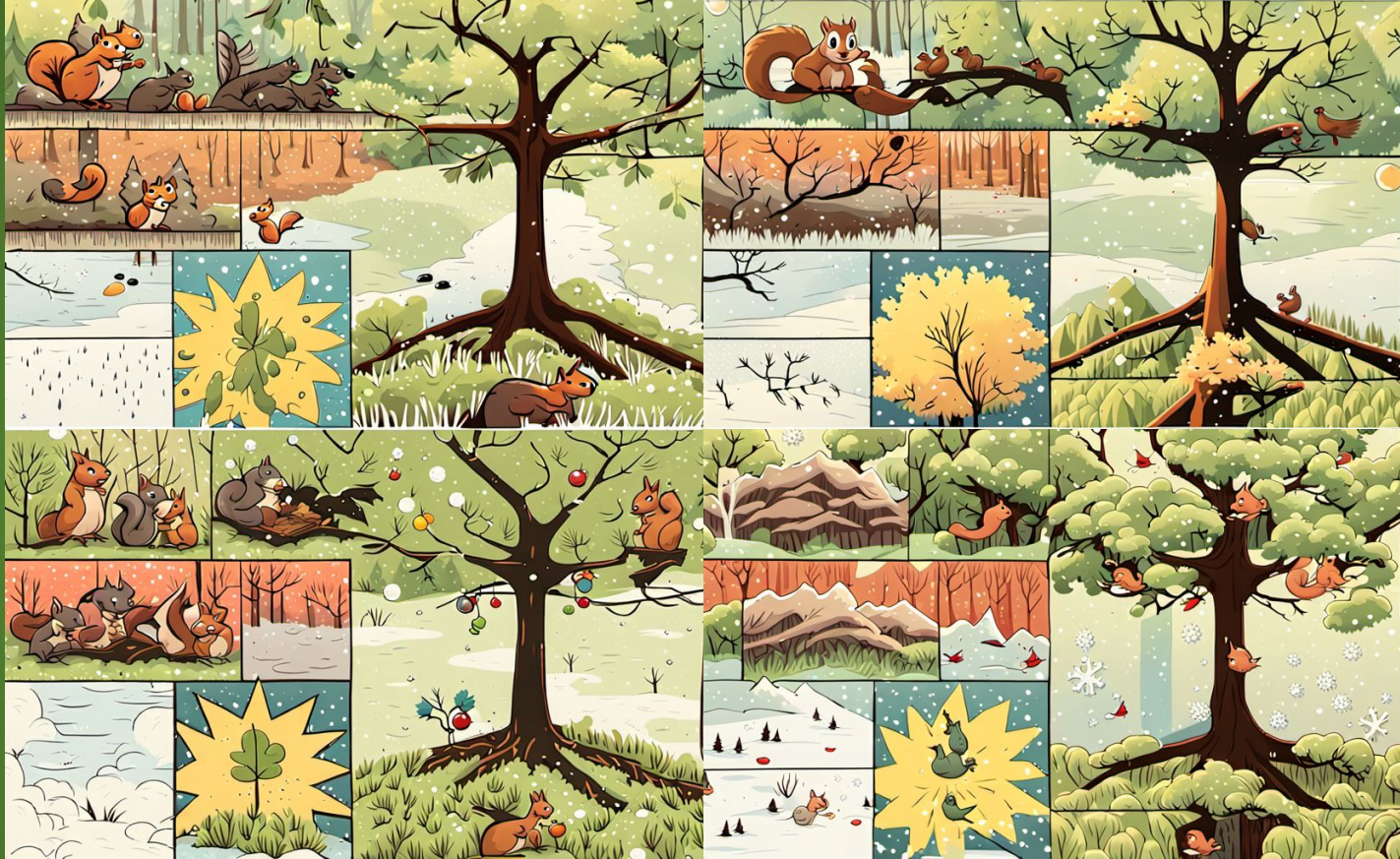


Cartoon comic book strip of season passing throughout several frames in a 1950s-style graphic novel. Forest animals all around, squirrel in main foreground

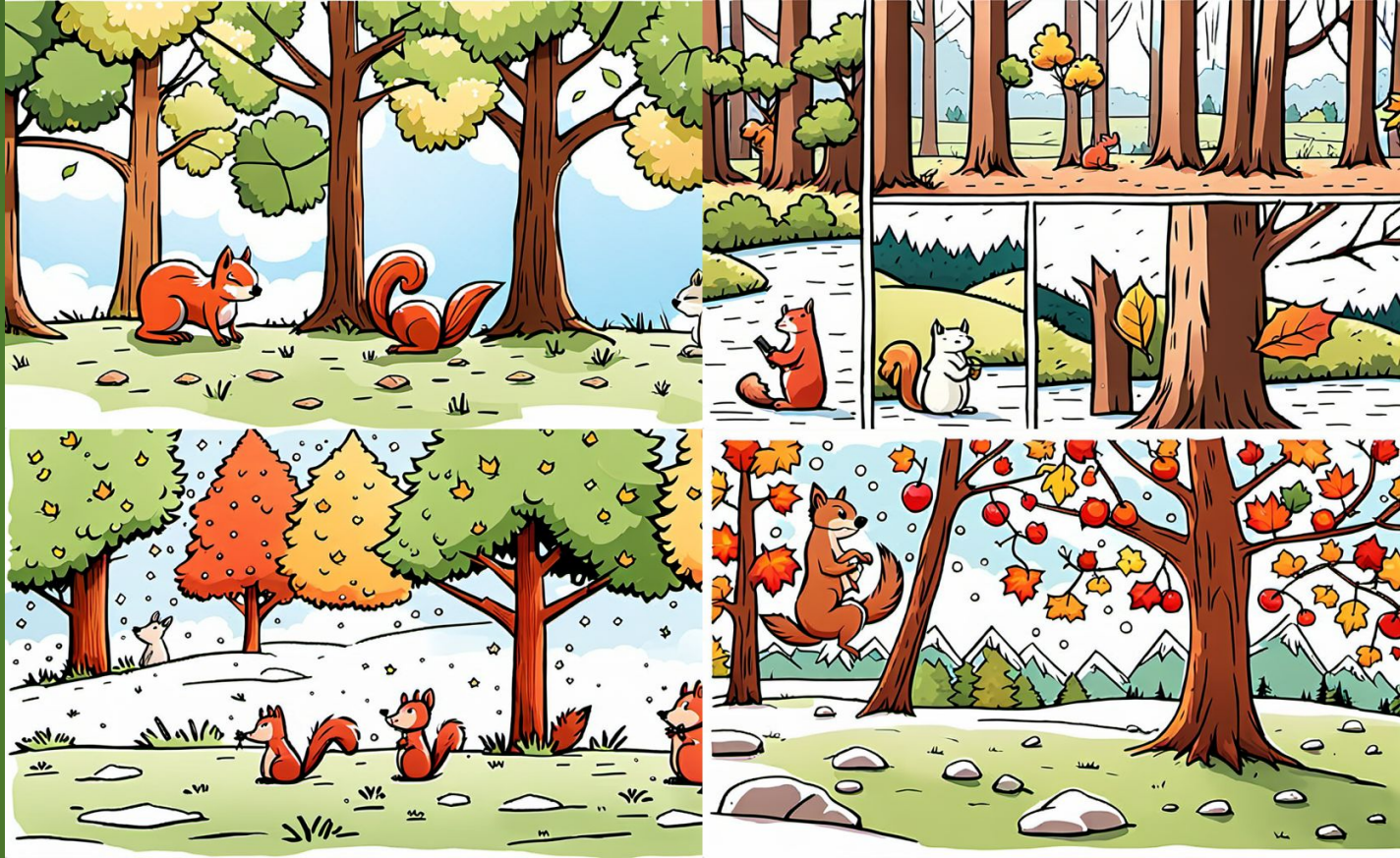
Negative prompt: humans, weird, disfiguration

Steps: 40, Sampler: DPM++ 2M Karras, CFG scale: 14.5, Seed: 2208701576, Size: 832x512, Model hash: 7440042bbd, Model: sd\_xl\_refiner\_1.0,

Denosing strength: 0.37, Version: v1.6.0



Cartoon comic book strip of seasons passing throughout several frames in a 1950s-style graphic novel. Forest animals all around, squirrel in main foreground, fun bright colors, first snowfall, graphic with black outlines, squirrel community  
Negative prompt: humans, weird, disfiguration  
Steps: 40,  
Sampler: DPM++ 2M Karras, CFG scale: 16, Seed: 1862830516, Size: 832x512, Model hash: 7440042bbd, Model: sd\_xl\_refiner\_1.0, Denoising strength: 0.5, Version: v1.6.0



Cartoon comic book strip of seasons passing throughout several frames in a 1950s-style graphic novel. Forest animals all around, squirrel in the main foreground, fun bright colors, the first snowfall in a single frame, first fall leaf in a single frame, first spring flower in a single frame. Graphic with black outlines, squirrel community. Cute, hand-drawn figures in gouache painting, representational. Negative prompt: humans, weird, disfiguration, abstract, partial figures, multiple eyes. Steps: 40, Sampler: DPM++ 2M Karras, CFG scale: 16, Seed: 214458054, Size: 832x512, Model hash: 7440042bbd, Model: sd\_xl\_refiner\_1.0, Denoising strength: 0.82, Version: v1.6.0







First  
Cute  
Community

Cartoon comic book strip of seasons passing throughout several frames in a 1950s-style graphic novel. Forest animals all around, squirrel in the main foreground, fun bright colors, the first snowfall in a single frame, first fall leaf in a single frame, first spring flower in a single frame. Graphic with black outlines, squirrel community. Cute, hand-drawn figures in gouache painting, representational  
Negative prompt: humans, weird, disfiguration, abstract, partial figures, multiple eyes  
Steps: 115, Sampler: DPM++ 2M SDE Exponential, CFG scale: 16, Seed: 819187099, Size: 832x512, Model hash: 7440042bbd, Model: sd\_xl\_refiner\_1.0, Denoising strength: 0.82, Version: v1.6.0

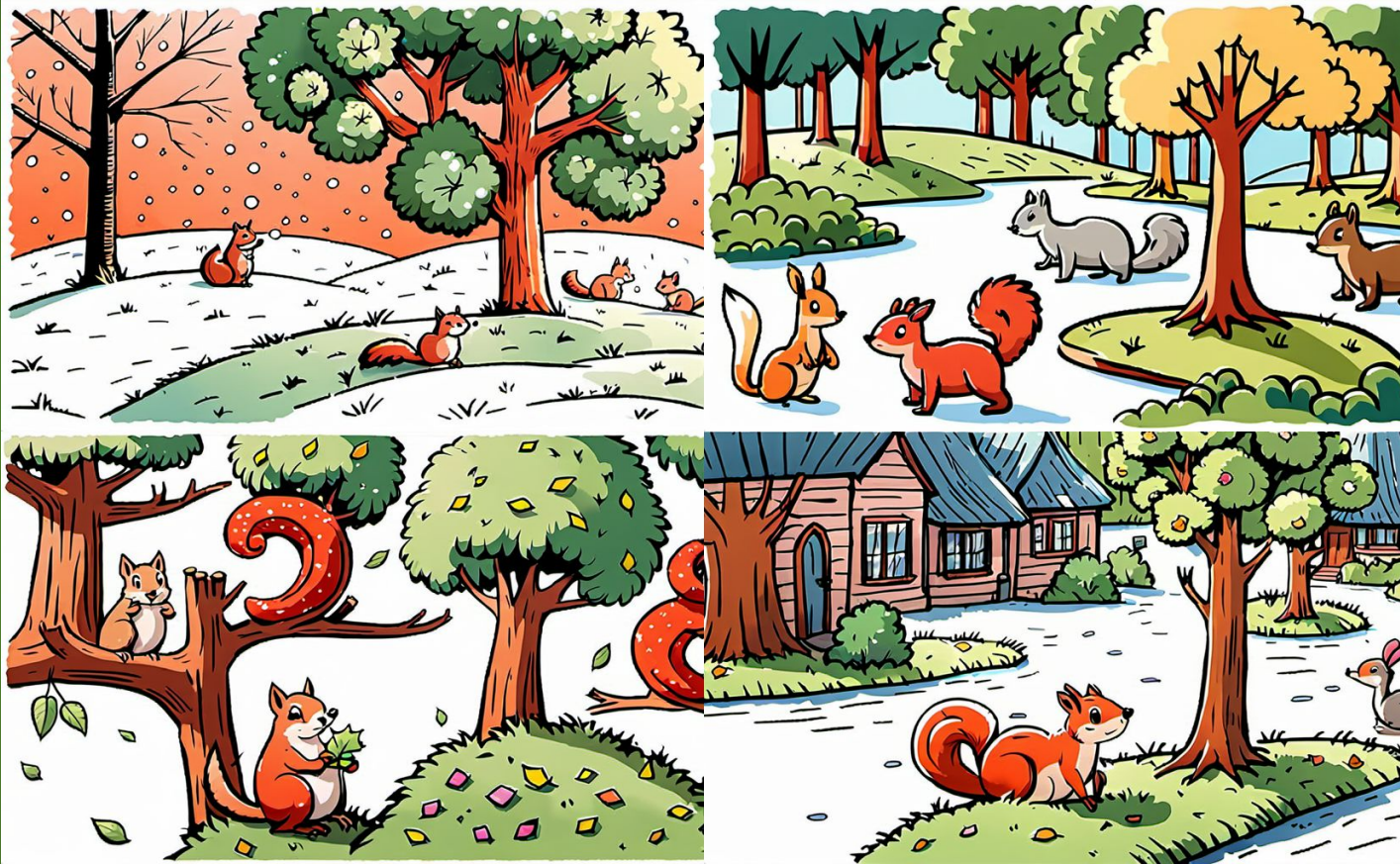


First  
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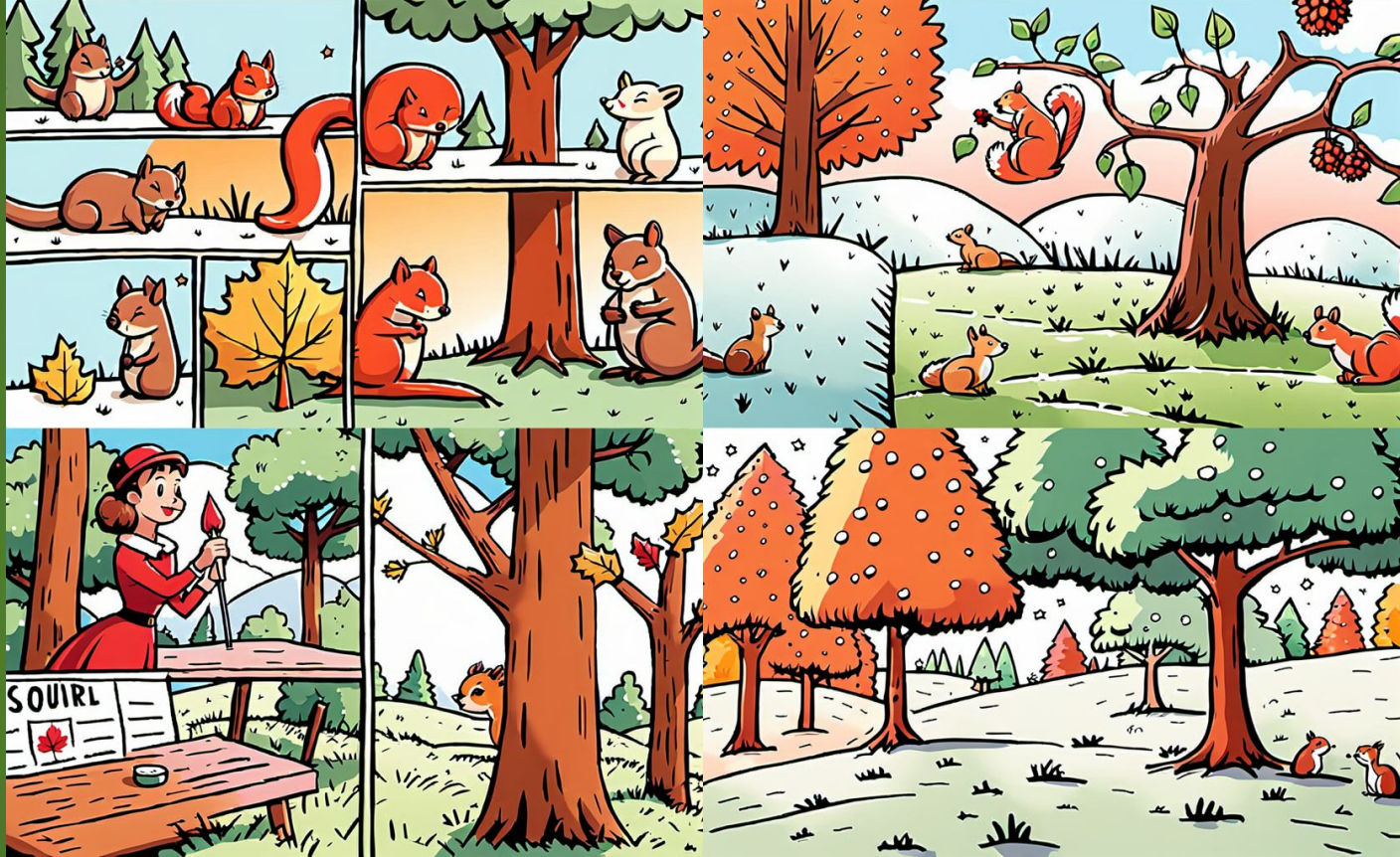




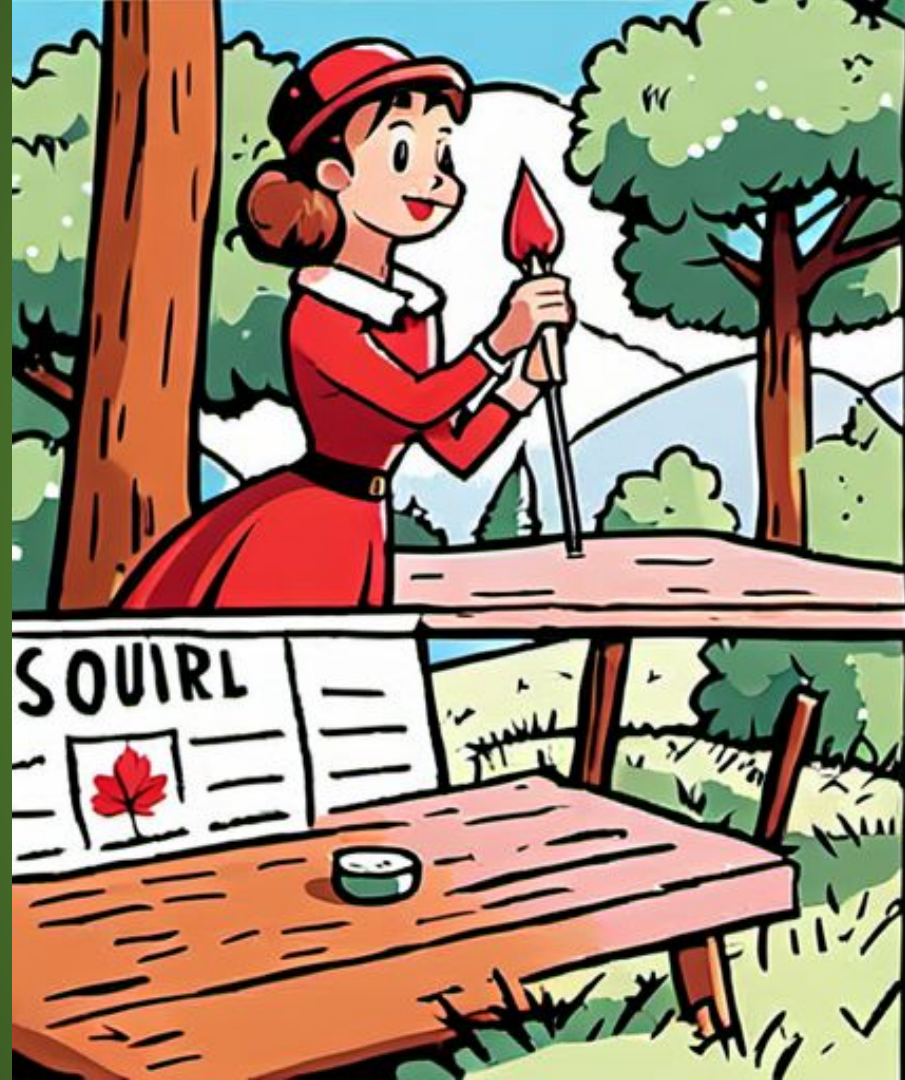
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Negative prompt: humans, weird, disfiguration, abstract, partial figures, multiple eyes  
Steps: 115, Sampler: DPM++ 3M SDE Exponential, CFG scale: 16, Seed: 2176831489, Size: 832x512, Model hash: 7440042bbd, Model: sd\_xl\_refiner\_1.0, Denoising strength: 0.82, Version: v1.6.0



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Negative prompt: humans, weird, disfiguration, abstract, partial figures, multiple eyes  
Steps: 115, Sampler: DPM++ 2M SDE Heun Exponential, CFG scale: 16, Seed: 2649433021, Size: 832x512, Model hash: 7440042bbd, Model: sd\_xl\_refiner\_1.0, Denoising strength: 0.82, Version: v1.6.0



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Negative prompt: humans, weird, disfiguration, abstract, partial figures, multiple eyes  
Steps: 115, Sampler: DPM++ 2M SDE Exponential, CFG scale: 16, Seed: 3268481100, Size: 832x512, Model hash: 7440042bbd, Model: sd\_xl\_refiner\_1.0, Denoising strength: 0.82, Version: v1.6.0









Cartoon comic book strip of seasons passing throughout several frames in a 1950s-style graphic novel. Forest animals all around, squirrel in the main foreground, fun bright colors, the first snowfall in a single frame, first fall leaf in a single frame, first spring flower in a single frame. Graphic with black outlines, squirrel community. Cute, hand-drawn figures in gouache painting, representational artwork, conversation between characters, and anthropomorphized forest animals. A cohesive storyline takes place across all the scenes.

Negative prompt: humans, weird, disfiguration, abstract, partial figures, multiple eyes

Steps: 115, Sampler: DPM++ 2M SDE Exponential, CFG scale: 16, Seed: 897185782, Size: 832x512, Model hash: 7440042bbd, Model: sd\_xl\_refiner\_1.0, Denoising strength: 0.82, Version: v1.6.0



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Negative prompt: humans, weird, disfiguration, abstract, partial figures, multiple eyes, human hands  
Steps: 115, Sampler: DPM++ 2M SDE Exponential, CFG scale: 16, Seed: 3945890160, Size: 832x512, Model hash: 7440042bbd, Model: sd\_xl\_refiner\_1.0, Denoising strength: 0.74, Version: v1.6.0







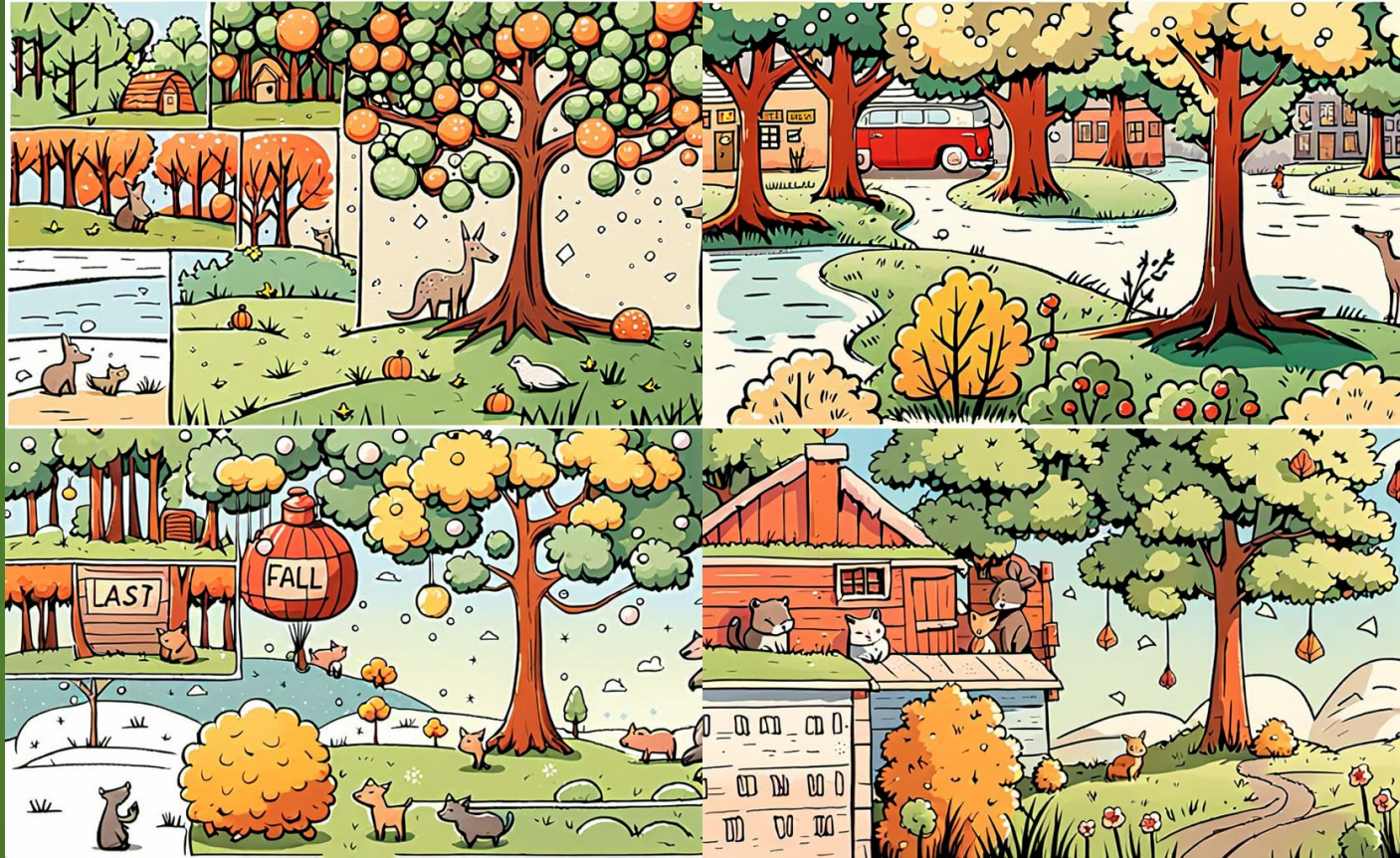
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Negative prompt: humans, weird, disfiguration, abstract, partial figures, multiple eyes, human hands, digital art

Steps: 115, Sampler: DPM++ 2M SDE Exponential, CFG scale: 16, Seed: 2768145784, Size: 832x512, Model hash: 7440042bbd, Model: sd\_xl\_refiner\_1.0, Denoising strength: 0.59, Version: v1.6.0



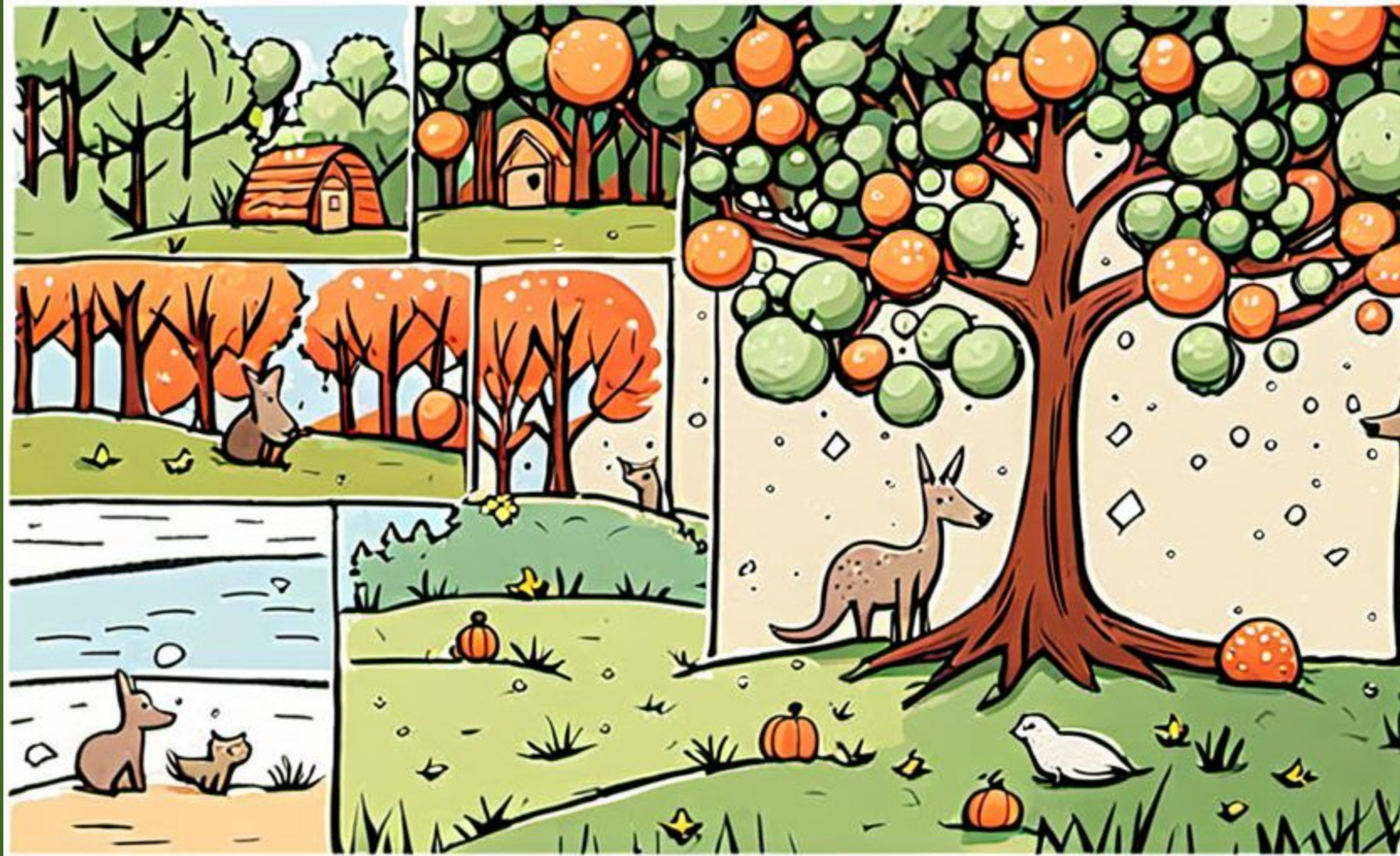




Cartoon comic book strip of seasons passing throughout several frames in a 1950s-style graphic novel. Forest animals all around, subject in the main foreground, fun bright colors, the first snowfall in a single frame, first fall leaf in a single frame, first spring flower in a single frame, and summer in the last frame. Graphic with black outlines, animal community. Cute, hand-drawn figures in gouache painting, representational artwork, conversation between characters, and anthropomorphized forest animals. A cohesive storyline takes place across all the scenes. Thought bubbles with conversations about hibernation coming from the animals within the scene  
Negative prompt: humans, weird, disfiguration, abstract, partial figures, multiple eyes, human hands, digital art  
Steps: 115, Sampler: DPM++ 2M SDE Exponential, CFG scale: 16, Seed: 2091365011, Size: 832x512, Model hash: 7440042bbd, Model: sd\_xl\_refiner\_1.0, Denoising strength: 0.7, Version: v1.6.0









Cartoon comic book strip of seasons passing throughout several frames in a 1950s-style graphic novel. Forest animals all around, subject in the main foreground, fun bright colors, the first snowfall in a single frame, first fall leaf in a single frame, first spring flower in a single frame, and summer in the last frame. Graphic with black outlines, animal community. Cute, hand-drawn figures in gouache painting, representational artwork, conversation between characters, and anthropomorphized forest animals. A cohesive storyline takes place across all the scenes. Thought bubbles with conversations about hibernation coming from the animals within the scene

Negative prompt: humans, weird, disfiguration, abstract, partial figures, multiple eyes, human hands, digital art, digital rendering, digitally created

Steps: 95, Sampler: DPM++ 2M SDE Exponential, CFG scale: 14, Seed: 2091365013, Size: 832x512, Model hash: 7440042bbd, Model: sd\_xl\_refiner\_1.0, Denoising strength: 0.7, Version: v1.6.0



Cartoon comic book strip of seasons passing throughout several frames in a 1950s-style graphic novel. Forest animals all around, subject in the main foreground, fun bright colors, the first snowfall in a single frame, first fall leaf in a single frame, first spring flower in a single frame, and summer in the last frame. Graphic with black outlines, animal community. Cute, hand-drawn figures in gouache painting, representational artwork, conversation between characters, and anthropomorphized forest animals. A cohesive storyline takes place across all the scenes. Thought bubbles with conversations about hibernation coming from the animals within the scene

Negative prompt: humans, weird, disfiguration, abstract, partial figures, multiple eyes, human hands, digital art, digital rendering, digitally created

Steps: 95, Sampler: DPM++ 2M SDE Exponential, CFG scale: 14, Seed: 2074576925, Size: 832x512, Model hash: 7440042bbd, Model: sd\_xl\_refiner\_1.0, Denoising strength: 0.7, Version: v1.6.0

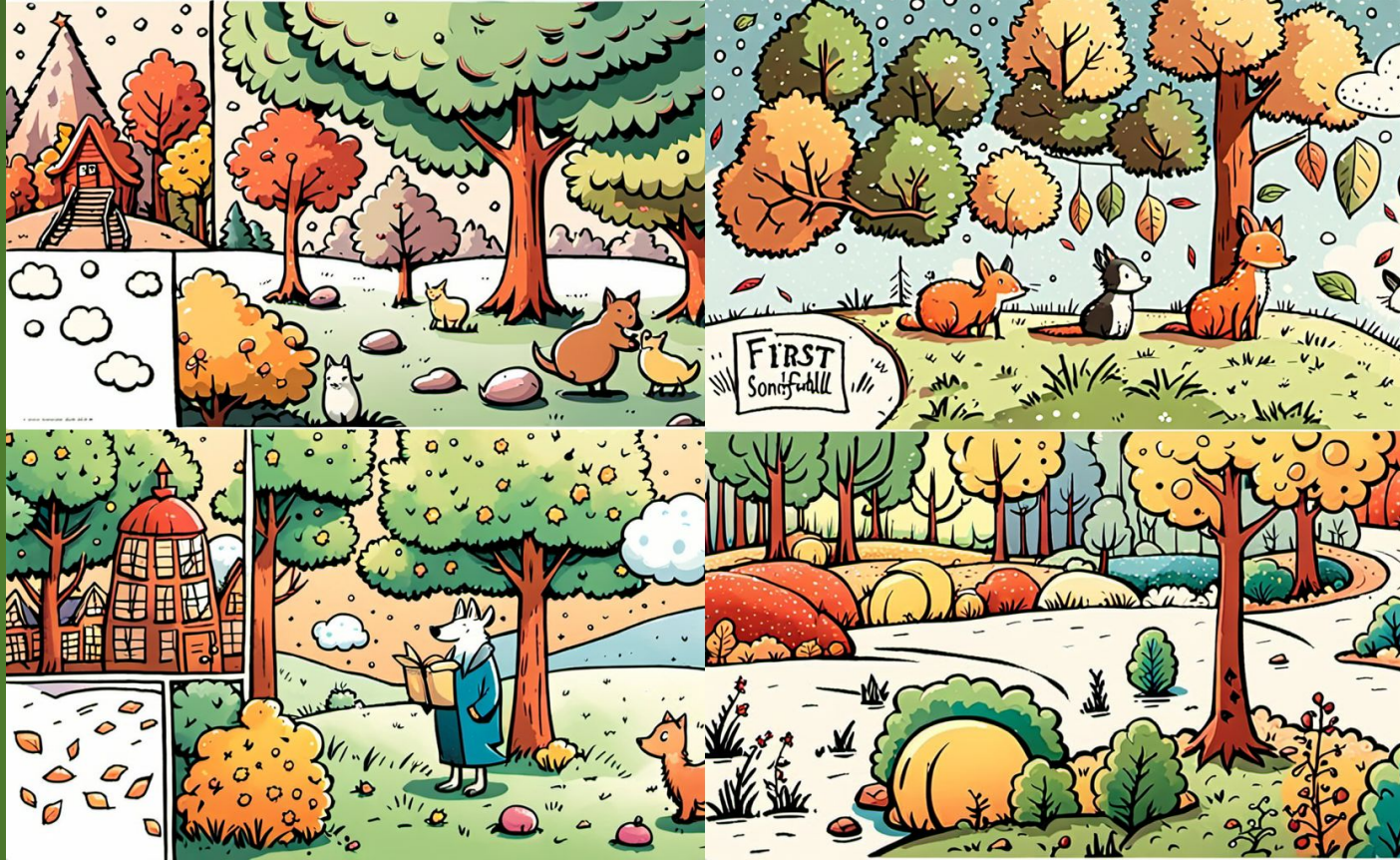


SHE  
SPRING

FALL

FAL





Cartoon comic book strip of seasons passing throughout several frames in a 1950s-style graphic novel. Forest animals all around, subject in the main foreground, fun bright colors, the first snowfall in a single frame, first fall leaf in a single frame, first spring flower in a single frame, and summer in the last frame. Graphic with black outlines, animal community. Cute, hand-drawn figures in gouache painting, representational artwork, conversation between characters, and anthropomorphized forest animals. A cohesive storyline takes place across all the scenes. Thought bubbles with conversations about hibernation coming from the animals within the scene

Negative prompt: humans, weird, disfiguration, abstract, partial figures, multiple eyes, human hands, digital art, digital rendering, digitally created

Steps: 114, Sampler: DPM++ 2M SDE Exponential, CFG scale: 14, Seed: 3020212070, Size: 832x512, Model hash: 7440042bbd, Model: sd\_xl\_refiner\_1.0, Denoising strength: 0.75, Version: v1.6.0



FIRST  
Song! Fall





# Process

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Approaching this last series of images, I wanted to incorporate all the processes and settings that I have learned through MidJourney and Stable Diffusion thus far. To begin this process, I used my original illustration and uploaded it to Stable Diffusion for image-to-image translation. As an artist, my analysis of the batches of images was focused on how cohesive the storylines were, how much glitching (disfiguration) was occurring within the characters, where the program began to insert its own biases, and how well it was able to incorporate the attributes being asked within the given prompts.

In the first series of images, I focused on the degree of denoising that Stable Diffusion was used alongside the CFG Scale and Steps. Once I found the range or degree of denoising that I wanted to occur - from the original illustration, I made corrections to the other parameters more heavily for the remaining images. This included creating more dynamic and detailed positive and negative prompts for the program to take into account. Additionally, I found working in batches was the best and quickest way to access the results or if I was visually on the right track to what I was hoping to achieve.

One adjustment that I focused on in this set of images was the element of text and trying to create a cohesive word or thought bubble. This initially came up by chance with Stable Diffusion. Moreover, of all the images that I have studied or created this quarter, I was surprised to see the most coherent and relevant text formulated in relationship to the scene shown in slide #9. From here, my focus remained on refining the text and the storyline. The images that have been pulled from the batches to focus on are to further examine the texts or storylines presented most successfully.

Slides (10,15, 25,27, and 29) are the most relevant to the exploration of text. The most coherent of which are the words written out as "SHE SPRING" and "FALL FAL". Coherent text within. AI is extremely difficult to achieve. Not only was this an exciting step, but it was also unexpected as it was the first time the text had correlated in a sensical way to the subject matter being asked in all of my studies. There still is a long way to go with developing and refining AI programs like Stable Diffusion in the future, in relationship to areas like text understanding.

# Conclusion

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Were the AI programs able to create a cohesive unfolding or narrative building across frames like a cartoon strip or graphic novel?

- Yes. Between the two programs, MidJourney was better at developing a cohesive or unfolding storyline across multiple frames without inputting a visual image to start. While Stable Diffusion did struggle a lot more with cohesion and creating uncanny or deformed figures, when beginning with a seed image, it had much more successful results. Furthermore, Stable Diffusion does have a bit more flexibility or control in prompt adjustments and less of an imposed stylization in some ways. The final result within Stable Diffusion was a cohesive storyline across multiple frames that were all connected, indicated an accurate passage of time, and contained coherent text that was relevant to the subject.

In what ways was this successful or unsuccessful? What visual markers kept appearing?

- Overall this was extremely successful for the conceptual and visual explorations with AI and the given focus subject. Some areas I did find the program struggling to understand were: human forms, text, cohesion, default or visual influence, detail specificity, nonsensical compositions, and inventing visuals. These were visual markers that took constant attention and work in aiming to correct or shift Stable Diffusion away from in more coherent directions.

Where does this leave the industry for illustration today?

- Based on the information learned throughout this course, at the current stage neither MidJourney nor Stable Diffusion could replace the job industry for illustrators. This is due to a few factors, some of which being the following: depending on specificity there still may need to be traditional artwork created to achieve specific visual concepts, legibility, and understanding can be a struggle for AI still. This is because the 'text' comes across as randomized symbols instead of text containing information. Depending on specificity and characters, you may be limited on what can be achieved visually. For example, the AI will probably not be able to include every detail listed in the prompt or negative prompt section. This could limit the amount of detail or the preciseness of the image generation. In closing, I am not sure based on this, a larger format of sequencing could take place like developing a progressing storybook for example with only characters and scenes developed in an AI program.