

# Apple's Keyframer can animate simple drawings using text descriptions

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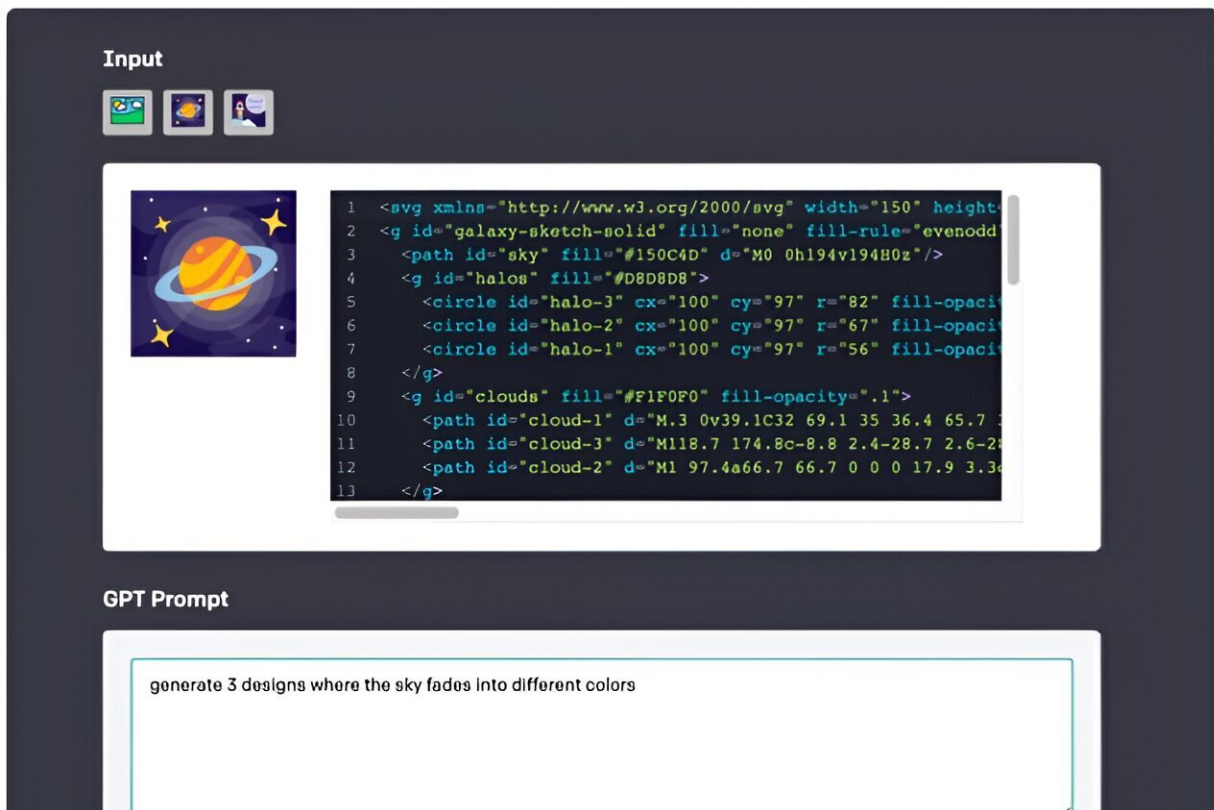


Image input field for adding SVG code and previewing image; GPT Prompt section for entering a natural language prompt. Credit: *arXiv* (2024). DOI: 10.48550/arxiv.2402.06071

Machine learning researchers at Apple have developed an application that can accept a simple drawing and a text description to animate the

drawing in desired ways. Tiffany Tseng, Ruijia Cheng and Jeffrey Nichols have published [a paper](#) describing the new app, called Keyframer, on the *arXiv* preprint server.

AI researchers continue to find LLMs capable of tasks that may not at first appear applicable. In this new effort, the researchers at Apple found that the LLM GPT-4 is capable of accepting both a simple drawing (in SVG format) and a text prompt describing a desired animation for the drawing, and then producing an animation that carries out the instructions.

As an example, the application can accept a picture of a rocket sitting on a [launch pad](#). The accompanying text may read "Make the [rocket launch](#) into the sky with a bunch of fire blowing out beneath it." The app will then attempt to animate the rocket to match the prompt.

The researchers explain that the LLM can be used to animate the drawing by first imagining what needs to be done and then generating CSS animation code. As a result, the animation can be ported to other devices and the code can be edited to add or remove additional animation manually—new prompts may be added, as well.

They note that Keyframe also supports iterative animation, where users can continue to add prompts to improve the finished product after each animation is generated—a means for producing a desired animated project in a short period of time.



Six frames taken from animations generated by EP4 (HCLA) and EP9 (HCHA). The Activity 1 Saturn animation from EP4 has the sparkles fade in and out independently, the clouds fade in, the halos fade in one after another, and the specks alternate colors from yellow to orange to pink. The Activity 2 Rocketship animation from EP9 has the rocketship move up and down, the clouds grow and shrink in size, and items in the background (the moon and specks) shift down to give the appearance of the rocketship lifting off. Credit: *arXiv* (2024). DOI: [10.48550/arxiv.2402.06071](https://doi.org/10.48550/arxiv.2402.06071)

In their paper, the researchers suggest that Keyframer could set the stage for transforming the animation landscape—if Apple makes it available on all its [hardware platforms](#), for example, users would no longer need other animation applications, and some may use it to create professional products such as commercials. It also allows nonprofessionals to create professional-quality products with a limited amount of effort.

**More information:** Tiffany Tseng et al, Keyframer: Empowering Animation Design using Large Language Models, *arXiv* (2024). [DOI: 10.48550/arxiv.2402.06071](https://doi.org/10.48550/arxiv.2402.06071)

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