

CMSI 371-01

COMPUTER GRAPHICS

Spring 2015

Assignment 0217

This assignment is the big 2D scene, implemented from scratch with our homebrew keyframe/tweening library. Let your imagination run wild :)

Outcomes

This assignment will affect your proficiency measures for outcomes *1a*, *2a* (max |), *3a* (max |), *3b* (max |), and *4a–4f*. This assignment continues to apply only to the 2D aspects of *2a*, *3a*, and *3b*, so those outcomes will have a maximum proficiency of | until a future assignment expands those to include 3D.

Not for Submission

Read Robert Penner’s book chapter on motion, tweening, and easing.

For Submission

Modify the *animation-sprite* sample so that it features a 2D animated scene that is written and directed by *you*. Ideally, your scene works as a very brief animated short, with a quick and engaging little story and characters. Reuse the model-based drawing functions from the previous assignment—make sure to *use them in place*, without copying them.

To support your new and improved animated scene, enhance the *keyframe-tweener.js* animation module in the following ways. Of course, you should demonstrate these enhancements by using them in your own animated short (a.k.a. “eating your own dog food”):

- Add a `background` setting to `KeyframeTweener`. `background` should be a function that accepts a rendering context which, during animation, is called in order to provide a custom background for the scene.
- Extend the keyframe objects with the properties that control your parameterized sprites, and *tween those properties* so that the sprites also animate via those properties, instead of just translation, rotation, or scaling.
- Add Robert Penner’s library of easing functions to your animated scene’s codebase (<http://www.robertpenner.com/easing>) and use those functions to tween your sprites. An adapter function might be needed so that they plug in more easily.

Commit and push your work to your GitHub repository under *homework/toon*.