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CMPM 163

April 26, 2019

Homework 1D

Pictured: A palm tree becoming transparent in Mafia Town.

This is a shader effect that appears in the game A Hat in Time. This effect is applied to many objects in the game that Hat Kid can easily walk around. When Hat Kid is close to an object, that object will start fading based on how close it is to the camera. These kinds of objects will not fade until Hat Kid is further away from the camera than the object.

I find this type of shader interesting because it acts as a quality-of-life feature, preventing potentially awkward camera angles. The effect seems to be based on the position of pixels on the screen belonging to the faded object when compared to the camera position. It seems the pixels are rendered as either completely invisible or partly transparent with respect to a pattern of diagonal stripes. The closer the object is to the camera, the more pixels will be rendered as invisible rather than transparent. There is likely an equation that creates the visual pattern, which has a variable that increases based on the distance between the camera and the individual pixels of the object.

It seems possible to replicate this effect in Unity by using a Fade shader that sets the alpha of different pixels to 0 or [some value between 0 and 256 based on distance from camera.] Creating an equation that produces a similar fading pattern would be feasible.