



Super Mario Odyssey Cap Kingdom fog effect.

In Super Mario Odyssey there is an effect in the first level of the game that behaves somewhat like fog or a low hanging cloud. I really like this effect as it adds a lot to the atmosphere of the Cap Kingdom while being fun to run through. The picture above doesn't really do the effect justice and I would suggest finding a video or playing the game to see what it's like.

It works by altering the geometry of the object by slowly having it wave up and down to create a fluctuating texture. When you run through it gives the illusion of being pushed apart by lowering vertices near your character down to a point where the player can't see them. It's not obvious when walking across ground as Mario but when your flying over or jump into the bottomless pit it's pretty clear that the vertices are being pushed downwards. The rest is just a simple transparent soft diffuse shader that can receive lighting.

If I were to recreate this in unity I would probably first have to create some variables that would allow me to track player position as well as whatever is needed for a decent transparent diffuse shader. I would then probably use something like a sine wave to manipulate the height of the vertices to give the bobbing effect. I would also have to find an efficient way of checking the distance between the player position and relevant vertices so I could offset their position downwards to give the effect of the player running through fog. I'm not sure if anything special would have to be done in the fragment shader other than rendering the mesh to look like a cloud.

Cap Kingdom

Bonneton

