CS519 Project 8

Dog Poster
Dog and Black Hole

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1 source files

There are only three files dogmorph.frag, dogmorph.glib and dogmorph.vert. Also, I use updated dog2.obj file. Lastly, there is a all4.jpg that is reserved for poster.

2 a simple explanation

What I did are:

Feature	**Status**
Morphing dog base on distance to a black hole	✓
Getting rid of those pass the black hole	✓
Changing position of black hole	✓

- For the this **Morphing**, I do make use of gravity formula: $F = Gm_1m_2/r^2$. In my function I input a uForce parameter to stand Gm_1m_2. It can be simply explained as: G is constant,m_1 is our dog(constant). Only the mass of m_2 varying that is our black hole. This r is the distance from black hole(which is just a point) to a certain vertex of the dog. Now we got this F. As F (gravity) grows, dog morphs tremendously. So, it is a linear relationship between gravity and morphing. So just replace blend value with this F. For mix function, we have one value is the pos of black hole, the other one is pos of a certain vertex of the dog.
- For **deleting those passed the black hole**, I calculate two vectors. One is from newly morphed pos to black hole point, another is from old non-morphed pos to black hole point. If the dot product of thes two vector is above zero, I apply the morphing. Otherwise set the new pos as the pos of black hole point.
- About **Changing pos of black hole**, setting uX,uY,uZ to adjust the pos of black hole this pos is in world coordinate.

3 result

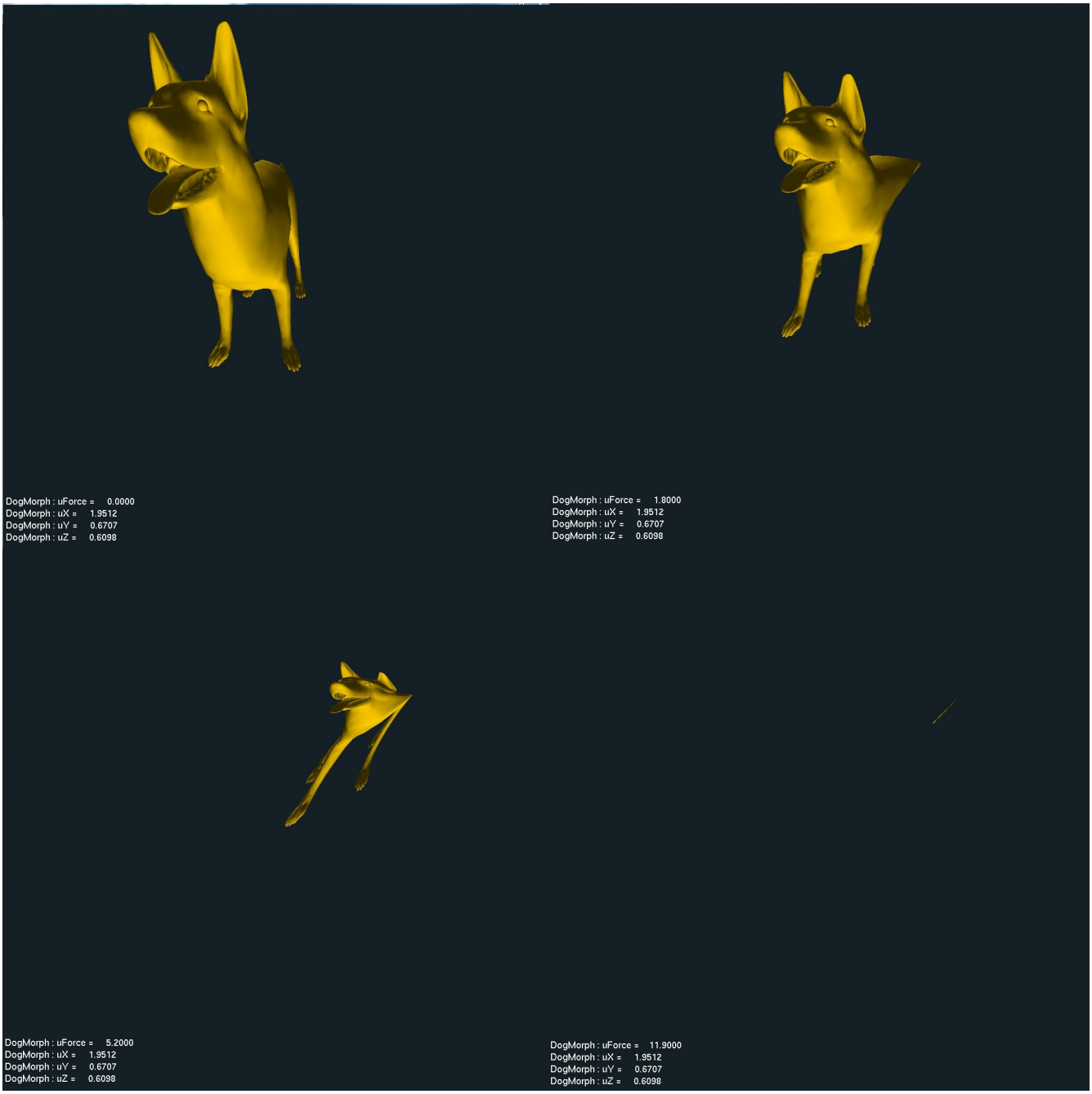

Figure 1: Dog from complete to disappear