



Assignments 2

Texture mapping originally referred to a method (now more accurately called diffuse mapping) that simply wrapped and mapped pixels from a texture to a 3D surface. In recent decades the advent of multi-pass rendering and complex mapping such as height mapping, bump mapping, normal mapping, displacement mapping, reflection mapping, specular mapping, mipmaps, occlusion mapping, and many other variations on the technique (controlled by a materials system) have made it possible to simulate near-photorealism in real time by vastly reducing the number of polygons and lighting calculations needed to construct a realistic and functional 3D scene.

https://en.wikipedia.org/wiki/Texture_mapping

Bump mapping is a technique in computer graphics for simulating bumps and wrinkles on the surface of an object. This is achieved by perturbing the surface normals of the object and using the perturbed normal during lighting calculations. The result is an apparently bumpy surface rather than a smooth surface although the surface of the underlying object is not actually changed. Bump mapping was introduced by James Blinn in 1978.

https://en.wikipedia.org/wiki/Bump_mapping

Write a WebGL application for rendering 3d earth using *Texture mapping* and *Bump mapping*. You can find suitable bitmaps here¹:

<http://planetpixelemporium.com/earth.html>



Submission Deadline:

Sunday, December 11, 2016

Submission URL:

<https://goo.gl/HFXghU>

Accepted file format:

A single HTML file is allowed (ECE411C_02_Your_Name.html)²

¹ You can use different bitmaps if you like.

² Refer to any images/textures using their online URLs.