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What is magnification and minification?

Magnification – magnification is the usage of mip mapping to scale a texture from a smaller number of pixels to a larger image. For example, the program will a single pixel’s light/color values, and produce on four pixels of the same pixel color/light value in order to scale the image.

Minification – minification is the usage of mipmapping to shrink a smaller number of pixels to a smaller image. For example, in minification, the program will take four adjacent pixel color/light values, average them, and produce on single pixel color/light value. This will create a smaller image while keeping the same general shape of the original image.

What is mip mapping?

Mip mapping is a technique where an originally large sized texture is scaled down into multiple resolutions to correlate with what the texture would look like at a specific distance from the user’s camera. For example, an originally large sized texture will be scaled down to look rather tiny if the camera is very far away from the texture; mip mapping enables the texture to look non-distorted regardless of distance away from the camera.

What is environment map?

Environment mapping is a technique used to recreate surface reflection for a low amount of computational power. This causes the effect of photo-realistic reflection on an object with this type of mapping, as it is “reflecting” a panoramic image of the entire scene surrounding the object. An example of this was the tea pot demo in class, which floated in space and reflected a panoramic image of the google earth data around it.