1 Goal

Find relevance and systems for UV mapping and reparametrization.

2 Rational

To help us gain an understanding for possible systems of mapping textures to 3D models, as well as gaining new insight on how to tackle improving texture quality.

3 Findings

3.1 UV-mapping file format

For a .obj (wavefront .obj), (Wikipedia), the texture is represented as a set of vertices, a set of texture coordinates (u,v) between 0 and 1, and a list of face elements.

3.2 iseez3d

Iseeze3d simply uses the vertices, vertex-textures points, and faces to generate its UV-map textures. The weird blurry effects found in Iseeze3D aren't actually used. My guess is that it is left in to permit some level of edge-blurring in the image.

3.3 enhancement

In theory, each face could be mapped into a triangular texture, without any loss of quality. The reason there are people manipulating the mapping is for better user editability. Actual texture-enhancement would probably be done prior to this.
One could put all pictures captured into this texture file, however due to the simplicity of the .obj file, any face of the model could only ever contain data from one of these pictures. It would be better to pass the raw data (pictures and depth), or processes it in its entirety, and just save the result in the .obj file.