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Gentry et al.

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[54] **METHOD AND APPARATUS FOR MAPPING A TWO-DIMENSIONAL TEXTURE ONTO A THREE-DIMENSIONAL SURFACE**

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[57] **ABSTRACT**

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[52] **U.S. Cl.** **345/419; 345/429; 345/430**

[58] **Field of Search** 345/430, 419, 345/420, 421, 422, 429

A method of mapping two-dimensional textures onto a three-dimensional object yields the correct result in terms of pattern placement, scale, repeat and flow of various textures. This is accomplished by providing a unique user interface to control the texture mapping process. The user controls how the texture should flow and where the texture should be "cut and seamed" to fit the geometry of the three-dimensional object by clicking and dragging directly on the rendered surface of the object. The user is presented with two simultaneous windows: one providing a view of the three-dimensional object being wrapped with texture and the other providing a view of the two-dimensional texture with object surface polygons projected thereon. The texture mapping process is controlled from both windows. The three-dimensional object window gives the user control of the texture flow on the surface of the object. The two-dimensional texture window gives the user control of the orientation of the texture and permits the introduction of mapping distortion to simulate stretching of the texture, if desired.

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19 Claims, 3 Drawing Sheets

