Claims

1) A method for performing a tridimensional rendering of a tridimensional area visible from a sensor onto an image comprising a plurality of pixels, the method comprising:
    a) generating a position map containing a plurality of points visible from the sensor in a plurality of directions;
    b) generating a projection mesh from the position map;
    c) rendering the projection mesh onto the image.

2) The method as claimed in claim 1, wherein the plurality of points comprises the farthest points visible from the sensor in thea plurality of directions.

3) The method as claimed in claim 1, wherein the sensor is a camera.

4) The method as claimed in claim 3, wherein the step of rendering the projection mesh comprises binding an image captured by the camera as a texture such as to perform a tridimensional texture projection.

5) The method as claimed in claim 4, wherein the image is a video frame captured by the camera.

6) The method as claimed in claim 1, wherein the step of generating the position map comprises using a framebuffer to render the tridimensional area from the point of view of the sensor and recording the tridimensional position of each of the pixels in the framebuffer.

7) The method claimed in claim 1 , wherein the steps of generating a position map and rendering the projection mesh are performed using a graphics processing unit (GPU).

8) The method claimed in claim 1 , wherein the step of generating a projection mesh comprises creating triangles linking points in the position map.

9) The method claimed in claim 1, wherein steps a) to c) are repeated for each of a plurality of sensors, whereby all tridimensional areas visible from the plurality of sensors are displayed substantially simultaneously.

10) The method claimed in claim 1, further comprising simplifying the generated mesh.

11) The method claimed in claim 1, wherein steps a) to c) are repeated for each of a plurality of sensors, and wherein the rendering step comprises scoring the generated projection meshes to determine the order in which the generated projection meshes will be displayed based on at least one criterion.

12) The method claimed in claim 11, wherein the at least one criterion is a closest view angle.

13) The method claimed in claim 11, wherein the step of scoring is performed for each of the pixels.

14) The method claimed in claim 1, wherein steps a) to c) are repeated for each of a plurality of sensors, and wherein the rendering step comprises determining a count, for each of the pixels, corresponding to the number of the plurality of sensors to which the pixel is visible.

15) The method claimed in claim 14, wherein for each of the pixels, the count is mapped into a color for display.

~~16) A method for performing a tridimensional rendering of a tridimensional area visible from a sensor onto an image comprising a plurality of pixels, the method comprising:~~

~~a) generating a list of triangles that are at least partially visible from the sensor;~~

~~b) clipping each of the partially visible triangles against adjacent partially visible triangles to produce a list of clipped triangles;~~

c) generating a projection mesh by concatenating the clipped triangles;

d) rendering the projection mesh onto the image.

17) The method as claimed in claim 16, wherein the sensor is a camera.

18) The method as claimed in claim 17, wherein the step of rendering the projection mesh comprises binding an image captured by the camera as a texture such as to perform a tridimensional texture projection.

19) The method as claimed in claim 17, wherein the image is a video frame captured by the camera.

20) The method as claimed in claim 16, wherein the step of generating the list of partially visible triangles comprises using a framebuffer to render the tridimensional area from the point of view of the sensor and recording a triangle ID for each of the pixels in the framebuffer.

21) The method as claimed in claim 16, wherein the step of generating a projection mesh comprises compiling the list of clipped triangles into the projection mesh.

22) The method as claimed in claim 16, wherein steps a) to d) are repeated for each of a plurality of sensors, whereby all tridimensional areas visible from the plurality of sensors are displayed substantially simultaneously.

23) The method as claimed in claim 16, wherein steps a) to d) are repeated for each of a plurality of sensors, and wherein the rendering step comprises scoring the generated projection meshes to determine the order in which the generated projection meshes will be displayed based on at least one criterion.

24) The method as claimed in claim 23, wherein the at least one criterion is a closest view angle.

~~25) The method as claimed in claim 23, wherein the step of scoring is performed for each of the pixels.~~

~~26) The method as claimed in claim 16, wherein steps a) to d) are repeated for each of a plurality of sensors, and wherein the rendering step comprises determining a count, for each of the pixels, corresponding to the number of the plurality of sensors to which the pixel is visible.~~

~~27) The method as claimed in claim 26, wherein for each of the pixels, the count is mapped into a color for display.~~

~~28~~16) A computer-readable medium having stored therein instructions for performing a method according to any one of claims 1 to 15~~27~~.

~~29~~17) A computer system having stored therein instructions for performing a method according to any one of claims 1 to 15~~27~~.

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