Claims

1. A device to render two-dimensional (2D) imagery from three-dimensional (3D) model data comprising:

a clipping component to clip a first visible primitive of a 2D screen image derived from of a 3D model within a first area of the screen image covered by a shading pixel to form a first polygon representing an intersection of the first area and the first visible primitive;

a first interpolation component to interpolate at least one attribute of vertices of the first visible primitive to each vertex of the first polygon; and

a second interpolation component to interpolate color values of the vertices of the first polygon to a point within a second area covered by a screen pixel of the screen image, the second area smaller than the first area and at least partly coinciding with the first area.

2. The device of claim 1, the point located at a center of the screen pixel, and the shading component to select the vertices of the first polygon from which to interpolate the at least one attribute from among vertices of a multitude of polygons formed by the clipping component based on the location of the point relative to boundaries of each polygon of the multitude of polygons, the multitude of polygons comprising the first polygon.

3. The device of claim 1, the point coinciding with a location of a sample falling within the screen pixel, the sample employed in rasterization of the first visible primitive.

4. The device of claim 1, comprising a shading component to derive the color values of the vertices of the first polygon from the at least one attribute interpolated to the vertices of the first polygon.

5. The device of claim 1, the clipping component to clip a second visible primitive of the 2D screen image within the first area to form a second polygon representing an intersection of the first area and the second visible primitive, the second polygon sharing at least a portion of an edge with the first polygon.

6. The device of claim 5, a vertex of the first polygon sharing a location along a boundary of the shading pixel with a vertex of the second polygon.

7. The device of claim 1, comprising a rasterizing component to rasterize primitives of the 3D model to identify a multitude of visible primitives visible in the 2D screen image, the multitude of visible primitives comprising the first visible primitive.

8. The device of claim 1, comprising a display to present the screen image.

9. A device to render two-dimensional (2D) imagery from three-dimensional (3D) model data comprising:

a clipping component to clip a first visible primitive and a second visible primitive of a 2D screen image derived from of a 3D model within an area of the screen image covered by a shading pixel to form a first polygon representing an intersection of the area covered by the shading pixel and the first visible primitive and to form a second polygon representing an intersection of the area covered by the shading pixel and the second visible primitive;

a first interpolation component to interpolate at least one attribute of vertices of the first visible primitive to each vertex of the first polygon, and to interpolate the at least one attribute of vertices of the second visible primitive to each vertex of the second polygon; and

a second interpolation component to interpolate color values of the vertices of the first polygon to a first point within an area covered by a first screen pixel of the screen image, and to interpolate color values of the vertices of the second polygon to a second point within an area covered by a second screen pixel of the screen image, each of the areas covered by the first and second screen pixels coinciding with the area covered by the shading pixel.

10. The device of claim 9, the first point located at a center of the first screen pixel, the second point located at a center of the second screen pixel, and the second interpolation component to select the vertices of the first polygon from which to interpolate the at least one attribute to the first point from among vertices of a multitude of polygons formed by the clipping component based on the location of the first point relative to boundaries of each polygon of the multitude of polygons, and to select the vertices of the second polygon from which to interpolate the at least one attribute to the second point from among vertices of the multitude of polygons based on the location of the second point relative to boundaries of each polygon of the multitude of polygons, the multitude of polygons comprising the first and second polygons.

11. The device of claim 9, the second visible primitive sharing at least a first portion of an edge with the first visible primitive.

12. The device of claim 11, the clipping component to clip the first and second visible primitives to enable the first and second polygons to share at least a second portion of the edge.

13. The device of claim 12, the clipping component to clip the first and second visible primitives to enable a vertex of the first polygon to share a location along a boundary of the shading pixel with a vertex of the second polygon.

14. The device of claim 9, comprising an interface to transmit screen image data representing the screen image to another device.

15. The device of claim 14, comprising a rasterizing component to receive an indication of an orientation of a plane of the screen image from the other device.

16. A computer-implemented method for rendering two-dimensional (2D) imagery from three-dimensional (3D) model data comprising:

clipping a first visible primitive of a 2D screen image derived from of a 3D model within a first area of the screen image covered by a shading pixel to form a first polygon representing an intersection of the first area and the first visible primitive;

interpolating at least one attribute of vertices of the first visible primitive to each vertex of the first polygon; and

interpolating color values of the vertices of the first polygon to a point within a second area covered by a screen pixel of the screen image, the second area smaller than the first area and at least partly coinciding with the first area.

17. The computer-implemented method of claim 16, the method comprising determining a size of the first area based on a characteristic of a multitude of visible primitives of the 2D screen image, the multitude of visible primitives comprising the first visible primitive.

18. The computer-implemented method of claim 16, the point located at a center of the screen pixel, and the method comprising selecting the vertices of the first polygon from which to interpolate the at least one attribute from among vertices of a multitude of polygons formed by the clipping component based on the location of the point relative to boundaries of each polygon of the multitude of polygons, and the multitude of polygons comprising the first polygon.

19. The computer-implemented method of claim 16, the point coinciding with a location of a sample falling within the screen pixel, the sample employed in rasterization of the first visible primitive.

20. The computer-implemented method of claim 16, the method comprising deriving the color values of the vertices of the first polygon from the at least one attribute interpolated to the vertices of the first polygon.

21. The computer-implemented method of claim 16, the method comprising clipping a second visible primitive of the 2D screen image within the first area to form a second polygon representing an intersection of the first area and the second visible primitive, the second polygon sharing at least a portion of an edge with the first polygon.

22. The computer-implemented method of claim 21, a vertex of the first polygon sharing a location along a boundary of the shading pixel with a vertex of the second polygon.

23. The computer-implemented method of claim 16, the method comprising transmitting screen image data representing the screen image to another device.

24. The computer-implemented method of claim 16, the method comprising rasterizing primitives of the 3D model to identify a multitude of visible primitives visible in the 2D screen image, the multitude of visible primitives comprising the first visible primitive.

25. At least one tangible machine-readable storage medium comprising instructions that when executed by a computing device, cause the computing device to perform the method of any of claims 16-24.

Claims

1. A device to render two-dimensional (2D) imagery from three-dimensional (3D) model data comprising:

a clipping component to clip a first visible primitive of a 2D screen image derived from of a 3D model within a first area of the screen image covered by a shading pixel to form a first polygon representing an intersection of the first area and the first visible primitive;

a first interpolation component to interpolate at least one attribute of vertices of the first visible primitive to each vertex of the first polygon; and

a second interpolation component to interpolate color values of the vertices of the first polygon to a point within a second area covered by a screen pixel of the screen image, the second area smaller than the first area and at least partly coinciding with the first area.

2. The device of claim 1, the point coinciding with a location of a sample falling within the screen pixel, the sample employed in rasterization of the first visible primitive.

3. The device of claim 1, comprising a shading component to derive the color values of the vertices of the first polygon from the at least one attribute interpolated to the vertices of the first polygon.

4. The device of claim 1, the clipping component to clip a second visible primitive of the 2D screen image within the first area to form a second polygon representing an intersection of the first area and the second visible primitive, the second polygon sharing at least a portion of an edge with the first polygon.

5. The device of claim 4, a vertex of the first polygon sharing a location along a boundary of the shading pixel with a vertex of the second polygon.

6. The device of claim 1, comprising a display to present the screen image.

7. A device to render two-dimensional (2D) imagery from three-dimensional (3D) model data comprising:

a clipping component to clip a first visible primitive and a second visible primitive of a 2D screen image derived from of a 3D model within an area of the screen image covered by a shading pixel to form a first polygon representing an intersection of the area covered by the shading pixel and the first visible primitive and to form a second polygon representing an intersection of the area covered by the shading pixel and the second visible primitive;

a first interpolation component to interpolate at least one attribute of vertices of the first visible primitive to each vertex of the first polygon, and to interpolate the at least one attribute of vertices of the second visible primitive to each vertex of the second polygon; and

a second interpolation component to interpolate color values of the vertices of the first polygon to a first point within an area covered by a first screen pixel of the screen image, and to interpolate color values of the vertices of the second polygon to a second point within an area covered by a second screen pixel of the screen image, each of the areas covered by the first and second screen pixels coinciding with the area covered by the shading pixel.

8. The device of claim 7, the first point located at a center of the first screen pixel, the second point located at a center of the second screen pixel, and the second interpolation component to select the vertices of the first polygon from which to interpolate the at least one attribute to the first point from among vertices of a multitude of polygons formed by the clipping component based on the location of the first point relative to boundaries of each polygon of the multitude of polygons, and to select the vertices of the second polygon from which to interpolate the at least one attribute to the second point from among vertices of the multitude of polygons based on the location of the second point relative to boundaries of each polygon of the multitude of polygons, the multitude of polygons comprising the first and second polygons.

9. The device of claim 7, the second visible primitive sharing at least a first portion of an edge with the first visible primitive.

10. The device of claim 9, the clipping component to clip the first and second visible primitives to enable the first and second polygons to share at least a second portion of the edge.

11. The device of claim 10, the clipping component to clip the first and second visible primitives to enable a vertex of the first polygon to share a location along a boundary of the shading pixel with a vertex of the second polygon.

12. The device of claim 7, comprising an interface to transmit screen image data representing the screen image to another device.

13. A computer-implemented method for rendering two-dimensional (2D) imagery from three-dimensional (3D) model data comprising:

clipping a first visible primitive of a 2D screen image derived from of a 3D model within a first area of the screen image covered by a shading pixel to form a first polygon representing an intersection of the first area and the first visible primitive;

interpolating at least one attribute of vertices of the first visible primitive to each vertex of the first polygon; and

interpolating color values of the vertices of the first polygon to a point within a second area covered by a screen pixel of the screen image, the second area smaller than the first area and at least partly coinciding with the first area.

14. The computer-implemented method of claim 13, the point located at a center of the screen pixel, and the method comprising selecting the vertices of the first polygon from which to interpolate the at least one attribute from among vertices of a multitude of polygons formed by the clipping component based on the location of the point relative to boundaries of each polygon of the multitude of polygons, and the multitude of polygons comprising the first polygon.

15. The computer-implemented method of claim 13, the method comprising deriving the color values of the vertices of the first polygon from the at least one attribute interpolated to the vertices of the first polygon.

16. The computer-implemented method of claim 13, the method comprising clipping a second visible primitive of the 2D screen image within the first area to form a second polygon representing an intersection of the first area and the second visible primitive, the second polygon sharing at least a portion of an edge with the first polygon.

17. The computer-implemented method of claim 16, a vertex of the first polygon sharing a location along a boundary of the shading pixel with a vertex of the second polygon.

18. The computer-implemented method of claim 13, the method comprising transmitting screen image data representing the screen image to another device.

19. At least one machine-readable storage medium comprising instructions that when executed by a computing device, cause the computing device to:

clip a first visible primitive of a 2D screen image derived from of a 3D model within a first area of the screen image covered by a shading pixel to form a first polygon representing an intersection of the first area and the first visible primitive;

interpolate at least one attribute of vertices of the first visible primitive to each vertex of the first polygon; and

interpolate color values of the vertices of the first polygon to a point within a second area covered by a screen pixel of the screen image, the second area smaller than the first area and at least partly coinciding with the first area.

20. The at least one machine-readable storage medium of claim 19, the point coinciding with a location of a sample falling within the screen pixel, the sample employed in rasterization of the first visible primitive.

21. The at least one machine-readable storage medium of claim 19, the computing device caused to derive the color values of the vertices of the first polygon from the at least one attribute interpolated to the vertices of the first polygon

22. The at least one machine-readable storage medium of claim 19, the computing device caused to clip a second visible primitive of the 2D screen image within the first area to form a second polygon representing an intersection of the first area and the second visible primitive, the second polygon sharing at least a portion of an edge with the first polygon.

23. The at least one machine-readable storage medium of claim 22, a vertex of the first polygon sharing a location along a boundary of the shading pixel with a vertex of the second polygon.

24. The at least one machine-readable storage medium of claim 19, the computing device caused to present the screen image on a display.

25. The at least one machine-readable storage medium of claim 19, the computing device caused to rasterize primitives of the 3D model to identify a multitude of visible primitives visible in the 2D screen image, the multitude of visible primitives comprising the first visible primitive.