

ABSTRACT OF THE DISCLOSURE

An apparatus configured to render an object including a path includes a storage circuit, an arithmetic circuit configured to determine a direction of a plurality of primitives included in the path based on path data, generate primitive direction information, store the primitive direction information in the storage circuit, and generate a winding number of each of a plurality of pixels using the stored primitive direction information, and a determination circuit configured to determine whether a shading operation is to be performed based on the generated winding number.

FIG. 1