Title (en)

METHOD AND SYSTEM FOR DETERMINING VISIBLE PARTS OF TRANSPARENT AND NONTRANSPARENT SURFACES OF THREE-DIMENSIONAL OBJECTS

Title (de)

VERFAHREN UND SYSTEM ZUR BESTIMMUNG SICHTBARER TEILE VON TRANSPARENTEN UND NICHT TRANSPARENTEN OBERFLDCHEN DREIDIMENSIONALER OBJEKTE

Title (fr)

PROCEDE ET SYSTEME PERMETTANT DE DETERMINER DES PARTIES VISIBLES DE SURFACES TRANSPARENTES ET NON TRANSPARENTES D'OBJETS TRIDIMENSIONNELS

Publication

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Application

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Priority

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Abstract (en)

[origin: WO0175792A2] There is provided a system, method and article of manufacture for determining the visibility of surfaces and/or parts of surfaces of three-dimensional objects, which are projected on a view plane from data defining these surfaces, comprising: a) deriving data indicative of boundaries of projections of the surfaces on the view plane; b) determining (preferably, by recursion) a finite number of subdivisions of the view plane thereby providing perimeters of each of the subdivisions; c) determining points of intersection of the perimeter of one of the subdivisions with the boundaries of the surfaces projected on the view plane; d) determining the distribution of surfaces visible along the perimeter of the one of the subdivisions by utilizing the points of intersection; and e) determining if the one subdivision is "simple enough" of "terminal" from at least the distribution of surfaces visible along the perimeter of the one subdivision. In a preferred embodiment of the present solution, the visibility of surfaces and/or parts of surfaces of three-dimensional objects projected on a view plane are determined using one or more "minimal rectangles or subdivisions" as defined further herein.

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