

Title (en)  
REAL-TIME PRECISION RAY TRACING

Title (de)  
ECHTZEIT-PRÄZISIONS-STRAHLVERFOLGUNG

Title (fr)  
LANCER DE RAYON DE PRECISION EN TEMPS REEL

Publication  
**EP 1899896 A2 20080319 (EN)**

Application  
**EP 06773915 A 20060623**

Priority  
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Abstract (en)  
[origin: WO2007002494A2] Systems and techniques are described for ray tracing and for the efficient construction of acceleration data structures required for fast ray tracing. A computer graphics system generates, for each pixel in an image, a pixel value that is representative of a point in a scene as recorded on an image plane of a simulated camera. The computer graphics system is configured to generate the pixel value for an image using a selected ray-tracing methodology. The selected ray-tracing methodology includes the use of a ray tree that includes at least one ray shot from the pixel into a scene along a selected direction. The ray-tracing methodology further includes calculating the intersections of rays and surfaces in the scene. An axis-aligned bounding box is defined that contains, for a given ray, the point of intersection of the ray and surface nearest the origin of the ray. The bounding box is iteratively refined until a predetermined termination criterion has been met.

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CPC (source: EP)  
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Citation (search report)  
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