

Content dependent image sampling using mathematical morphology: application to texture mapping¹

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Abstract

Interactivity has become one of the main objectives of multimedia applications. Texture mapping techniques are essential to allow its development, but they all have one point in common: they are not content dependent. In this paper the development of content dependent downsampling techniques is studied. A general content dependent sampling process, based on a reference image which indicates the importance given to each pixel of the original image, is proposed. Two methods of building the reference image by means of morphological tools are described. This content dependent sampling method is used to build a mipmap, a classical structure used in texture mapping.

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