



# 17th IAPR International Conference on Discrete Geometry for Computer Imagery

ConfTool

Overview

John Chaussard Logout

## Information on the contribution

**161** **Title:** A 3d curvilinear skeletonization algorithm with application to path tracing (Paper submission)  
**Submitted by:** Chaussard, John (Université Paris 13 - LAGA - MTII)  
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## Evaluation of the contribution

Content (10%)	Significance (10%)	Originality (10%)	Relevance (10%)	Presentation (10%)	Recommendation (50%)	Total points (out of 100)
8	8	6	8	8	8	78

## Reviewer's comments on the contribution

### Contribution of the submission:

The authors present a parallel thinning algorithm suited for the cubical complex framework. They also recall/define interesting features (lifespan of an element, opening functions and decenterness map) which are used to fully automatically filter the produced curvilinear skeleton. The authors then show how this skeleton is used to largely improve the computation time (and quality) of the radiosity method involved in synthetic images rendering.

### Comments for the authors:

I have some remarks about the text:

- p. 1, in the abstract, "These skeletons are used \* a new path tracing": I suppose "in" is missing here.
- p. 1, §2, "To avoid the noise resulting..". I suggest to replace "avoid" by "reduce" since, as far as I know, nobody knows a magical method enabling to avoid any error in such a context!
- p. 1, §3, "If a ray.. its contribution is \* null.": I suggest "is considered null" or "is set to null" since this is not physically correct but practically mandatory.
- p. 2, section 2 and further: I would spell "3d" as "3D"..
- p. 3, §2: I would have defined  $F^n_m$  first and  $F^n$  just after as the union of  $F^n_m$  for all  $m$ . Defining  $F^n$  as "the set of all faces" (without specifically spelling it as "m-faces") may confuse the reader and let him believe that only 2-faces (what is most of the time named "faces") are concerned.
- p. 3, §2: I do not know if the notation  $X^{\{-\}}$  is often used but I feel this may be a bad choice: suggesting that maybe a  $X^{\{+\}}$  also exists.. Why not use  $\widehat{X}$  which will easily recall the corresponding  $\widehat{f}$  notation?
- p. 3, §6, "To transpose such \*an\* image  $SS^*$  to the cubical complex.."
- p. 5 and 8: why did you numbered the first line of each algorithm "2" instead of "1"?!
- p. 5, last §, "two previously listed strategies: \*it\* finds": "it" instead of "its".
- p. 5, same sentence: "...to decide \*whether\* to preserve them, or not, in the result."
- p. 6, section 4.2, §2: I was not able to figure how two \*different\* points in  $Z^n$  may have an Euclidean distance strictly lower than 1. Did you meant "is equal to 1" instead of "is equal or inferior to 1"? (I assume this was only because the common sentence is "is equal of inferior to a distance  $n>1$ ")
- p. 7, §1: The maximal 1-ball \*of\*  $SS^*$ ..: I suggest to replace "of" by "in".
- p. 7, end of the same sentence: "... the radius of the largest maximal 1-ball contained in  $SS^*$  and containing  $x$ ..": I see no reason for this maximal ball to be unique. The maximal radius is obviously unique, but many equivalent maximal balls of this radius may cover  $x$ , isn't it?

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