



On the Possibility of the Impossible

by

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Abstract

Constructive Solid Geometry (CSG) is a method used in computer graphics, computer aided design, generic modelling languages, and many more applications to construct complex geometries from simple primitives or polyhedral solids by using boolean operators, namely union, difference, and intersection. The method becomes especially interesting when implemented in a ray tracing system as the core problem translates to executing arithmetic logic on a pair of uni-dimensional rays. However, most existing ray tracing systems generally suffer from the cost of the expensive object space intersection computation, and the generic CSG algorithms suffer immensely from their computational complexity, making it very difficult to integrate into working rendering engines.

(target size: 15-20 lines)

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1 Introduction

This, like the rest, addresses fellow experts from your field (but not from your particular topic of research). Here you should technically connect to the main concepts from that field and give an outline of your project, stating the research/engineering question that you want to get answered by your project.

(target size: 1-2 pages)

2 Related Works

This part should make clear which question, exactly, you are pursuing, and why your project is relevant/interesting. This is the place to explain the background and to review the existing literature. Where does your project extend the state of the art? What weaknesses in known approaches do you hope to overcome? If you have carried out preliminary experiments, describe them here.

(target size: 5-10 pages)

3 Constructive Solid Geometry

This is the technical core of the thesis. Here you lay out your how you answered your research question, you specify your design of experiments or simulations, point out difficulties that you encountered, etc.

(target size: 5-10 pages)

4 Optimization

This section discusses criteria that are used to evaluate the research results. Make sure your results can be used to published research results, i.e., to the already known state-of-the-art.

(target size: 5-10 pages)

Number	Description
7	A lucky number in Western culture
8	A lucky number in Chinese and other Asian cultures
42	Answer to the ultimate question of life, the universe, and everything
404	Not found

Table 1: Useless insights I gained with no further meaning

5 Evaluation of the results

Summarize the main aspects and results of the research project. Provide an answer to the research questions stated earlier.

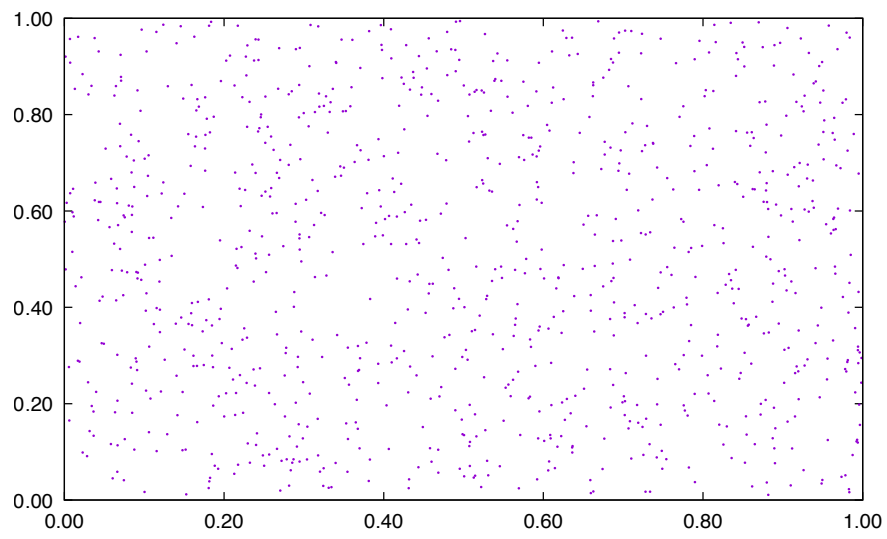


Figure 1: Many dots distributed over a two dimensional unit space without any discernible pattern or deeper meaning

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6 Conclusion