Final Report of Artistic Rendering Line Drawing

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I. Introduction

I.I Project Overview

In its simplest form, an image solely consists of lines acting as contours, static lines that separate the front-facing from the back-facing regions, and suggestive contours, view dependent contours. As the complexity of an image increases, these contours and suggestive contours seem to move to the background while texture and shading usurp its position in the foreground. One would assume then that writing an algorithm void of the aforementioned complexities should be effortless for programmer, however this is not the case.

Years of painstaking research and mathematical formulas led Doug DeCarlo, Adam Finkelstein, Szymon Rusinkiewicz, and Anthony Santella to figure out the perfect algorithm for calculating contours and suggestive contours in their paper titled, "Suggestive Contours For Conveying Shape."

The complexity of the algorithm matched with the simplicity of the result, contours and suggestive contours to convey shape, piqued our group's interest and led us down a similar path to DeCarlo and his associates. Using the "Suggestive Contours For Conveying Shape" paper as a guideline, our project is to replicate the results from the paper as similarly as possible.

I.II Project Team

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I.III Project Goal

The goal of our project is to replicate the result from the "Suggestive Contours For Conveying Shape" paper as closely as possible using the algorithm described in the paper to calculate the contours and suggestive contours.