A Resolution-Independent Representation for Pen-and-Ink Illustrations

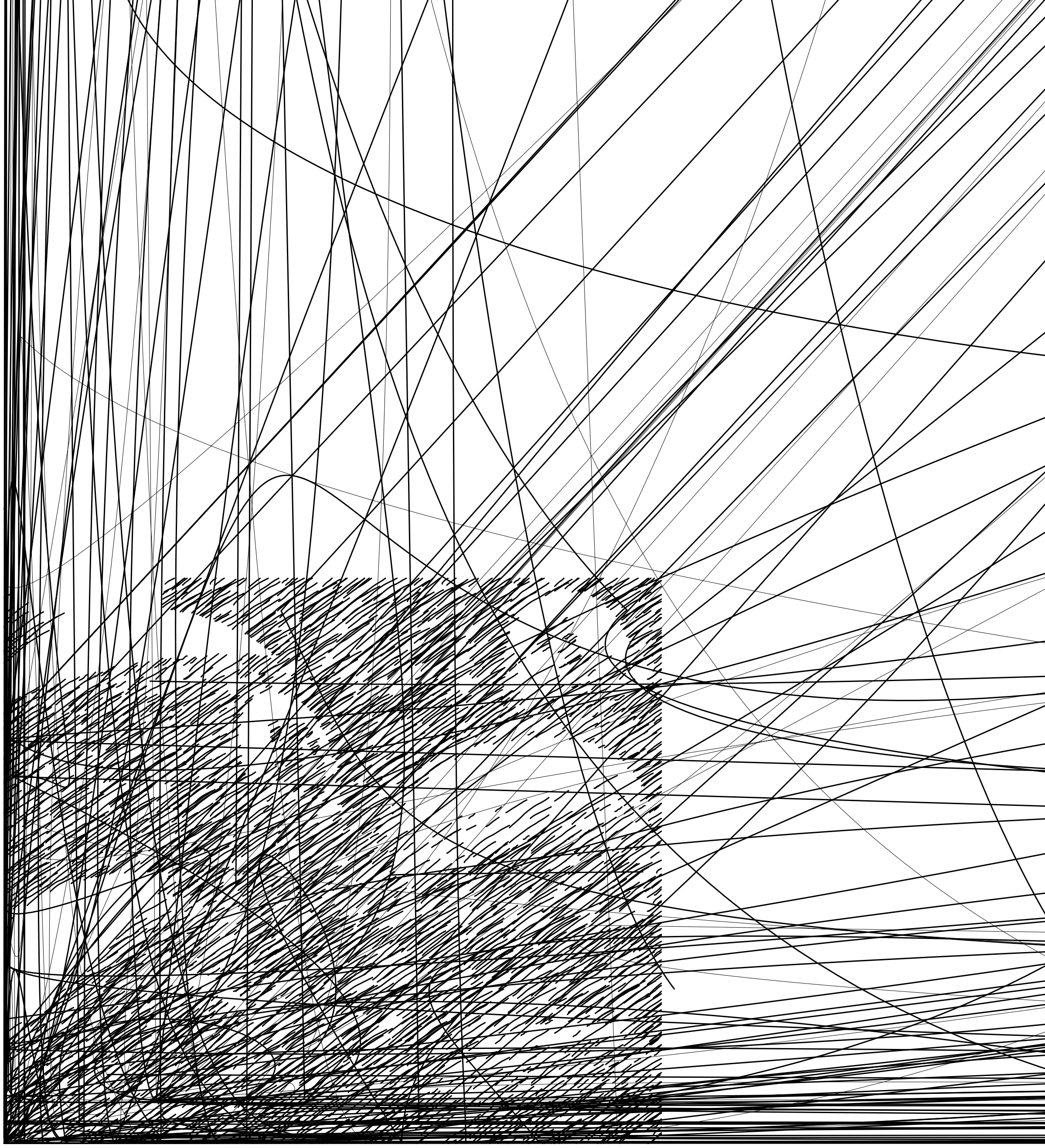
Mike Salisbury Corin Anderson
Dani Lischinski David H. Salesin

Department of Computer Science and Engineering
University of Washington
Seattle, Washington 98195

Technical Report UW-CSE-96-01-02
January 1996

Abstract

This paper describes a compact resolution- and scale-independent representation for pen-and-ink illustrations. The proposed representation consists of a low-resolution grey-scale image, augmented by a set of discontinuity segments. We also present a new reconstruction algorithm that magnifies the low-resolution image while keeping the image sharp along the discontinuities. By storing pen-and-ink illustrations in this representation, we can produce high-fidelity illustrations at any scale and resolution by generating an image of the desired size and filling that image with pen-and-ink strokes.



Intr1mediumofpenandinkoffersmanyadvantagesforvisuallycommunicatingideas. illustrations can be easily printed alon

ConcurrentlySalisbury*etal.*[23]propos5daninteractivesystemthatallowstheuserto“pa66t”withprioritiz5dstrokesystemisparticul

A6other problem with storing illustrations as B

In this paper, we extend the work of Salisbury *et al.*, by proposing an alternative representation pen-and-ink illustrations th