A Free-Hand Drawing with Simultaneous Projection of Predicted Guideline

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1 Introduction

Figure 1 demonstrates a novel computer aided drawing system proposed by the authors. This system, which is called Hyperdraw, assists designers’ drawing of sketches immediately and intuitively without disturbing their characteristic tastes of drawing and delicate feeling of drawing on a canvas. Hyperdraw shows its user suggested curves/lines by predicting his/her drawing action in real-time. Drawing of straight line, circle, parabola, and ellipse that are commonly used on early stage of designing is assisted by Hyperdraw’s projecting of dynamically predicted guideline on the canvas. The user can follow the guideline or can ignore it, which makes users of Hyperdraw be able to draw beautiful straight line, circle, parabola, ellipse, with mixing their touches, quite easily.

2 System Structure

Hyperdraw system samples designer’s drawing action and obtain it as a sequence of points. The system tries mathematical models of simple curves/lines onto current input shape, and shows a suggested drawing as a guide for the designer. Figure 2 shows the proposed system which consists of a projector, tablet, tablet-pen, canvas and PC (Mac). The user sets the canvas on the tablet and then draws some lines/curves on the canvas using the tablet-pen. Simultaneously the system projects his/her input and guideline of the predicted curve on the canvas. The purpose of using the tablet is to obtain the position of pen tip. The projector projects a strokes drawn by the user and predicted guideline on the canvas.