



How-To Guide

SigAnalyze

Version 1.2

Copyright © Topaz Systems Inc. All rights reserved.

For Topaz Systems, Inc. trademarks and patents, visit www.topazsystems.com/legal.

Table of Contents

Overview.....	3
Creating Reference Signatures	3
Application Menu.....	4
Individual Stroke Analysis Technique	5
Dynamic Shading Technique.....	6
Display Points Technique	7
Detecting Forgeries.....	8

Overview

SigAnalyze is a forensic signature analysis application for use under NDA by qualified questioned document examiners. The purpose is to prepare to give opinions on the authenticity of signatures captured on Topaz pads. SigAnalyze uses the same basic principles that have been employed by document examiners for decades. A true signer is the only person who can duplicate not only the look of their own signatures, but also the pace, speed, and acceleration at all points along the signature.

Creating Reference Signatures

To create a reference signature, open “DemoOCX”, which is included in the SigPlus installer: www.topazsystems.com/sdks/sigpluspro-activex.html

During installation, select to place a “DemoOCX” shortcut directly onto the desktop. If you do not, “DemoOCX” can be found in the C:\Windows\SigPlus folder.



Click “Start”, sign with your Topaz signature pad, then click “Stop”. If you are not satisfied with your signature, click “Clear” and repeat the process. Then, click “Save Sig”. In the “Save As” menu, select the desired save location and replace the default with your desired signature name. Then, click “Save” and “OK”.

Application Menu

In the SigAnalyze application menu, you can load, sign, or clear reference signatures as well as comparison signatures. You can apply three different analysis techniques:

1) Individual stroke analysis

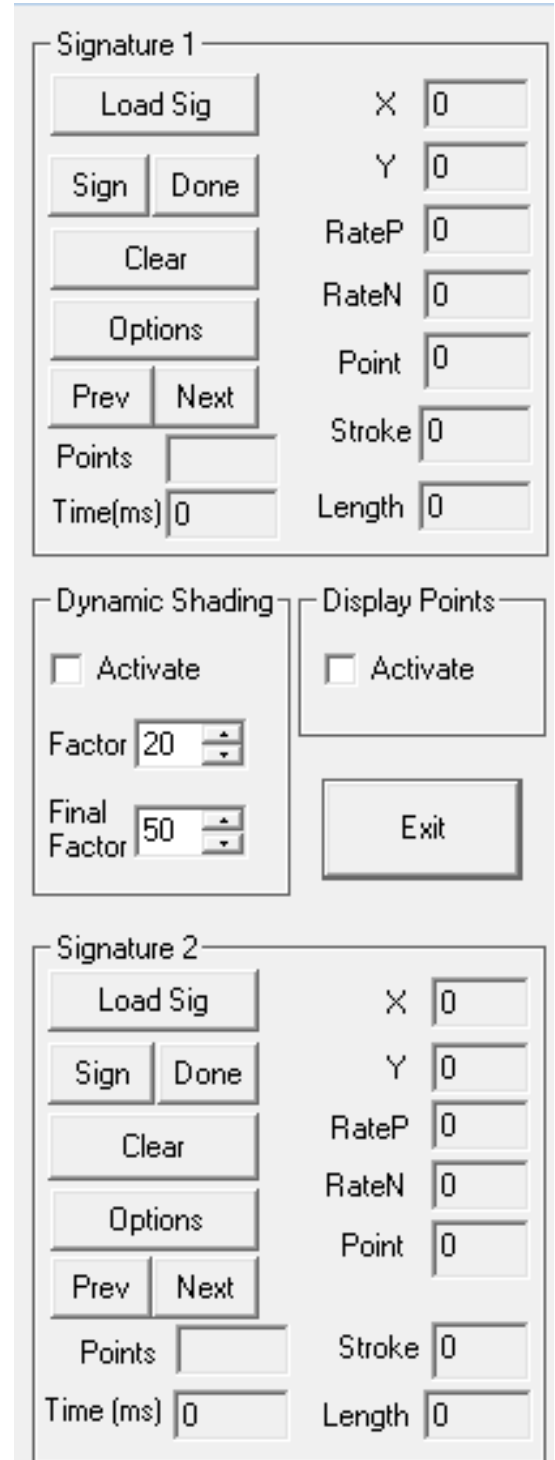
- a. Analyze each individual stroke in terms of look, points, and time taken to sign.

2) Dynamic shading (Patented Topaz technique)

- a. Line width along the signature is continuously varied to show velocity and acceleration characteristics.
- b. Slower parts of the signature are shown with a thicker line and faster parts have a narrower line.
- c. By increasing or decreasing the factor and final factor, you will see the curves and dynamic pressure inflection points of each signature.

3) Display points

- a. Shows the various signature points along the signature path.
- b. Slower parts of the signature have points closer together, and faster parts of the signature have points farther apart.



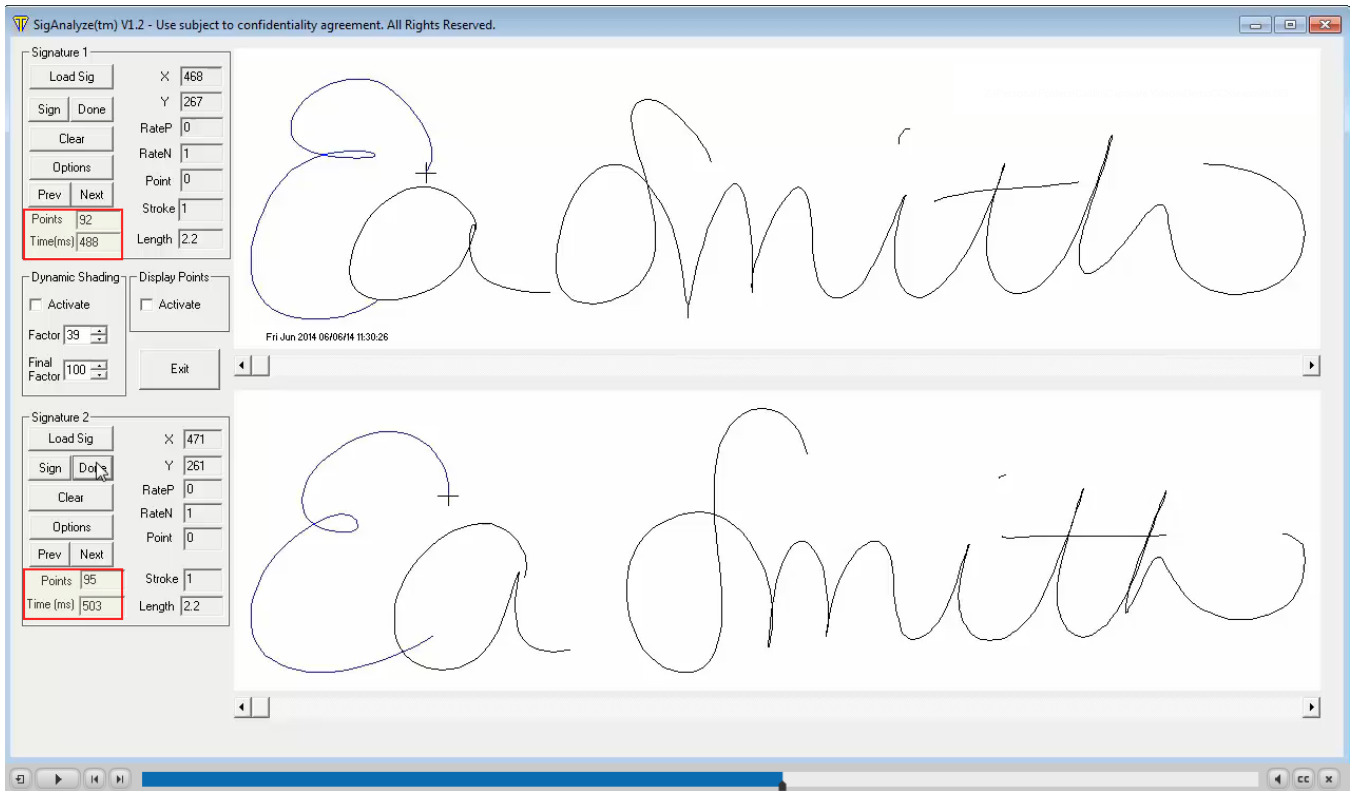
The screenshot displays the application menu interface for two signatures, Signature 1 and Signature 2. Each signature section contains a set of controls:

- Signature 1 Controls:**
 - Buttons: Load Sig, Sign, Done, Clear, Options, Prev, Next.
 - Input fields: X (0), Y (0), RateP (0), RateN (0), Point (0), Stroke (0), Length (0), Time(ms) (0).
- Dynamic Shading Section:**
 - Checkbox: Activate
 - Factor: 20 (with up/down arrows)
 - Final Factor: 50 (with up/down arrows)
- Display Points Section:**
 - Checkbox: Activate
 - Exit button
- Signature 2 Controls:**
 - Buttons: Load Sig, Sign, Done, Clear, Options, Prev, Next.
 - Input fields: X (0), Y (0), RateP (0), RateN (0), Point (0), Stroke (0), Length (0), Time (ms) (0).

Individual Stroke Analysis Technique

To analyze signatures, click “Load Sig” for "Signature 1" and load the reference signature you created earlier (see section above titled “Creating Reference Signatures”). Then, you can either load a comparison signature for "Signature 2" or click the “Sign” button and sign with your Topaz pad. When finished, click “Done”.

To begin analyzing the two signatures, use the individual stroke analysis technique to view how each stroke is created using the points and time menu. Strokes with similar point numbers and signing times indicate a true signature. In the example below, the points and time menu for each signature are similar. Therefore, the questioned signature is true.

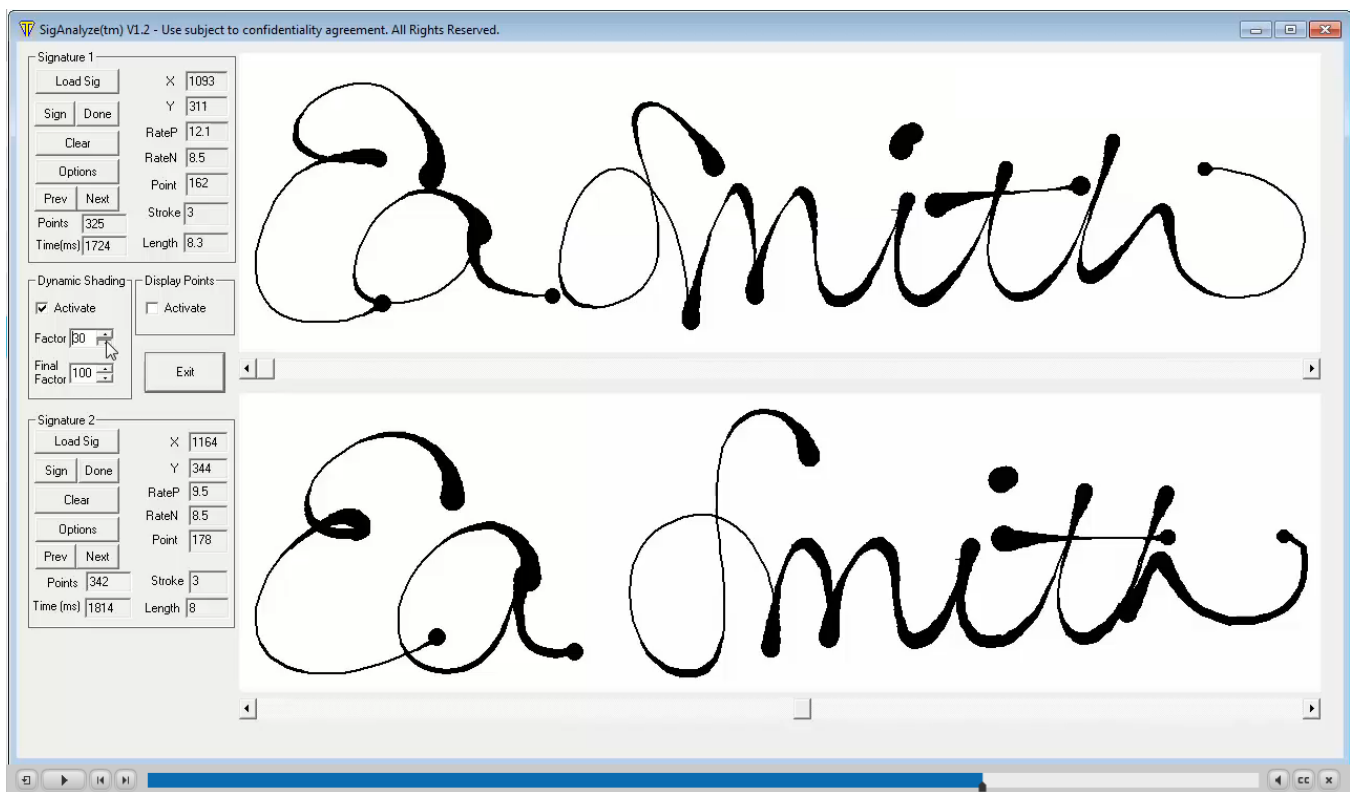


Then, compare each signature’s stroke path. Use the scroll bar to view how the stroke was signed in real time. If each signature’s strokes were created in a similar fashion, the signature is likely to be a true signature.

Dynamic Shading Technique

To analyze signatures, click “Load Sig” for "Signature 1" and load the reference signature you created earlier (see section “Creating Reference Signatures”). Then, you can either load a comparison signature for "Signature 2" or click the “Sign” button and sign with your Topaz pad. When finished, click “Done”.

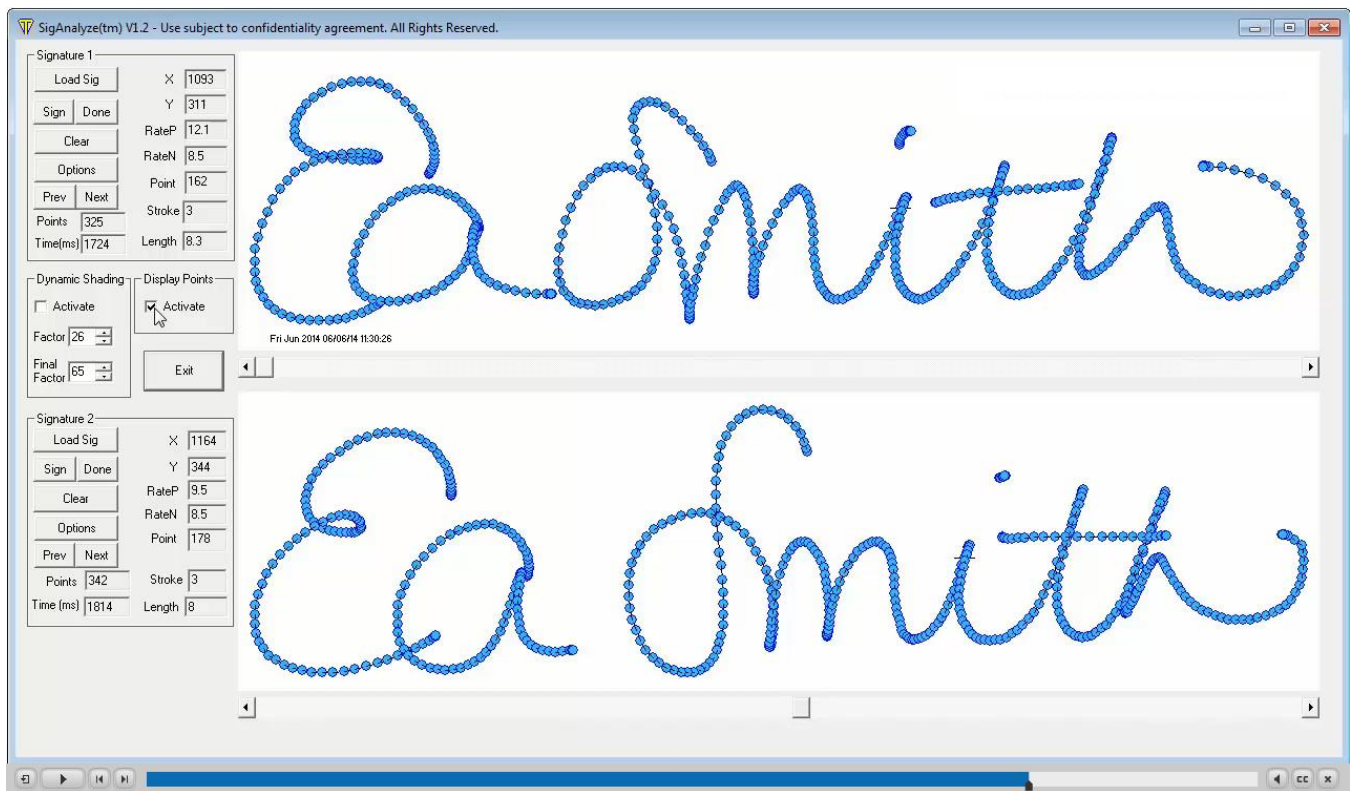
To begin analyzing signatures, use the second analysis technique of dynamic shading. Check the “Activate” checkbox under the “Dynamic Shading” section, and increase or decrease the "Factor" and "Final Factor" numbers to optimize the dynamic pressure view. If both signatures look similar in terms of shape and dynamic shading, the questioned signature is likely to be true. In our example below, both signatures exhibit this, so the signature is a true signature.



Display Points Technique

To analyze signatures, click “Load Sig” for “Signature 1” and load the reference signature you created earlier (see section “Creating Reference Signatures”). Then, you can either load a comparison signature for “Signature 2” or click the “Sign” button and sign with your Topaz pad. When finished, click “Done”.

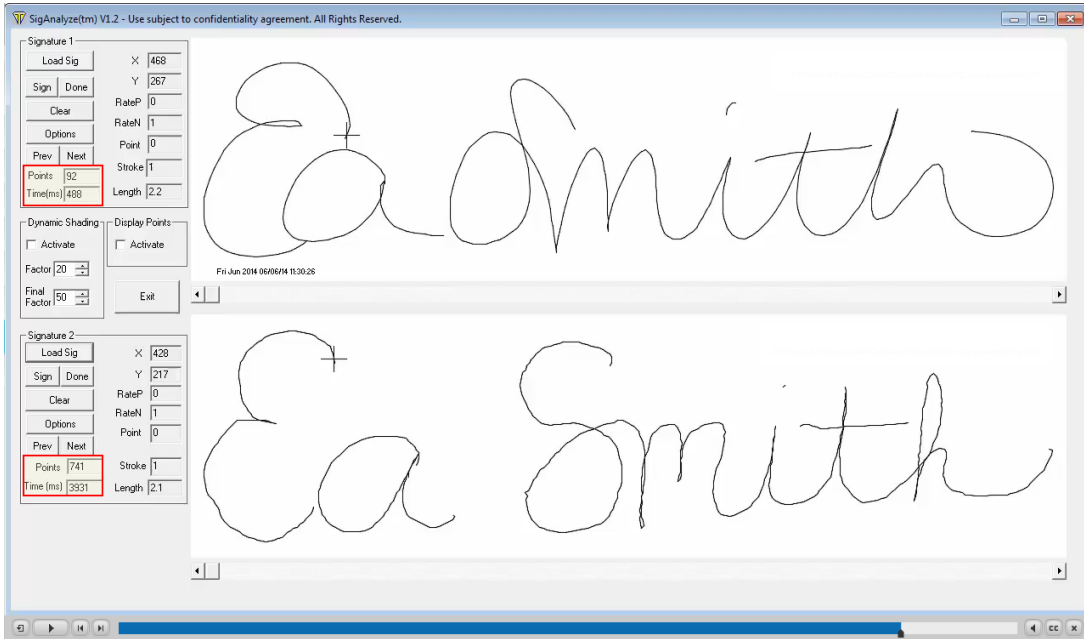
To begin analyzing signatures, use the third technique of display points. Select the “Activate” Checkbox under “Display Points”. Notice how in our example below, the two signatures have similar point placement and signature velocity. Using all this information, we can determine that “Signature 2” is very likely to be true and from the same signer as “Signature 1”.



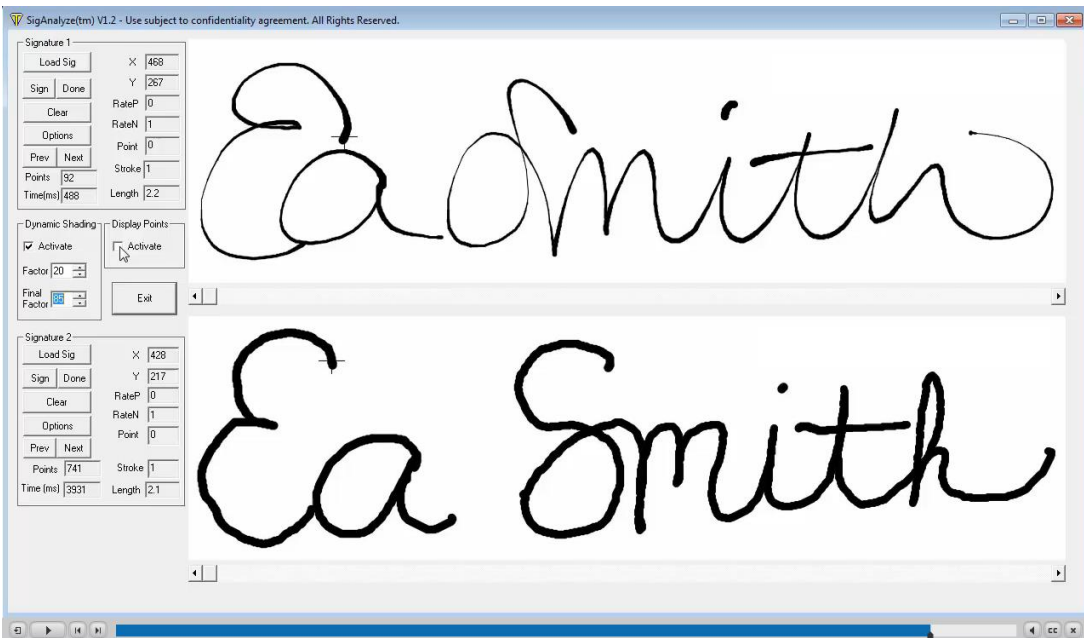
Detecting Forgeries

If the signature is forged, it will be apparent based on the three analysis techniques: stroke analysis, dynamic shading, or display points.

Using stroke analysis, see how the points/signing times are different for the “E” stroke (below).



Using the dynamic shading technique, notice the distinct differences in the lower signature after changing the "Factor" and "Final Factor" numbers (below).



Using the display points technique, notice how the points in the two signatures show different point timing (below).



Based on the information below, we can determine that "Signature 2" is very likely to be false, because while similar in shape, it exhibits the slow-signing effect typical of a forgery.