



How-To Guide

SigCompare Test Utility

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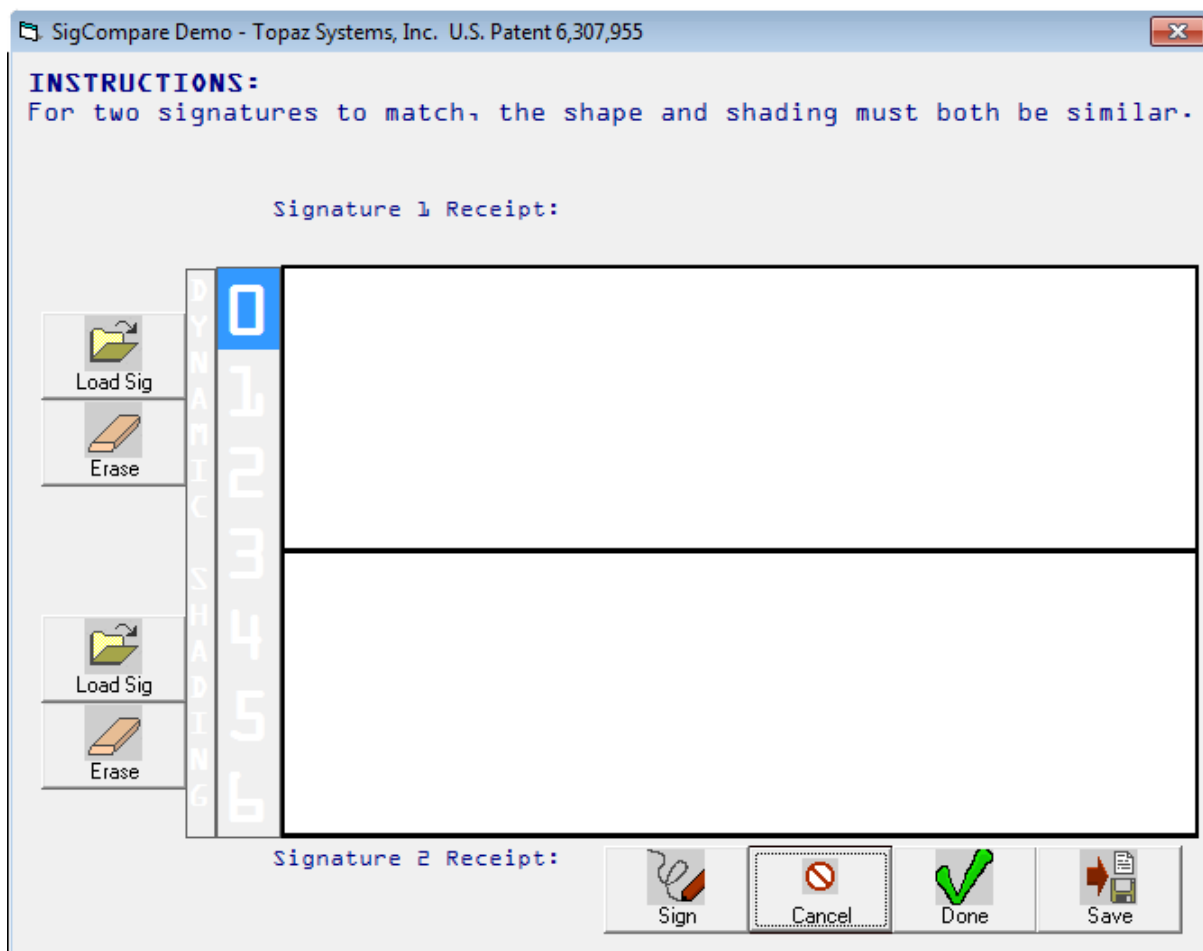
Overview

The SigCompare Test Utility works with SigCompare.ocx, an ActiveX control that allows the developer to compare, side-to-side, two Topaz signatures. The primary purpose of SigCompare is to bring visual signature authentication capability into custom applications. SigCompare is covered by US Patent 6,307,955. In addition to a side-by-side display of signatures, this tool provides 6 additional levels of “dynamic shading”. “Dynamic shading” is a patented Topaz technique used to redraw the signature with ink thickness based upon capture velocity. Areas where the author signed slower appear thicker. Areas where the velocity of the pen was increased appear thinner. Velocity plays a key role in signature biometrics, and because SigCompare provides visual cues as to the signature’s velocity, visual signature comparison speed and accuracy is greatly increased.

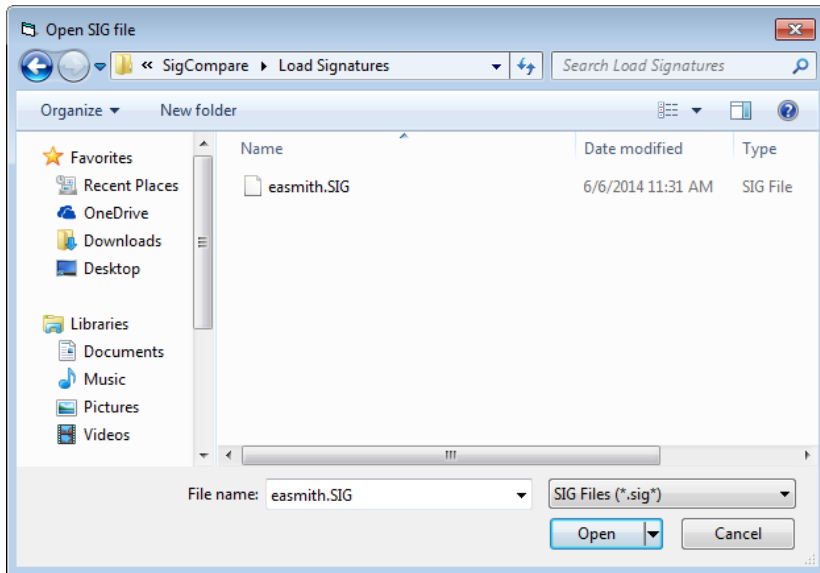
Note: Though SigCompare.ocx contains the full functionality required to visually compare signatures, SigCompare.ocx is a tool used to customize applications for signature comparison.

Using SigCompare

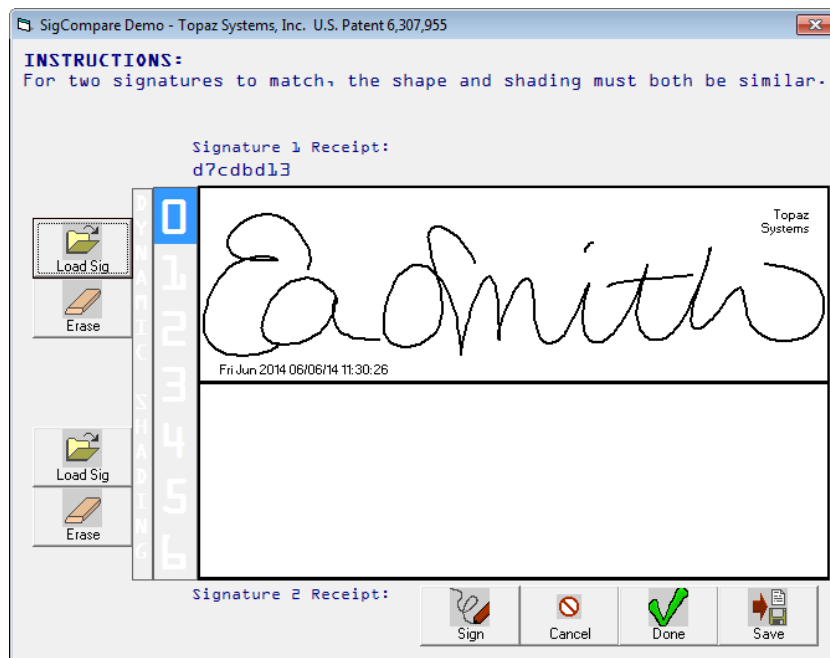
To begin, a given signature known to be from the user should be captured and stored. This signature will be used as the basis for any future comparisons.



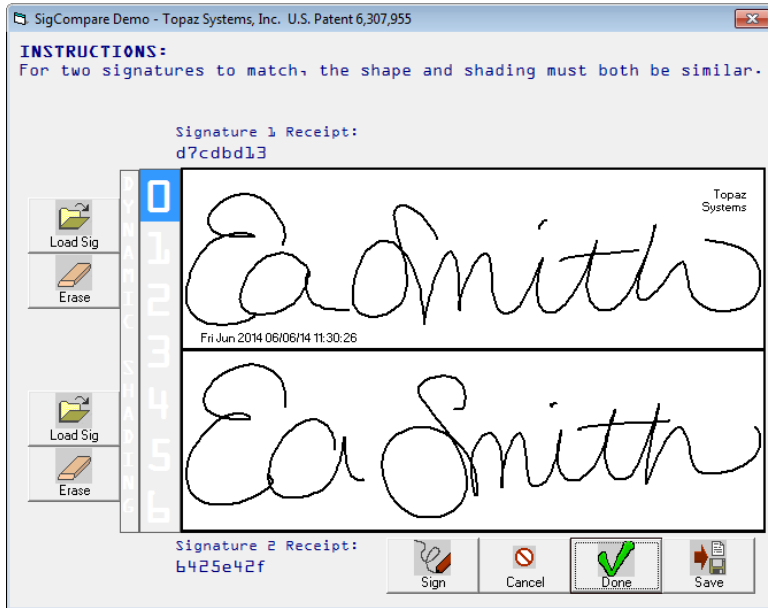
After starting SigCompare, the main window will be opened. Here the user can load the saved signature to use as the basis for the comparison into the top window. To do this simply click on the “Load Sig” button; this will open an “Open SIG file” window. Choose the appropriate .SIG file to be loaded.



Once the user’s saved signature (in the .SIG format) is opened, it will appear in the appropriate “Signature 1” window.

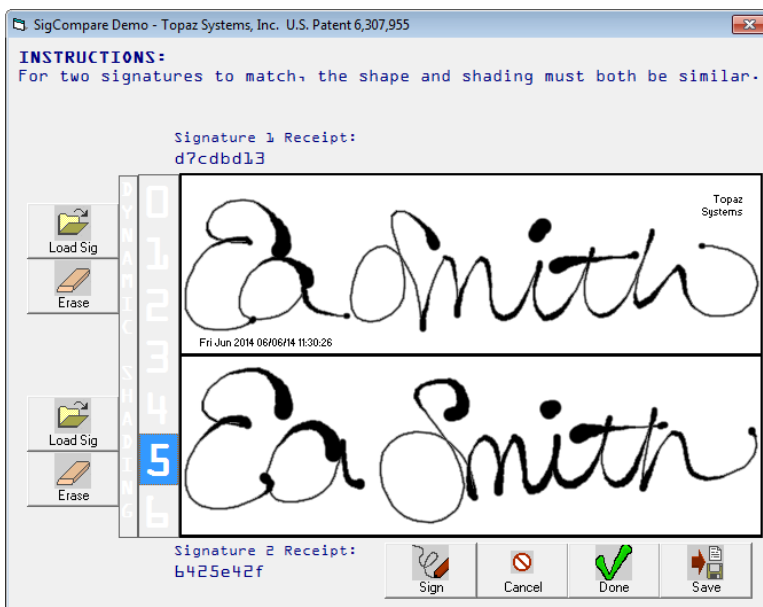


Now that the original signature is open, click on “Sign” to allow a new signature to be entered. This new signature will appear in the “Signature 2” box.



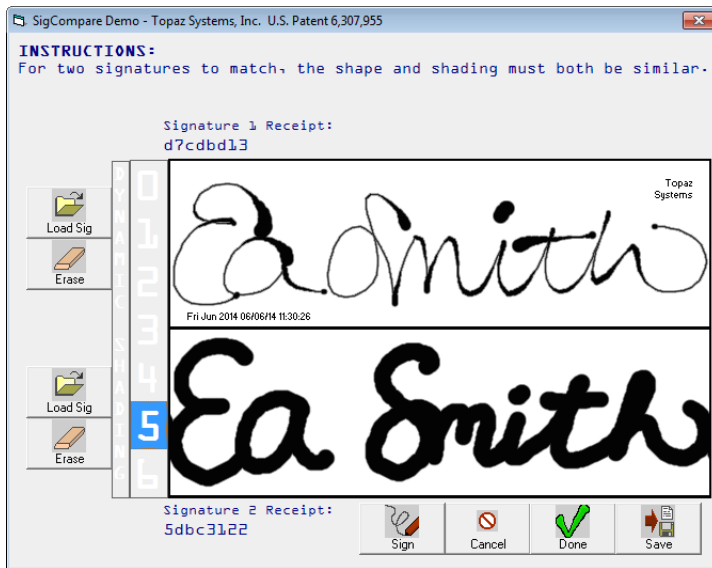
Click “Done” once satisfied with the signature. If you are not satisfied, click “Erase”. The signature will be cleared, and you can sign again. If the user wants to cancel the signing instance, click on “Cancel”. If the signing instance is canceled, click “Sign” again to enter another signature. Once the user clicks “Done”, the signature will be processed and magnified.

Once the signatures have been entered, the administrator can now use the dynamic shading settings to visually compare the signatures.



Increasing the dynamic shading (the numbers directly to the left of the signature boxes) helps to view the velocity and pen strokes of each signature. With this example, it is clear that the signatures are not a forgery. The upper reference signature is used to compare the authenticity of the lower questioned signature. The lower signature is very likely to be true because it is similar in shape and dynamic shading to the reference, but not identical to the reference.

The example below shows what an obvious forgery might look like. Notice the distinct differences in the dynamic shading.



The upper reference signature is used to compare the authenticity of the lower questioned signature. The lower signature is very likely to be false, because while similar in shape, it exhibits the “slow signing effect” typical of the actions of a forger.

In contrast to drastic differences in dynamic shading in signatures another sure way to see if a signature is a forgery is if the signatures are exact.



The upper reference signature is used to compare the authenticity of the lower questioned signature. The lower signature is a duplicate or copy, and therefore is clearly not representative of a unique act-of-signing event. This copy is detected by comparing signature receipts.

Signature receipts are an 8-digit hash of the signature, which is used for easy comparison. No signature receipt will be identical unless the signature itself is an identical copy, and thus, an obvious forgery.

Additionally, after the user has signed, the administrator can choose to save the new signature by clicking on the "Save" button. This will make no new changes to the currently loaded .SIG file, but depending on the application, it could be a useful tool for quality control, verification, or authentication at a later date.