Synthetic signatures and automatic autographs

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One's signature, or autograph if one is famous, is a unique identifier for many people. It is used to sign documents from business contracts, cheques, a marriage license and everything in between. However, for

those whose native "pen", as opposed to tongue, is not based in an alphabet that can be written cursively, wherein letters are joined or ligatured in freehand, a signature is often off the cards for them.

Autographic for the people

Researchers from Korea and Japan have now developed a computer application that can generate a unique cursive signature for users whose written words is not based on an alphabet and who may not know how best to utilize such alphabets in the written word. Writing in the International Journal of Computer Applications in Technology, Jungpil Shin, Md Abdur Rahim, and Md Rashedul Islam of the The University of Aizu, in Fukushima, Japan, and Keun Soo Yun of Ulsan College, in South Korea, have used a cubic Bezier curve for the cursive connections between letters, the ligatures, and an affine transformation to modify the input characters to make them appear as if they have been written by a native-writer of the English alphabet. The system allows for modifications in the slant, scale, space between the characters, and line emphasis, so that a unique signature might be generated.

Automatic for the pencil

Once the synthetic signature has been generated, the software generates an animated tutorial video to show the putative user of that signature how to create it with pen on paper so that they might use it in the real-world to sign documents.

Of course, the generation of a unique signature using this technology might have wider application online for any user regardless of their written language. The security associated with the parameters used to generate each signature would need to be guaranteed so that it could not be reproduced by a third party but hashing the data string to encrypt it

and preclude its duplication without the legitimate user's password would be possible. It might even be that digital signatures of this sort might exploit the blockchain technology usually associated with digital currencies.

More information: Jungpil Shin et al. A novel approach of cursive signature generation for personal identity, *International Journal of Computer Applications in Technology* (2020). DOI: 10.1504/IJCAT.2020.107423

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