

# Measurement of internal consistency software



Document analysis and fingerprint comparison are two of the most important tasks done by forensic experts in investigating a case. Documents and fingerprints related in a case make substantial evidences that can give progress to the investigation. With our ever advancing technology, new tools and equipments have been invented to help forensic experts in making these tasks easier for them. These tools, such as computer software, can give these people relevant information about certain documents, handwriting and fingerprint samples as evidences to a case they are examining.

One company who specializes in this kind of tools and software is the Limbic Systems, Inc. Limbic Systems' technologies improve image-based identifications by way of advanced utilization of image intensity signals.

Limbic Systems released several products that are used for fingerprint identification, handwriting and document analysis, and other forensic or security application products. One of those products is the Measurement of Internal Consistency Software or MICS.

The Measurement of Internal Consistency Software is an application that measures the intensity of the material (ink, for example) used and creates a three-dimensional model which can be likened to a topographic map complete with contour lines. <sup>2</sup> This software had been developed by Limbic Systems, Inc. for 6 long years until the it was commercially released in 2003.

## MICS Features

1. Limbic Systems, Inc. (Forensic e-symposium). [Online] available from <http://limbicsystems.forensic.e-symposium.com/it/index.html>; accessed 25 Mar. 2006; Internet.
2. Emily J. Will. MICS Program Brings 3D Modeling and Mathematical Information to Handwriting Identification and Document Examination. [Online] available from <http://www.qdewill.com/mics.htm>; accessed 25 Mar. 2006; Internet.

Experts in handwriting identification very well know that handwriting is not just merely measured by its length and width, but it is also a three-dimensional product. The things visible to the human eye are just its length and width, but the third dimension is difficult to see, demonstrate or even quantify. But with the help of MICS, examiners can now easily visualize and measure the color density and other important aspects of handwriting and document examination.

MICS can examine scanned or digitally photographed images of documents and handwritten name. In Emily Will's article<sup>3</sup>, she showed how MICS works in determining the density of her handwriting sample. Looking at the handwriting with the naked eye, it is just a simple handwriting done using a normal pen. But when it was placed through the thorough scanning features of the software, it revealed the density of the pen used. Other than that, it also showed a gap somewhere in the handwriting sample that means there was a moment when the pen was lifted off the paper while she was writing her name. One could never have thought of that without the use of the software.

Other than the gap, there are even more studies that can be done around the observation to gather more relevant information for the examiner. This kind of observation is definitely helpful for an examiner in identifying clues in an investigation. MICS makes it easier for them to closely examine different documents and handwriting samples in question.

Aside from handwriting and document analysis, MICS can also be used to identify and compare fingerprints. MICS is a platform where other application-specific products of Limbic Systems are based. And one of those applications and the first extension of MICS is the product called PrintIQ, which is a solution to identify fingerprints.

Just like how MICS works in documents, fingerprints are also identified and compare with another by measuring the intensity of the image between different points. MICS converts the fingerprint image into edge signals which are seen as the elevation in a three-dimensional surface map.

With all these features of the Measurement of Internal Consistency Software, it can definitely be an indispensable tool for examiners and investigators.

The software can easily help them gather more relevant information with the documents and fingerprints that what can only be seen by our bare eyes.

The results that MICS will provide can give them important clues that can possibly lead them to the progress of the case they are investigating.

3. Emily J. Will. MICS Program Brings 3D Modeling and Mathematical Information to Handwriting Identification and Document Examination.

[Online] available from <http://www.qdewill.com/mics.htm>; accessed 25 Mar. 2006; Internet.

<https://assignbuster.com/measurement-of-internal-consistency-software/>

## **General Recommendation**

Measurement of Internal Consistency Software or MICS is indeed a valuable “invention” by the Limbic Systems, Inc. It can prove to be a very useful tool for examiners and experts to help them perform their tasks much faster. However, as with other applications and tools, this software can be incorrectly utilized by the user. Thus, it is required that the user of the software understands the whole program – its theories, potentials, assumptions, and limitations. Knowing these things will give the user a more reliable output data. The company, Limbic Systems, Inc, has also been collaborating with current MICS users to formulate mathematical associations to be able to draw up more reliable conclusions based on the information provided by the software.

## **Bibliography**

1. Limbic Systems, Inc. (Forensic e-symposium). [Online] available from <http://limbicsystems.forensic.e-symposium.com/it/index.html>; accessed 25 Mar. 2006; Internet.
2. Will, Emily J. MICS Program Brings 3D Modeling and Mathematical Information to Handwriting Identification and Document Examination. [Online] available ; accessed 25 Mar. 2006; Internet.