This characteristic was confirmed during these studies. After extraction, the minutiae, their form and locations was saved (Recorded).

For this study the FIS was the only installed application on a PC workstation running Microsoft’s Windows XP operating system. Several prints were selected to be the latent print to be searched.

Prints of the right hand index finger on card C61 (RIC61) were selected to be the latent test print. Because the identity of each print was known, the self-finding was not possible. Right hand index prints were digitized.

Abstract

The following four experiments address the question: "Can the matching full print be found in a database?" Theoretical accuracy is based on the expected result but the number of True candidates was 5 making the search accuracy 17%. The Owner’s Manual states that the extraction process extracts some but not all possible minutiae. The studies confirmed that although two prints were available per card, at no time was more than a single hit observed.

Finding Different Prints of the Same Finger

Full Print Search

Print RIC61, a rolled print having 59 extracted minutiae, was searched against a database of 59 prints containing rolled and slapped prints of the same finger. The expected result was 100 candidate prints. Searches resulted in 12 because of the high number of minutiae, accuracy, and comparison values were high. Four true quality prints were accurately found. However, in many cases the candidate prints and true prints were mixed and only a single print card and instead of the expected 12 prints was produced. The roll print was the second best result in this study. Selection accuracy of 100 and 100 produced the same results.

Finding Partial Prints of the Same Finger

The effects of rolled and slapped print styles were identified in the search results. Theoretical accuracy was based on the expected result but the number of True candidates was 5 making the search accuracy 17%. The Owner’s Manual states that the extraction process extracts some but not all possible minutiae. These studies confirmed that although two prints were available per card, at no time was more than a single hit observed.

Discussion

Although the FIS provides high-level results, it is not possible to distinguish a latent print from a fingerprint card or search results. The FIS is not designed to provide this level of detail.

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