3D Finger and Palm Print Scanner

Fast Capturing Fingerprints

Fingerprints and palm-prints are now, and for the foreseeable future will be, the most relied upon biometric technology for verifying a person's identity and positively linking persons to criminal history or other records used for background checks. There is a need to provide faster methods of identifying finger and palm prints. Criminal justice agencies rely on fingerprints and palm-prints for positive matching to latent impressions collected as evidence at crime scenes and for processing persons through the criminal justice system.

A 3-D Technique

The goal of this project is to advance the state of ten print rolled equivalent, fingerprint capture, addressing the limitations of the current generation of technology. The developed scanner will be capable of capturing ten rolled equivalent fingerprints and two palm prints quickly, accurately and independently of an operator and is designed to function well in high volume environments. Prints will be captured using a non-contact, 3-D technique, enhancing image quality and producing more efficient searches with improved matching rates. The 3-D prints will be "flattened" to produce 2-D rolled equivalent prints that are backwards compatible in legacy Automated Fingerprint Identification System (AFIS) databases.

As identity counterfeiting practices become even more effective, the need to tie a person unequivocally to a proven identity in a rapid and preferably innocuous manner is even more important than before. Speed and efficiency improvements are necessary to realize the full capabilities of biometric identification methods.

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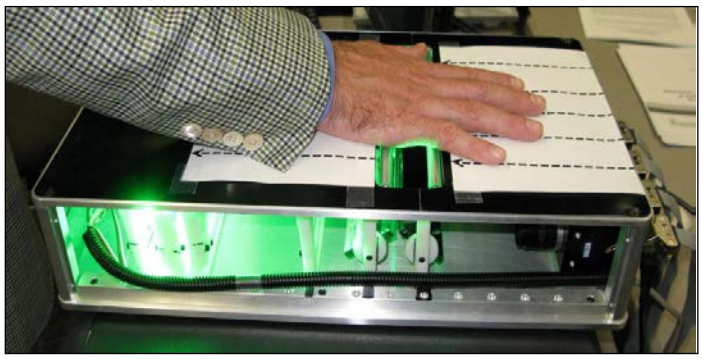
The University of Kentucky has developed a structured light illumination system that acquires a 3-D surface scan of a human subject's hand with significantly high resolution to record the 3-D shape of each finger's fingerprint ridges along with the palm-print. The non-contact, 3-D fingerprint/palm print scanner is designed to accurately capture 10 rolled equivalent fingerprints plus 2 palm prints in less than 15 seconds with no operator manipulation of the subject's hand.

Advancing in Technology

Current discussions are underway with potential industry partners as to specific applications as to (forensics and biometrics) and commercialization. Licensing of project deliverables has been completed with Flashscan3D LLC and the product is undergoing a standards certification process to allow integration with existing fingerprint databases.

Initiatives for capitalizing the next stage of the project are already underway. Flashscan3D has significant interest for future development and collaboration from a diverse set of industry and research partners.



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