Fingerprints: An Overview

Latent fingerprints used in criminal investigations are often crucial pieces of evidence that can link a suspect to a crime. Latent prints are typically collected from a crime scene by specialists trained in forensic science techniques to reveal or extract fingerprints from surfaces and objects using chemical or physical methods. The fingerprint images can then be photographed, marked up for distinguishing features by latent fingerprint examiners, and used to search an automated fingerprint identification system (AFIS).[1] An AFIS is a computer system that stores fingerprint images in an organized, searchable data structure that is widely used by criminal justice agencies to maintain databases of the fingerprints of individuals who are arrested or incarcerated.

Fingerprint databases typically contain rolled fingerprints from each finger ("tenprints") and fingerprints from the whole hand with all the fingers extended in parallel ("slaps"). If an individual whose fingerprints are in an AFIS encounters the criminal justice system again, a criminal investigator can search the AFIS to establish identity and link the individual with a particular criminal record. If a criminal investigator matches a latent print to a fingerprint in the AFIS, that individual may be linked to the crime under investigation.

An AFIS can also house repositories of latent fingerprints that remain unidentified, typically referred to as an unsolved latent file (ULF). As new fingerprints are added to the AFIS, criminal investigators can search them against the ULF collection in the hope of making a match. Matches happen regularly within one jurisdiction over time, but how are unsolved latent fingerprints collected in one jurisdiction matched against a tenprint record stored in the AFIS of another jurisdiction? Interoperability between two jurisdictions will determine whether Jurisdiction A can search the database in Jurisdiction B to find a match. Maximizing AFIS interoperability can help maximize the value of latent fingerprint evidence.

Notes