

# Fingerprinting research paper

[Law](#), [Criminal Justice](#)



## **Fingerprinting**

All things in life evolve and assume other forms. Crime is not an exception to this perspective. Criminal activities evolve and the methods become more sophisticated. Computer have brought a number of technological advantages that can be viewed. As a result the criminal justice system has benefited from the computer applications. One of the most substantial progresses that has taken place in the criminal justice system is the archiving of fingerprints and palm prints. These development are very advantageous from the perspectives of crime administration. Fingerprinting allows the compliance of laws that make it a federal crime to use the identification of another person. This hold true especially in committing or abetting criminal activities. The application of fingerprinting serves as a deterrent (Cole, 2004; Cole, 2009).

## **Literature Review**

For more than one hundred years, sole prints, fingerprints and palm prints have been applied by legal enforcement agencies as effective identification tools. There have been few scientific processes that heave been proven to be more effective than the application of fingerprints. The friction ridge evaluation that is commonly known as fingerprinting. This forensic method involves the review of the details that are le that are in the form of residuals left behind with dirt or oil on surfaces (Cole, 2009; Worley et al., 2006; Yu & Wallace, 2007).

The unidentified fingerprints are subsequently compared to an acknowledged database. Fingerprinting is described as infallible. The details that are examined on the fingerprint are the whorls, loops and ridges. These

are qualities that differentiate one fingerprint from another. No two fingerprints are identical. The fingerprints that are presented between members of the same familiar possess more similarities than fingerprints of strangers. The fingerprints do not change over the span of one's life. The fingerprints demonstrate up to one hundred and fifty six ridge qualities. Historically, the fingerprints of an individual were compared to the fingerprints that are available on file. The technological applications presently perform the comparative process (Cole, 2009; Jain et al., 1996). The computer applications have the capacity of high speed scanning in order to provide digital encoding for the fingerprints. The automatic fingerprint classification device apply automatic scanning. In this manner the characteristics of each fingerprint are communicated into digital information. This digital information demonstrates the points where the whorls and the ridges terminate. In the comparison of the ridge formats and where the ridges end, the forensic scientists are able to ascertain who is the person whose fingerprints are being reviewed (Alessandrini et al., 2003; Cole, 2009).

## **History**

Dactylography is described as the study of the historical application of fingerprints. It is detailed that the ancient Chinese and Babylonian civilizations applied fingerprinting. There are remnants of the science of fingerprinting that can be traced to the times of the Babylonian and Chinese Empires. The fingerprints were applied in order to conduct commerce. The initial modern use of fingerprinting was applied by Sir William Herschel in India during the nineteenth century. Herschel applied the fingerprinting system in order to confirm business agreement. The present fingerprinting

system was refined by Alphonse Bertillon. The Bertillon perspective is founded upon the classification of bony structures on the physical body which were impossible to change. As a result of Bertillon's investigations, fingerprinting became widespread in the twentieth century (Cole, 2009). The science of fingerprint analysis has been reviewed a number of times. The initial application of fingerprinting was initially introduced into the United States approximately one hundred and thirty years ago, Gilbert Thompson, an employee for the United States geological service applied his fingerprint on a document in order to deter tampering. Consequently, the science of fingerprinting has been refined by a number of scientists. The fingerprinting of criminals was introduced by Joseph A. Faurot, a New York City Deputy Commissioner. Faurot was adept in the application of the Bertillon system and promoted the application of fingerprinting (Cole, 2009).

The first person who received a conviction as a result of fingerprint residual evidence was Thomas Jennings in 1910. Jennings was accused and convicted of burglarizing a home and murdering the occupants in 1910. His prints remains d on a bannister that was recently painted. Jennings was the first American to be convicted of criminal activities as a result of the residual evidence that was left by his fingerprint. The application of fingerprinting as court evidence initiated and as a result of the conviction received, Jennings was executed. The Jennings case caused a surge in the use of fingerprinting in the United States (Cole, 2009).

The most substantial fingerprinting database in the U. S. is maintained by the Department of Homeland Security. The Department of Homeland security maintains a data base of over one hundred and twenty million

fingerprints. These fingerprints are in accordance with the fingerprint requisites established by Interpol and the FBI. The Program for visitors to the United States has been modified from the use of rolled fingerprints to the application of flattened fingerprints (Jacobs & Van Ranst, 2008). Research that is being conducted with regards to fast capture will facilitate the digital equivalent of the rolled fingerprint. The majority of United States municipalities and the states possess their proprietary database systems. Each of these regional database systems possess a collection of fingerprints that are not stored in supplementary databases (Cole, 2009).

Many of the cities and the states also archive the palm prints. Interfacing standards that can be applied by law enforcement agencies are important in order to facilitate record sharing. The Unique Identification Authority of India operates the largest fingerprint database in the world. This agencies administrates the archives of over two hundred million fingerprints. The Unique Identification Authority is upgrading the archive system in order to accommodate six hundred million fingerprints (Cole, 2009; Field & Molina, 2008).

There is room for error on convictions that are performed with regards to fingerprint evidence. The most famous court case is the case of Brandon Mayfield, an Oregon attorney. Subsequent to the terrorist bombings that occurred in Madrid in 2004 where over two hundred people were killed, an incomplete print that had been discovered a on a collection of detonators was received by the FBI in the United States. The fingerprint scientists determined that the fingerprints on the detonators were those of Brandon Mayfield. Brandon emigrated from the United States at the age of ten years

and was detained as a result of the FBI fingerprint investigation. A problem was subsequently discovered. The fingerprints that purported to match Brandon Mayfield's fingerprints also matched an Algerian national, Daoud Ouhnana (Cole, 2009).

Research has shown that there have been a number of mistakes that have been made with regards to fingerprinting. The cause of the errors is that a number of scientists interpret the fingerprints in distinct manners. It is unknown with regards to the numbers of convictions that have occurred in the United States as a result of erroneous identification of fingerprints.

Research has suggested that the number of erroneous convictions that take place as a result of misidentified fingerprints in the United States could be as many as one thousand per year. The scientists have initiated reconsideration of the absolute certainty of the fingerprint cases and have decided to continue their investigations in fingerprinting technology. The probability that two individuals would share identical fingerprints is one in sixty four billion. The science of fingerprinting may not be without errors. Nevertheless, fingerprinting is one of the most effective scientific applications in resolving guilt or innocence (Cole, 2004; Cole, 2009; Duta, et al., 2002; Ruddy et al., 2008; Worley et al., 2006, Yu & Wallace, 2007)..

## **Palm Printing**

The palm print recognition qualities are very similar to fingerprints. The two techniques are based on the classification of the major ridge indentations. In order for the finger print to be matched with the existing database, one must have a criminal record. The crime control perspective states that over thirty percent of the prints that are retrieved from evidence are not fingerprints

but palm prints (Cole, 2004; Cole, 2009; Duta, et al., 2002).

In many of the circumstances where the finger prints are not accessible, palm prints provide the law enforcement personnel with the data that is need. Consequently, the growing need for obtaining palm prints at a crime scene in increasing. The application of palm prints in the criminal justice system will facilitate the law enforcement personal with the assertive identification of criminals. The application of fingerprints and palm prints facilitates the rapid resolution of crimes (Cole, 2004; Cole, 2009; Duta, et al., 2002).

## **Organizational Applications**

The criminal check that are based on fingerprinting can be a priceless implement in order to assist in the litigation hazards that are present in an organization's background investigation program. A greater number of organizations will make availability of this type of information as a result of being able to gain access and compare the fingerprints of candidates with the state and government fingerprint databases. The capacity of applying fingerprinting as a method of confirming identity is revolutionary. The application of fingerprints in identification presented a means that possessed minimal amounts of error with regards to identifying individuals (Alessandrini et al., 2003; Cole, 2009; Jain et al., 1997; Sims, 1994).

The science of fingerprinting made the documentation of the identities of criminals a conventional practice and resulted in the capacity of being able to ascertain their guilt or innocence in subsequent criminal incidences.

Finger printing and palm printing currently provide a method of identifying criminals that has minimal indexes of error. The application of fingerprinting

and palm printing possess benefits. These are the only two attributed that do not become altered over time. . The fingerprints are a solitary unique characteristic that can usually only pertain to one individual. In the event that a person's finger print or palm print is encountered on a weapon that has been used at a murder, the evidence that surrounds palm printing and finger printing cause the person to be perceived as guilty. In the United States criminal justice system, a person is innocent until sufficient proof is presented that they can be declared innocent (Cole, 2009; Duta, et al., 2002).

In the event that a person's print is not on file, this infers that they have never been caught conducting a criminal action. Another disadvantage of the fingerprint system is that the data base must be continuously kept up to date and that the capacity of being flawed. The fingerprints of each individual are produced in such a manner whereas no one can really detail the process. There are number of matrices on a person's finger. It is theorized that the fingerprints are produced while the fetus is developing in the maternal womb. The fingerprints result from tactile contact during the fetus development (Cole, 2009; Jain et al, 1996).

Fingerprinting is applied in the educational system. The teachers are fingerprinted in order to be identified. This takes place in the absence of criminal activities. The fingerprinting of teachers is performed in order to ensure the wellbeing of the students. Many individuals who submit to these types of background investigation believe that fingerprinting someone proactively is a violation of personal privacy and freedom. The educational systems must ensure that the people who they are contracting are people



who have good behaviour. This precaution is taken due to the responsibility and the relationships formed by the teachers with the students. The employer not only protects the students, the organization that is performing the fingerprinting activity is likewise protected (Cole, 2009; Piper et al., 2013).

## **Conclusion**

There is new technology that is being applied by law enforcement personnel that have provided advantages and other disadvantages. The outcomes of the benefits on the subject of the Constitutional authorities of an individual do not modify the need for the application of due process in law. Defendants are entitled to all of the rights that should be conveyed under the law. There has been resolution of a number of cases due to the technological implementation of fingerprinting. This innovation has made the administration of crime to be perceived as a less burdensome endeavour. The application of fingerprinting and the interfaces of the databases between state governments should be promoted to a greater extent.

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