

Contactless Fingerprinting and Near Field Communication Technology

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Biometrics has become a global trend as most advanced nations have already adopted the technology in various fields, and many more countries are exhibiting their interest in following the footprints. Significant spike of interest to secure communication using the fingerprint as a password came from Near Field Communication Technology (NFC) which is aggressively moving to the market. NFC implies usage of cell telephones, when paying for purchases in department and grocery stores, pharmacies and coffee shops. The wireless procedure consists of bringing the cellphone very close to special device installed at the exit counter. The device reads the billing information communicated by cellphone and approves the purchase. Many companies in Europe and US already installed and successfully use NFC hardware. As a result, global biometrics market has experienced significant increase and there is still more to get unfold. Experts have already declared biometrics as the technology of future, putting a full stop to criticism faced by biometrics products. Here are few optimistic facts about the technology and its market at the global level. According to various reports issued in recently, market for fingerprinting technology was increasing from 2008 with a compound annual growth rate of 21.3%, biometrics manufacturers are going to make it possible to achieve the incredible figure of \$6.1 billion by 2015.

Current presentation will discuss various application and technical challenges of contactless fingerprinting, starting with the limitations of biological object, such medical conditions, aging, fingers unregulated sweating etc. We describe the methods of recognition of blood vessels map in a finger as a proof that examined finger is alive. We also discuss contactless fingerprinting used by law enforcement. This application requires “nail to nail” registration of a finger, zero error rates requirement, and demands high precision electronics and recognition algorithms. Although the most reliable way of individual recognition is provided by DNA analysis, the complexity of these biomedical techniques and longtime of processing leaves contactless fingerprinting to be one of very fast, the most productive biometrics in fighting crime, terrorism, and financial fraud.