FINGERPRINT SCANNERS

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Fingerprints are one of those bizarre twists of nature. Human beings happen to have built-in, easily accessible identity cards. You have a unique design, which represents you alone, literally at your fingertips. People have tiny ridges of skin on their fingers because this particular adaptation was extremely advantageous to the ancestors of the human species. The pattern of ridges and "valleys" on fingers make it easier for the hands to grip things, in the same way a rubber tread pattern helps a tire grip the road.

Fingerprint readers, or scanners, are the most popular and most common form of biometric security devices used.

Biometrics consists of automated methods of recognizing a person based on unique physical characteristic. Each type of biometric system, while different in application, contains at least one similarity: the biometric must be based upon a distinguishable human attribute such as a person's fingerprint, iris, voice pattern or even facial pattern.

Optical fingerprint scanners use a charge couple device, or CCD, similar to those found in a digital camera, to generate an image of your fingerprint. To scan your fingerprint, you place your finger on a sheet of glass covering the CCD. Light emitting diodes illuminate your finger, and light sensitive diodes on the surface of the CCD measure the intensity of the reflected light at many points. An analog-to-digital converter then converts the analog light levels from the photo diodes to digital data. One disadvantage of optical scanners is that they may have problems reading fingerprints from dirty or marked fingers, which will falsely alter the light and dark patterns.

Today companies have realized that fingerprint scanning is an effective means of security