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### Biometrics

Biometrics is the technology of authenticating a person's identity by verifying a personal characteristic. Biometric devices grant users access to programs, systems, or rooms by analyzing some biometric trait (Schmidt 54-62). A biometric trait is a physical or behavioral characteristic. Examples include fingerprints, facial features, hand geometry, voice patterns, signatures, and eye patterns.

A biometric device translates a personal characteristic into a digital code that is compared with a digital code stored in the computer. If the digital code in the computer does not match the personal characteristic's code, the computer denies access to the individual.

The most widely used biometric device today is a fingerprint scanner. A fingerprint scanner captures curves and indentations of a fingerprint. With the cost of fingerprint scanners less than \$100, experts believe this technology will become the home user's authentication device for e-commerce transactions. To conduct a credit-card transaction, the Web-site would require users to hold a finger on the scanner. External fingerprint scanners usually plug into a parallel or USB port.<sup>1</sup> Businesses use fingerprint scanners to authenticate users before they can

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<sup>1</sup> According to Carter and Juarez, newer keyboards and notebook computers have a fingerprint scanner built into them.

access a personal computer. Grade schools use fingerprint scanners as an alternative to lunch money. Students account balances adjust for each lunch purchased.

Law enforcement, surveillance systems, airports, day-care centers, financial institutions, the military, and other organizations that deal with highly sensitive data use other types of biometrics. A face recognition system captures a live face image and compares it with a stored image. A hand geometry system measures the shape and size of a person's hand (*Computers and Biometrics*). A voice verification system compares a person's live speech with his or her stored voice pattern. A signature verification system recognizes the shape of a handwritten signature, as well as measures the pressure exerted and the motion used to write the signature. Finally, an iris recognition system reads patterns in the iris of the eye.

Works Cited

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