

Something You Are: Biometric: 2. Iris Scan

- 2nd technique used: scan their iris.
- Here, a camera takes a picture of a person's iris and **stores certain features about it in the system.**
- Studies show iris scan more socially acceptable than the palm scan.
- User is required to actually put her hand on the reader for a few seconds, while in the iris scan, a camera just takes a quick picture of the user's iris.
- The iris scan is less intrusive since the user does not have to do anything except look in a particular direction.

Something You Are: Biometric: 3. Retina Scan

- Another biometric technique is a **retinal scan**, in which **infrared light is shot into a user's eyes**, and the **pattern of retinal blood vessels is read to create a signature** that is stored by a computer system.
- In a retinal scan, the user puts his head in front of a device, and then the device blows a puff of air and shoots a laser into the user's eye.

Something You Are: Biometric: 4. Fingerprint

- In fingerprinting, the user places her finger onto a reader that scans the set of curves that makes up her fingerprint.
- Fingerprinting is not as socially accepted as other biometric identification techniques since people generally associate taking fingerprints with criminal activity.
- Fingerprinting provides less information than a palm scan.

Something You Are: Biometric: 4. Voice

- Voice identification is a mechanism in which a computer asks a user to say a particular phrase.
- The computer system then takes the electrically coded signals of the user's voice, compares them to a databank of previous signals, and determines whether there is close enough of a match.
- Possible Problem?

Something You Are: Biometric: 4. Face

- Facial recognition involves a camera taking a picture of a person's face and a computer system trying to recognize its features.

Something You Are: Biometric: 5. Signature

- Another technique, signature dynamics, records not only a user's signature, but also the pressure and timing at which the user makes various curves and motions while writing.
- The advantage of signature dynamics over simple signature matching is that it is far more difficult to replicate.

Something You Are: Biometric: Disadvantages

- Key disadvantages to these biometric authentication techniques are
 - the number of false positives,
 - number of false negatives generated,
 - their varying social acceptance, and
 - key management issues.

Something You Are: Biometric: Disadvantages

- A *false negative occurs when* a user is indeed an authentic user of the system, but the biometric authentication device rejects the user.
- A *false positive occurs when* an impersonator successfully impersonates a user.
- Tradeoff needed for both (Tutorial)
- Social acceptance is another issue to take into account when considering biometric authentication techniques.
- All the biometric authentication techniques discussed here are *less socially accepted than entering a password*.