

Document 21.2 Five Sets of Text to Convert to Slides

Text for Slide 1

There are three ways to identify people: by what they possess (such as an ID card), by what they know (such as a PIN), and by what they are (a biometric marker).

Text for Slide 2

Biometrics commonly implemented or studied include fingerprints, faces, irises, voices, signatures, and hand geometry.

Text for Slide 3

Three key terms used in biometrics:

- *Recognition* simply means to “know again.” All biometric systems perform recognition to “know again” a person who has been previously enrolled.
- *Verification* is the task of attempting to confirm an individual’s claimed identity by comparing a submitted sample to one or more previously enrolled templates.
- *Identification* is the task of attempting to determine an individual’s identity. Biometric data are collected and compared to the templates in a database. In “closed-set” identification, investigators know that the person exists in the database. In “open-set” identification, investigators do not know whether the person exists in the database.

Text for Slide 4

A typical biometric system comprises five integrated components. A sensor collects the data and converts them to a digital format. Signal-processing algorithms perform quality-control activities and develop the biometric template. A data-storage component keeps information that new biometric templates will be compared to. A matching algorithm compares the new biometric template to one or more templates kept in data storage. Finally, a decision process (either automated or human-assisted) uses the results from the matching component to make a system-level decision.

Text for Slide 5

Although both biometrics and forensics involve human recognition, biometrics typically uses automated techniques before an event occurs, such as an attempt to gain access to sensitive information or to a secured facility. By contrast, forensic applications typically use automated and non-automated techniques after a crime has been committed. Forensic methods are used to assist in the legal process to determine guilt or innocence.