Iris Scanning: The Latest in School Security

Iris recognition provides a method for personal identification that, unlike fingerprint identification, is quick and noninvasive. In the iris (the colored part of the human eye) alone, there are more than 400 distinguishing characteristics that can be quantified and used to identify an individual. Due to these unique characteristics, the iris has six times more distinct identifiable features than a fingerprint.

Through a grant from the National Institute of Justice, the Plumsted Township School District in New Jersey installed iris recognition cameras in three schools in 2002, and 21st Century Solutions Inc., an independent consulting firm, received funding to evaluate the effort. The project demonstrated that iris technology has strong potential for implementation in American schools. The Teacher-Parent Authentication Security System (T-PASS) demonstrated that the technology can work successfully with minimal disruptions and wide acceptance by volunteer faculty, parents, and staff.

“How T-PASS Works

A specially designed camera is used to take a close-up photograph of an individual’s iris. The image is then stored electronically in a computer database and linked to identification information about that individual. If the iris image in the database matches that of the person seeking entry to the school, the door automatically unlocks.

Typically, access is allowed or denied in less than two seconds. The technique is similarly used to link student records with the iris records of parents or guardians, giving school personnel positive identification of individuals picking children up from school.

Freehold Borough is currently using the iris technology for entry access control at the main entrances of three schools—two K-5 buildings and a 6-8 building. The T-PASS visitor management application also is used at the main office of the three schools. Although enrollment in the system is optional, more than 600 faculty members, staff, and parents are presently enrolled.

The system initially requires a system user to have images of irises in both eyes recorded by a specially designed camera in the school office. The four best images of each eye are then used to generate an iris code. The user also has his or her photo taken and driver’s license scanned, and this information is included on the system’s screen. The individual’s personal information is stored in a database on a secured server located in the school district’s technology center. This information is not shared with any outside organizations.

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Within a year’s time, second- and third-generation iris-recognition technologies have emerged that improve on the original T-PASS system. Project staff and evaluators noted that a replication of the original study was needed, particularly in schools that faced greater safety problems and where the student and residential population was more diverse than that of Plumsted Township.
Users are assigned access rights to specified school entrances at specified times. Typically, a parent will be assigned access rights between school hours (7:55 a.m. to 2:25 p.m. for the middle school, or 8:25 a.m. to 3 p.m. for the elementary schools). The system also assigns parents or other authorized persons to specific students they may pick up or sign in and out of school.

Once entered into the system, a visitor must have his or her iris image captured by cameras located outside the school entrances. If the image matches that in the database, the door is unlocked and the user may proceed to the office.

In the office, visitors again must have their iris images recognized. Once identification is confirmed, a unique visitor badge is printed with the user’s name, photo, date and time of visit, as well as the name and photo of the person he or she is visiting. When the visit has ended, the sign-out time is recorded in the visitor log.

The Benefits of T-PASS

The major benefit of Freehold’s iris recognition system has been an overall increase in security awareness within the school community. Additional benefits include:

- Digital logging of all visitors;
- Control of entry access;
- Less paperwork for office personnel;
- Quick and easy access for digitally stored information; and
- Pictures of all visitors, which can be quickly e-mailed to appropriate authorities should situations warrant.

Erika Jimenez is a fourth-grade teacher for Freehold Borough Public Schools in New Jersey and co-project coordinator for Iris Scan. Her e-mail address is erikaj@freeholdboro.k12.nj.us.

Elizabeth O’Connell is superintendent of the Freehold Borough Public Schools. Her e-mail address is lizo@freeholdboro.k12.nj.us.

Ray Bolling is president of Eyemetric Inc. and co-founder of Iris Scan. His e-mail address is ray@eyemetric.com.