



Once the province of the FBI and criminal investigators, fingerprint technology is now being harnessed at K-12 schools around the nation. Not for Orwellian motives such as surveillance, identification or tracking, but for school lunches and breakfasts.

Public schools such as those of the Penn Cambria and Wilson School Districts in Pennsylvania have adopted fingerprint scanning and identification systems to handle a host of problems from slow lunch lines, lost lunch money, cumbersome payment, lunch fraud and bullying, to falling National School Lunch Program (NSLP) participation, along with declining reimbursement for programs such as Title I, E-rate, and No Child Left Behind, which use the NSLP data to gauge poverty.

Bringing James Bond technology to the cafeteria

Biometrics, the science of identifying a person by unique biological features such as fingerprints or iris patterns, has finally made the jump from James Bond’s gadget lab to the school cafeteria, in the case of fast, secure identification and transaction processing. While some fear this could reduce individual privacy, effective safeguards are in place.

Mitch Johns, president of Food Service Solutions (www.foodserve.com) the company that implemented the fingerprint solution in the Penn Cambria School District, as well as scores of K-12 schools throughout the United States, is quick to point out that his system does not store any fingerprint images in its database – just mathematical algorithms that cannot



The use of fingerprint scanning avoids the stigma of being on a subsidized lunch program.

be used to recreate fingerprint images and are therefore useless to law enforcement.

“Only the numbers are retained in the form of a mathematical algorithm and those cannot be reinterpreted into a fingerprint image,” explains Johns. “Both parents and students can rest assured that the fingerprint images cannot be used by law enforcement for identification purposes.”

With a fingerprint ID system in the cafeteria, students no longer need to hunt through their pockets to locate cash, tickets, or swipe cards, and those in the free and reduced price lunch program avoid the stigma attached to color-coded tickets or other overt identifiers that mark them as “poor” in the eyes of their peers.

Students simply place a forefinger on a small fingerprint reader by the register. In seconds, the system translates the electronic print into a mathematical algorithm, discards the fingerprint image, and then

matches the numerical output to the student's meal account information. Food Service Solutions software, for example, plots 27 points on a grid that correspond with the fingerprint's ridges to achieve a positive identification.

Fingerprinting is voluntary and typically done when the student enters the school system along with enrollment paperwork. Kids are fingerprinted just once, and the mathematical algorithm produced stays with them until they graduate. Those declining fingerprint IDs can continue to use cash or other methods.

The growing interest in fingerprint recognition at public schools stems from the serious drawbacks of traditional lunch payment systems.

Problems with cash, ticket, and card-based lunch systems

Though handling cash is routine for adults, the process can be difficult for students, especially younger ones prone to losing or misplacing it.

"Lunch lines slow when kids dig through their pockets to find change or borrow money, and valuable instruction time is lost when teachers are forced to collect lunch money during class," explains Brenda Bucynski, secretary to Penn Cambria School District's Food Service Director. Multiply the change-making process by hundreds of students during a typical lunch, and the delays can cause students to stand in line much of their lunch hour, only to wolf down their food or avoid school lunches altogether.

"Having daily cash on hand can also lead to lunch money theft by bullies, as well as students skipping lunch to buy junk food, cigarettes or other contraband," cautions Bucynski.

Furthermore, while federal law prohibits schools from overtly identifying those receiving free or reduced price meals, this can inadvertently occur when lunch tickets are color-coded to designate free or reduced price lunches. One consequence of singling out those receiving free or reduced price meals, which can identify them as "poor" in the eyes of their peers, is to cut program participation, especially at the middle and high school level. This can substantially reduce federal re-



The fingerprint scanner takes up no more counter space than a card reader.

imbursement for poverty-based programs linked to school lunch counts.

"This stigma and attitude toward 'free lunch' has students opting for a bag of chips and can of soda from vending machines," states a *Detroit News* source, commenting on the city's public school district loss of \$17.6 million in federal funding due to foodservice underuse, primarily by high school students qualified for subsidized meals.

"Just 40% of those eligible for a free lunch bothered to fill out the application, further burdening the district by reducing E-rate reimbursement, Title I and other subsidy programs which are directly tied to the free and reduced application process."

Magnetic-stripped cards, one alternative to cash or lunch tickets, while convenient, get lost, stolen, destroyed, or misused in alarming numbers. In fact, over 70% of students will typically need to have their swipe cards replaced each year, on average, at considerable expense.

"Cards with easily-forgotten personal identification numbers (PINs) also pose problems and are prone to fraud when the PIN codes are overheard and misused by other students," explains Joe Geisweidt, Food Service Director of Penn Cambria School District.

Fast, secure, stigma-free lunches with fingerprint ID

With the serious drawbacks of traditional lunch systems, it's no wonder that a growing number of K-12 schools are turning to fingerprint ID lunch systems in an effort to speed operation, simplify payment, limit lunch fraud and bullying, as well as improve lunch participation and program reimbursement. In the schools implementing such systems, the results have been impressive.

“Unlike cash, tickets, and swipe cards which can be lost or stolen, your fingers are always with you — and no one can use them to gain fraudulent access to your account,” explains Bucynski, who oversees scanning the fingerprints of students each fall.

Without cash, tickets, or cards to be located or exchanged, lunch lines move faster and students have more time to eat without rushing. Because there are no color-coded tickets or different amounts of cash involved, nobody knows who is buying a free or reduced price lunch. This eliminates the reputed stigma of being a ‘free lunch student,’ which can help boost school lunch participation and federal reimbursement via the programs tied to it.

“Biometric technology has brought much needed anonymity to our foodservice program,” says Dr. Russell Strange, Superintendent of Penn Cambria School District. “Not even the cashiers know which students are ‘free’ or ‘reduced’ and the students and parents have responded well.”

“For ten years prior to the system, high school averaged 28.6% low income,” continues Strange. “Now in our fourth year of using the biometric system, high school’s low income is 42.7%, with a four-year average of 39.1%. High school is only 2% points below elementary low income for 2004-2005. The additional reimbursement enables us to provide higher quality meals and more generous servings.”

Teachers and parents are also finding that by eliminating the daily handling of lunch money or tickets, especially in kindergarten or elementary classrooms, they can free up time for added instruction or other useful activities. “Teachers love that the new system gets lunch money out of their classrooms,” says Bucynski. “One teacher says she’s gained half-an-hour of teaching time a day, since she no longer has to concern herself with lunch money during class.”

Because parents can set up a lunch account linked to a biometric system for their child’s use, they can not only be sure their child has enough money for lunch each day, but also can monitor what their kids are buying. “Whether standard school lunch or a la carte, parents can easily keep track of their children’s lunch

purchases in the monthly billing statements mailed to them,” says Penn Cambria’s Food Service Director Joe Geisweidt. “That ensures that lunch money is spent for its intended use, and also puts an end to any predatory lunch money bullying.”

The Wilson School District in West Lawn, Penn. turned to fingerprint ID technology primarily to expedite the lunch payment processing at the request of parents.

“Parents didn’t want to doll out \$1.60 for their child every day, or give them a \$10.00 bill and wonder if they’d ever see the change,” says Pat Anthony, Food Service Director for the Wilson School District. “Parents wanted to pre-pay for lunch, but keeping track of accounts with paper and pencil was untenable. And we didn’t want to buy into a system where parents would end up taping PIN numbers to their kid’s hands.”

After viewing the Food Service Solution fingerprint technology used at Penn Cambria’s school district, the Wilson School District implemented a similar system to good effect.

“Parents, staff, and students are all impressed by the system’s ease of use and level of accountability,” says Anthony. “And because it automatically and securely captures data at the point-of-sale, it helped the state review of our lunch program, by putting all the necessary data at the reviewer’s finger tips.”

For more information about biometric identification systems for foodservice, contact Food Services Solutions Inc. call (814) 949-2037; Fax at (814) 946-7572 or write to 1227 Eleventh Avenue, Altoona, PA 16601. Visit their web site at www.foodserve.com

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