Tagged High School IDs Improve Student Flow, Enforce Rules

A Chicago-area institution implemented an RFID-based system allowing only authorized pupils to leave the campus during lunch, or to enter the student lounge.

By Mary Catherine O'Connor

March 25, 2008—A Chicago-area high school has begun issuing RFID-enabled identity cards. According to staff members, this has provided the school with an efficient tool for controlling and improving the flow of students who are allowed to leave campus during their lunch breaks.

The school's director of technology—who spoke to *RFID Journal* under a request for anonymity because administrators at that school seek to avoid publicity—says that when the facility's more than 3,000 students began classes this past fall, each was issued an RFID-enabled identity card. This year's card looks much like those issued in prior years—it includes a particular student's photograph and identification number, as well as a bar code with that ID number encoded to it. Embedded inside each card, however, is a passive, EPC Gen 2-compliant ultrahigh-frequency (UHF) RFID inlay.

The high school's initial goal in adding RFID to the cards, the IT director explains, was to automate and improve the efficiency of a process for identifying which students are permitted to leave campus during lunch breaks. Only juniors and seniors may leave during lunch, which spans from 11 am to 1:15 pm.

In previous years, students would line up and hand their cards to a security guard, who would confirm that each pupil was a junior or senior, then compare each card's photo with the child presenting it. The purpose of this check was to ensure that no freshmen or sophomores left campus during lunchtime.

Now, as each student approaches the guard posted at the exit, a nearby RFID antenna picks up the unique number encoded to that child's ID's tag. (Students must carry the ID with them while in school.) The number encoded to the tag is unique, and is different than the student ID number printed in the card's bar code, but is associated with this ID number in a back-end database.

The software, made by RFID solution provider EPCSolutions, controls the RFID interrogators and presents the student's ID number and photo on a computer monitor at the guard station. The background color displayed on the monitor indicates whether a particular student is eligible to leave campus. (Green indicates that pupil may leave, while red means he or she may not.) Before allowing a student to depart, the guard compares the image on the screen with the presenting student and notes the background color.

Thus far, the benefits of using the RFID system have been twofold, says John Cook, sales manager at Premier Electronics, a systems integrator and designer based in Crystal Lake, Ill., that collaborated with EPCSolutions to deploy the technology. First, Cook says, students can now exit the building more quickly. And second, the number of unauthorized students who leave the building—which the school estimates to have been up to 30 per day in previous years—is now down to zero.

According to the school's IT director, the high school has decided against deploying a possible extension to the system—adding a software layer to the access control system that would utilize biometric software to compare the card ID photo with the student presenting the ID, by comparing a facial scan of that child with the ID photo. This feature is no longer being considered because the state of Illinois recently passed legislation prohibiting the use of biometric-based technology in applications involving minors, unless the party deploying the technology receives permission from each minor's parent. "It would have been an administrative nightmare [to secure those permissions]," the IT director states.

Still, the school has already begun expanding the current RFID access control system to include new applications. Some students are required to attend a special tutoring class in the morning. On any given day, if one of them fails to attend that session (electronic attendance is taken by the teacher) but attempts to leave campus during lunch that same day, the software triggers a red background to appear on the security guard's monitor. The software will also flash a red background if a student is under a disciplinary action that has not yet been completed.

In addition, says the school's director of technology, a reader station has been installed at the entrance to the school's student lounge. If a student of any grade attempts to enter the lounge instead of attending a scheduled class, a red background appears with the child's photo on a monitor's computer, and that pupil is turned away.

RELATED_ARTICLES These RFID-based applications are proving very effective in discouraging students from attempting to leave campus or enter the student lounge without authorization, the IT director says. In the future, the school may use the RFID-enabled ID cards to verify students are authorized to attend sporting events, or to check books out of the library.

The school conducted informal testing of the RFID hardware and software system before rolling it out this fall, but made no prior announcements to students, parents or teachers about its planned use of the technology. According to the school's IT director, after detecting the inlays inside their IDs early in the year, some pupils raised privacy concerns regarding the school's RFID use. However, the IT director notes, the school has encountered no push-back from students or parents following the school newspaper's publication of an article describing the RFID technology and explaining how the school was using it.