

University of Hyderabad Awards E-Diplomas

To verify a new employee's academic credentials, Indian companies use an RFID interrogator to read an embedded tag encoded with a recipient's name, graduation date, transcript and other identifying data.

By Claire Swedberg

Oct. 23, 2007—In an effort to stem academic fraud, India's University of Hyderabad is awarding its masters and doctoral graduates with paper diplomas embedded with passive 13.56 MHz RFID tags. Each tag has 4 kilobytes of memory and is encoded with the recipient's name, date of graduation, type of degree and entire transcript, as well as a photo of the student's face.

Typically, a college graduate accepting a new job in India must bring in identifying documents such as a driver's license and a college diploma. Some individuals have provided fraudulent diplomas—either a document that is not an actual diploma from the college in question, or a real diploma belonging to someone other than the person accepting the job.

For that reason, in 2006, the Indian government issued a directive to colleges and universities to guarantee the authenticity and ownership of their diplomas. In most cases, this is being accomplished by adding a photograph to the document, as universities typically take an identification photo of each student first entering the school.

However, says the University of Hyderabad's vice chancellor, Seyed E. Hasnain, the school was looking for a better alternative. For one thing, he explains, the university is renowned for its strong technical programs, particularly in computer science, and was in a position to take a leadership role in a more technical solution. In addition, he adds, because a degree from the University of Hyderabad is so desirable for employers, a guaranteed solution beyond just a picture is that much more important for its diplomas.

Therefore, in June 2007, the university issued 1,700 e-diplomas for all its graduates, provided by Tata Consulting Services (TCS). TCS printed the diplomas, embedded RFID tags complying with the ISO 14443a standard and printed the university logo on each diploma. When the school prepared for that semester's convocation, staff members used an RFID interrogator to write data to each diploma's tag specific to its recipient, including the student's name, degree, transcript and photograph. In addition, the school printed the student's name on the front of the document, with a set of instructions on the back, warning students and employers that to prevent the tag from being damaged, the diploma should not be folded or placed near a high heat source or magnetic field.

Upon accepting a job, a graduate can present the diploma to an employer, says M. Vidyasagar, executive VP at TCS. The employer can log onto the TCS Web site—the URL is indicated on the back of the diploma—download the TCS software necessary to read the encrypted data on the diploma chip, and utilize an RFID interrogator to read the tag and download its data. This information can then be used to verify the identity of the new employee.

Colleges also have the option of including a thumbprint on the chip, which an employer can use to further guarantee a match between the diploma and the new hire. Hasnain says the university is already transitioning toward a thumbprint solution by taking prints from each new student arriving at the school. "In the past," he says, "we didn't ask, but now when a student joins our program, we get a thumb impression."

Once those students graduate, their diploma chips will include a thumbprint, but not a photograph. Hasnain points out that photographs can often be difficult to match against an employee, especially since their faces can change with age. The thumbprint, however, remains the same, and also requires less space on the chip. "A thumb impression would be for life," he says.

RELATED_ARTICLES According to Hasnain, the first year's diplomas have been well received among employers. "In India, there is a lot of hiring in the IT sector," he says. Although employers must first invest in RFID interrogators to benefit from the e-diploma, he says many are willingly doing so. "The University of Hyderabad has a reputation, and the result is good-quality, well-placed, sought-after students. Even now, in just a few months' time, companies are telling us they like the system." Hasnain estimates the handheld readers cost about 2,500 rupees (\$60) apiece. Each student pays 400 rupees (\$10) to receive an e-diploma. Before the RFID system was put in place, students did not pay directly for diplomas.

Currently, the tag's read-write memory is locked once a diploma is issued to a particular student. But in the future, Vidyasagar says, employers will be able to add data to the diploma, such as the date of hire and the location of the individual's new job, to maintain an exact record of that person's work history. All data would be stored on the chip, rather than on a server, Vidyasagar adds, though colleges could also keep records if they opted to.

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