Contactless Hybrid Finger Scanner
Dreamlink Co., Ltd.

Introduction

Operating a chain of more than 90 restaurants throughout Japan, Dreamlink Co., Ltd., required a system that would accurately manage the attendance of all staff, both full time and part time workers. Dreamlink decided to employ NEC’s contactless hybrid finger scanner, which identifies individuals with the world’s highest precision by reading finger vein and fingerprint data. The introduction of this scanner has enabled Dreamlink to conduct accurate attendance management at all restaurants and provide head office with clear and precise attendance records. Attendance data processing has also become more efficient, reducing the workload of restaurant managers.

Challenges

Dreamlink Co., Ltd., had been using a POS system to manage staff attendance at its restaurants. At the end of each day, the restaurant manager was required to output attendance data from the POS system and manually input it to an Excel file on the computer. This data then had to be mailed to head office at the end of each month. Nobuhiro Sakai, general manager of the 1st Division and member of the board at Dreamlink, recalls the old attendance management system.

“Our biggest problem was checking whether the working hours of part time workers had been entered correctly. Part time worker attendance was being managed at each restaurant by the manager and other full time workers, but we had no way of knowing whether the data sent to head office by each manager was accurate.”

Typing errors and miscalculations also occurred when the data was manually re-entered in the computer, which was a time-consuming task that placed an additional burden on busy restaurant managers.

Solution

NEC’s contactless hybrid finger scanner was introduced at all restaurants, enabling accurate attendance management and reducing the workload of restaurant managers.

Results

- Accurate attendance and payroll management
- Automated attendance data processing, greatly reducing restaurant manager workload
- Errors in attendance data processing eliminated
- To-the-minute accuracy of attendance data will contribute to easier and more precise personnel management.
"We thought about a system based around IC cards, but IC cards have to be issued each time a new part timer is employed, which takes time so there is a time gap before the card can be used. We then turned our thoughts to biometrics, and compared devices from several companies. We needed a device with superior authentication accuracy, that was easy to use and price competitive, and that could be installed quickly. NEC’s contactless hybrid finger scanner immediately stood out from the rest." Dreamlink was impressed with the proposal from ICCOM and NEC, and decided to go with the contactless hybrid finger scanner.

Solution

NEC’s contactless hybrid finger scanner uses personal biometrics data, so it is impossible to impersonate someone by using a forged or fake ID. Also, because the sensor surface is not actually touched by fingers, there are no left-behind fingerprints that might be stolen.

"NEC has been pursuing research into fingerprint matching technologies since 1971 and has continued to receive world-class accuracy ratings from the National Institute of Standards and Technology," explains Shinya Hanya, assistant manager in the 2nd Government and Public Solutions Division at NEC. "NEC’s hybrid finger-based authentication technology blends our field-proven fingerprint verification technology with our world-beating finger vein authentication technology to create a truly impressive authentication system."

Finger vein and fingerprint data are preregistered in a computer, and individuals can be identified simply by holding their finger over the scanner. Because the system uses the modalities of both finger vein and fingerprint data, the identification accuracy is much higher than when using a single modality, and the condition of a person’s finger (wet, dry, etc.) has no effect on the identification result.

“Our unique hybrid finger-based authentication technology realizes the highest identification accuracy in the world today,” emphasizes Hanya. “It was very easy to preregister the data in the computer, and the system is simple for anyone to use,” says Masahiro Naraoka, Dreamlink restaurant manager. “If a worker is not authenticated by the system, they are not recognized as being at work. It’s as simple as that. The scanner is also excellent from a hygiene point of view, and workers with wet or even pruned fingers can still be accurately identified. And because the scanner guides our actions with LED lights, it’s easy to see where and when to hold your finger even if the scanner is being used in areas where the lighting is dim."

Results

Thanks to the new attendance management system, restaurant managers no longer need to input attendance data to an Excel file at the end of each day or mail monthly data to head office. This has considerably reduced the managers’ workload and also eliminated data entry mistakes, allowing each restaurant and head office to carry out payroll management based on accurate data. Head office is also able to check to-the-minute attendance data in real time. Dreamlink’s Nobuhiro Sakai looks ahead to the future.

“It’s very important for us at head office to be able to view attendance data on the network anywhere, anytime. Staff management issues, which also apply to full time workers, such as determining whether people are working the proper hours and taking the proper breaks no longer have to be left up to restaurant managers. Head office can now handle this easily.” Dreamlink currently opens a new restaurant almost once a month, and each new restaurant deploys NEC’s contactless hybrid finger scanner attendance system. NEC’s Shinya Hanya talks about how the hybrid finger-based authentication solution can be expanded from simple attendance management to many other situations in which strict personal authentication is required.

“NEC’s contactless hybrid finger scanner is currently used not only for simple Windows login authentication, but also for data access management of digital medical chart systems and for single sign-on systems, providing improved convenience and enhanced security. In the future, I can see NEC’s contactless hybrid finger scanner realize an environment in which keys, cards, and pin numbers are no longer required—all you will need is your finger.”

NEC will continue providing authentication solutions that improve management efficiency by reducing TCO and optimizing personnel costs.

Hanbey, the restaurant operated by Dreamlink Co., Ltd.

About

Based in Akita prefecture, Dreamlink Co., Ltd., manages and operates a nationwide chain of more than 90* restaurants, each of which employs a large number of staff including both full time and part time workers.

*As of April 2012