



VHSmartcard Intelligent System (VHSiS™)

Technical Paper



緯衡科技
VHSoft Technologies

VHSmartcard Intelligent System

VHSmartcard Intelligent system (VHSiS™) facilitates organizations to enforce security control, implement staff card issuing and obtain attendance record of company staff including headquarters, branch offices, subsidiaries, site offices and also the subcontractors in different locations. VHSiS™ can perform **centralized registration, attendance tracking, reporting and card issuance**, as well as **resource planning**.

By synchronizing the updated staff information from remote branches, subsidiaries, site offices and also to the PDA, hence, the integrity and centralization of smart card management is assured.

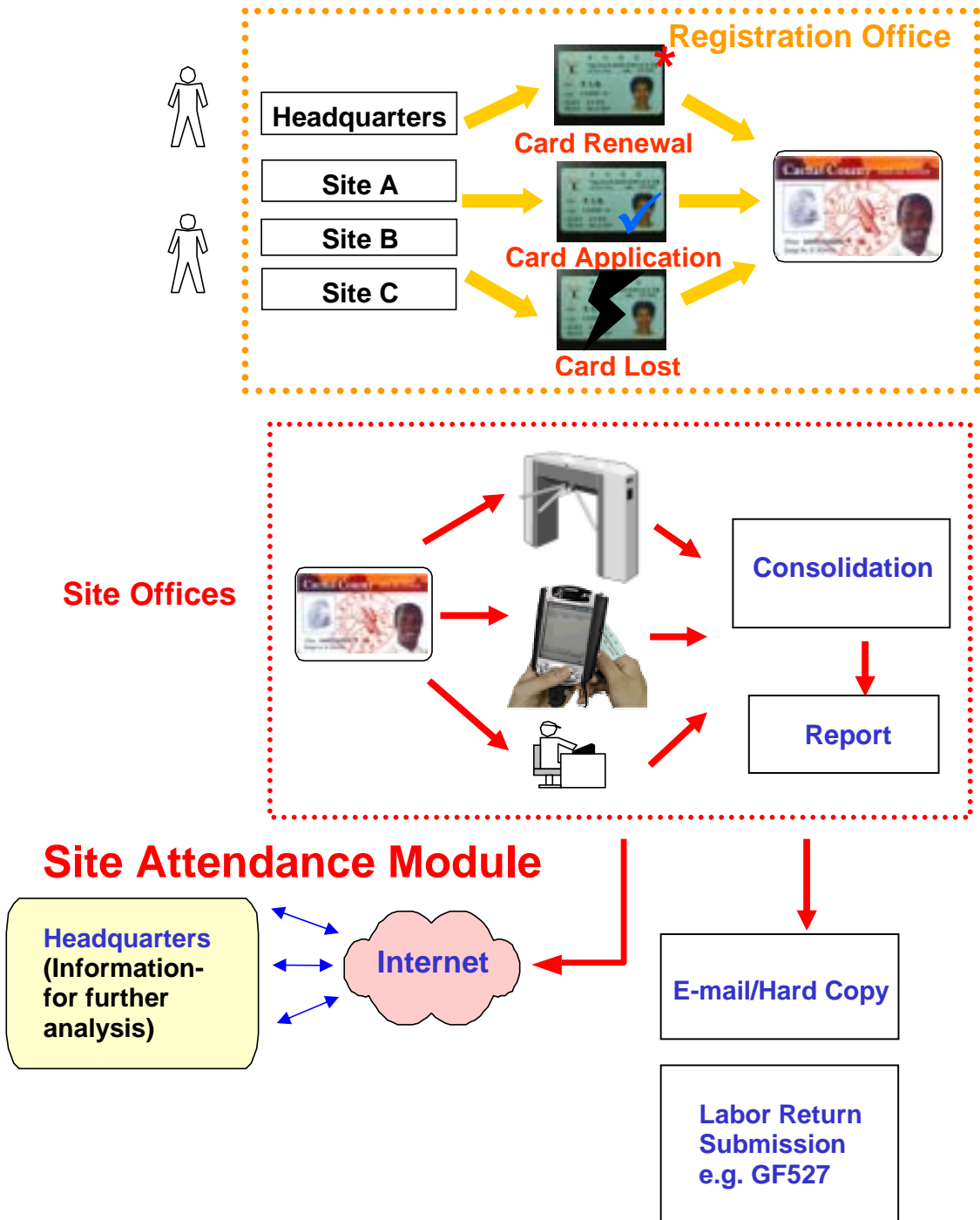
This **mobile workforce monitoring system** using the latest smart card and PDA technologies provides the following key features:

- Centralize
 - staff information and qualifications details
 - card personalization and issuing, such as new card issue, re-new and re-issue upon staff card is being stolen or fake.
 - Staff imaging service, enables enquiry of staff photo in short response time
- Share, distribute and dispatch updated staff status to remote branches, subsidiaries and site offices.
- Portable device monitoring, to enhance the mobility of on-site worker's checking and progress monitoring.
- Management report generation, such as daily summary of staff & workers, attendance report by subcontractor/branch/project.

In terms of security, the encryption strategy has been applied to protect the disclosure of sensitive data such as identity card number and staff password. An encrypted key is introduced to staff's card and database system.

The solution has applied the dynamic backup strategy on centralize database and imaging record. It is equipped with software that enable real-time and cold backup of data and keep in customer's Data Center.

Registration Module



1. Registration Module

- Centralized Smart card registration ('card application', 'card renewal' and 'card lost') with full control
- Comprehensive Repository of labor information
 - Record personal data and attendance of employees, for example, name, photo, identity card number, and working permit number of the cardholder.
 - If they are workers of construction sites, their profile, details of predefined trade work, work place, number of working days, arrival and departure time of workers, as well as skills and professional qualifications, e.g. qualified tradesman & intermediate tradesman certificates, green card information, blood, emergency contact, etc. can also be recorded.
 - By downloading the data to desktop or other systems, human resources according to the work progress can be well allocated after data analysis, thus, avoiding surplus of human resources.
- Support for advanced Smart Card Security Requirement e.g. Micro Print, SAM etc.

Registration Management

- Application registration, document scanning and card collection notice generation.

Registration Fee Collection

- Fee maintenance, drawer session maintenance, fee receipt printing and reconciliation report printing.

Photo Taking

- Registration enquiry, applicant's appearance photo taking and maintenance.

Qualification Verification

- Applicant information enquiry, qualification import, export and maintenance, result updating, interfacing, email confirmation, rejection handling and letter of reject application.

Card Personalization & Printing

- Card personalization log in and access permission, smart card writing and printing and QC/QA.

Card Collection

- Card collection and card information enquiry.

Card Update

- Card renewal and card re-issuing.

Chip and Card Application

- Card termination and card suspension.

Smart Card Receiving Side

- Card reading and security access handling.

Key Management

- Key generation for smart card.

2. Site Attendance Module

- Labor Information Consolidation Platform from different construction sites
- Generate labor return
- Submit to Works Bureau (for Government project)

Attendance Data Capture

- Manual data input, PDA handheld device data capturing, fixed card data input and problematic card list importing.

Attendance Data Import from an Access Control System

- Attendance data capturing and importing from an access control system.

Return Preparation (for Construction industry)

- GF527 report generation and qualified tradesmen return preparation.

Data Export (for Construction industry)

- Data exporting of GF527 and qualified tradesmen return preparation.

Report Generation

- Attendance report and exception attendance report.

3. Works Order Management - PDA Module

Attendance data can be captured by VHSOFT's PDA smart card reader and synchronize to server database. Not only the time tracking but also the site progress monitoring is obtained. For construction industry users, the predefined ISO-9000 defect list can be stored on server, whereby site foreman is able to download the forms to PDA and performs site defect checking. After handling the synchronization process from PDA to Server, management report such as daily summary of workers, attendance report by subcontractors, branches and projects can be prepared by quantity surveyor and project manager.

Monitoring work progress at specific locations

- Through the use of PDA, foremen can be acquainted with where the worker is working within the site, familiar with the work progress and ensure the

quality is up to standard. Coupled with the use of digital camera, VHSiS™ is able to monitor the site simultaneously and mark reference on PDA for follow up actions which reduce time spent and make prompt correction if problems are identified.



Security measures:

- Requires password to operate when powering up
- Automatic power off after idling for a preset time interval
- Connects to desktop PC's USB port for Active Sync, which will require password to operate.
- The infrared port will be disabled.
- E-form exchange with desktop PC is encrypted.
- The PDA application will require password authentication
- Every PDA user can be assigned with different access rights to each e-form and record.

4. Works Order Management - Desktop Module

A desktop workstation solution with:

- Job Schedule Alerting
- Schedule of Rate (SOR) maintenance
- Works Order Estimation
- Client Payment
- DIM Book Maintenance
- Site Progress Control & Monitoring with hand-held PDA/SmartCard devices
- Sub-contractors Payment
- Material Maintenance
- Profit & Loss

A Drawing Recognition System for Building & Fitting Out Works with:

- Definition of Drawings Symbol
- Inventory Control
- Recognition of Ceiling Plan, Finishing Schedule and Layout Plan
- Generation of Cost and Quantity Estimation

An Online Project Monitoring System with:

- Cost Control
- Inventory Control
- Quality Assurance
- Site Progress Monitoring
- Site Inspection
- Drawing Management

A Drawing and Document Management System with:

- Drawing Version Control and Permission
- Full Drawings Comparison
- Automatic Recognition of Drawings Information
- Links and Attachments

5. Time Tracker Module

With the application of smart cards, smart card reader/writer and terminals, a time tracker function can be implemented. An identification card is issued for employees at human resources office that provides access to a PC network. The network is equipped with secured access control to departmental rosters, employees' time sheets and management reports to employee performance including daily in/out time, employees late record, overtime records and employees monthly working hours. Department / site managers are then able to track employees' performance by using reports generated from the system as reference, while human resources personnel calculate employees' wages and salary based on monthly employees' reports.

Appendix 1:

Smart card & Related Hardware Products

Smart Card

Philips Mifare Chip Set

80% market share of all contactless smart cards

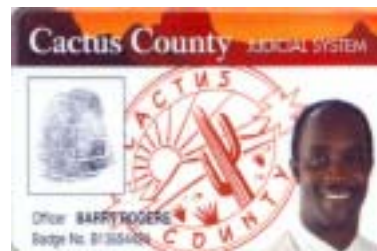
Security Printing Feature:

- Holographic lamination overprinted personalized information
 - Micro Printing



Optional Security Feature:

- Guilloche design
- Serial number
- Variable fine lines
- Optical variable ink
- UV Printing



MF-200M Mobile Smart Reader

- Fully compliant to ISO-14443-A standard
- Fully access to Mifare standard, Mifare Light cards & Mifare Ultra Light cards
- Connects to Pocket PC handheld through Compact Flash type II slot
- Windows Powered – supports Pocket PC 2003

