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Proposal

Smartcard Biometric based Time and Attendance.

Description

This project entails the development and deployment of a smartcard fingerprint biometrics based employee work attendance system. This project will provide as a feature the functionality to generate reports that enable a manager make key decisions

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Executive Summary

Ghana is gradually becoming a part of the information age that has swept over this generation. Today, many Ghanaians have come to understand the advantages of automating or computerising many, especially repetitive, daily activities of business.

It is a commonplace occurrence that some employees do not report to work on time. A lot of valuable time is lost in the process and this leads to reduced output for the whole business entity. Employees are paid for hours they have not worked and the business throughput is not congruent with the input made in employee salaries and allowances.

Log or attendance books, direct personnel supervision and other methods have been adopted at various levels in a bid to nip this in the bud. Despite the modest gains, this paper-based system is till fraught with problems. For instance, a worker may connive with the manager of the books and sign in as present at a later time when they were not actually present. Employees are thus paid for hours they did not work.

Employees are the lifeline of a company that helps it to achieve its goals and objectives. A solution is thus needed that eliminates the possibility of fraudulent activities and guarantees that the information gathered relating to employee attendance will be a true reflection of what transpired. This solution must also integrate into the work ethic and flow of the company. ICT provides many solutions to this; key card entry/log attendance and biometric-based solutions being the most efficient.

SOLVEiT is seeking to help corporate bodies to realize the full benefits of deploying this technology by taking security and flexibility in a time and attendance system a notch higher.

 SOLVEiT's smartcard biometric-based system merges two technologies, contactless (RFID) smart card and fingerprint. It verifies something "you have" (smartcard) and something "you are" (fingerprint). The smartcard also doubles up as an employee ID card which can be used for other purposes such as managing staff canteens.

Working closely with the management and staff at your company, SOLVEiT will develop a system that will be tailored to the company's specific needs and help it reach improved levels of efficiency. That, in essence is the goal of this document.

Project Description

This project will involve the analysis, design, building and deployment of a fingerprint-based biometric solution that will allow management to maximize output by reducing to the barest minimum any acts of employee truancy. SOLVEiT will specifically:

- ❖ Develop a software vision/concept with your company.
- ❖ Perform Systems Analysis based on the vision to generate a model for the proposed system.
- ❖ Develop a database back-end to contain the data.
- ❖ Develop a front-end application to manage the stored data and generate reports.
- ❖ Provide training for requisite staff.
- ❖ Deploy the system.
- ❖ Provide maintenance and backup services (Post-project completion)

The system to be developed by SOLVEiT will have the following features:

- Employee attendance logging using a combination of smartcard and fingerprint.
- Administrator log in to view data but not to change it.
- Reports by employee groups, class, absentees, etc to aid in management decisions
- Management of absentees and employee leave.

This system makes use of the iGuard LM520 series Access Control and Time and Attendance System with the following features:

- ✓ Optical Fingerprint Scan
- ✓ Contactless Smart Card.
- ✓ PIN pad.
- ✓ Embedded Database / Web Server.
- ✓ TCP/IP enabled.
- ✓ Online/Offline operation.
- ✓ Provision for employee shifts.
- ✓ Auto Data Synchronization to any ODBC complaint data store.
- ✓ View last 10,000 events directly from any web browser on any device.
- ✓ Manage over 20,000 users.
- ✓ Quickly and easily Add, Disable, Enable, or Delete users
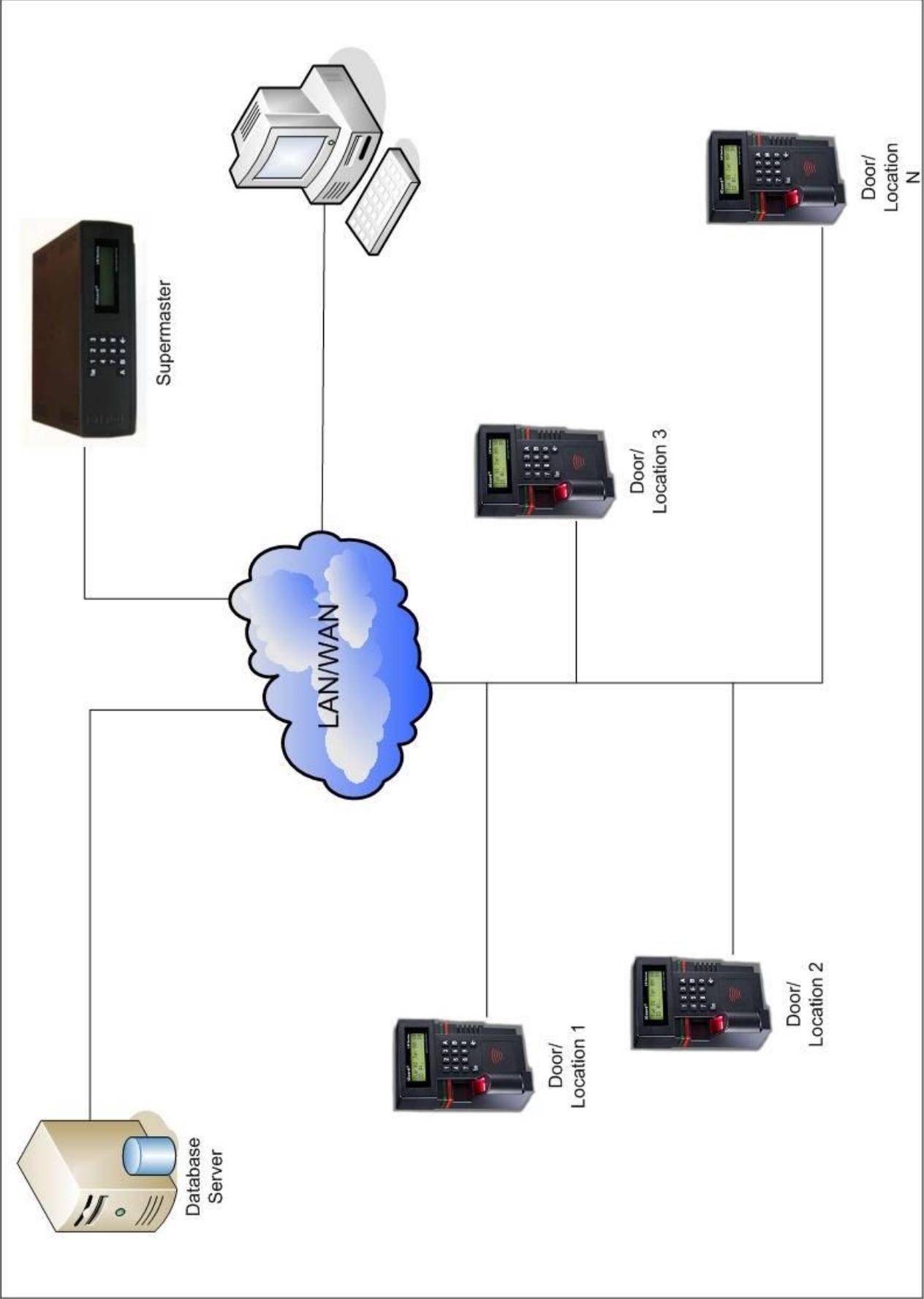- ✓ Control access to security areas.

The iGuard LM520 [Fig 1] will run on the existing network infrastructure. The Supermaster [Fig 2] is only need when the number of employees exceeds 1000.

Fig 1

Fig 2

Supermaster

Door/
Location
N

Door/
Location 3

LAN/WAN

Door/
Location 1

Door/
Location 2

Database
Server

Cost Summary

Cost summary is dependent on type of software package and degree of customization of system

Payment Terms

The payment schedule for the project is as follows:

- ❖ Equipment cost + 50 % of software development at contract signing.

- ❖ Balance according to contract document.

Project Schedule

Following final discussions with your institution and the appending of signatures to the contract document, it is expected that the project will take 4 weeks to deploy. The Gantt chart below depicts the expected development and deployment path, barring any circumstances beyond our control.

Activity/Week	1	2	3	4
Data collection and entry	■			
Software analysis and design	■	■		
Software customization and testing	■	■	■	
Personalization of smartcards			■	
Deployment and training				■

For the first three (3) months, SOLVEiT will be available to re-install and re-deploy the system in the event of any hardware failure or data loss. SOLVEiT will be available for telephone consultancy services and will make visits when the situation warrants it. After the initial three month period however, support (onsite visits) will come as a surcharge.

Equipment Needed

A high-end computer with the following **minimum** hardware specifications:

- Intel® Core™2 Duo E6550 (1.86GHz)
- 1GB RAM
- 40GB HDD (Primary drive for system software)
- CD/DVD-ROM
- 20GB HDD (for backups)

An Uninterruptible Power Supply (UPS) system.

Assumptions

This proposal is premised on the assumption that there is computer with the specifications indicated in the section titled (Equipment needed) and that the necessary network infrastructure is in place to support the application.

SOLVEiT can however lend its expertise to develop the necessary network infrastructure where it is not available.

Conclusion

In closing, smartcard biometrics provides the best solution to any organization's employee attendance challenge. Further, a system developed to match the company's peculiar needs rather than a generic system will prove to be the best solution.

SOLVEiT's team comprises the individuals who mooted the idea for a project involving fingerprint biometrics at the Computer Engineering Department of the College of Engineering of the Kwame Nkrumah University of Science and Technology in 2006. This same group successfully developed and tested on a pilot basis a similar fingerprint-based project for exam attendance in December 2007 in the same department.

From the foregoing, it follows that SOLVEiT has requisite expertise in the building of customized biometric clock-in systems and can thus effectively design, build, deploy and support a smartcard biometric-based system for your organization.

We do look forward to the commencement of lasting business relations with you.

The Solveit Company

Vision

Our vision is to help individuals and corporate institutions apply relevant Information and Communications Technology (ICT) solutions to their problems in order to help them reach higher levels of productivity and efficiency on both personal and corporate levels.

Key Competencies

Our key competencies at SOLVEiT are:

- ❖ Developing fingerprint biometrics-based solutions.
- ❖ Developing smartcard solutions.
- ❖ Developing customized software applications.
- ❖ Developing websites and web applications.
- ❖ Building scalable and reliable networks.
- ❖ IT Training (Corporate and Personal).