

Visitor Management System Using GSM

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Abstract- This paper gives review on Visitor Management System(VMS) that has been developed to replace traditional visitor registration and visitor information management activities. VMS able to record visitor information during visitor registration by using visitor's Identification proof. The concepts underlying in VMS are GSM module and data management. When visitor entering into organization allocate time stamp , if visitor wants to increase time period then they can be .This application enables capturing new visiting record by check in/out, and assignment of visitor pass. Visitor information are recorded in a centralized database, which provides data management and manipulation through searching and report generating. The benefits of VMS are enhancing the level of security enforced in premises, providing an organized view of visitor records and reducing the time spent on managing visitor information.

Keywords- GSM Module, SQL, security.

I. INTRODUCTION

VMS is computerized system used to save information about visitor with visitor image. System will grant time stamp for visitor to be in campus. If timestamp expires system will message to visitor about time concerned and like to increase timestamp. If visitor doesn't reply security breakdown has occurred and action to be taken immediately. System allows visitor to enter in campus after permission. Huge centralized storage is allowed with fast access, sorting and indexing [1]. Prior permission to enter in campus of related one with timestamp with label generated for visitor (i.e. Computerized visitor pass) to identify visitor in campus. On survey from the early tests of the new GSM technology was that the new standard should employ Time Division Multiple Access (TDMA) technology. A unique feature of GSM is the Short Message Service (SMS), which has achieved wide popularity as what some have called the unexpected "killer application" of GSM. SMS is a bi-directional service for sending short alphanumeric message in a store-and-forward process. SMS can be used both "point-to-point" as well as in cell-broadcast mode.[3] GSM technology in terms of hardware and fees paid to providers will get cheaper as it grows more popular and as the technology matures.[5]

II. LITERATURE REVIEW

"Nowadays, many organizations have their own system to manage visitor entering their premises. Common practice is by registering and recording visitor information in a logbook. This registration activity has some weaknesses such as there is a possibility of misplacement of visitor logbook during guard shift exchange, visitor information in logbook is exposed to every visitor and difficult to read and search hand written visitor logbook.

In advance technology for home security, video door phone system can be used to allow one to communicate safely with visitors without any need for physical interaction with them. But this is stand alone intercom system requires to manage calls made at the entrance of the building when the owner is available at home. Therefore, this situation have motivated to develop an computerized visitor management system(VMS) in order to capture visitor information by using identification proof and store them in a centralized database .

III. VMS ARCHITECTURE

It depicts system control and data flow with all architecture details including entries, component ,messaging and association between them. When visitor interacts with the system, through system it is decided whether he should be allowed in campus or not. If visitor is allowed his all information is collected and permitted to enter in a campus with fixed time stamp .When timestamp expires system generates alerts through GSM module and contact to visitor for further increment of timestamp or to check security threat at regular intervals by querying the database report is generated at administrative layer and check-in and check-out list is maintained.

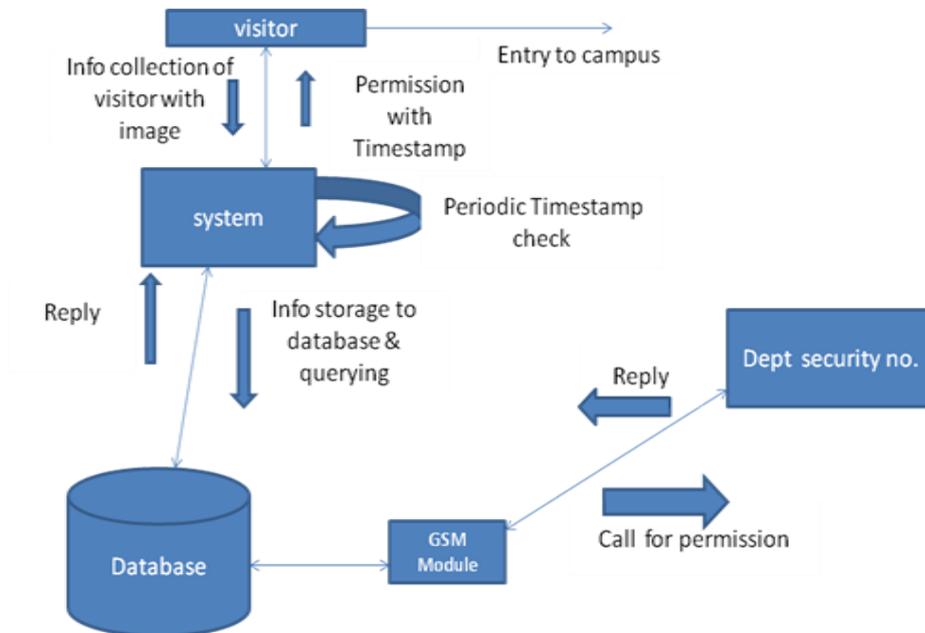


Figure1:VMS Architecture.

GSM technology allows for a roaming system, where in both transmitter and receiver can be move around the cellular network. There are a variety of applications where in the GSM network can be useful for industrial use, and most of these are in the realm of Data Transmission.[5]Like a GSM mobile phone, a GSM modem requires a SIM card from a wireless carrier in order to operate. Generally, computers use AT commands to control modems. Reading of message from the SIM card inserted into the modem is done by sending the appropriate AT command to the modem. In addition to the standard AT commands, GSM modems support an extended set of AT commands. These extended AT commands are defined in the GSM standards.[7] Some common basic SMS related AT Commands are used given below:

AT Commands	Meaning
+CMGS	SEND MESSAGE
+CMSS	SEND MESSAGE FROM STORAGE
+CMGW	WRITE MESSAGE TO MEMORY
+CMGD	DELETE MESSAGE
+CMGC	SEND COMMAND

Table1: AT Commands.

IV. IMPLEMENTATION

The objective of VMS is to define a high security and huge centralized storage that allowed fast access through visitors management system. To Grant permission and storing information of visitor is problematic. Idea is to store all visitor data with its full information and allowing fixed number of visitor for fixed time in environment .To create security alerts when timestamp expires of visitor and decide whether to increment timestamp and take security action. By using GSM a 160-character text message, short commands can be sent via SMS. This is ideal for intermittent small packet data transmission.[4] GSM module is GSM device specific module connected to the system using the port assign to it on system .Using it with we can message to visitor & read message from visitors. It requires SIM card for this purpose .Module displays database entries of visitors whose timestamp expires & allows calling that visitor easily & alerting him.

4.1 Administrator module: This module exhibits administrator the path of login into the system with the provided password. Here the administrator's details are been saved in the database; and can be influenced. This module is one time entry module.

The sub modules are as follow as: **Purpose module:** For entering one time purpose to entry in campus. **Employee module:** To enter all employee database with details. **Report Generation :** Generating daily reports about visitor with their purpose , time slot etc.

4.2 Transaction/GSM module This consists of checking In and Out , Permission &messaging Functionality. For sending message GSM module is used. It accept the commands serially. It uses AT (ATTENTION) commands to work. A GSM modem is a specialized type of modem which accept a SIM card, and operate just like mobile phone. A GSM modem exposes an interface that allows application to send and receive SMS.A GSM modem support an “extended AT commands set” for sending /receiving SMS .[2] Being GSM-based system, it offers flexibility to display flash news or announcements faster than the programmable system.[6]

Sub modules: **Messaging Module:** It messages for permission, messaging after timeslot expires & asking to increase time stamp or to check security reason. **Timestamp Checking Module:** Checking for time stamp periodically & creating alerts.

4.3 End user module: This gives rights and duties of the end users. In this module end users can login into the system only after the administrator assigns specific login Id and password.

Sub modules:**Visitor info collection Module:** To collect info about visitor & make entries. Maintaining DB . **License Module:** It is specific to particular computer system.

V. RESULT ANALYSIS

VMS has been successfully developed consists of two component: Guard and Admin.[1]The system is capable of Give visitor pass based on availability during visitor registration. Tracking, purpose, time in, time out and security officer on duty.Facilitates searching of visitor credentials and report generating.

	Function	Description
Admin	Login	Ensuring only authorized users are allowed to login. Ensuring password is not displayed in readable form on screen.
	Print Report	Ensuring report can be printed as shown on interface.
	Search	Ensuring visitor information can be retrieved from database through searching using visitor's name
Guard	Login	Ensuring only authorized users are allowed to login. Ensuring password is not displayed in readable form on screen.
	Register Visitor	Ensuring visitor information can be saved into database. Ensuring automated clocking of visitor check-in and check-out time.

VI. CONCLUSION

VMS has overcomes most of the problems encountered in the manual system. By using VMS, the organizations have an option in increasing the level of security enforced in their premises. VMS enables free, secured, fast and easy visitor registration. Computerized records give better management and manipulation of data, through searching and report generation. By using the GSM technology in the field of communication we can make our communication more efficient and faster, with greater efficiency we can display the messages and with less errors and maintenance.

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