Implementation of Short Message Service System using GSM Model via Wards Academia Routine Monitoring

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Abstract-
Abstract- Record tracking mechanism is a ever ending open challenges faced by all man handling sectors and ways the path to create automated tools. It consumes most of our regular timing knowingly or unknowingly in all areas of our regular routines. The aim of this paper is to provide the student's record tracking especially rewards information to the end user. This system is capable to record student's routines using interactive inputs, creating reports and to provide wards information to end users in particular parents. GSM network is utilized to enhance this work and used to send SMS. Short Message Service (SMS) is a text message service component of phone, web or mobile communication systems, using exiting standardized communication protocols that allow the exchange of short text message between fixed line and mobile phone device. Present manual process of checking wards process at the end of each semester examinations consumes time from end-user and also it's a big time consuming task for the college administrative people. Using this project, end-user can easily receive updates about their wards from any remote location through SMS. An automated intimation to end-user about their wards is the objective of this project. This project eliminates the requirements of resources such as stationary materials, human resource for keeping of record.

Keywords: GSM, Automated tool, SMS, Communication, Record Tracking

I. INTRODUCTION

Student Marks System (SMS) is a application software designed to introduce a conductive and structured information exchange platform for students integration, end-user, faculty in-charge and the administration of a school or college. Following are some of students monitoring activities that supports educational institutions to monitor students related activities

- Wards personal information's
- Wards Academic performance monitoring
  - Subject -wise monitoring
  - Overall Progress of Individual ward

Student's complete marks details are entered in this system by the administrator. The student registration should contain the information (like internal marks, students details etc). This is saved in the database. SMS can be useful in many areas like Universities, colleges, institutions. Private and government sector industries. Then he/she will receive an SMS regarding the concerned student academic marks from the college data base. The advantage of this project is that any person wants to know the marks he has to send just an SMS.

The main intention of this project is to design an automated application is to put the student's thoughts and actions into right path. To deliver wards status to the end-user mobile, GSM modem is required that acts as communication interface. Over the existing network modem transports device protocols transparently through a serial interface. The GSM modem is a wireless modem that works with a GSM wireless network. In this scenario wireless modem acts like a dial-up modem that sends and receives data through a fixed telephone line,   wireless modem sends and receives data through radio waves. The project deals with GSM modem, micro-controller, PC to save wards data and MAX232. Interface MAX232 acts as voltage converter between the modem-controller and micro-controller- PC. The data from the PC will reach the microcontroller through serial communication and will be finally sent to the user mobile through GSM modem

II. INTRODUCTION OF GSM

Global system for mobile communication (GSM) is a globally accepted standard for digital cellular communication. GSM is the name of a Globally accepted standard for digital cellular communication is GSM . GSM means Global System for Mobile communication otherwise known as 2G or Second Generation technology. In 1982 a standardization group established to create a common European mobile telephone standard for a pan-European mobile cellular radio system operating at 900 MHz. Action behind this development is to make use of same subscriber units or mobile phone terminals throughout the world.
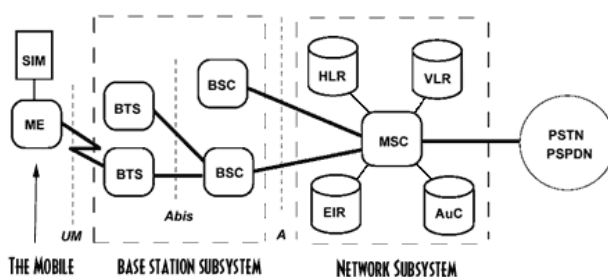

Fig.1 GSM Architecture

Major sub divisions of GSM network is as follows.
- SS- Switching System
- BSS - Base Station System
- OSS- Operation and Support System

Switching System holds the major responsibilities like call processing and subscriber-related functions. The switching system includes HLR, MSC, VLR, AUC and EIR. Radio-related functions are carried our in BSS. Base Station System consists of base station controllers (BSCs) and the base transceiver stations (BTSs). Operation and Support System monitors and controls the network operations with the support of

operations and maintenance center (OMC) and to the BSC, otherwise implementation of OMC is known as OSS. The purpose of OSS is to offer the customer cost-effective support for centralized, regional, and local operational and maintenance activities that are required for a GSM network. An important function of OSS is to provide a network overview and support the maintenance activities of different operation and maintenance organizations.

III EXISTING SYSTEM

Academic institutions are using the Academic Automation software for their regular process, like student details maintaining, staff detail maintaining, student attendance details, student test mark details for their speedy operation. All these datas are maintained in the database and it is retrieved and viewed in software whenever it is required. The particular datas or all the datas also can be viewed. This is helpful to study their regular operation of institution and make the changes based on the report of the software. Many institutions added the feature i.e., SMS system to send SMS to the parents to inform about student activity and preparedness for exams. SMS sending process is incorporated with the software and it is linked with the third party agent to provide these many SMS per day with high cost. Contract between the institution and third party is renewed every term by paying for that number SMS.

IV PROPOSED SYSTEM

In proposed system Software is designed to maintain student detail, staff details, student mark, student attendance and the added feature is faculty advisor allotted for the students, and attendance shortage report. SMS facility is not connected with the third party agent, it is done by own GSM technology. Monthly renewal is done by institution by just paying to the cellular subscriber as we do SMS pack topup to our cell phone. This will provide Bulk SMS to this system with minimum cost and easy to renew ourself whenever we required more SMS. Software is designed and programmed to activate GSM and send SMS text to GSM initially with phone number, then GSM will send this text SMS to the mention phone number.

Forms are designed and programmed to add, edit, view and delete student details. Staff forms are programmed to add, edit, view and delete staff details. Subject forms are created to add, view, edit and delete the department wise, semester wise subjects. Mark forms are programmed to add, edit and view the student various test marks. Assigning the faculty advisor to the student is important feature in this system. SMS forms are developed to send student test mark details to the parents and students. Attendance forms are designed to maintain daily present absent status of students. SMS of absent list of every day is sent to faculty advisor. Student absent is informed to parents by Parent SMS form.

Attendance shortage form is designed to show the report of attendance percentage off all the students for the period of time like semesters. The below eligible attendance secured student is alerted by the shortage of attendance SMS to the parents.

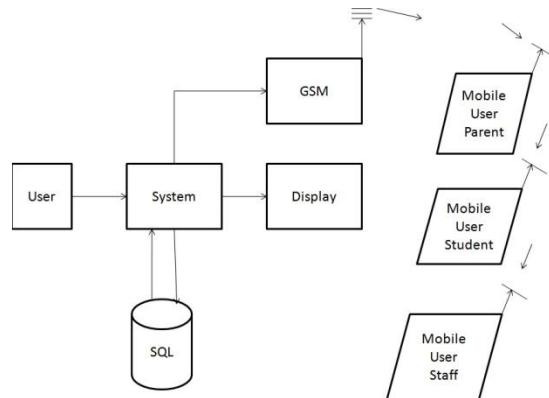## A. SYSTEM ARCHITECTURE:

Fig.2 GSM based SMS architecture

V. MODULE DESCRIPTION

1.   Managing Students:

Managing Students modules deals with collection of Student basic information likes name, address for communication, previous academic qualification, department details and other necessary details. Automated registration number generation carried our internally. Mainly this modules deals with new student admission process, viewing existing data and removing students roll while leaving the institutions.

2.   Managing Subjects:

Managing subjects' modules deals with semester wise subject code entry along with subject name for current semesters operated in this module. Operations like elective selection are carried out with the support of already listed subject information. Wards progress entry like modification, deletion for current semester internal and final result of previous is executed in this module.

3.   Managing Marks:

Up-to date semester manipulation like addition, modification, deletion and record viewing for individual students is executed in this module.

4.   Managing through SMS :

Short Message Service (SMS) is a communications protocol allowing operational team to interchange short text messages between mobile telephone devices and end-user. In SMS module, attributes like contact information and text message are taken in to operation. The GSM Reads the message and sends the details of the particular student's internal mark information from database.

VI. SIMULATION RESULTS

Students Details:

The Student Details form contain the Students details, such as students register number, student name, parents mobile number, students mobile number .It also allow the modification of students details.

Subject details:

The Subjects details form contains the subject's name, subject's code, semester wise subject's details. It also allows the modification of subjects' details.

Add Marks:

This form allows the admin to adding marks of the student's semester wise internal marks.

Update Marks:

This form allows the admin to modifying marks of the student's semester wise internal marks.

Fig.3 Students Details Form.

Fig.4 Subjects Details Form.

Fig.5 Students Marks Form.

Fig.6 Students Mark view Form.

SMS Display Section:

This form contains the student details and subject's details, and also   contains the SMS sending and receiving details.

Fig.7 SMS Details Form.

VII. CONCLUSION

GSM based Parents tracking of the student Internal Marks via college System. The transmitting section comprises of C# and GSM modem receiving section is the GSM based mobile phone. The introduction of wireless technology in the field of communication, the communication becomes more efficient and faster, with greater efficiency and the message communicated with less errors and maintenance. This model is useful in day today activates of service sectors such as chain restaurants, health care , wealth management franchisee about the need and special discounts can be displayed at all branches including franchisee. As like in educational sector the students, faculty and administrative can be communicated with in no time about wards any updations. It can be set up at public transport places like railways, bus station, airport, roadside for traffic control especially in emergency situations, the features of this is very easy to operate and cost efficient system. Latency involved in using of papers in displaying of notices is avoided and the information can be updated by the authorized persons.

REFERENCES

1) L. Smith & H. Roth (2003). "Parking Systems Technologies". Retrieved on 11August 2005.

2) H. H. Bauer, S. J. Barnes, Reichardt, T., &M.M.Neumann, "Driving consumer acceptance of mobile theory al framework and empirical study," International Journalof Electronic Commerce vol. 5, pp. 110-117, 2005.

3) Yusekkaya , A. A. Kayalar , M. B. Tosun , M. K. Ozcan and A. Z. Alkar "A GSM, internet and speech controlled wireless interactive home automation system", IEEE Trans. Consumer Electron., vol. 52, no. 3, pp.837 -843 2006.

4) Alheraish "Design and implementation of home automation system", IEEE Trans. Consumer Electron., vol. 50, no. 4, pp.1087 -1092 2004.

5) S. Lee , K. N. Ha and K. C. Lee "A pyroelectric infrared sensor-based indoor location-aware system for the smart home", IEEE Trans. Consumer Electron., vol. 52, no. 4, pp.1311 -1317 2006.

6) K. C. Lee "Network-based fire-detection system via controller area network for smart home automation", IEEE Trans. Consumer Electron., vol. 50, no. 4, pp.1093 -1100 2004.

7) Z. Alkar "An internet based wireless home automation system for multifunctional devices", IEEE Trans. Consumer Electron., vol. 51, no. 4, pp.1169 -1174 2005.

8) Y. Tajika , T. Saito , K. Termoto , N. Oosaka and M. Isshiki "Networked home appliance system using bluetooth technology integrating appliance control/monitoring with internet service", IEEE Trans. Consumer Electron., vol. 49, no. 4, pp.1043 -1048 2003.