Smart Clearance System

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Abstract— The manual clearance system is one of the tedious process because this takes lot of time.one reason of this happen is because this task involves the manual work and there is no special technology involved in automating the job. Involvement of manual work calls lots of irregularities. In this we propose the concept of replacing manual job or work in manual process by smart clearance system at workspace. This smart clearance system replaces the conventional process by smart card. In addition password authentication is placed in the machine in order to check correct user access. If the user is correct user, the next process takes place. A soon as the input is given, the dues for the particular person are detected and deducted from the account setting up at the time of admission of that person in the particular institution or college. The embedded controller is preprogrammed in a such a way to perform the similar operations. In this smart clearance system, GSM module is used which further sends the details about the transactions on the registered mobile number linked with the system in the form of text message. Hence it is easy as well as the reliable system. In this system the document verification also takes place which frees student to carry the files regarding the documents.

Keywords – Academic Requirement, Administrator module, Clearance

I. INTRODUCTION

In many institutions, when a person is about to disengage from an institution, the person undergoes through a clearance process to determine the persons status, whether he or she will be permitted to disengage. If the person is free to disengage, then he or she will be issued a clearance. Clearance is a certificate giving permission for something to be done.

In higher institution of learning, final year students that have satisfied the academic requirements to graduate must undergo a clearance process before they disengage from the university. The process of clearing involves the Student's academic department, Faculty, Bursary, Students Affairs, Library, Hostel, Sport department, Health Centre and Registry (Exams and Records). A student is allowed to collect his/her graduation certificate only after he or she has been cleared. The proposed system employs the structure comprising of the GUI based in which the details of the clearance system is accessible to the enrolled users in the system ,the tentative value of amount is initially deposited in enrolled students account and by checking the clearance amount it will deducted when the system is commanded by the user .The user gets the message of the current clearance status just like the bank account status after any transactions done with it.

II. LITERATURE REVIEW

The essence of this review is to make known of some other research made in relevance to the project topic. Many researchers have made some findings on how this problem can be solved and achieve the objective of the subject. As many tertiary institutions as have chosen to pursue the dynamic educational options available, the advantages are now many. As people of this generation become more dependent on the technology, the need for an clearance system becomes more apparent.

The skills needed to access and comprehend information GUI based are becoming commonplace, and the flexibility of computing means that any coffee shop, airport or bedroom can become a classroom. , clearance have few, if any scheduling restrictions, well-integrated learning resources and competitive degree options, with an online clearance system.

This system has become a central element of the discourse on higher education . There seems to be an overall derive towards reliable system given the mountain need for flexibility in scheduling and the daily emergency of communication technology and capabilities. Automatic clearance system is presented as a means of conveying instruction to an extensive learning community any place at any time. Indicate that adequate designate as the driving force and model for transformation in the regular clearance system to the advanced one.

Automatic clearance system presents educational experience very different from standard face-to-face environment. When conducting a micro level courses evaluation, interest commonly lies in learner perception of the course experience pertaining to the level of comfort, ability to communicate with class mate and the instructor, as well as comparison to traditional face-to-face lecture. Many times the only means of evaluating learner perception is in the form of a questionnaire or survey. Although perception of system can be extremely useful information, it is usually not sufficient to conclude the evaluation without expanding to learners understanding but also the there is the saving of time. Many times the only means of evaluating learner perception is in the form of a questionnaire or survey. Although perception of system can be extremely useful information, it is usually not sufficient to conclude the evaluation.

III. EXPERIMENTAL SETUP

The hardware design for the smart clearance system is shown in the fig. below in our smart clearance system, after swaping the smart card there is password, with the help of keypad we enter the password. If password is correct, password will be accessed.

In this project there is a GSM module for sending the text message to the authentication person. In smart clearance system password entered by keypad the input of keypad is connected to microcontroller. If password entered is valid the due deduction takes automatically. We have connected a laptop to the system. There is a LCD which is connected to Port B of microcontroller AT Mega8 The LCD is a output device which shows the real time clock. The microcontroller and whole circuit works on +5 V DC but we are using adapter of +12 V DC range for that we are converting +12 V into +5 V by using voltage regulator IC 7805.78 indicates a step down and a 05 indicates +5 voltage. The output +5 V of that IC is connected to the microcontroller pin VCC. The interfacing between microcontroller and GSM is like that the TXD pin of microcontroller is connected to the RXD pin of GSM and vice versa. All real time programming is stored in microcontroller for performing particular tasks. There is a special AT commands for sending message to the authentication person.

For showing GUI of document verification and yearly due on the laptop screen the USB to TTL module is connected to system. The output of microcontroller is connected to a USB to TTL and output of it is connected to the display. There is a LCD which is connected to Port B of microcontroller ATMega8.
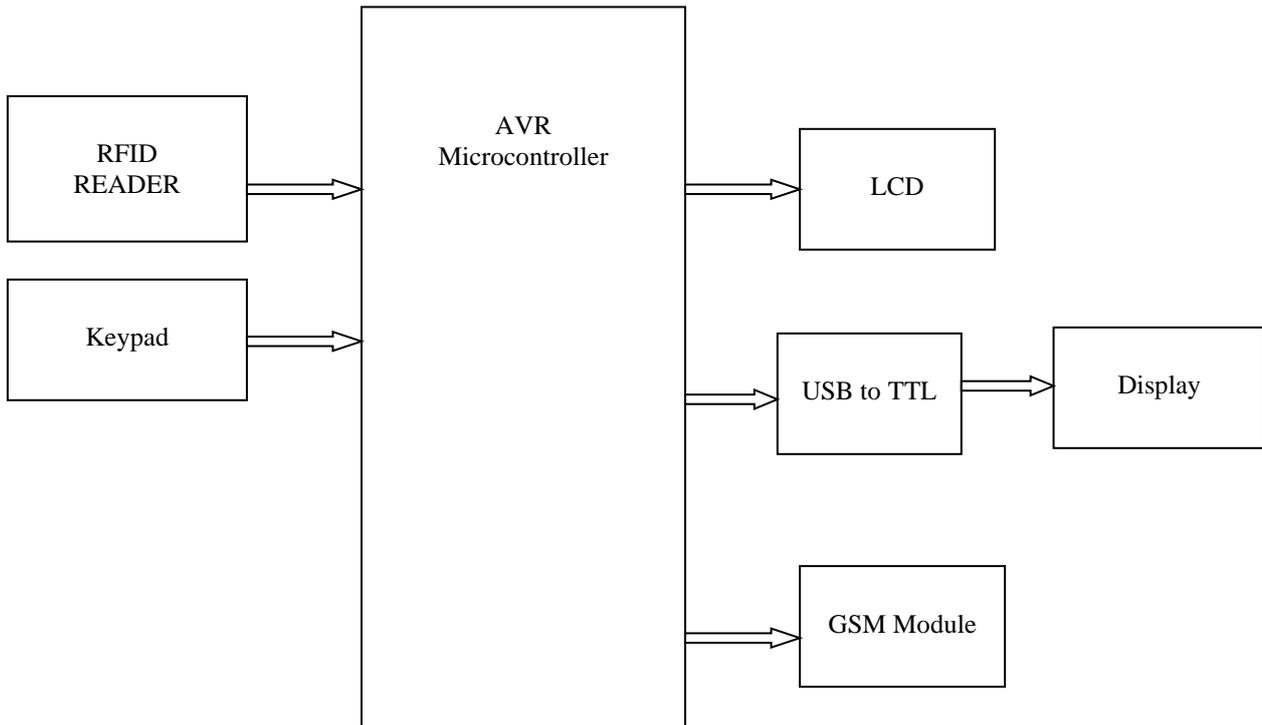

FIGURE1. Block Diagram of Smart Clearance System

IV. SOFTWARE DESIGN

The program design for ATmega8a was done in C language. It is easy to develop and implement Atmega16a program in C language due to its flexibility, easiness of programming and debugging. The program was burned to the ATmega8a microcontroller using the USBASP programmer. The compilation of C language program to hex file was done using the popular GNU based Win AVR GCC. It offers additional functionality of burning the program to the IC. The USBASP programmer utilizes the In Serial Programming capability of AVR microcontrollers and thus makes it possible to program the IC real-time during development. Once the hardware is setup, the program is burned to the ATmega16a IC using the IC programmer. The power supply is given from mains through LM 7805 voltage regulator which regulates the input voltage to +5V level

V.SCOPE OF PROJECT

The project on the automatic clearance system can be extent ended by making it to the online clearance system where the each student should register first then make the account th access the clearance module , for such a advancement in the project is done with the help of PHP 5.0 It will be implemented as a web-based application which will be a central repository for clearing students. The main modules of clearance system are Main Module, Clearance Registration, Cleared/ Not Cleared and Administer. The user is created and managed by the Systems Administrator using the Administer module.

VI. CONCLUSION

The Student Clearance System was developed using MATLAB, and it was implemented using data collected. It was able to manage student's clearance process across all the departments and units and it eliminated the weakness of the manual process which mainly lack centralize repository for the clearance process. Others are the process is slow, clumsy and stressful. Therefore, the clearance application can be used for recording and certifying that a student is cleared to disengage or not. The clearance applications are recorded and the status can be determined at any point in time.

REFERENCES

1. "Embedded C Programming and the Atmel AVR " By Barnett.Cox and O,Cull
2. About AT mega 16 from www.atmel.com
3. Carelin Felix and I. Jacob Raglend, "Home Automation Using GSM", Proceedings of 2011 International Conference on Signal Processing,Communication, Computing and Networking Technologies, pp. 15-19, 2011.
4. Pravada P. Wankhade1 and Prof. S. O. Dahad2, "Real Time Vehicle locking and Tracking System using GSM and GPS Technology-An Anti-theft System", International Journal of Technology and Engineering System (IJTES): Jan –March 2011- Vol. 2. No. 3.
5. Mazidi, Muhammad Ali, the 8051 Microcontroller and Embedded Systems, Second Edition, Prentice Hall, 2007.
6. http://www.atmel.com/avr.
7. http://eforengineers.blogspot.in/2012/12/lcd-interfacing-with-8051-in-8-bit-mode.h
8. Principles and applications of GSM by Vijay Kumar Garg, Joseph E. Wilkes , Prentice Hall PTR,1999
9. Wireless communications, principle and practice, second edition by Theodore S. Rappaport.
10. Programming and customizing the microcontroller AVR, of McGraw-hill 18-sep-2000, By Dhananjay V. Gadre.

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