BIOMETRIC PROCEDURE FOR ATTENDANCE SYSTEM USING FINGERPRINT

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ABSTRACT

We have come up with new system for calculating the attendance. So we utilize the FINGERPRINT module to perform task of receiving the fingerprints of the student. This module is used to perform the task of comparing the data with in-built data. Then after that we would perform the task of transmitting the candidates name by using the VISUAL BASICS software. In this process when the person fingerprint matches we need to transmit his name. Then after that we need to read the system time and date. So by that process we can calculate the entrance time and date of the student. The person name is being displayed on the LCD. With that at the end of month, we could calculate the attendance of the student. By this technique the manually work will also be reduced and this could be stored for a longer time.

Keywords: Fingerprint Module, VB Software, Database

I.INTRODUCTION

Till today many organization/institutions are using the manual type of attendance system. In this system attendance should be taken each and every period. So the faculty time is being wasted for the attendance. And in some cases false attendances are also registered, when someone says gives says present for the absent ones. These records should be maintained for the more than years, which creates the heavy burden work. So to rectify the above mentioned problems we have proposed a new system.

In this proposed system we are using the module called finger print used to identify the person. This is the one of the most secured process for the identification of the person. The figure below gives the steps in transforming the analog data of finger print to digital data.

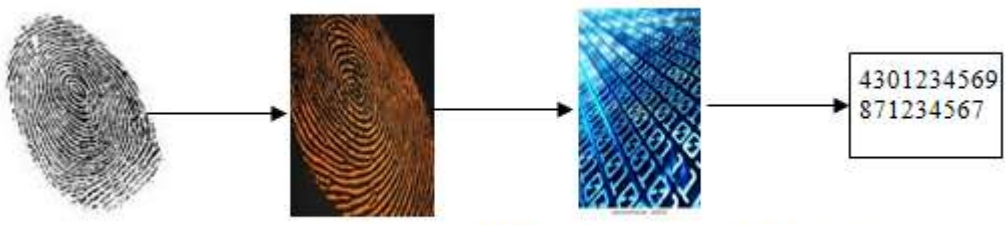

Fig 1: Conversions from Analog to Digital Form

We normally see many institutions take the attendance of the students manually on the registers provided. These need to be stores for many years. Maintaining the register for many years will be a critical task. So we are proposing this system which gives information about the attendance system for the college. Here we are using finger print module to perform the activity of receiving the data from the student. This received data should be

compared with the in-built data of the students. When the match occurs then automatically we would open thetext file and we would note down the enter time of the student.

Finger print module is used in this project because finger prints of the ten fingers of the same person difference from each other. These finger prints also vary from the one person to another. So we are using this process for identification process.

II.PREVIOUS WORK

Initially in the previous versions we used to take down the attendances of the students on the piece of paper. And after one month that would be displayed on the notice board. Then again at the end of that particular year they are going to check whether the student had satisfied the institution rules or not.

Then after that they used the Radio frequency Identification cards to calculate the student attendances. In case of RFID, each and every student is given with a card, when he enters into the class he need to show the card to the reader placed at the entrance, then when the card number matches with the in-built card numbers, then it is going to store the card number with the student name. Here only student name is stored, when you want to store the time and date we need to use RTC to store the time and date.

This information is being recorded into the data base, but the main disadvantage of this project is that the card can be carried by anyone. If one person's card is shown by another person, whether that person is present or not the reader is going to calculate the attendance for that student. One more disadvantage of this project is that if the student has lost the card, then the student attendance will be lost.

One more procedure in the identification process isface recognizing process. But in this process we require very expensive equipment. So this process is not used in present day. For easy use and less expensive we are going to use this finger print module to perform the task of reading the fingerprints of the students. By utilizing the Visual Basic software we are going to load the data of the students with the time and date.

III.SYSTEM REQUIREMENT

3.1 Finger Print

Fig2: Fingerprint

This finger print module is used to accept the data from the teacher/students. It is used to mark the attendance of the students. The person's name is displayed on the LCD screen. It is going to identify the person with the fingerprint. Later on the attendance of the person is being updated. This module is used for the process of

comparison. It has a huge capacity of storing the fingerprints of all students in the class. That is the reason why this device is widely used. One more advantage of this project is that it is easy to hack the finger print module data. Only the authorized person finger print will be matched to data.

3.2 LCD

This is one of the output devices, which is used to perform the activities of displaying the data. It is used to display the alphabets, numerals, special characters etc. in our project it is used to display the candidate name. If the fingerprint does not match with the in-built one, then it is going to display that finger print mismatch and going to ask candidate to place his fingerprint again for correct scanning.

Fig 3: LCD Display

It is going to indicate that the user have to again place his finger on the module.

3.3 VB Basic Software

VB software is a GUI (Graphical User Interface). Developed by the Microsoft for performing the COM based programming for their associated development environment. It was derived from BASIC and enables the rapid application development (RAD). It is mainly used for the purpose of storing the data in the database, or reading the data from the database by using DAO, RDO, OR ADO. When coming to purpose of scripting language VBA and VBScript are similar to user, but when coming to performances both differ. A program written in the Visual Basic can also be used in Windows API, with the help of external function declaration.

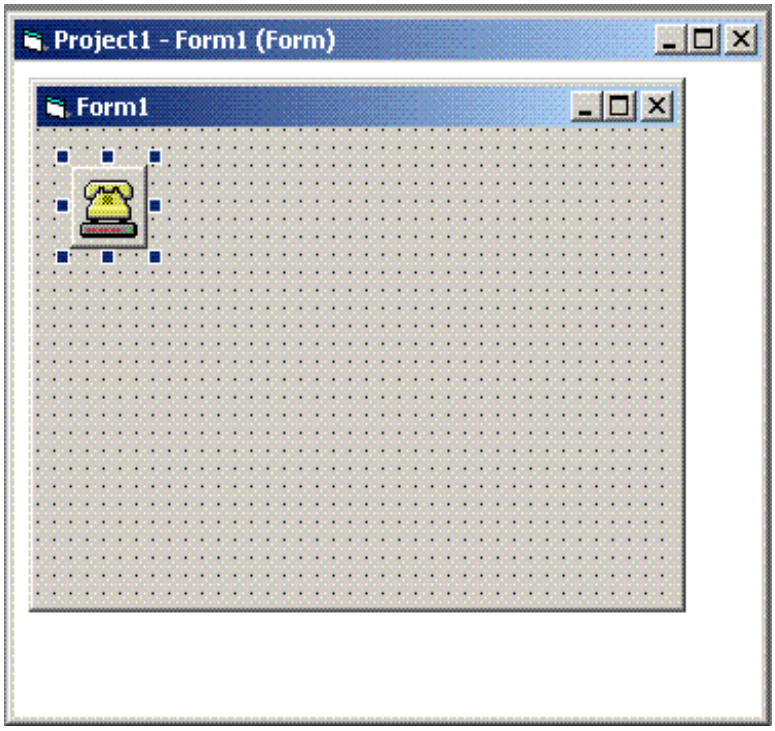

Fig 4: Basic Block in the Visual Basics

IV.BLOCK DIAGRAM

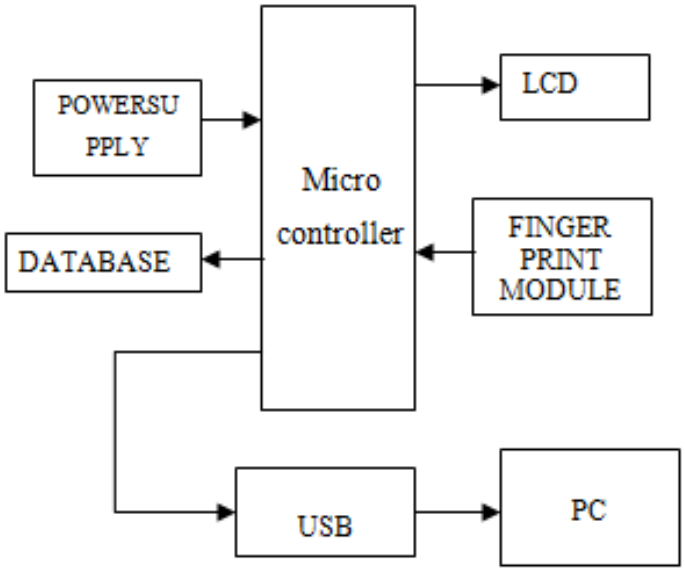

Fig 5: Block Diagram of the Proposed System

The Block Diagram describes overall modules includes like PIC16F877A, Fingerprint Module, Database and LCD. TheMicrocontroller (PIC16F877A) is plays important role in our project.PIC16F877A is a8 bit microcontroller .It has several features compare to different controller like 8051, AVR Microcontroller etc. The additional features like multiple UART, ADC,EPROM, I2C, and SPI Protocols It is a RISC architecture based on instruction set. It consists of on chip RAM 338B and flash memory 8kb. It provides less power consumption and performs high speed.

4.1 System Description

Our project gives information about the working procedure of the attendance system. We have many procedures based upon attendance system, but here we are using new type of system with the help fingerprint module. With the help of the finger Print scanner, we are going to take the fingerprints of the students. With that received data the module is going to perform the operation of comparison with the in-built fingerprints. That data would be passed to the controller, if the match occurs with any of the data then the controller is going to display the name of the person on the LCD screen. Let us consider if the match doesn't occur then the controller is going to ask the person to again provide the fingerprint. If it mismatches again, then it is going to display that out of data.

When the match has occurred then the person name is being displayed on the LCD, and with the VISUAL BASICS software, we are going to open the notepad and store the person's name with the time and date.
Thus we have performed the required action of accepting the finger print data from the student and updating his attendance into the database.

4.2 Flow Chart

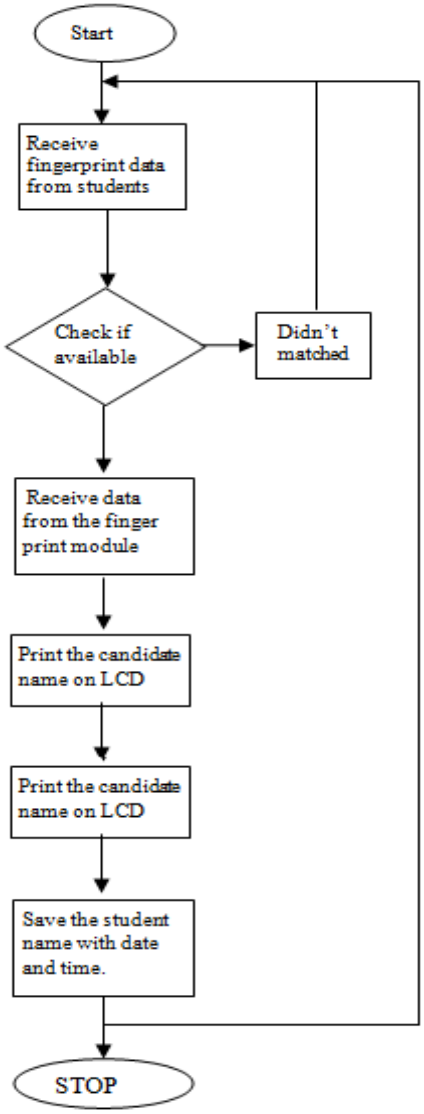

Fig 6: Flow Chart for the Project.

4.3 Schematic Diagram

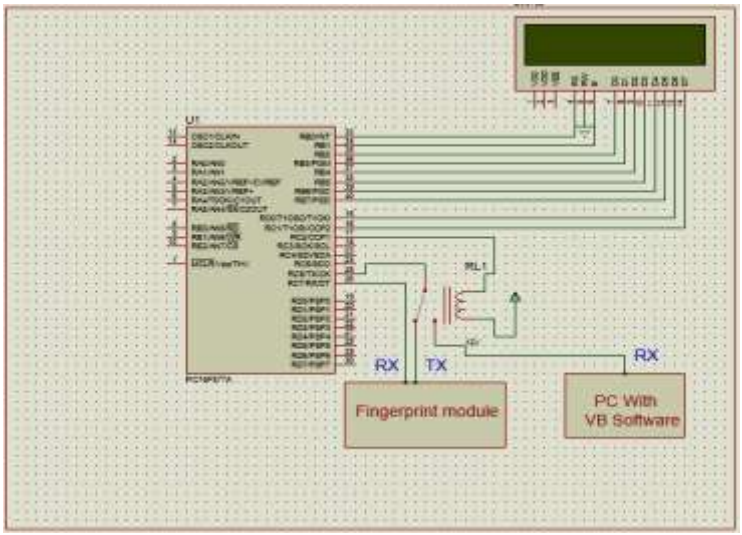

Fig7: Schematic Diagram for Overall Project

V.RESULT

We have observed the output of our project practically by testing in a class of 60 students. Out of 60 students we have tried to access their in-time, when we have checked the database, we have correctly received the data of 55 students.

Those 55 students' names and their entry time with date are stored in the database.

Remaining 5 students' data was not recorded; problem could be they have not placed their fingers properly on the scanner.

The below table gives information about the accuracy of the scanner which has taken the fingerprints of the students.

No. of students	No. of student attendance not counted	Successful Identification	Unsuccessful Identification	Accuracy
60	05	55	05	91.26%

Fig: 8 Attendance Accuracy

With the above table we can observe that our scanner has performed the operation of finger print scanning with the accuracy of 91.2%.

VI.CONCLUSION

Thus we can conclude from the above project that we have performed fast, secure, very efficient system with reliable source. We have provided a new approach to the system to get away from those old manual systems of attendance storage. It is also easy process to store the fingerprints of the new comers very easily. Maintaining the database also been easy using this concept.

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