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WIRELESS FINGERPRINT AUTHENTICATION USING WEBPAGE BASED ON IOT TECHNOLOGY

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ABSTRACT- *The fingerprint based bank locker system is an old-fashioned bank locker system that uses keys. Now keys can easily stolen or made by thieves and can also be lost due to some inattention. Well fingerprint based bank locker system is a newly proposed system to solve all these issues. The fingerprint valid bank locker system is safe as well as easy to use and maintain. No needs to worry about key getting lost. Here we give two different fingerprints from two fingers. The system uses fingerprint sensing to read fingerprints and first store recorded fingerprints against the bank locker record. Now next time a person scans finger the sensor reads it and compares it with previous records. Now if match is found with existing fingerprints, it sends the match signal to the microcontroller. Here the advantages of a design method of wireless fingerprint appearance system based on iot technology we can easily monitor the person's presence. Now the microcontroller gets the information and the result is showed using some indicator and the information is displayed on webpage. When the Finger print is matched with the exact person the data update in the web site. And also the microcontroller is here to drives the driver motor for to open the door of bank locker opens it for valid customers otherwise the locker's door can't open for invalid person.*

KEYWORDS: *Biometrics, fingerprint, arduino, microcontroller, IOT technology.*

I. INTRODUCTION

Theft is one of the major problem in today's world, places like schools, colleges, offices, etc should be secure. To reduce these incidents, different techniques to secure belongings and documents were done. Most peoples use lockers for securing important documents, files and other personal belongings for privacy and security purpose. Some lockers are used simple padlocks which have multiple keys and can be used by number of users. These types of padlocks do not guarantee full security and safety to the personal belongings and documents as they can be break by applying come force. So the BIOMETRICS came as the most effective method for protection of the personal belongings and documents. It is considered as most effective method when we talk about security. BIOMETRIC is a technique used to in recognise the attributes of human like eyes, face, hand geometry, etc but in our project we are using fingerprint for the verification. As fingerprint recognition is simple and easy to use and the duplication of fingerprint is like impossible. BIOMETRIC data are varies from person to person so there is no worry of same patterns. The organization of the paper is as follows first of allit come literature review, in which we discussed about some published paper. After this we discussed about the problems identification, in this we discussed about the problems related to various locking systems. Then we come at design and implementation of the project, after this result is discussed then conclusion and in the last we discussed about future scope.

II. LITERATURE SURVEY:

TITLE 1:GPS Enabled Employee Registration and Attendance Tracking System 18dec 2015
AUTHORS: Md. SabeelurRahman.K ,Avinaash Ram S.P
ABSTRACT:GPS enables a management to maintain Staff attendance and employee registration through mobile application, this application facilitates the staffs to login through mobile phone and track other staff members' whereabouts through mobile phone. The admin can track the location of any staff member using latitude, longitude and IMSI number.

TITLE 2:Student Attendance Management System with Bluetooth Low Energy Beacon and Android Devices 2sep 2015
AUTHORS: shota Noguchi MichitoshiNiiboriErjing Zhou, Masaru Kamada
ABSTRACT: In order to spoil cheating students who try to resister their attendance illegally from outside the classroom, we employ a BLE (Bluetooth Low Energy) beacon device to transmit a magic number necessary for proper registration within the classroom.

TITLE 3:A Web Enabled Secured System for Attendance Monitoring and Real (RFID) Technology july 2014
AUTHORS: Srinidhi MB, Romil Roy
ABSTRACT: The main purpose of this paper is to develop a safe and secure web based attendance monitoring system using Biometrics and Radio Frequency Identification (RFID) Technology based on multi-tier architecture, for both computers and smart phones. The system can maintain the attendance records of both students and teachers/staff members of an institution.

TITLE 4:Autonomous monitoring and attendance system using Inertial Navigation System and GPRS in predefined locations 18-21dec,2014
AUTHORS: SudheerKumar,OmPrakashkumar and Dr.G.Anitha
ABSTRACT: This paper proposes an idea for monitoring persons in environments where GPS signals can't be reached such as inside of buildings. The person to be monitored has to carry the card which consists of Inertial Navigation System (INS) and GPRS modules. The card gives the position of the person in latitude longitude and altitude. area can be noted, which can be used for attendance in organization etc.

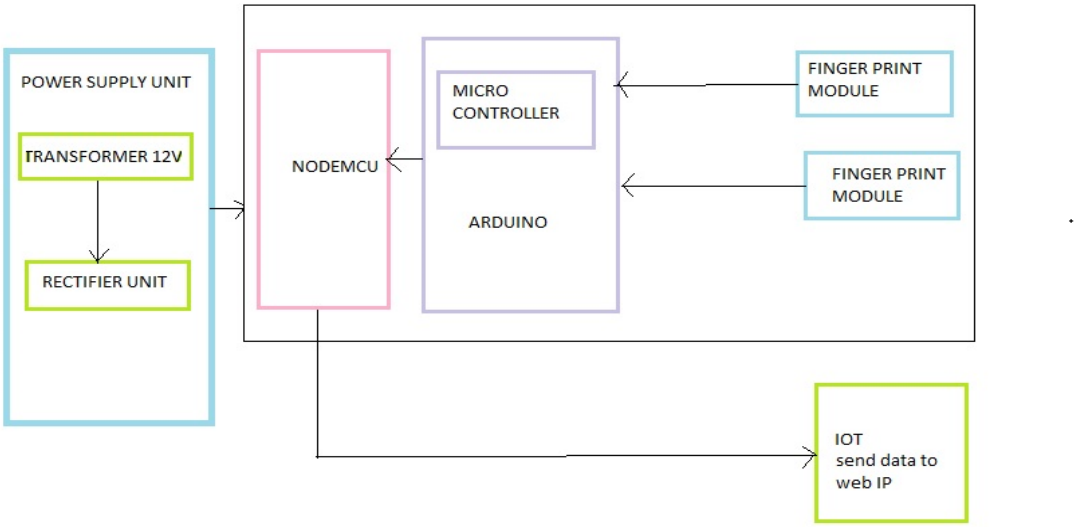
III. EXISTING SYSTEM

In the existing system they mostly used key based approach to open the locker. Master key and another key is there. .Master key is handled by branch manager and cashier of the bank and another key is within customer. Whenever the customer want to open the bank locker means that person need to sign eachtime and the records are manually maintained in the banks. Initially the customer register his/her name after they go to locker room and the customer opens by inserting his key and master key is inserted by bank officer. And the customer must wait for the bank officers to access locker. Sometimes,The bank officers comes whenever they free and whenever they finish their work they are busy in some other works. The disadvantages are Easily vulnerable to the attacker.Traditional approach based on the key only. Can't beable to monitor during untime.

IV. PROPOSED SYSTEM

By the disadvantages of wired fingerprint bank locker system, a wireless fingerprint system based on IOT technology is established. This system includes the fingerprint acquisition module, microcontroller, Bank locker management workstation (WEB PAGE). The finger print acquisition module is used to collect the fingerprints this data is Processed within the microcontroller and transmitted to the web page. This system holds IOT wireless technology and Bank locker management. We can easily observe the person's presence. If the fingerprint of the individual under test is proved to be the same then the data is sent to the microcontroller. Now the microcontroller gets the information and the result is indicated using some indicator and the information is displayed on web page. When the Finger print is matched the person will get access to open the bank locker, otherwise it will not open. In other words the authentication is provided by the Fingerprint.

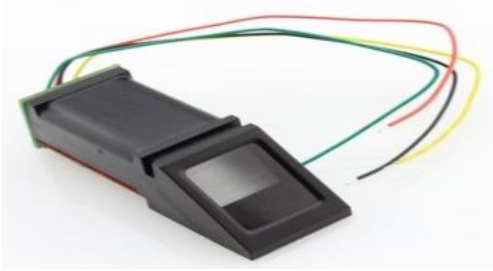
V. BLOCK DIAGRAM:



WORKING PRINCIPLE:
Here we give two different fingerprints in a two finger print modules. the given fingerprints are stored as a template by generating id.When the user want to access means the user enters the two same fingerprints which was given during enrolment in a fingerprint module and the signal pass to the microcontroller that gets information from sensor and process on it. It compares the received data with the threshold level set and accordingly output is generated.The arduino contains embedded coding for comparing the received fingerprints which the fingerprints already stored .if matches with existing fingerprint id means give access to open locker and signal sends to nodemcu.The nodemcu is a wifi module to monitor the status opened or closed and if open means opened timing record updates within every three seconds.

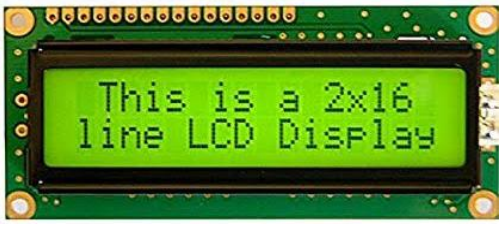
VI. HARDWARE DESCRIPTION:

FINGERPRINT MODULE:
In fingerprint module fingerprint enrolment and fingerprint matching are the two types of fingerprint processing. The user needs to enter the finger two times during the time of enrolment. The enrolled fingerprint was process the two time finger images, generate a template of the finger based on processing results and store the template.For matching, system will compare the current given fingerprint with already existing fingerprint. The system will search the whole finger library for the matching finger then the system will return the result match or mismatch.



POWER SUPPLY UNIT:
There are two transformers are used for power supply and rectifiers used to convert AC current to DC current give protection from excessive voltages.

LCD:
The LCD display unit is used to display the commands like place the finger, stored,verified.



MICROCONTROLLER:
Microcontroller is a small integrated circuit device. It used to control automatic devices. Mainly designed for embedded applications. It gets information from sensor and process on it. It compares the received data with the threshold level set and accordingly output is generated.

MICROCONTROLLER
ARDUINO BOARD

VII. SOFTWARE DESCRIPTION:

WEB PAGE MONITORING SYSTEM MODULE:-

1USER AUTHENTICATION:

Here For the first time the user should sign up And then the user should login into the web page to monitor the overall status The login contains the

1. User name
2. Password

2. CHECKING PROGRESS:

After entered user name and password, it checks whether the password is correct or not.
If the given user ID is valid means it allow to access the webpage otherwise, access denied.

3. VIEW STATUS UPDATES:

- The webpage contains current reading,view reading,view report informations
- Currents reading displays the locker is opened or closed
- View reading displays timing of open updates in every three seconds.
- Report informations shows the starting of monitoringdate and ends up date.
- Finally sign out process.

VIII. CONCLUSION:

In this paper, we reviewed some papers which have worked on this project. In our paper we introduced biometric based locker and webpage monitoring system which provide high degree of security. Any unauthorized user will unable to access the locker. We are using fingerprint as the verification system as duplication of fingerprint is like unable. This system is cheap and easy to use. This system can be mounted anywhere and monitor in any place where you need high degree of security. The low cost of the project is a very important factor in this project. This locker is very reliable and safe.

IX. REFERENCE:

- Evaluation Report Biometrics Trial 2b or not 2b," Dutch Ministry of the Interior and Kingdom Relations, Tech. Rep., 2004, dematerialisedid.com/PDFs/88 630 file.pdf.
- J. Schneider, "Quantifying the dermatoglyphic growth patterns inchildren through adolescence," Ultra-Scan Corporation, Tech. Rep.FR00A178000-1, 2010.
- "Fingerprint Recognition for Children," Joint ResearchCenter of the European Commission, Tech. Rep., 2013,
- H. Cummins and C. Midlo, Finger prints, Palms and Soles: An Introduction to Dermatoglyphics. Dover Publications New York, 1961, vol.319.
- L. S. Penrose and P. T. Ohara, "The development of the epidermal ridges." Journal of Medical Genetics, vol. 10, no. 3, p. 201, 1973.
- M. Okajima, "Development of dermal ridges in the fetus," Journal of Medical Genetics, vol. 12, no. 3, pp. 243–250, 1975.
- H. Faulds, "On the Skin-Furrows of the Hand," Nature, vol. 22, p. 605, 1880.
- W. J. Herschel,The Origins of Fingerprinting. Oxford University Press,1916.
- S. Pankanti, S. Prabhakar, and A. K. Jain, "On the individuality offingerprints," IEEE Transactions on Pattern Analysis and Machine vol. Intelligence, 24,no.8,pp.1010-1025,2002.
- Y. Zhu, S. C. Dass, and A. K. Jain, "Statistical models for assessing the individuality of fingerprints," IEEE Transactions on Information.

