

Fingerprint Recognition with Monitoring on Remote Whats App

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Abstract :-Finger print recognition is more popular attending system mostly used in many offices as it provides more accuracy. Machinery also system software based finger print recognition systems are mostly used. But its real time monitoring and remote intimation is not performed until now if wrong person is entering. Instant reporting to officer is necessary for maintaining absence/presence of staff members. This automatic reporting is necessary as officer may be remotely available. So, fingerprint identification based attendance system is proposed with real time remote monitoring. Proposed system requires Finger print sensor, data acquisition system for it, Processor (ARM 11), Ethernet/Wi-Fi Interface for Internet access and Smart phone for monitoring. WhatsApp is generally used by most of peoples and is easily accessible to all so generally preferred in this work. ARM 11 is necessary as it requires the Internet connection for What's App data transfer.

Keywords: *What's App, ARM11 processer kit, Raspberry Pi Module, Wi-Fi.*

1. INTRODUCTION

Fingerprint identification is one of the most customary and popular biometric techniques [1]. Because of their uniqueness and consistency over time, fingerprints have been handed-down for identification for over a century [2]. Here we can used the same but little different technique we can used advanced technique using what's app [3]. Because mostly we used generally real time monitoring system remotely but many times due to use this systems remote intimation not properly work if wrong person is entered that's why to overcome this problem fingerprint recognition using what's app is used with the help of real time monitoring system[4].

2. RELATED WORK

Miller B [1] et.al. introduced Vital signs of identity [biometrics] that describes the range of biometric systems in development including: handwriting; fingerprints; iris patterns; human faces; and speech.

Hernández et.al [2] proposed an organization of speaker recognition voice based on GMM system. Using the several databases recorded in several sessions in system to regulate the immense effects that the speech variability with time has in the recognition rate system.

Yoho, S.K.Lai et.al [3] developed such a system Image based fingerprint verification that describes human fingerprints have been considered as a isolated signature certifying one's identity. This investigates fingerprint-scanned image verification via an reverse fast Fourier transform after a thinning activity.

Scotti[4] et.al author investigate new process to suitably process the camera images of fingertips in order to produce images which are as similar as possible to the ones coming from dedicated sensors. The effects of different registration algorithms on the identification accuracy are also discussed and the concluding system has been compared with the use of commercial dedicated sensors.

Milan Scotti, F et.al [5] proposes a fundamentally Time-sensitive behavior dynamics in multimedia fingerprinting

popular networks. Multimedia social openwork is a openwork infrastructure in which the social network members share multimedia contents with all different reason. Analyzing user behavior in multimedia social networks help design more secured and efficient multimedia and networking systems

Jincheng Yang et.al introduced Entropy-based location fingerprinting for WLAN systems[6]. Localization for indoor environments has gained considerable concentration over the last decade due to the enormous potential in the technology and the important challenges interfacing this area of research. International publication of Emerging Trends & Technology in Computer Science (IJETTCS) demonstrated [5] the Touch less fingerprint sensing technologies that have been developed to interpret problems in touch-based sensing techniques because they do not require any communication between a sensor and a finger.

Otto-von-Guericke et.al represents the [8], Feature space fusion and feature selection for an enhanced robustness of the fingerprint faking detection for printed simulated sweat. The results of the Stir Trace-based benchmarking of the recognition of printed fingerprints indicate improved detection accuracies for several simulated influences.

3. PROBLEM STATEMENT

Existing system requires the officer to be present in his office for checking the attendance of the members. But the system to be developed should intimate at remote places with minimum efforts. WhatsApp is generally used by many persons so can be used as monitoring device remotely. Any illegal and unauthenticated entry and exit is needed to intimate immediately.

4. PROPOSED SYSTEM

To overcome the problems of physical cross checking of attendance monitoring the entry and exist of the unknown persons visually, immediate reporting of late comers and entry and exist, in timing at remote places with minimum

efforts, and illegal and unauthenticated entry and exist, a system is needed to develop based on high speed processors with minimum cost

WhatsApp can be utilized for alerting the specific condition in office through emergency messaging. This is unique and mostly used biometric identity but few of them used remote monitoring of these identity. When the particular administrator is out of station, he cannot monitor the attendance easily. Specific alerting system is needed to attract the attention of administrator in specific condition like faulty entry or faulty attendance or late attendance.

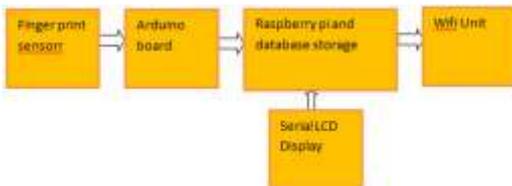


Figure 1: Overall Architecture of Proposed System

Above figure shows the flow of system. It includes finger print sensing using Arduino board. A specific Arduino ATMELE processor can be used for sensing and recognition of person as the algorithm for recognition is needed to access from dedicated circuitry. Raspberry pi is needed to process the recognize data, to maintain the database and to send the data to accessing devices wirelessly like remote terminal or WhatsApp terminal. Wi-Fi dongle can be used to get internet access for raspberry pi board. As Arduino can process slowly to internet, raspberry pi can be used for fast processing with it. Any display can be used but HDMI screen display can be used for clear view of results.

5. FLOWCHART AND ALGORITHM

5.1 Flowchart

The system flow is given in figure 2.

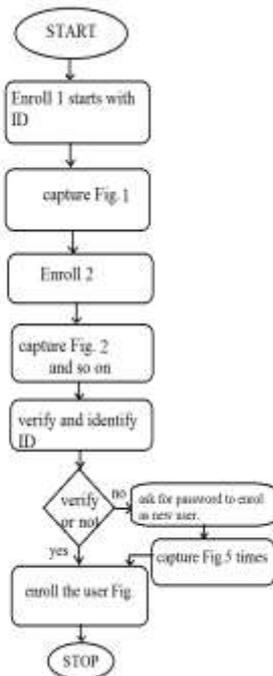


Figure 2: Flow Chart

5.2 Algorithmic steps

1. Start
2. Raspberry Pi Configuration
3. Enroll Start with a (not used) ID
4. Capture Finger
5. Enroll1
6. Wait to take off the finger using Is Press Finger
7. Capture Finger
8. Enroll2
9. Wait to take off the finger using Is Press Finger
10. Capture Finger
11. Enroll3
12. Verify and Identify ID
13. If not verified, ask for password to enroll as new user.
14. Capture finger 5 times (put finger on scanner 5 times), it is a password for unknown user.
15. After 5th capture, it enroll the user finger.
16. Go to 2) for capture and verification of enrolled ID.
17. Stop

6. EXPERIMENTAL RESULTS

The module for finger print identification is shown in figure below.



Figure 3: Module for fingerprint identification

Above fig. shows connections for the fingerprint identification using raspberry pi kit.

The display interface in yellow color and the finger print scanner in blue color are as shown in following figure.



Figure 4: difference between display interface and fingerprint scanner

The circuit bellow is showing interface between Arduino Uno and Raspberry pi.



Figure 5: Interfacing between Arduino Uno and Raspberry pi

The serial display interfaced to Arduino Uno using only 3 wires and the Raspberry pi board interfacing is shown below.



Figure 5: Interfaced to Arduino Uno using only 3 wires

The finger is pressed on the fingerprint sensor to identify using system and display is showing the identified id of finger



Figure 6: showing the identified id of finger on display



Figure 7: Verified ID

If finger is not identified the it will display the id 200 and it will ask for Try to Enroll. The specific enrolling method is implemented in our system.

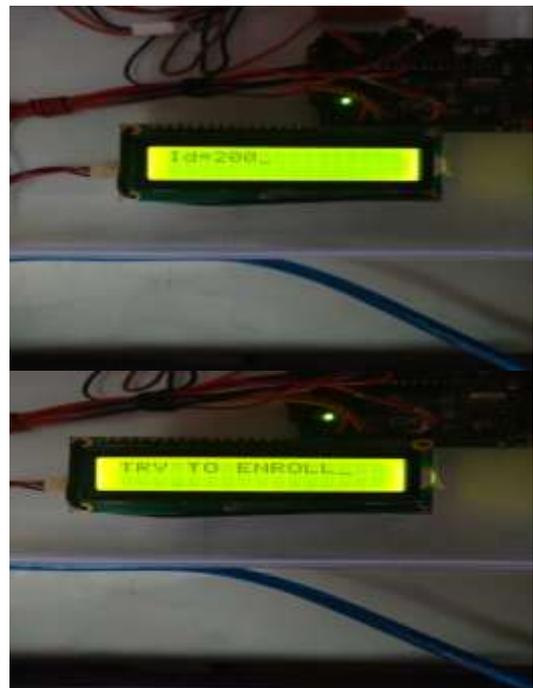


Figure 8: Displaying ID if ID is not correct then display try to enroll

7. CONCLUSION

Observing the results we can conclude that the fingerprint identification is one of the most well-known and publicized biometrics. Since developed in computing capabilities, biometric become popular in identifying correct personal. Fingerprint finding out is popular because of the essential service in purchase, the numerous sources (ten fingers) available for collection, and their accepted use and collections by law application and immigration. Prevailing methods of human identification based on papers (identification documents and PIN) are not able to meet the growing demands for stringent protection in applications such as national ID cards, border interchange, government benefits, and access control.

But WhatsApp can be utilized for alerting the specific condition in office through emergency messaging. This is unique and mostly used biometric identity but few of them used remote monitoring of these identity. When the particular administrator is out of station, he cannot monitor the attendance easily. Specific alerting system is needed to attract the attention of administrator in specific condition like faulty entry or faulty attendance or late attendance.

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