

## WhatsApp based Automatic Embedded Attendance System

Miss. Ashwini C. Ingle  
E&TC department  
Godavari College of Engineering  
Jalgaon, India  
ashwiniingle28@gmail.com

Mr. Ishwar S. Jadhav  
E&TC department  
Godavari College of Engineering  
Jalgaon, India  
ishwar.jadhav@rediffmail.com

Dr. K. P. Rane (H.O.D)  
E&TC department  
Godavari College of Engineering  
Jalgaon, India  
kantiprane@rediffmail.com

**Abstract:** this paper presents the Real time remote monitoring and attendance record monitoring is necessary in today's life as there are many more offices and branches under one person. He is generally responsible for availability of his staff members in office. Such persons may be remotely available. So to handle such cases, automatic attendance system with alerting facility to remote person is proposed in this work. Its general requirement is to identify the Rfid card with personal face monitoring. For cross check, the face image and his identity has to send to authorized person through WhatsApp. WhatsApp is today's mostly used android application for instant message communication. We can use this application for remote monitoring the face and attendance with date, time and place. WhatsApp based attendance is compulsory (in Jilha Parishad in Maharashtra), in which user has to take his photo at the time of entry in office with office background and has to send to his officer. Instead of that one has to stand in front of this proposed system, he has to show Rfid card to system, it will take his photo and will send the photo to officer. This will be the good alternative to Jilha Parishad Attendance system.

**Keywords-** RFID card, WhatsApp, Automatic Attendance.

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### I. INTRODUCTION

Automatic attendance and authenticating system is used at many places like school, colleges and in various offices. It generally uses fingerprint identification system and can record the attendance which can be printed through computer interface [1]. Here we can use the same but for manual cross check is needed in many cases. Cross check is electronically possible with the use of camera based monitoring. This can be used for student's attendance in class or hostels [2]. Many times it is need to monitor visually the entry and exist of the unknown persons to find his authenticity. At many places visitors are given the passes with RFID cards for entry and exit through various gates [3]. But while entering and exit, the particular officer or security officer is needed to observe it immediately. IP camera based system is already available but it doesn't provide any entry and exit intimation. To get intimation from entry or exit of unknown person or may be for all entry, the specific system is needed to develop [4]. Automatic in/out record of members can be kept by existing systems but immediate reporting of late comers and uneven entry and exit of the members can be automatically given to the officer.

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 [5]. 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 [6].

### II. PROPOSED SYSTEM

To overcome the problems of manual cross checking of attendance monitoring the entry and exist of the unknown persons visually, immediate reporting of late comers and uneven entry and exit, intimating at remote places with minimum efforts, and illegal and unauthenticated entry and exit, a system is needed to develop based on high speed processors with minimum cost.

### III. PROPOSED METHODOLOGY

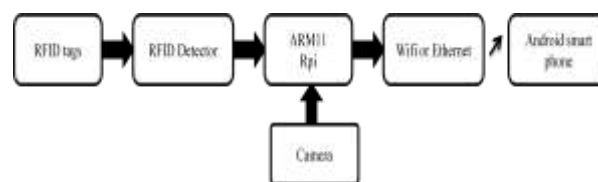


Fig1. Block diagram

Above figure1 shows the block diagram of actual project. To handle various in automatic attendance system (as shown in above diagram) with alerting and intimating facilities to remote person immediately is proposed. It can involve RFID authentication with real time visual monitoring. RFID authentication is normally used at many places. It can get details of person from database. With these details the real time photograph can be added and the combined data can be used for immediate intimation. Cross can be performed by security officer manually. Monitoring is possible using WhatsApp as it is mostly used by all for instant messaging. This system can includes hardware like RFID ID cards, RFID reader, camera interface, Processor, wifi or Ethernet interface and the smart phone with WhatsApp application

### IV. HARDWARE DESCRIPTION



Fig 2: Snapshot of the proposed Model



Above figure 6 shows the symbol of WhatsApp for android phone. WhatsApp utilizes a modified adaptation of the open standard Extensible Messaging and Presence Protocol (XMPP) Upon establishment, it makes a client account utilizing one's phone number as the username. WhatsApp programming naturally thinks about all the telephone numbers from the contraption's area book with its central database of WhatsApp clients to consequently add contacts to the client's WhatsApp contact list. Beforehand the Android and S40 adaptations utilized a MD5-hashed, turned around variant of the telephone's IMEI as secret word while the iOS rendition utilized the telephone's Wi-Fi MAC address rather than IMEI. A 2012 overhaul now creates an arbitrary watchword on the server side. Some Dual SIM gadgets may not be perfect with WhatsApp; however there are some workarounds for this.

## V. SOFTWARE DEVELOPMENT

### A. Python

Python is a broadly used general-purpose, excessive-degree programming language. Its design. Philosophy emphasizes code readability, and its syntax allows programmers to explicit principles in fewer traces of code than could be possible in languages such as C++ or Java. The language offers constructs supposed to permit clean packages on each a small and big scale. Python helps more than one programming paradigms, which include object-orientated, imperative and purposeful programming or procedural patterns. It capabilities a dynamic type device and automatic memory control and has a huge and comprehensive popular library [8].

### B. Raspbian Wheezy

Maintained autonomously of the Foundation in view of the ARM hard-skin (arch) Debian 7 "Wheezy" engineering port initially intended for ARMv7 and later processors aggregated for the more constrained ARMv6 guideline set of the Raspberry Pi. A base size of 2 GB SD card is required, yet a 4 GB SD card or above is suggested. There is Pi store for trade the projects.

The Raspbian Server Edition is a stripped rendition with other programming bundles packaged when contrasted with the typical desktop PC arranged Raspbian. The Wayland show server convention empower the productive utilization of the GPU for equipment quickened GUI drawing capacities Raspbian for Robots - A fork of Raspbian for apply autonomy ventures with LEGO, Grove, and Adriano

### C. Algorithm

- 1) Initialize the RFID reader, camera and WhatsApp.
- 2) When the RFID tag is sensed by rfid reader, it reads the unique id of the tag.
- 3) Display id on screen. Stores the data in database file with date and time.
- 4) Captures the image by pi camera.
- 5) Sends it to WhatsApp of the authorized person.
- 6) Repeat the process from step 2) to step 5) for other persons with corresponding RF tags.

### A. Algorithm Explanation

The RFID reader, camera and WhatsApp is initialize with RFID tag and RFID tag is send by RFID reader, it required unique id of the tag when the rfid reads the unique id it display on screen and store the data in data base file. At that time camera captures the image with the help of pi camera and sends that image to WhatsApp whose number is register. And repeat all these process other person.

## VI.RESULT



Fig 7: Snapshot of the output generating on the WhatsApp

## VII.CONCLUSION

Zp school teacher's attendance in Jalgaon district is made compulsory using smart pranali with the use of WhatsApp. It requires every teacher to send the photo to the Zp officer daily using WhatsApp. Rather than using own handset, a system is designed which can be added to every school so that every teacher don't need smart phone to use, don't need to use own data pack for sending the WhatsApp image message. It can be automatically send by this system. Many strikes were made to escape from this compulsion of this type of attendance by the teachers as they required more efforts to work with this smart pranali. This problem will be definitely solved by adding this system to Zp schools.

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## REFERENCES

- [1] Noorhuzaimi, M.N., Junaida, S.; Noraziah, A.; Huei Chen, K, "E-Visitor Information management System (E-VIMS) using MyKad," Applications of Digital Information and Web Technologies, 2008. ICADIWT 2008. First International Conference on the, 4-6 Aug. 2008, Page(s): 44 – 49.
- [2] Satari, B.S.; Abd Rahman, N.A.; Zainal Abidin, Z.M., "Face recognition for security efficiency in managing and monitoring visitors of an organization," Biometrics and Security Technologies (ISBAST), 2014 International Symposium on, 26-27 Aug. 2014, 95 – 101.

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- [3] Shao Xiwen, “RFID technology-based museum ticketing and visitor management systems,” Information Management, Innovation Management and Industrial Engineering (ICII), 2013 6<sup>th</sup> International Conference on (Volume: 3), 23-24, Nov. 2013, 304 – 306.
  - [4] Anwar, N. ; Masrek, M.N. ; Rambli, Y.R., “Visitor Management system by applying the model of UTAUT,” Business, Engineering and Industrial Applications (ISBEIA), 2012 IEEE Symposium on ,23-26 Sept. 2012, 223 – 228.
  - [5] <https://www.raspberrypi.org/documentation/usage/python/>
  - [6] Jain, S. ; Dept. of Electr. & Electron. Eng., Maharaja Agrasen Inst. of Technol., New Delhi, India ; Vaibhav, A. ; Goyal, L., “Raspberry Pi based interactive home automation system through E-mail”, Optimization, Reliability, and Information Technology (ICROIT), 2014 International Conference on ,6-8 Feb. 2014, 277 – 280.
  - [7] Prabha, S.S. ; Antony, A.J.P. ; Meena, M.J. ; Pandian, S.R., “Smart cloud robot using raspberry Pi”, Recent Trends in Information Technology (ICRTIT), 2014 International Conference on, 10-12 April 2014, 1 – 5.
  - [8] Fung Po Tso ; White, D.R. ; Jouet, S. ; Singer, J,” The Glasgow Raspberry Pi Cloud: A Scale Model for Cloud Computing Infrastructures ”, Distributed Computing Systems Workshops (ICDCSW), 2013 IEEE 33rd International Conference on 8-11 July 2013, 108 – 112.
  - [9] Metz, Cade (5 April 2016). "Forget Apple vs. the FBI: WhatsApp Just Switched on Encryption for a Billion People". *Wired* (magazine). Condé Nast. Retrieved 13 May 2016.