



International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Website: www.ijircce.com

Vol. 5, Issue 3, March 2017

Advance Wireless Attendance System Using Fingerprint

Suraj Suryawanshi¹, Prasad Jagtap¹, Abhishek Nadgire¹, Diksha Mutha¹, Nivedita Kadam²

B. E Students, Dept. of Computer, GHRCEM, Pune University, Pune, India¹

Assistant Professor, Dept. of Computer, GHRCEM, Pune University, Pune, India²

ABSTRACT: 'Attendance System' is an attendance monitoring and attendance calculation system of an employee. The currently available thumbprint technology Attendance System has several disadvantages. Present Attendance system which still has weaknesses. Long line in front of the attendance system at the time of starting work and time of leaving work. The second one is fraud; employees can ask her/his working associates to do attendance process. Mostly attendance system has not been connected with the payment system in the finance department. An Attendance Monitoring System based on Wi-Fi using a Android phone integrated with payment system that will eliminate all the above problems mentioned. There will not be a line for putting the attendance in front of company machine. Friends cannot put fake attendance. For this system we predict usable smart phones will have fingerprint scanner in future.

KEYWORDS: Wi-Fi, IMEI, AMS, Android Application, Database, Fingerprint

I. INTRODUCTION

We are presenting an attendance system using fingerprint detection and Wi-Fi on android smartphones. The present fingerprint attendance system is a biometric system that uses fingerprint detection method. This biometric fingerprint attendance system was used since 1997. Inventors and creators of this technology realize that very human have different fingerprint gesture. This is the idea of unite the fingerprint into attendance machine. But they are not conscious of the drawback of long line in front of machine. In the starting, attendance system using only paper and perform Attendance manually by calling the name of existing employee listed and marked as present or not present along with the notes. This way is not effective; it would be very time-consuming process.

The first attendance machine was very simple, the employees just inserting the attendance paper or called timesheet into the machine, and the time will be printed on the timesheet. Basically, this attendance machine consists of a manual card slot or hole to insert the timesheet employees and an analogue clock the current time. The time when the employee inserts the card into the slot is what will be printed on the timesheet. Machine also has several drawbacks. The second generation of attendance system is digital attendance machine which is the attendance machine that uses a digital method to record employees' attendance and this system was introduced in 1970. In general, digital attendance machine has a few buttons consisting of numbers and alphabets and a digital display that shows the time or the text to be displayed. Along with the machine, there are number and alphabet keys to allow employees to enter a password. Cheating employees are still likely to occur in the use of digital attendance machine because they may share the PIN with friends to do attendance. And also still there is a long queue.

Lately, it appears attendance machine that using biometric. The biometric attendance is machine attendance that uses biometrics to authenticate employees when the doing the attendance process. Attendance machine is most commonly used now a day [2].

II. RELATED WORK

In this section study of relative technologies has been done. For example, Attendance Management uses username and passwords for authentication. The HR authenticates the user based on username, password and personal information. If user forgets the password; he/she will not be able to access the system [2]. Some attendance systems are based on RFID technology [4,9]. RFID based systems have the drawback that employee have to carry RFID cards.

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Website: www.ijircce.com

Vol. 5, Issue 3, March 2017

Management also has to carry RFID detectors. Geolocationing [5] is the first way to provide location based service. The widely used location technologies are like Global Positioning System (GPS) [1], Wi-Fi [7], Cellular Network [4] and Radio Frequency Identification (RFID). Engineers worked on these technologies for improving the services related to accuracy and environmental effects. Locating accuracy can also be improved by combining two or more location technologies.



Fig1: Application-Database Connectivity

The above diagram shows the connectivity between smart phone and web server through PHP sever. Data accessed from database by application through the PHP web server.

III. PROPOSED SYSTEM

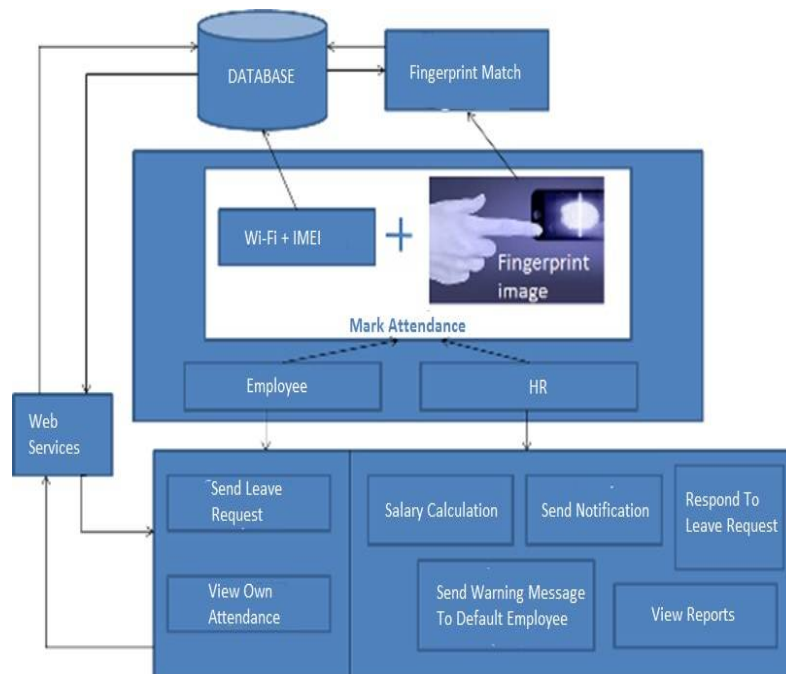


Fig2: System Architecture

The schematic diagram of our attendance system on android smartphone using Wi-Fi and fingerprint is shown in Fig2.

Using this application employee can register for their organization. After successful sing up, employee needs to scan his/her fingerprint and adding GPS location to the database. Database will compare for same fingerprint by using finger- print matching algorithm. If it finds the fingerprint matches and the location is correct, the attendance of

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Website: www.ijircce.com

Vol. 5, Issue 3, March 2017

employee is marked as present. Employee can also request for the leaves based on type of leave. He/she can view his own attendance of the month.

HR can respond to leave requested by the employee. HR has the functionalities like salary calculation, send notification, sending warning message to defaulter employee and can view reports.

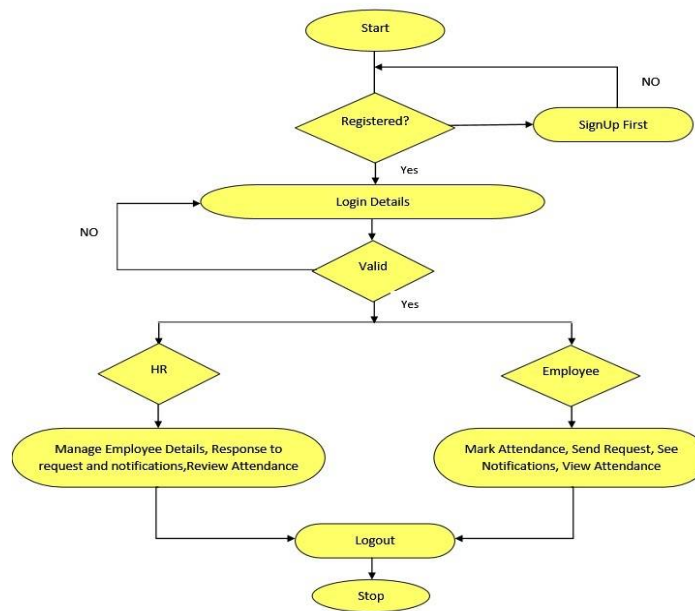


Fig3: System Flow Working

IV. GRAPH FOR USER RATING

This application shows the employee name and his attendance. Rating to attendance is given in three categories good, average and bad. The graph below shows the rating means how many percentages an employee gets after working for a month.

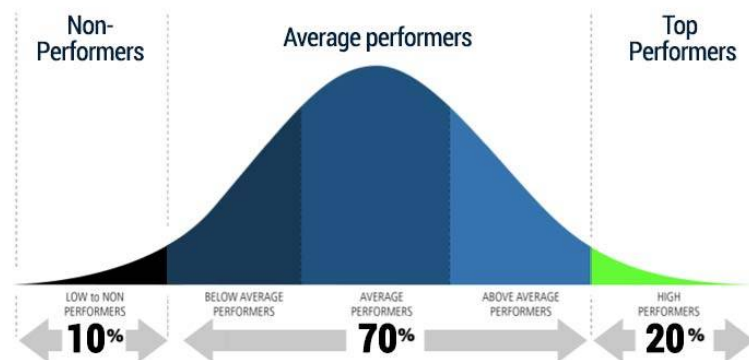


Fig4: User Rating Graph



International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Website: www.ijircce.com

Vol. 5, Issue 3, March 2017

V. USER INTERFACE FOR ATTENDANCE SYSTEM

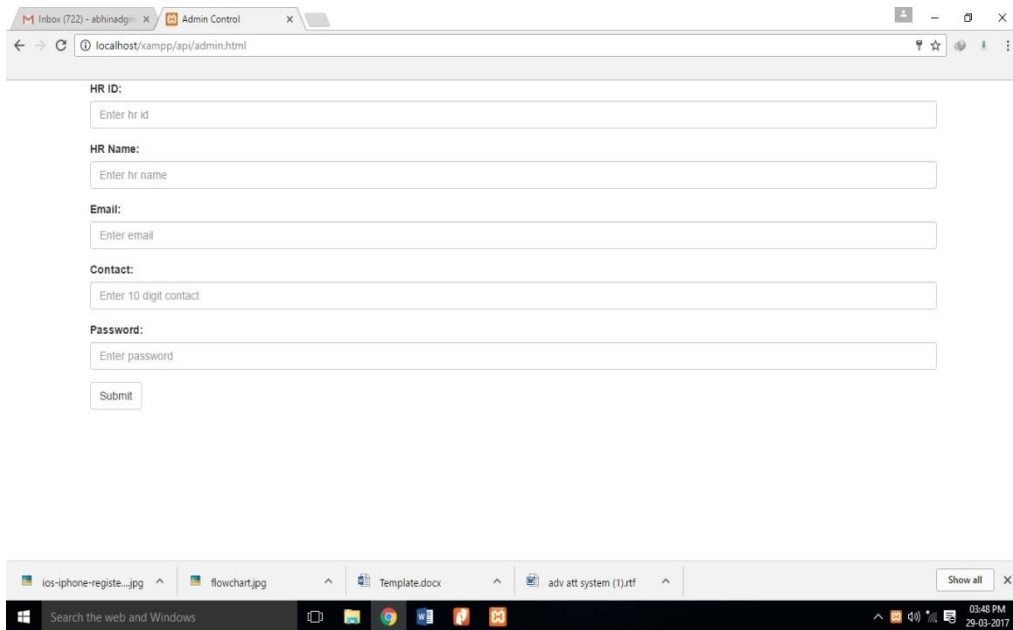


Fig 5: Web page for HR Registration

This web page is simply created only for HR registration. HR does the registration through this web page. For security purpose implement separate web page for HR registration shown by Fig 5.

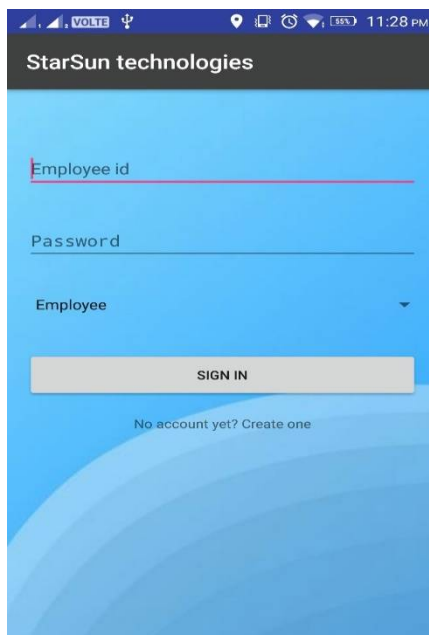


Fig6: Login Page

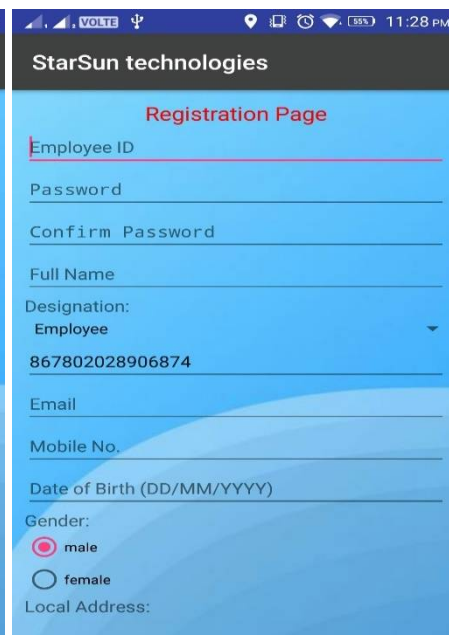


Fig7: Employee Registration Page

The above Fig6 shows login for employee and HR, they are provided with their employee id and password and they

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Website: www.ijircce.com

Vol. 5, Issue 3, March 2017

need to select their designation to successfully login to their respective accounts. The Fig7 shows the registration page to register the employee with the detailed information.

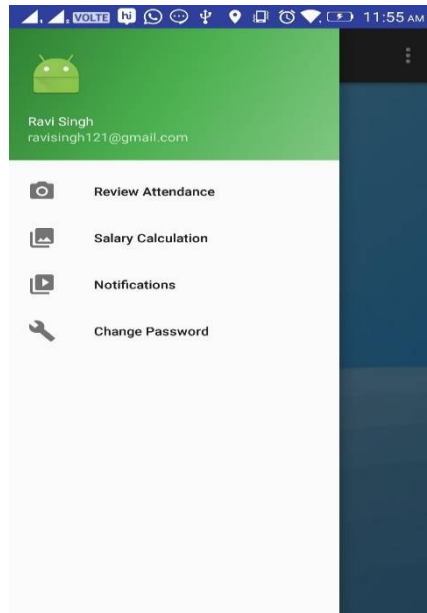


Fig8: HR Authority Page

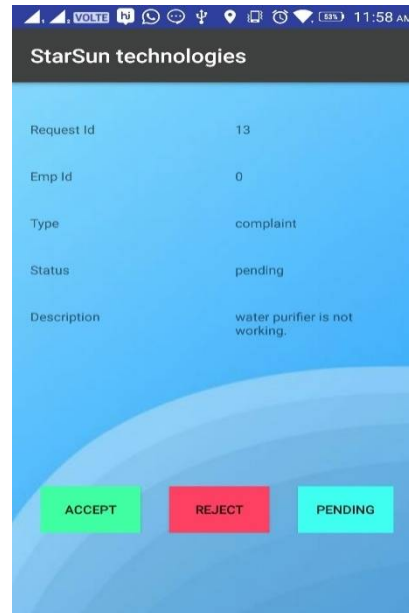


Fig9: HR Notifications

The Fig8 shows the authorities that are given to HR such as Review Attendance, salary calculation, changing password etc. The Fig 9 shows the acceptance, rejection and pending status of request sent by employee. Green color shows acceptance, Red color shows rejection and light blue color shows pending status of request.

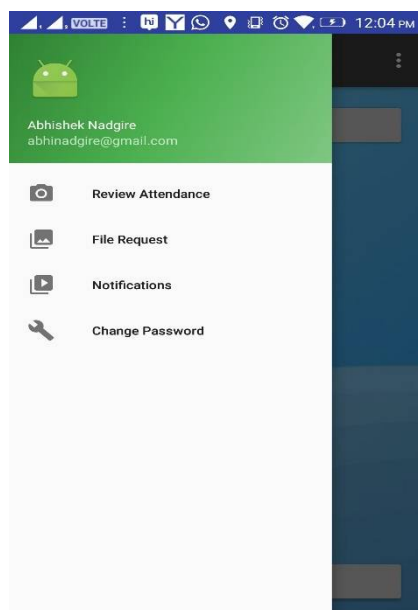


Fig10: Employee Authority Page

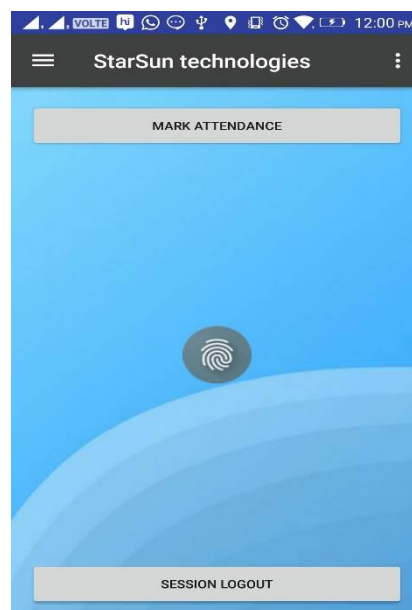


Fig11: Attendance Review



International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Website: www.ijircce.com

Vol. 5, Issue 3, March 2017

The Fig10 shows the authorities that are given to Employee such as Review Attendance, sending leave requests/complaint, see notifications, changing password etc. Fig11 Here the employee mark the attendance using smart phone sensor and the session will starts.

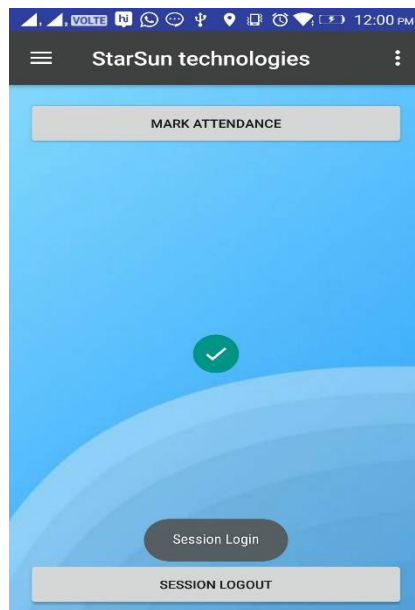


Fig12: Session Login

Date	Login Time	Logout Time
2017-03-26	15:08:36	15:08:44
2017-03-26	15:18:43	15:19:17
2017-03-26	15:19:26	15:19:34
2017-03-26	15:24:01	15:24:06
2017-03-26	15:24:28	15:24:38
2017-03-26	16:30:09	16:30:10
2017-03-27	13:59:23	14:03:48
2017-03-27	19:26:34	19:27:23
2017-03-27	19:27:33	19:27:54
2017-03-27	19:28:45	19:31:20
2017-03-27	19:31:47	19:31:48
2017-03-27	19:33:52	19:33:54
2017-03-27	19:34:47	19:34:52
2017-03-27	19:43:49	19:43:51
2017-03-27	19:44:08	19:44:16
2017-03-27	19:44:21	19:44:29
2017-03-27	19:49:33	19:49:40
2017-03-27	19:49:48	19:49:53
2017-03-29	11:49:39	11:49:44
2017-03-29	11:58:51	11:58:52
2017-03-29	12:00:22	12:00:28

Fig13: Attendance Review

The above fig12 shows the logged in session of an employee and mark it as present or if employee would not logged properly then it shows notification session failed. Fig13 shows the login and log out time with the selected date range of the employee and according that salary hours of employee get calculated.

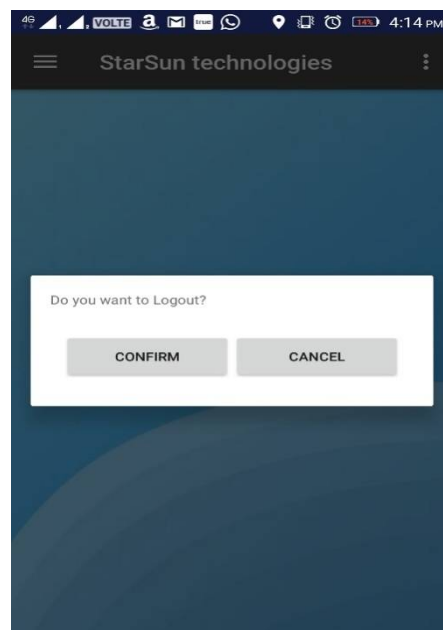


Fig14: Logout from Application



International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Website: www.ijircce.com

Vol. 5, Issue 3, March 2017

In above Fig14 when an employee wants to logout from system employee needs to click logout button and then click on conform button to exit from application.

VI. CONCLUSION AND FUTURE SCOPE

Conclusion:

The employment of time attendance software in an organization can add value by helping businesses spot potential problems ahead of time. Using attendance software not only informs the employees in writing about what is expected, but also helps them self-evaluate their commitment to the organization. The cost of investment in the attendance systems is recovered in the long run and businesses eventually end up saving on time, money and efforts.

Future Scope:

- 1) Every organization has a need to reliably track time and attendances of their employees, to maintain a record of hours spent.
- 2) It provides accuracy and reliability.
- 3) Accessibility and employee satisfaction.
- 4) Easy way to communicate with the management team.
- 5) Eliminates errors and saves time.
- 6) Spend less time on calculating payroll of each

REFERENCES

1. BenfanoSoewito, Ford LumbanGaol, Echo Simanjuntak andFergyanto E. Gunawan, 'Attendance System on Android Smartphone', IEEE, 978-1-4799-8975-1/15/\$31.00©2015.
2. SatishkumarChavan, ParthMundada andDevendra Pal, 'Fingerprint Authentication using Gabor Filter based Matching Algorithm', International Conference on Technologies for Sustainable Development (ICTSD-2015), Feb. 04 – 06, 2015.
3. SitiAisahMohd Noor, NorlizaZaini, MohdFuad Abdul Latip and NabilahHamzah, 'Android-based Attendance Management System', IEEE conference on system, process and control (ICSPC 2015), 18-20 December 2015, Bandar Sunway, Malaysia.
4. Guangyu Dong, Kai Lin, Keqiu Li, HuayongLuo and Xiangwen Zhang, 'FMA-RRSS:Fingerprint Matching Algorithm Based on Relative Received Signal Strength in Indoor Wi-Fi Positioning',IEEE 17th International Conference on Computational Science and Engineering 2014.
5. Mohammad Ausaf Anwar andDurgaprasadGangodkar 'Design and Implementation of Mobile Phones based Attendance Marking System', International Conference on Communication, Control and Intelligent Systems (CCIS) 2015.
6. Abhishek A. Nadgire, Prasad A. Jagtap, Suraj L. Suryawanshi, Diksha A. Mutha andNiveditaKadam,'Survey paper on advance attendance system' IERJ E-ISSN No 2454-9916 ,Volume 2 ,Issue 10 Oct 2016.
7. SurabhiSureshTambe, 'Wireless Technology In networks', India International Journal of Scientific and Research Publications, ISSN 2250-3153, Volume 5, Issue 7, July 2015 .
8. MadduKamaraju and Penta Anil kumar, 'Wireless Fingerprint Attendance Management System',IEEE 978-1-4799-6085-9/15/\$31.00 ©2015
9. SeifedineKandry* and MohamadSmaili, 'Wireless attendance management system on iris recognition', Scientific Research and Eassys Vol. 5(12), pp.1428-1435, 18 June, 2010.
10. Unnati A. Patel and Dr.SaminarayanPriyaR., 'Development of a Student Attendance Management SystemUsing RFID and Face Recognition', IJARCSMS, Vol 2, Issue 8, August 2014.
11. Puja Rani and Oshin,'Smart Wireless Attendance Monitoring Using NFC', International Journal for Research in Applied Science & Engineering, vol 3,Issue 2321-9653, May 2015.
12. Freya. J. Vora, Pooja. L. Yadav,Rhea. P. Rai and NikitaM.Yadav, 'Android Based Mobile Attendance System', JJARCSE, vol 6, Issue 2, Feb 2016.