

ERP System with implementation of Attendance module using geo-fencing

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Abstract— In this paper we are implementing ERP System with implementation of Attendance module using geofencing. Basically, Geofencing is used for allowing mobile app or physical object to work on the basis of real time data provided by it. Geofencing can be implemented either with GPS or BEACONS or RFID. Attendance management is the act of managing attendance or presence in a work or college. But as we see in manual attendance system, it has many disadvantages. So using the latest technology like biometrics we can overcome the problems of the manual system. In Proposed system, User will register & login then by scanning a fingerprint, his/her attendance will be marked. Then student theory & practical marks will be taken to provide performance details. Facility of submission management will be also provided there. Admin will manage the user & will display all the information of students. Enterprise resource planning (ERP) is a process by which a company manages and integrates the important parts of its business. An ERP management information system integrates areas such as planning, purchasing, inventory, sales, marketing, finance and human resources.

Keywords-Geofencing, ERP

I. INTRODUCTION

Attendances of every students are being maintained by every school, college and university. Faculty has to maintain proper record for the attendance. Attendance system is a system that is used to track the attendance of a particular person and is applied in the industries, schools, universities or working places. The manual attendance record system is not efficient and requires more time to arrange record and to calculate the average attendance of each student. The traditional way for taking attendance has drawback. Old conventional methods for student attendance is still used by most of the universities. As this method is used, many students are helping their

friends by signing in their attendance in case of their absent in the institute. Using Geofencing a specified area is taken into consideration and attendance is marked.

Hence there is a requirement of a system that will solve the problem of student record arrangement and student average attendance calculation. The technology-based attendance system such as biometrics based attendance system reduced human involvement and errors.

The proposed system should store the absent and present student's attendance details in electronic format so that management of attendance becomes easy.

II. LITERATURESURVEY

1.“RFID Based Attendance Management System” Microtronics Technologies, 2013

It had known that the attendance is needed to be taken in several places like school, college, university, and workplaces. This article paper main objectives had concerned about to replace the old traditional attendance system technology with Radio Frequency Identification (RFID) technology. It is carry out to overcome some existing problems occur in the traditional attendance system. In the article paper, it also mentioned that the RFID system is developed and is suitable to take the attendance of the students as well as employees. There are two modules introduced in the article which includes reader module and RFID module. In details, each student/employee must have a valid RFID card of RFID tags with them in order to communicate with the RFID reader placed on their workplace/school.

2.”Geofencing: A Generic Approach to Real Time Location based Tracking System” Manishaben Dahyabhai Dabhi Nov-Dec 2016

According to Author, Geofencing, a virtual barrier around geographical area which allows mobile app or physical object to work on the basis of real time data provided by it. Paper includes the definition of

Geofencing, working of Geofencing, comparisons of technology used to implement concept of Geofencing, Geofencing uses and advantages.

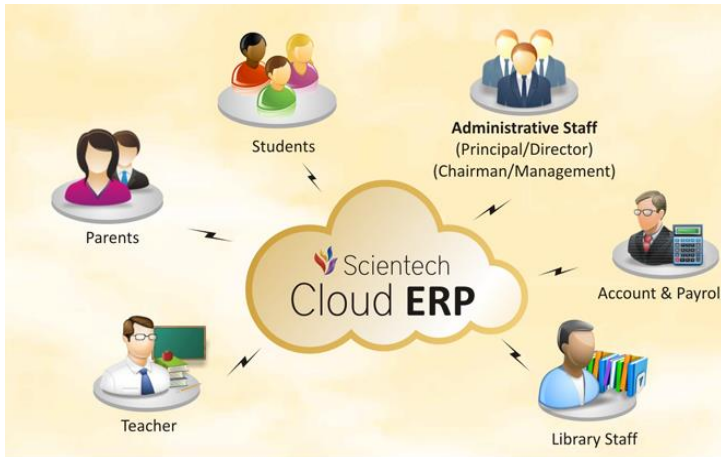


Figure 1.ERP system

III. SYSTEM REQUIREMENT

1. HARDWARE REQUIREMENTS:

- RAM 4 GB
- HD 500 GB

2. SOFTWARE REQUIREMENTS:

- Operating system: Windows 7
- Language:
 1. Android Studio 2.1.1, JDK 1.7.
 2. Eclipse.
 3. Tomcat 7
 4. Database proposed: MySQL (version 5.2), SQLite

IV. METHODOLOGY

The first step is that, the staff is provided with their own Username and Password to Login. Next step is ,the training image and their features are stored in the database. Then, testing image features are compared with the training images. Once the image is identified, the attendance will be registered. Finally, the attendance details of the student are send to staff and parent through E-Mail.

1. Login.
2. Staff & Student Information.
3. Update Attendance.
4. Feature Extraction.
5. Feature classification

V. SYSTEM ARCHITECTURE

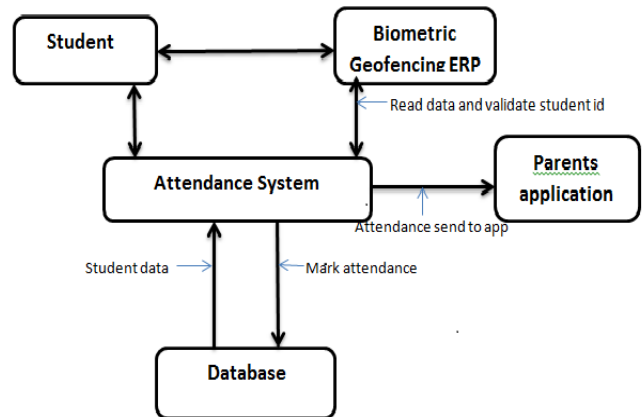


Figure 2. System Architecture

Student

Student is user of this application. Student will mark attendance using biometrics and geofencing. The fingerprint will be input to the system.

Biometrics

Biometrics is the technical term for body measurements and calculations .It refers to metrics related to human characteristics.

Geofencing

The use of GPS or RFID technology is to create a virtual geographical boundary, enabling software to trigger a response when mobile device enters or leaves a particular area.

Database (DB)

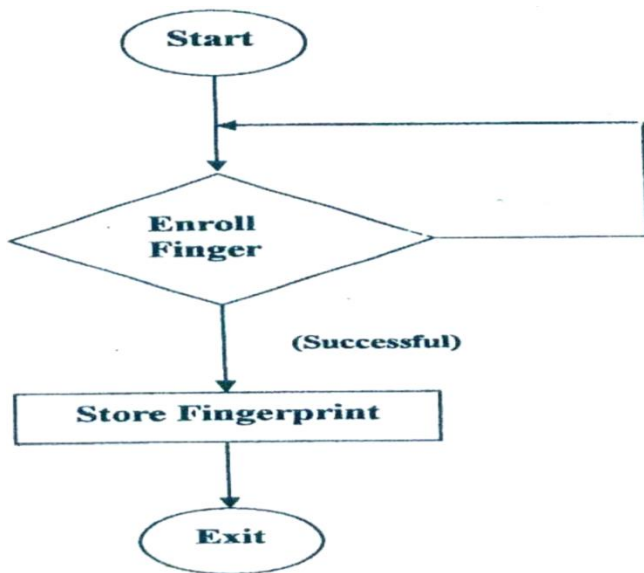
It stores the data to the student data.

Attendance System The attendance system will mark attendance of student in the database.

Parents Application

The attendance of student will send to the parents application.

VI. ALGORITHM



• Steps:

1. Start
2. Login to application
3. Enroll Finger
4. If fingerprint matched store that fingerprint and mark attendance else step 3
5. exit

VII. CONCLUSION

From this system it is concluded that typically students attendance is marked manually which spends a lot of time. Proposed system gives automated attendance of student's via NFC and Finger Recognition. Single software to manage all College-related information from anywhere in the College

VIII. FUTURESCOPE

we are planning introduce more indexing techniques like ridge density tolerance etc. for making the search more faster and More user-friendly ERP systems and Mobility and wearable technology to turn dominant

IX. ACKNOWLEDGMENT

The project on “**ERP System with implementation of Attendance module using geofencing**” is a source of trending and immense information to us. We would glad to express our sincere gratitude to the “Trinity College of Engineering and Research department of Computer Technology for the guidance and most valuable support in the help for this project work. We acknowledge with a pleasant gratitude, the encouragement and inspiration received from our guide **Prof. Dr. S. B. Chaudhari**, and coordinator **Prof. Krushana Belerao**, **Principal Dr. P. Dabeer** and colleagues.

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