

Daily attendance system using Android Mobile GPS and face Recognition

Amit Sahu¹, Pallavi Vishwakarma²

^{1,2} Research Scholar, Takshshila Institute of Engineering and Technology, MadhyaPradesh India

Abstract- *“Mark Your Attendance “a Punching attendance using traditional way is still a time taking process in offices, school and colleges. Professors, teachers, student, employees invest their precious time in this process. Internet of things became an important part of our life. In this paper we made an effective and efficient for punching daily attendance. In this era, every student have android mobile, and these android mobile phones can be used to verify their location, if student is present inside the college or office campus than recognize them using mobile camera through face recognition Algorithm.*

Keywords- GPS, Face recognition, Geographical latitude and longitude.

I. INTRODUCTION

Attendance system which is currently exist still has drawbacks. The long lines in front of the attendance devices at the entry gates during entering insides the offices. The dishonest employees can request her/his friend to do attendance procedure. The third is mostly attendance method has not been linked with the payment system in the funding department. The fourth, workers who work outside the workplace cannot ensure attendance process. In this paper, we presented an attendance method based on Face recognition technology and GPS using a smartphone combined with payment system .It will eradicate all the difficulties above. Our investigation also founded on forecast that in the following few year every smart phone can recognise face. Attendance method has been recognized since earliest time. In the starting, attendance method were using simply paper and did by hand by shouting the name of an current name listed and punched as present or absent along with the summaries. This method is not well-organized, it would be time consuming if we will call one by one all the persons who are present in the list. The first attendance device was actual easy, workers just inserting the attendance paper known as timesheet inside the device, and the time period will be published on the timesheet. The period while the worker feed the card inside the slot is what will be published on the paper.

This attendance system has several disadvantages:

The second age group attendance system is attendance device which is the attendance machine that uses a digital technique to

record workers attendance presented in 1970. In universal digital attendance machine, a few push button and digital display that displays the time interval.

In this paper, we presented an attendance method using face recognition and GPS on smartphone or mobile devices. Discoverers realize that attendance device fingerprint and face is one of the significant portion of the human body is matchless from each other. An undistinguishable twins have dissimilar kinds of different facial properties.

This is the initiate for the development of the idea of mixing the face properties with GPS in attendance.

GPS

The Global Positioning System stands for GPS is a space-based satellite oriented navigation method that delivers position and time data in entire climate circumstances, wherever on earth or close the Earth wherever there is an unhindered line of sight to four or additional GPS satellites. The arrangement offers critical abilities to army, public and commercial consumers everywhere in the world. It is retained by the United States government and is freely available to everyone with a GPS receiver.

In this system we have used latitude and longitudes of mobile phone and by using android built in algorithm, we are finding the distance of employee or student with respect longitude and latitude of the office or college campus.

Face Recognition

Face Recognition is the recognition system which recognise facial properties and verify the users on the basis of stored facial values in the database. Face recognition can be implemented easily on any android device easily. Now a days mobile phones have built in face recognition system .In the system we have used built in recognition system to verify the employee.

II. IMPLEMENTATIONS

This System has been implemented on the android app which is fully compatible on android 4.0 and above.

Use Case

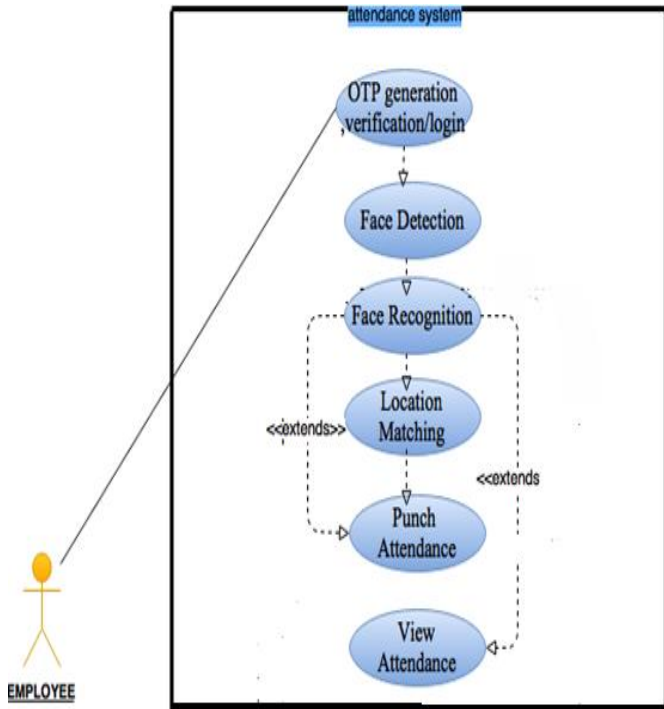


Fig -1: Use Case

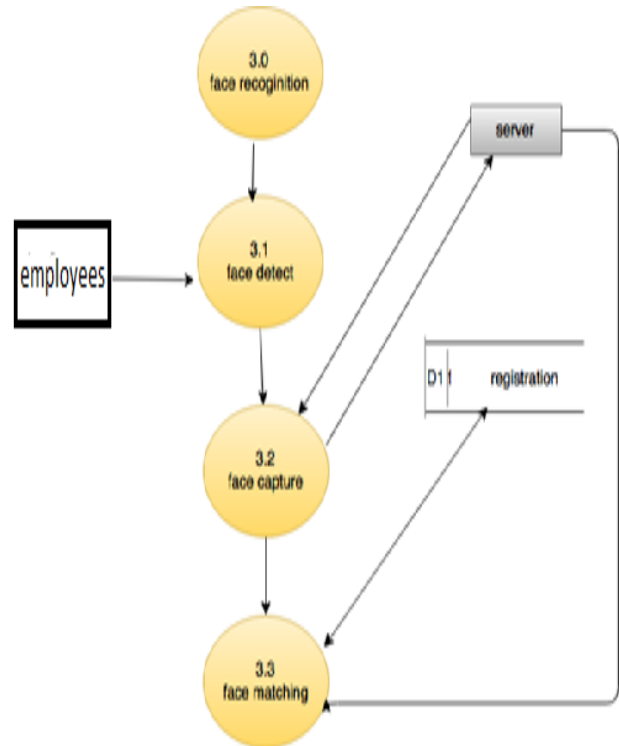


Fig -3: Data Flow Diagram

Data Flow Diagram

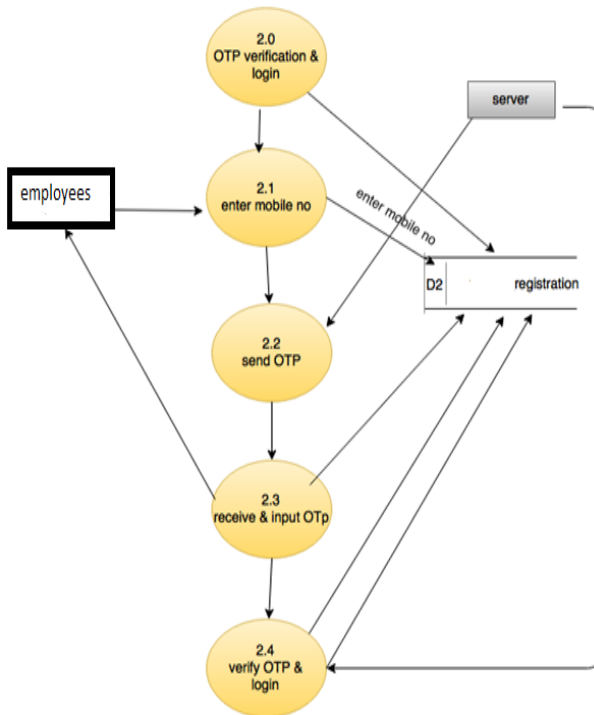


Fig -2: Data Flow Diagram

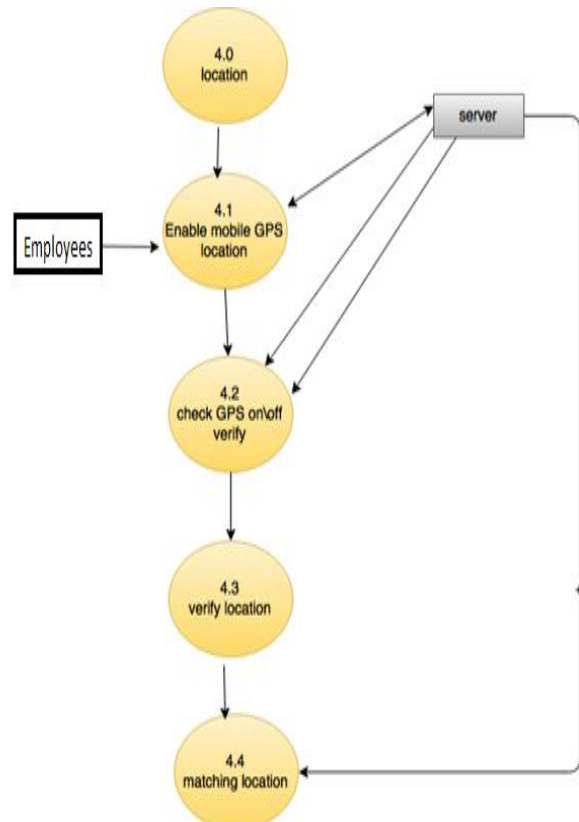


Fig -4: Data Flow Diagram

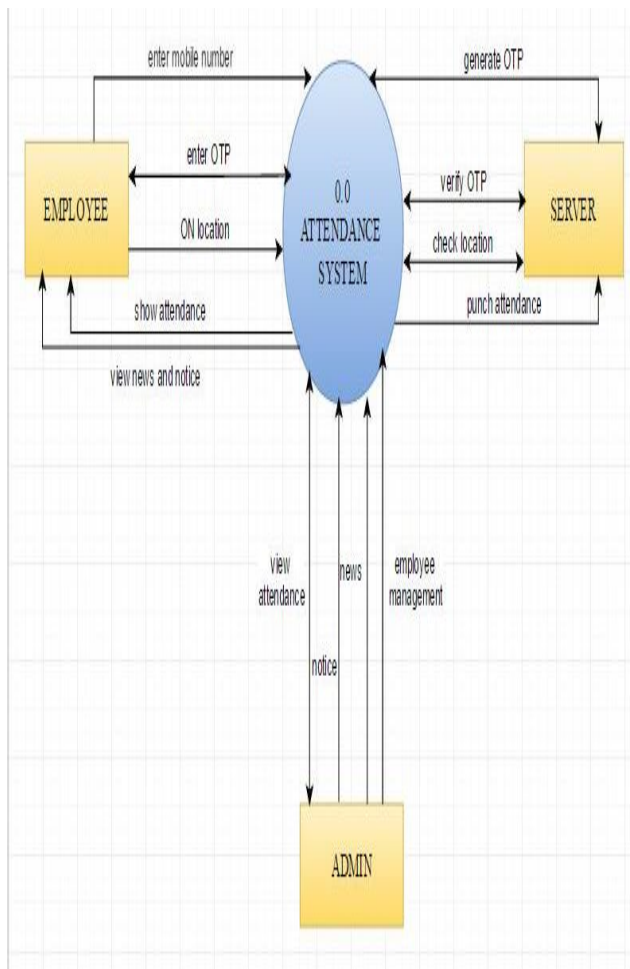


Fig -4: Context level Data Flow Diagram

Implementation Environment

- Android
- Android Studio

Implementation Tools and Language

- Xampp

Implementation Language

- PHP
- JAVA

Technical specification

Following are minimum specifications for development of the system:

- Hardware Configuration At least 512 MB RAM.
- Android Operating System 4.0 and above.
- Java and Html as Programming

GPS Algorithm applied programmatically using android

```

public static void main(String[] args) {
    gps = new GPSTracker();

    // check if GPS enabled if (gps.canGetLocation()) { latitude =
    gps.getLatitude(); longitude = gps.getLongitude(); Location
    locationA = new Location("a"); locationA.setLatitude(23.2019338);
    locationA.setLongitude(79.8827246); Location locationB = new
    Location("b"); locationB.setLatitude(latitude);
    locationB.setLongitude(longitude); distance =
    locationA.distanceTo(locationB); distance=distance/1000;
    Toast.makeText( getApplicationContext(), distance+"": Your Location
    is - \nLat: " + latitude + "\nLong: " + longitude,
    Toast.LENGTH_LONG).show();

    } else { // can't get location // GPS or Network is not enabled //
    Ask user to enable GPS/network in settings gps.showSettingsAlert();
    }
  
```

III. CONCLUSIONS

The system is developed using android, fully come across the purposes of the method which it has been developed. The app has reached stable state where entire bugs have been eliminated. The system is functioned at a great level of efficiency plus all the professors and employees connected with the system realizes its advantage. The method resolves the problem. It was planned to solve as requirement specification.

In conclusion, the purposes to prepare an automated android based attendance method was effectively done. In terms of performance and effectiveness, this development has provided a useful system of punching attendance compared to the outdated system of attendance. Through using databases, the information is more organized. This method is too user friendly. Thus, it can be applied in either an educational organization.

REFERENCES

- [1] Sudheer Kumar Nagothu, Om Prakash Kumar, G. Anitha "Autonomous Monitoring and Attendance System Using Inertial Navigation System and GPRS in Predefined Locations" IEEE 2014
- [2] Albert Mayan J, Mohammed Yusuf Khan, Md. Sabeelur Rahman K, S. P. Avinaash Ram "GPS enabled employee registration and attendance tracking system" IEEE 2015
- [3] Lia Kamelia, Eki Ahmad Dzaki Hamidi, Wahvudin Darmalaksana, Afit Nugraha "Real-Time Online Attendance System Based on Fingerprint and GPS in the Smartphone," IEEE 2018