

EmploSync: The Employee ERP System

¹ Mrs. Pallavi Shejwal, Assistant Professor, Information Technology Engineering Department, Progressive Education Society's Modern College of Engineering, Pune - 411 005 (Maharashtra)(India)

²Student VIII Semester B.E(Information Technology),
Sumit Bhosale¹, Sumedh Hirey², Shital Shirole³, Pratiksha Sondkar⁴

Progressive Education Society's Modern College of Engineering, Pune - 411 005 (Maharashtra)(India)

Abstract - We committed to make investments in innovative development and research that provides a wide variety of integrated software. We innovate in the fields of technology and business operations. The administrative tasks that human resources departments typically perform are not shared by all organizations. It's possible for organizations to have formalized payroll, evaluation, and selection procedures. It has become more important and difficult to handle "The Employee ERP System" efficiently and effectively. The EmploSync comprises of tracking already-existing employee data, which often includes billing, income, and personal history. Organizations started automating many of these administrative tasks electronically in order to reduce the manual pressure by implementing specialized Human Resource Management Systems.

Key Words: GPS, Android, mobility, attendance, tracking, ERP.

1.INTRODUCTION

Nearly all organizations had a manual entry of attendance for several years. The manual attendance process is time-consuming and also inconsistently incompetent, causing the attendance to be manipulated. In places where staff physical presence at the entry point is necessary today, biometric systems have replaced pen and paper-based attendance registration systems. To advance this concept, we have presented a participation verification framework based on the concept of web administrations, which is implemented as an Android mobile application and links to a database located on a remote server. General Packet Radio Administration (GPRS) or Wi-Fi technology will be used to connect the portable application to the firebase. The developed mobile app is quick, simple to use, and very efficient. The programmed would also make quick data transmission and accurate client verification possible. Internet-based information management.

The advanced cell application will connect to the server after the instructor's sign in. Any staff member can register in this mobile application with their name, department, and unique ID number. If the staff needs to view their participation history, they can do so by using their application after entering the authorized client name and password. The timer starts once the user logs in, and when they leave the site, the logout time is recorded. The system is an Android application that provides all the staff member's travel-related information.

1.1 PROBLEM STATEMENT

An efficient and accurate attendance management system that uses advanced technology like biometrics, web services, and mobile applications can replace the traditional manual attendance system. It should be customizable, easily accessible, and provide real-time attendance reports to help administrators monitor attendance patterns and identify potential irregularities and data security should also be a priority to protect staff members' personal information.

1.2 MOTIVATION

The Business Institute's lifeline for managing Employees and salaries is the Employee ERP System. An Institute's ability to manage salaries and pay scales is crucial. An organisation can benefit much from regularly monitoring employee attendance for the benefit of both parties. Numerous Organizations have been driven by IT initiatives to create systems to streamline daily operations. The Employee Salary, Employee Entry, Employee Performance, etc., sections of the Attendance System will be used to conduct salary sheets. The procedures will be carried out effectively thanks to this system's assistance in conducting attendance fast. Any firm can utilize the "Employee ERP System" effectively to conduct speedy attendance and obtain better outcomes in less time.

1.3 PURPOSE

The Employee ERP System is an Attendance Management System software developed for maintaining the attendance of employees on a daily basis in the workplaces. Here the employees, who are handling the projects, will be responsible to mark the attendance. Each employee will be given a separate employee id and password based on the work they handle. An accurate report based on the employee attendance is generated here. This system will also help in evaluating attendance eligibility of manpower. Report of the employee's attendance on a weekly and monthly basis is generated based on his working hours.

1.4 OBJECTIVE

- A.** To understand the Human Resource Practices and policies.
- B.** To identify the working hours of the employees in the companies or organizations.
- C.** To provide better employee safety, welfare facilities as per the policies.
- D.** To understand the quality circle is beneficial for solving the problems.
- E.** To help improve workforce productivity, and eliminate the administrative burdens for Human Resource professionals

1.5 SCOPE

Emplosync is an employee management system or EMS. It is an android application that helps to improve employee satisfaction and productivity to help a company or organization to achieve their overall goals. These android based application help to monitor, assess and control employees working hours and efficiently utilize human resources. An effective employee management system is used to manage the work process with progress and organizational responsibilities of human resources. Emplosync also helps managers and employees to work together and accurately monitor, access, manage, and efficiently utilize the working hours for better employee and business growth.

2. EXISTING SYSTEM

Until now, the whole attendance management work process was done on paper. The reports are created at the end of the session, and the entire session's participation is recorded. Because it requires more time, neither the representative nor the employee is interested in providing a report against the deadline or in accordance with staff management's requirements.

This serves in tracking all of the details of employees. It was tracking the current location of the employee and provide the correct arrival time for the employee at its stop as well as the number of employees who reach a required destination, the distance travelled by the employee numbers, employee timings, the routes through which the employee was passing, and the time it was taking for the employee to arrive.

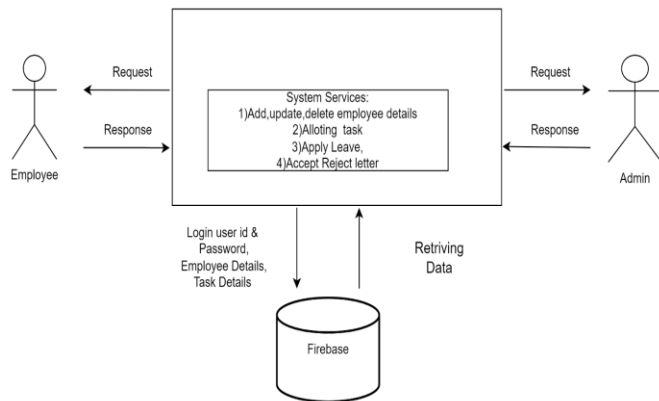
The user of an Android application was able to request a live track of the employee details and is then given the most recent information regarding the location of the employee who just left and is scheduled to come soon. This was accomplished by connecting to a server hosting a database where this information is kept. Additionally, the user could choose a particular staff member's number to see details about that employee, such as where and when they were present.

The real-time staff tracking system includes the fundamental elements. The GPS module, which was receiving the transmissions from a basic transmitter module mounted on the staff, which was providing the information like name, number, and position (latitude and longitude). While the GPS module updates itself at the end of each cycle, the transmitter module was sending data constantly and consistently.

3. PROPOSED SYSTEM

The current location of any staff member within the specified geographic area can be found using this GPS-enabled mobile application. The system uses [MapmyIndia](#) maps.

3.1 ARCHITECTURAL DIAGRAM



3.2 PROPOSED ARCHITECTURE OVERVIEW

Easy to use: The suggested design is simple to use because data will be quickly retrieved and stored, records will be retained in a secure environment. Additionally, the GUI is included in the suggested framework, allowing the client to easily control the system.

No paperwork: Close to none paperwork is required under the suggested approach. Reports and other information are rapidly fed into the framework and can be generated by application. Additionally, work becomes easier because there is no longer a need to maintain the information as paper.

Reports are effortlessly produced: Reports can only be prepared using the suggested structure, allowing the administrator to give the report when needed (monthly) or in the middle of the session. Management could provide the notification to employees, offering consistency for clients.

Administrator control: System administrators will be bound by guidelines, so there won't be any opportunity for error or deceit.

3.3 EMULATOR

In order to test the application that is being produced right away, Android Emulator is combined with the software eclipse, which is used to execute Android Emulator in the system.

Testing any application can be done with the emulator. On any Android device in order for the application to work. The vast majority of emulators come with free software. Using the emulator, we could carry out UI and performance testing.

3.4 MODULES USAGE

To log their attendance, keep track of their most recent actions, and manage all of their essential items in one app, the staff can utilize the smartphone software EmploSync.

3.4.1 Types of modules:

A. Admin/Manager module:

Data security is the main driver behind the Administrator module. This module shouldn't be used by anyone other than management, where attendance is tracked using mobile devices. Each employee creates a username and password that are stored in the admin database. If a user's name and password do not match, the user will not be permitted to log in for attendance.

B. Employee module:

It contains following functionalities:

Attendance:

-The module was created so that users of mobile devices may access it. The programmed enables staff to use their mobile devices to log in into their attendance. The server database has recognized the staff members successful logins and their attendance.

Onboarding:

-This module assists in onboarding a new employee for the employer. Additionally facilitates in completing required documents. It aids the new hire in completing all safety training. Employees are shown the sites where they will be working during site orientation so they can comprehend the project's scope and their part in it.

Profile:

- Information about the employee is all contained in this module. The number of pending leaves as well as every single location he has worked on.

History leaves and team:

-This module maintains the employee's history and all of their records. Certain public holidays are likewise tracked for their pending leave. It also includes all of the team's information and information about who is responsible for what site.

Work Done Pay slip:

-This module tracks the number of hours an employee worked and the number of leaves they have taken. In relation to the hours they have worked, it also generates the pays lip.

4. ALGORITHM EXPLANATION

The link between the app server and the HTTP server client gets clarified by this algorithm.

Step 1. User has to enter his or her username and password for login.

Step 2. Once the details are entered by the user, User has to hit the login button.

Step 3. After login, the user details will be checked from the server side.

Step 4. Once the details are checked and called true, the intent will pass from one activity to another.

5. TECHNOLOGY

1. ReactNative:

React is a top-notch JavaScript toolkit for creating UI's(User Interfaces), and is combined with the greatest aspects of native programming in React Native. JavaScript was the language used to write it while using native code to display it. The app you create leverages the same native platform APIs as other apps because React primitives render to native platform UI. One React across many platforms. Components ought to be made in platform-specific versions so that a single codebase can exchange code between platforms. One team may manage several platforms while utilising React Native, which is a shared technology. You can design genuinely native apps using React Native while maintaining the quality of the user experience. It offers a basic set of native components that are independent of the platform, which include View, Text, and images, and immediately correspond to the platform's native UI building blocks. React components integrate pre-existing native code and interact with native APIs using JavaScript and the declarative User Interface paradigm of React. As a result, completely new teams of developers can now create native apps, and current native

teams may be able to work considerably more quickly. Right after you save, you may see your modifications. React Native enables you to iterate quickly thanks to JavaScript's strength. We no longer have to wait for native builds to complete. Save, view, and repeat.

2. Nodejs

Open-source server environment Node.js is cross-platform and works with a variety of operating systems, including Windows, Linux, Unix, macOS, and more. JavaScript code can be executed outside of a web browser using Node.js, a back-end runtime environment that uses the V8 JavaScript Engine. JavaScript is used by developers to create server-side scripts and command-line tools using Node.js as backend technology. Before a page is sent to the user's web browser, dynamic web page content is frequently created using the server's capacity to run JavaScript code. As a result, Node.js symbolizes a "JavaScript everywhere" paradigm that unifies the creation of online applications around a single programming language as opposed to employing multiple languages for server- and client-side programming. JavaScript and a set of modules that handle numerous essential capabilities are used by Node.js to create Web servers and networking utilities. File system I/O, networking (DNS, HTTP, TCP, TLS/SSL, or UDP), binary data (buffers), cryptographic routines, data streams, and other fundamental operations are all supported by modules. The modules of Node.js make use of an API that is intended to assist with creating server applications easier. Node.js only natively supports JavaScript, although there are several languages that can be translated into JS. Thus, Node.js apps can be created in a variety of languages, including Dart, TypeScript, ClojureScript, and CoffeeScript.

3. Firebase

Develop effective apps. Create your backend without having to manage servers. With Firebase databases, machine learning architecture, hosting and storage options, and Cloud Functions, you can easily scale to handle millions of users. Reduce the time and effort required to improve app quality. Tests, triage, and troubleshooting should be made simpler. Release features gradually and keep an eye on recognition. Identify, rank, and quickly fix stability and performance problems. Rich analytics, A/B testing, and messaging campaigns can all be used to increase user engagement. To better assist and keep your users, understand them. Conduct experiments to validate theories and unearth fresh insights. Make your app specific to certain user groups.

6. RESULT

The proposed system results in powerful employee record management software which enables users to create and store employee records easily by addressing the challenges of inefficient manual record management. It also Automates and streamlines HR processes that results in smoother operations and enhanced organizational performance.

7. CHALLENGES

Some of the major challenges in managing Employee could be as follows:

1. Employee Management System: In order to manage the employee system in an organization, a structured framework is needed. It requires the association to work off one all inclusive strategy separated into applicable parts and regions of obligation. The administration duty at different levels needs to comprehend the contracting; estimation advancement and examination process great and apply it reliably. Additionally, the executives must recognize that the board's presentation is something that is managed every day but documented and disclosed at designated times through reviews and assessments.

2. Lack of Alignment: Because of several organizational processes being created in isolation this challenge is the absence of alignment. By various groups of people with different frameworks being used it developed a link between budgeting, operational planning and strategy development. The lack of alignment in the performance management system between organizational delivery, individual performance and departmental performance thus all frameworks default back to money related estimations.

3. Managing poor performance: Poor performance management is generally considered reactive action, yet much of the time it is deferred and along these lines transforms into an exchange that is hard to make significant. Another reason for which it cannot manage the poor performance on time is the lack of collection of required measurement data and evidence and valid measurements.

4. Leadership and Management commitment: To deliver a comprehensive performance management system management and Leadership challenges has a large effect on aligning and integrating a management system. For achieving a workable performance system to perform

success the understanding and commitment of management and leadership are required.

5. Lack of Measurements: In the organization at much level where poor measures are created and in much of the time targets are set yet no pertinent measure is set up this challenge can occur. In different cases no information can be gathered or is kept as proof to follow performance.

Images of objects from a particular class are highly variable. One source of variation is the actual imaging process. The challenges like the on-motion object can be fatal as their fixed position can't be determined but many of them can have their lives saved.

8. FUTURE WORK

In future the project can be constructed for attendance using geo location with facial recognition, finger print, QR code. Also, we can add other functionalities to enhance the capacity of the System at workplaces. An IOS-based portable application or desktop-based application can be developed in the future based on the organizational needs.

9. CONCLUSION

The employee management approach works effectively for the team while also being designed to save money, time, and energy. A system of employee management is created in an organization to streamline the process of record maintenance. Information management about the employee is helpful for HR tasks. An employee management system is put into place to increase workplace management effectiveness. The complete performance and various characteristics of an employee within an organization are managed by this employee management system. For tracking employee attendance and detailed participation, a portable Android-based application has been created. The application offers simple, time-saving activities. Additionally, it can be used to keep an eye on other workers while they are on site or property, saving employee members time from manually keeping track of attendance and enhancing workplace management efficiency.

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