

EMPLOYEE MANAGEMENT SYSTEM

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ABSTRACT-

Employee management system is application system that has developed both applications. One for employee for manage employee data or other to employees for report attendance. All of its organizations, whether public or private, use information systems [2.] to store data about their employees. But be aware many small industry in India used paper and pen for record keeping. This article describes how to create a system to solve these problems at a lower cost. The system records the attendance for every employee or calculates salaries at end of the month. It calculates overtime and total time worked for every employee. Although it is a small company, each company has its own holiday preferences and different number of weeks for employees, and employers have the right to manage everyone's holidays and working days. individually employed. Increase..It saves a lot of time and avoids conflicts between the HR team and its employees because there are no errors in the payroll. Employers and employees can focus on their own work and further develop the business.

Keywords:- *employee management system, employee,resources,DBMS, PHP, html, CSS,leave management, task management.*

1.Introduction:

All organizations keep records of their employees. Personnel records play an important role in personnel management. All organizations need their payroll records, workforce management, and employee performance reviews. Managing all files is a difficult task or a cumbersome procedure for HR teams. This can be reduced by using an EMS employee management system. Resources are an essential part of an organization and are responsible for its success. Organizations invest significant resources in human resource management. A human resource information system manages inventory or account. EMS is also an information system that helps owners, human resources, and management save time, effort, and money. All organizations, private and public, need a personnel management system. But they do their summer records the old classic pen and paper way, but more recently they can do the payroll themselves. The tendency to use automated systems has increased considerably. These systems are difficult to implement in many regions because they are expensive and require proper maintenance. To solve this problem, we have prepared this mobile application based on EMS. Calculate payroll and daily attendance for each employee organization to simplify the record-keeping process. To improve work efficiency, organizations should implement this workforce management system [4.]. This article describes its development process, the problems encountered, and the benefits of using this system.

The system consists of both mobile applications: first for the HR to manage employees, or another for employees to indicate their presence via QR codes.

Here are 2 apps we developed for the management system:

2. Employer manage employees and award points to employees who don't have smartphones.

2.BACKGROUND:

System development requires proper system analysis. They must have a good understanding of how industries work or how employees are paid. The EMS must understand the backend and the frontend, and must ensure that the two are properly synchronized. You need a good understanding of databases and database design to meet all your system needs. In order for users to use your application, you must provide them with an appropriate graphical interface. Flutter is used to build apps that enable crossplatform development. This means that the same code can create apps for both iOS and Android phones. Firebase Online Cloud Storage is used to store data in a database. Use Firebase Firestore to store data to provide Firebase Mail authentication to your users. The Framework used in the development is Android Studio. It has two types of users in the whole system, one is the organization manager and its HR manager/owner as administrators and the other is the employees as users. However, employees cannot enroll until an organization administrator adds them to the employee roster. It is

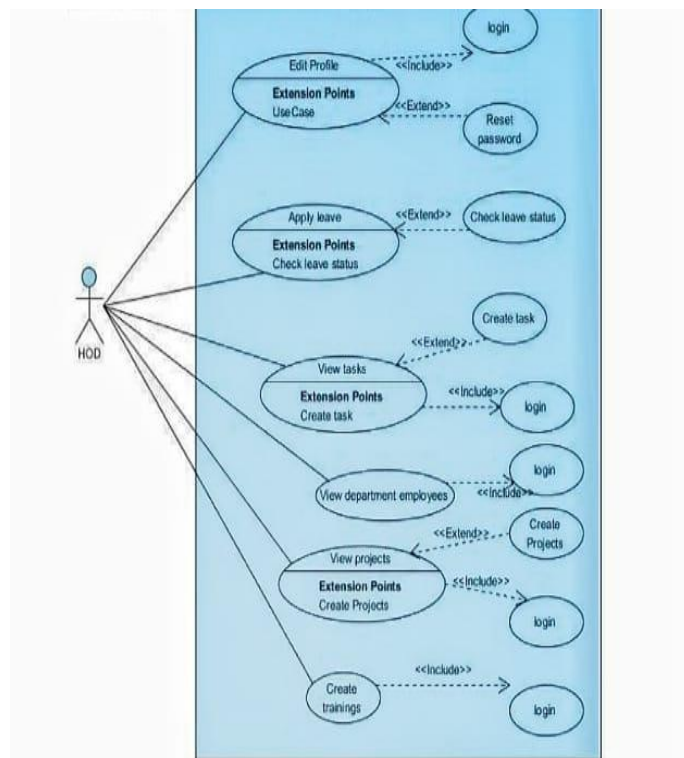
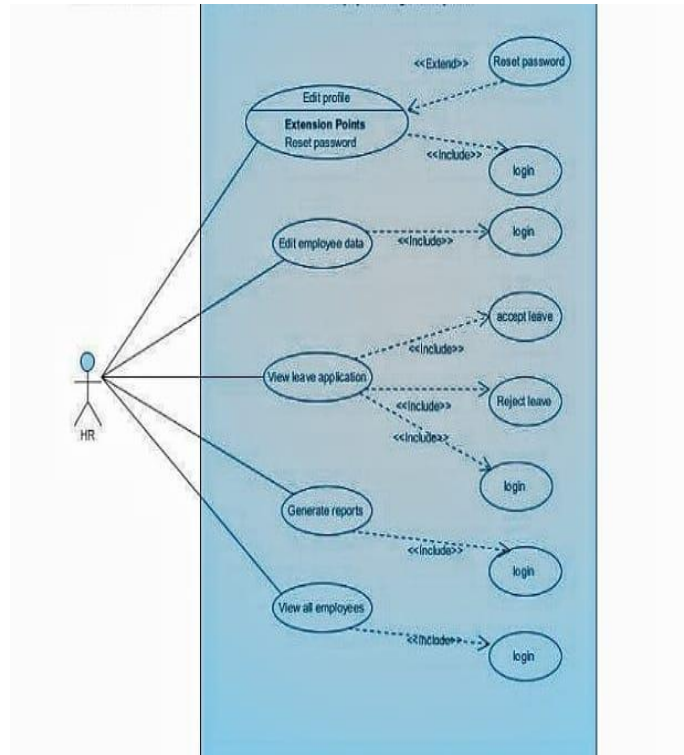
specifically designed so that at most of the data control is left to administrators, employees can update their personal data, and in other cases, only administrators can do everything. How users can access it.

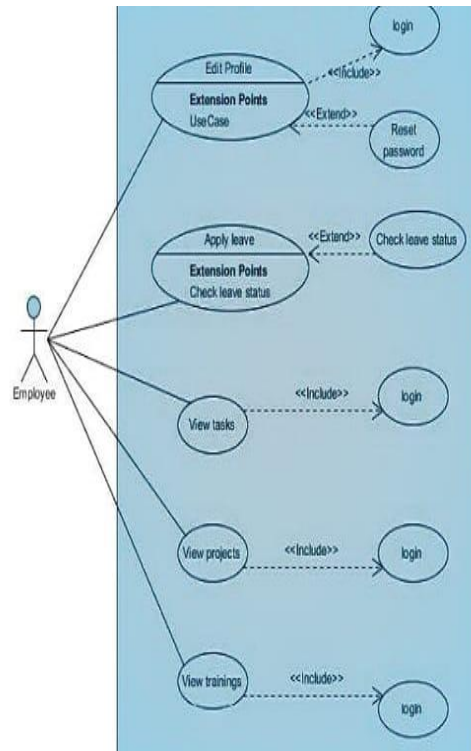
3. **PROBLEM:** A workforce management system is a system designed for solving problems face by organizations for calculate the individual salaries of their employees. The system is supposed to keep the automations properly engaged so that no one can deprive her of her participation. The system ensures that all important calculations are made for correct payroll calculations. EMS supports the use of automation and ensures that employees are paid correctly and without fraud. Reasonable time off, weeks off and statutory holidays granted by the organization apply to each employee. It provides the option to choose different holidays for different employees to calculate the salary when it ends. Due to this particularity, wages may vary depending on the weekly leave granted to the employee if the leave is different. Develop systems to help organizations interact with employee. System must provided means of maintaining attendance or must report employee's calculated salary, vacation, and hours worked at the end of the month. The main task of the application to register daily presence or report calculate salaries, holidays and hours worked. At the last of every month, HR team devotes significant amount for time to task [8]. As a result, employees are often not paid in a timely manner, leading to burnout. Relations with employees have a direct impact on the development of the company. The mission of the project to develop a system for making this process smoother, better, more reliable or easier.

Use case analysis : A use case defines a goal-oriented set of interactions between external users and the system under consideration or development. Thus a Use Case Scenario is a description that illustrates, step by step, how a user is intending to use a system, essentially capturing the system behavior from the user's point of view.

In order to create relevant use cases for the system, the following actors for the system have been identified:

- Employee (could be lecturers, accountants, technicians)
- Head Of Department (HOD)
- Human Resource (HR)
- Admin





4. Problem Discussion:

Talent management is an essential part of any organization. All his organizations require good employee management. Workforce management is a very broad term, but this whitepaper covers some key areas that affect the way employees work. We strive to make payroll and time stamping simple, fast and authentic. The main objective of this system for prevent any form for fraud or to ensure that the HR team calculates the correct salary. Often, errors in judgment lead to conflict between employees and employers [14], damage relationships, affect overall employee performance, and lead to organizational success. The purpose of the system is to allow employees to work smoothly and comfortably so the organization can grows or achieve its goal. The development of the employee management system includes the development for both Android applications. Android application for employers and another Android application for employees. The main application that runs is a separate application. Employers require that only employees be registered and authorized to register with the company.

Employer Application : His employer uses this application to provide required employee credentials. Employees can then register with the company and log into the application.

5. OBJECTIVES: The goal of a workforce management system is to develop simple, cost-effective, reliable system with goal for making employee attendance or payroll simple and convenient. Yippee. Our goal is to prevent employee fraud and develop a system to ensure we receive every penny for our hard work. The main purpose of developing this system is for solving problem that small factory or companies used pen and paper till now to keep personnel records. The industry has many conflicts with its employee [13]. Because many workers here are his employees, working hard to earn money. Every penny they work for. The system saves employers a lot of time and takes the stress out of processing employee payroll. It allows you to focus on other things and grow your business.

6. SIGNIFICANCE: EMS is a very useful and important concept that every organization should use. This personnel management system will be very useful in the coming era when no one has free time. This system can be extended to include various other services such as: B. Measure the performance of each employee, determine if an employee is underpaid or overpaid, and calculate the required or overpaid number of employees. However, all these topics require further research and time. Not only does it benefit your organization, but it also helps your employees monitor and improve their performance.

7. Literature Review: The review consists of different parts that inform us about the application and benefits of using this system.

A Existing system: The existing employee management system within the organization still uses the usual classic method based solely on Persian papers to collect employee data. This requires maintaining a large number of registries, generating reports and retrieving employee files takes time, and if files are lost, so is the data. It is also a tedious task for organizations as it is an expensive process. New technologies such as web-based systems and Internet of Things-based systems are being used somewhere, but in some places they are expensive and difficult to implement. Other technologies on the market rely on facial recognition, biometric scanning, or card punching. However, this requires equipment to be installed outside the work area, which is also expensive and requires regular maintenance. This project eliminates or reduces problems in existing systems to the greatest extent possible and avoids data entry errors. It is cheaper, easier to implement, easier to use, maintenance free, provides up-to-date data and saves a lot of time compared to existing systems. Cons:

- Expensive external devices and Care must be taken.
- Additional manual work required. 228 International Journal for Modern Trends in Science and Technology
- Time consuming process.
- High risk of data loss.
- Risk of input and calculation errors

B. Proposed system

The proposed system is based on an application running on a Smartphone and requiring an internet connection. This system offers the following features:

1. Employers need to add employees and required details. Employers cannot edit past holidays
2. Employers must click Get Salary to get each employee's salary. Get last month's salary
3. Employers can edit and delete employees
- 4 employees need to install the app Open the app and follow the instructions to set up the app. Then when entering the facility, you have to scan the QR code to enter. When you leave your device, you must scan another QR to confirm Out.
5. Provide safe and strict rules for attendance record, as employees can only record attendance once a day. The only requirement to use this system is that you need a smart phone. In today's world, it's not a big deal. If you don't have a Smartphone, you should also consider that not all employees are required to have their own. The employer app has options for employers to mark their presence with their employees.

C. System architecture:

The proposed system is a mobile her application with two types of users (a) employer b) her two applications for employees. System data is stored in Firebase cloud storage. Firebase manages your security and supports free email verification. Also, each user is automatically assigned a unique ID. It offers various features such as email authentication. Password recovery service. This Firebase stores data in the cloud. fire shop cloud. Fire Store stores data in the form of collections made up of documents and fields. The database structure is shown in the ER diagram below.

D. Features: EMS features include:

1. Compatible with Android and IOS
2. Wages, overtime and holidays in one click.
3. Very reliable and easy to implement.
4. Guaranteed attendance once a day.

E. Advantages: EMS itself has many advantages, for example this proposed type of his EMS with mobile application has some additional advantages over other systems. Auto Sensor A method based on the old classic pen and paper method.

1. Inexpensive and easy to use.
2. Provides error-free calculations.
- 3 Prevention of All Kinds of Employee Fraud

4. For employees who do not have a Smartphone or do not know how to use it, the system is available in employer applications. You can nominate such employees.
5. Strengthen employer-employee relationships with a simple click on payslips.
- 6 You have the flexibility to set different holidays for each employee on vacation.
7. Holidays may be notified to the employer one day in advance.
8. Show active and away on main screen

8.CHALLENGES IN IMPLEMENTATION:

Each system had to face many obstacles before becoming successful. The challenges of developing and implementing the system are:

1. The challenge in developing this system was data security. Everyone knew that the company should not be registered as an employee, so the issue was resolved. I checked if this company is registered and then if this employee is registered.
2. Another problem was to prevent employees from marking their presence twice. This also applies to this check on whether the employee has joined the organization today. Enabled if not specified.
3. Another big challenge was holiday management. Because in a small factory or small business you might be called an employee one day and another employee the next day. To calculate and maintain this his 4200 holiday system, an additional field called 4000 holidays is declared for this quantity.
4. The employee may not have a smart phone and many do not know how to use her Android. So it was a big job to develop a system that would be widely used. To do this, you can specify a system in the employer's application and mark the presence of all employees from there.
5. This company's system is also difficult to use properly because errors cannot be corrected later, so everyone who uses this system needs to get used to it. Don't forget to get on and off properly. An issue that ultimately affects salaries.

9.IMPORTANCE:

Human resource management is very important for the development of the company. [3.] Reasons for employee management systems are:

Confidentiality is considered :Data can be viewed by organizational leaders who have access to the Employers application. Some employee data can only be viewed by organization administrators or software administrators. Therefore, no matter the size of your company, it is safer to have an in-house workforce management system than to keep financial reporting data in a closet and risk loss or compromise. This ensures confidentiality, efficiency, accuracy, availability, time-limited updating

of information, etc. - All calculations and attendance are flagged by an automated system to ensure system accuracy. An error may occur in rare cases. We also track almost every test case during development to ensure the system is working properly.

- Provides ready-to-use sources of information.
- between employees and organizations

A workforce management system serves as an easily accessible source of information. Most of the existing database systems are work schedules, salary information, jobs, contacts, information, and so on. - Updated data:

- Workforce Management System provides the ability to update data. However, professional updates can only be made by organizations and employees can only update their own personal information.
- Deploy a large and efficient system. This system is very efficient, saves a lot of time and reduces manual administrative errors. This prevents conflicts between HR teams and employees, allowing the organization to focus on development rather than conflict resolution.

10.DEVELOPMENT METHODOLOGY:

The development process used to develop the system is the same as for web applications. Since software is developed to be reused, it is impractical to develop the whole system in advance, so it should be developed gradually [15]. Incremental development is a method of developing a system as a series of releases (increments), each with additional functionality over the previous release.

System analysis: We need to develop an employee management system to record the attendance of each employee. User data must be protected and easily accessible at all times. Data must be structured in such a way that it can be reused. Good leave management. This is a big problem on the payroll of its staff. The application must be able to determine the salary at the end of the month, the total hours worked, overtime worked and the number of days in progress with a single click.

Planning: This stage of development involves proper planning of procedures and timing. You want your development process to run smoothly and meet deadlines. This includes planning the process for completing the project, ensuring that goals are met, and using the project in a way that won't cause problems in the future.

Design Analysis: This is the stage of planning and analyzing each screen design to see if it will produce the desired results. Repeat this step if necessary. if you want something New or updated products start here. The hardest part here is creating a design that provides a simple user experience. This is a gradual step where you can design to get all the functionality you need before making the design more appealing.

Building GUI: Once you have a clear visual display and its design, you can develop the app's UI through code. When this development took over for Flutter, it used a single 4212 language to design and implement backend processes, making the technology much simpler and more efficient. The challenge is to implement it and deal with the bugs you need to find on your website. In this section, you should be able to read official documentation and other resources on the Internet.

Database design and implementation:

Background design includes designing databases and classes based on the functionality you want to provide. I'm using Cloud Fire store as my database. This is the hardest part for me as I need to back up the data so that it is easily accessible and unmodified as the risk of backing up the data multiple times is high. Since it will be used in multiple places, the next task is data separation Find out where the required fields are. 4277 F Database and GUI integration: 4277 Here are the most important parts with pictures. 4277 You need functions to store and retrieve data. Data needs to be updated, so you need to pay attention to what and how it's used so you don't miss a thing. The bug causes data loss, but it happened once during development.

Implementation: This is a step in the development of a functional application. This is where functions and data are implemented and used as needed. All code implementation and error checking is done in the release itself. This is where most of the development takes place, and after this stage, you will end up with the final product.

Testing: This is the most common step and should be tested after completing each task. As new features are developed, legacy features should also be reviewed. The new should not affect the old. To test the application, I ran the emulator provided by Android Studio.

Deployment: Once the two applications have been developed and tested, the system is ready for industrial deployment. Now the company is ready for use and during its existence it will continue to develop and new technologies and ideas will emerge.

11 . OBSERVATION AND RESULTS:

After successfully developing a system where both applications are working properly, the following findings are made: - The system is working properly and all functions are working properly. List, update and delete employees as needed. An employer can mark their public holiday at any time, but here an employee can only change their public holiday on the same day or the next day, no one can mark their public holiday before. There is a restriction that cannot be changed. This function works very well .Employers will see a list of current employees in blue under the "Monthly Data" option, along with the total number of hours worked to date and the current total number of days for the month. The system can calculate his salary at the end of the month. The workers will not receive their wages until after this month. If an employee leaves between , he cannot be paid on the same day. Salary paid at the end of the month. Another feature that allows you to mark her presence on her only once a day also works great. Another application detects that its crew has also arrived at its destination and can scan the QR code to indicate its presence. But this system does not allow to manage its progress, it is only suitable for the day shift (these functions are not added at the moment, and the development will be updated in the future). easy to add).

12.CONCLUSION:

This concept brings transparency to payroll. It will also reduce HR work so you can focus on other things. This employee management system manages the overall performance and various aspects of employees in an organization.

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