# AUTOMATED PAYROLL SYSTEM WITH GPS TRACKING AND IMAGE CAPTURE

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*Abstract*— This paper's primary focus is on paying the employee for the hours he worked by tracking him using an Android smartphone. Numerous techniques have been used since the past to assess attendance, including as using a pen and paper This system had a lot of backlogs and produced a lot of proxies. Either the supervisor would take attendance or, if it was under his supervision, the workers would sing with their names. Later on, as technology advanced significantly, so did the methods for recording attendance. For instance, RFID chips and biometric devices are widely used nowadays. Nevertheless in order to eliminate the drawbacks and provide reliable results, we are presenting an attendance approach that uses both of the systems' respective backlogs GPS monitoring. People and organizations nowadays want their job done quickly and without wasting any time, which is why we have included a module for paying payroll based on the number of days that employee worked. Payroll allotment is one example of this. There are two stages to this project. There are two phases to the system: the mobile phase, which involves field workers using an Android app to track their position every five minutes, and the web phase, where HR and admin keep an eye on the workers and provide them with an employee ID number and password for security reasons. In the web phase, the tracking is managed by HR and admin.

Keywords: GPS tracking, image capture, automated payroll, employee, HR, admin, SQL database.

## INTRODUCTION

These days, keeping an eye on and tracking personnel has become a top priority for both public and private organisations and businesses. There are several approaches of assessing attendance that date back to the past; pen and Frontiers in Materials and Intelligent Systems Technologies International Conference, IOP Conference Series, Materials Science and Engineering. The two-paper approach has a lot of shortcomings. mostly getting rid of the attendance. The primary goal of the project is to eliminate proxy attendance, which makes attendance consuming more time. Rapid technological advancements cause methods for collecting attendance to progressively alter as well. Some of these procedures include the use of RFID sensors, electronic tags, and biometric devices like face and eye scanning. There are several problems with each of these procedures to resolve every problem and drawback. We released software that tracks GPS locations and takes pictures, dubbed automatic payroll. It will track the worker's location every five minutes and assist in figuring out the payment information.

## EXSISTING SYSTEM

There is an existing system of Automated Payroll with GPS Tracking and Image Capture. This system is a combination of a web application and an Android application. The main theme of this system is to track the employee using an Android device and calculate payroll for the working hours they worked3. The system has two phases. Mobile Phase: An Android app for field workers tracks their position every 5 minutes. Web Phase: The HR and admin monitor the employees. For security purposes, employees are allotted with an identification number and password3.This system helps to keep track of the attendance as well as payroll of fieldwork people1. Since the GPS location of the employee is tracked, it discourages employees from adding proxy attendance.

## PROPOSED SYSTEM

The client-server software for the suggested Automated Payroll with GPS Tracking and Image Capture system adheres to a distinct hardware and software architecture1. This solution uses Cloud as a Service ideas to track marketing personnel who are on-site. After specific intervals, the Android smartphone sends GPS coordinates to the server continuously. Together with the employee's photo, the system also communicates the data utilising the ID that the employee entered. The goal of this suggested system is to eliminate the drawbacks of the current approaches and produce precise results1. Additionally, it has a module that pays payroll based on how many days people worked1. API level 8 and higher Android 2.2 (Froyo) devices are compatible with this system

## DESIGN

### User Interface Design

For the GPS tracking and image capture, you would need to integrate with the appropriate hardware or APIs, which would be specific to your particular application and beyond the scope.


Fig 1.1

## Database Design

Designing the database for an automated payroll system with GPS tracking and image capture involves structuring the database schema to efficiently store and manage relevant data.

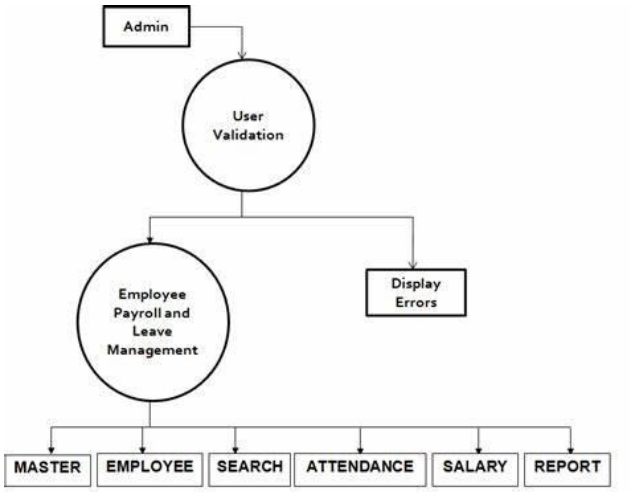


Fig 1.2

## System Design

Our System is voice oriented. When user is over every legal space in website, it will receive voice messages where user is right now. If normal people don't want this feature they can turn it off. The system work flow is defined in DFD diagrams.

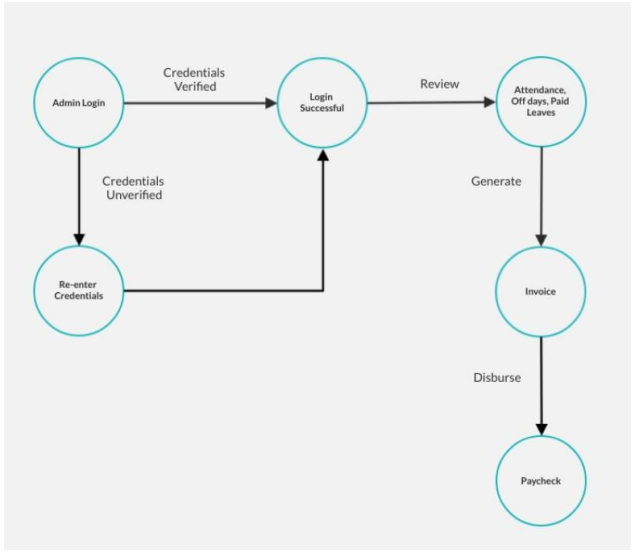


Fig 1.3

## IMPLEMENTATION

1. Gathering Requirements:

Determine the precise specifications for your GPS-tracked and image-captured automatic payroll system.

Assess the project's features, functions, and user roles to determine its scope.

2. Technology Choice:

Select the right technology for the various system components, such as picture capturing, GPS tracking, and payroll processing.

Take into account elements like regulatory compliance, compatibility with current systems, and scalability.

3. Design of the System:

Create the system's architecture, taking into account the application modules, integration points, and database schema.

Specify the procedures for processing payroll, gathering GPS tracking data, and taking pictures.

4. Data Storage and Security:

Set up a secure database to store payroll data, GPS tracking data, and captured images.

Implement encryption and access controls to protect sensitive employee information.

Ensure compliance with data privacy regulations, such as GDPR or HIPAA, depending on your jurisdiction.

5. User Interface Development:

Design and develop user interfaces for administrators, managers, and employees to interact with the system.

Provide intuitive dashboards and reports for monitoring payroll-related metrics, GPS tracking data, and captured images.

Ensure the user interface is responsive and accessible across different devices and screen sizes.

6. Testing and Quality Assurance:

Conduct comprehensive testing of the system to identify and fix any bugs or issues.

Perform functional testing, integration testing, and user acceptance testing to validate the system's performance and usability.

Address any performance bottlenecks or scalability concerns through load testing and optimization.

7. Deployment:

Deploy the system to production environments following best practices for deployment and configuration management.

Provide training and support to users to ensure they can effectively use the system.

Monitor the system post-deployment and address any issues or maintenance tasks as needed.

## FUTURE SCOPE

These days, keeping an eye on and tracking personnel has become a top priority for both public and private organisations and businesses. There are several approaches of assessing attendance that date back to the past; pen and Frontiers in Materials and Intelligent Systems Technologies International Conference, IOP Conference Series, Materials Science and Engineering. The two-paper approach has a lot of shortcomings. mostly getting rid of the attendance. The primary goal of the project is to eliminate proxy attendance, which makes attendance consuming more time. Rapid technological advancements cause methods for collecting attendance to progressively alter as well. Some of these procedures include the use of RFID sensors, electronic tags, and biometric devices like face and eye scanning. There are several problems with each of these procedures to resolve every problem and drawback. We released software that tracks GPS locations and takes pictures, dubbed automatic payroll. It will track the worker's location every five minutes and assist in figuring out the payment information.

## ADVANTAGES

Performance Tracking: This system allows the users to get the performance details of the employees with great ease.

Payroll Reports: The reports related to the payroll are easily available through this application.

Ease of Use: People can use this application to get the details of the payroll with great ease.

Field Work Tracking: This system helps the admin to keep track of the employees who go for field work1.

Prevents Proxy Attendance: Since the GPS location of the employee is tracked, employees will not attempt to add proxy attendance.

Real-Time Data: Using real-time data, this technology not only makes sure that pay is right, but it also makes the payment process safer, more open, and more in line with the law.

## LITERATURE SURVEY

| Year and Citation | Article/Author | Tool Software | Technique | Source |
|---|---|---|---|---|
| 2019 [1] | K. Mohan Prasad | SQL database, Application Program and server | Android Application | SQL Database |
| 2023 [2] | Tinashe Matanhire | GPS Tracker | DBMS | HTML and JAVA SCRIPT |
| 2021 [3] | Sumathi Pawar | COVID Tracker | GPS Tracking | SQL and JDK |
| 2023 [4] | Francisco Palomares | GPS Tracker | SQL database | SQL and DBMS |
| 2022 [5] | Miss A S Mamdyal | Prototype GPS Tracker | GPS technology | Prototype GPS |
| 2022 [6] | P. Babu | Start Wamp Server and Android Application | Alumni info manage | PHP and MYSQL |
| 2023 [7] | Idriss Moumen | Open Source Java Script | Real Time GPS Tracking | VANET And IOT |

## CONCLUSION

The Automated Employee paycheck System will follow an employee's activities, manage their costs, and ensure that

they are in the office on time. It will then use the data it has collected to compute that employee's paycheck. Our suggested solution contains an integrated paycheck creation application based on attendance data and an attendance system, all in one, after examining several articles about comparable systems. We are able to monitor an employee's whereabouts when he is not on corporate property thanks to routine GPS tracking. The wage of the employee is determined using this data, which is connected to their database. Automation is also used for deductions such as withholding tax and leaves. e. In order to monitor a position while the system is operating, the GPS mobile location service has to be switched on. A SMS is sent to activate the GPS location if the mobile location service is unavailable, and the operation will not proceed. Employee locations may be tracked using the GPS mobile location service, both in terms of latitude and longitude. The employee's Android device should be accessed via internet access or any available WiFi when they enter the working area. An SMS containing their employee ID number and the local time on their Android device—also known as their login time—is then sent to a server located in the office.

## REFERENCES


[1] Sonal Kasliwal, H.D.Gadade and Sushma Kotkar (2016), Employee Tracking and Monitoring System With Android, International Journal of Innovative Research in Advanced Engineering (IJIRAE) SSN: 2349-2763, No03, Vol 3, pp. 1-4

[2] Asha P, Albert Mayan J, Canessane A (2018),"Efficient Mining of Positive and Negative Item sets Using K-Means Clustering to Access the Risk of Cancer Patients", Communications in Computer and Information Science ,ICSCS 2018, Kollam, 2018,pp.373-382.

[3] Aparna Chandran (2013), Smartphone Monitoring System, International Journal of Computer Science & Engineering Technology (IJCSET) ISSN: 2229-3345 Vol. 4 No. 04, page 451-452 [4] Shermin Sultana1, Ishrat Jahan Mouri and Asma Enayet1 (2015), A Smart, Location Based Time And Attendance Tracking System Using Android Application International Journal Of Computer Science, Engineering And Information Technology (Ijcseit), Vol. 5, No.1,

[5] Usha Nandini , Saravanan M , Albert Mayan J , Murari Devakannan Kamalesh , Mohana Prasad K (2018) , " Automatic traffic control system using PCA based approach",International Conference on Energy, Communication, Data Analytics and Soft Computing (ICECDS-2017),pp.2387-2392.

[6] Prajakta Kokare, Ashwini Jaybhaye, Tanmay Kulkarni and Bhakti Toradmal (2015), Employee Monitoring System Using Android Smartphone, International Engineering Research Journal (IERJ) Volume 1 Issue 2 Page 32-35, ISSN 2395-1621

[7] Shamal Bangar , Kalyani Bhagwat Priyanka Salunkhe. (2015), Employee Monitoring System Using Android Smart Phone, International Journal on Recent and Innovation Trends in Computing and Communication ISSN: 2321-8169 Volume: 3 Issue: 2 537 - 541 537 IJRITCC.

[8] Shoewu.O, Amisu, A.A and Makanjuola, N.T (2015) Design and Implementation of An Employee Monitoring System In Lasu Epe Campus, Lagos State University, Journal of Advancement in Engineering and Technology, Volume 4, Issue 1, ISSN: 2348-2931 [9] J. Albert Mayan and S.P. Avinaash Ram (2015), Mobile Attendance Management And Employee Registration Application, Journal Of Engineering And Applied Sciences, Vol. 10, No. 8, Issn 1819- 6608, page 3727- 3730

[10] Kanchan A. Patil, Nitin P. Jagtap Nitin S. Ingle and Shaziya Sayyed Shakil (2015), Mobile Activity Monitoring System Using Android Spy, International Journal of Advanced Research in Computer and Communication Engineering, Vol. 4, Issue 2, page 158-162

[11] Dr.R.Sabitha, Dr.K. Mohana Prasad "Meta Physical Algorithmic Representation for Flawless Clustering" Journal of Theoretical and Applied Information Technology , ISSN: 1992-8645, Vol76, NO 1, PP 82-87.

[12] Dr. R. Sabitha, Dr.K.Mohana Prasad "Evolution Of An Algorithm For Formulating Efficient Clusters To Eliminate Limitations" International Journal of Applied Engineering Research, Volume 9, Issue 23, pp. 20111-20118.

[13] Surendar E, Thomas V.M, Posonia Mary A,"Animal tracking using background subtraction on multi threshold segmentation" ,Proceedings of IEEE International Conference on Circuit, Power and Computing Technologies, ICCPCT 2016 ,pp.1-6

[14] Dr. R. Sabitha, Dr.K. Mohana Prasad" Yoking of Algorithms for Effective Clustering", Indian Journal of Science and Technology, ISSN: 0974-6846 Vol 8(22), IPL0269, September 2015, pp 1-4.