



# AUTOMATED PAYROLL PROCESSING USING ROBOTIC PROCESS AUTOMATION

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**Abstract:** Payroll is the procedure by which employers compensate employees for their labor. Payroll administration responsibilities may be burdensome for large firms but are a tremendous burden for small business owners. When payroll is performed manually, keeping accurate records, organizing information, and assuring constant accuracy may be more difficult. Because of changing needs, changing employee demands, and changing technology, many traditional payroll practices and procedures must be reviewed. As a result, an organization needs an automated payroll system to conduct payroll-related processing more efficiently.

There are lots of tools for robotic process automation, however Automation Anywhere is one of the popular RPA tools that provides powerful features to automate complex business tasks. It is used to automate such processes that are repetitive, rule-based, and manually performed by humans. When using Automation Anywhere for your Robotic Process Automation technology, bots can run both attended or unattended. Automation Anywhere integrates well with a multitude of applications, so you can easily automate business repetitive tasks, allowing you to create and deploy processes end-to-end with a digital workforce of software robots that complete activities in real-time.

**Keywords:** Payroll processing, Employee, Robotic process Automation

## INTRODUCTION

Robotic Process Automation is one of the technologies that is assisting payroll teams in better managing their time so they can focus on providing high-value, strategic information. Robotic Process Automation (RPA) is a software or group of tools that can be designed to accomplish repetitive operations using structured data and rules. Manual, repetitive jobs can be replaced by robotic process automation, which speeds up processes and reduces the chances of errors to virtually zero.

We have taken the initiative to create an automated payroll system that will manage employee data and do wage calculations. The system also gives employees access to an online platform where they can check their pay, attendance status, leave history, and ask for leave. Furthermore, after the salary is finalized, the system provides an email notification of the salary data.

## LITERATURE REVIEW

Vinod Kumar Shukla and Nisha Bhandari [1] proposed the system tries to incorporate the concepts of RFID-based communication, voice data analysis, and biometric-based features. This will help to improve the payroll administration system, the leave management system, and the performance appraisal system as a whole. Although the proposed model in the research has room for improvement, it also presents an effective method for creating a payroll administration system using biometric and RFID technologies.

Abhijeet Kawale et al., [2] proposed a payroll system that more effectively manages personnel and payroll-related details, processing in each department, and payroll audit. With this payroll system, the payroll department will be able to keep track of employees' personal information, pay stubs, allowances, deductions, and leave, among other things. The allowances and deductions listed in the corporate rules are used to compute each employee's net compensation. If an employee requests a printout, the individual pay slips are printed as a receipt. If the wage structure changes, the pay bands, allowances, deductions, attendance, and tax information are changed.

Jannyl Darren A. Villarama et al., [3] represented the system focuses on using biometrics to create an automated system for attendance monitoring. This will be extremely beneficial to businesses that are still manually calculating staff attendance and payroll. To track staff attendance, the device was built with a fingerprint scanner. A programme is also being created to track and calculate payroll. The microcontroller is the brain of the system, while the Zigbee module sends and receives data, and the LCD shows the system's output. Microsoft.NET technology was utilized to construct the programme, and Microsoft SQL Server was used as the database.



Arjun V. Singh et al., [4] this system is based on a desktop computer. The suggested system is built on a database that stores all information about employees, allowances, deductions, taxes, and net pay. Payroll and tax filings will be kept up to date in the payroll system. Calculating allowances, taxes, and other deductions, as well as generating individual pay slips and deduction vouchers, are all part of this process. The proposed system includes features such as attendance import from a biometric machine, salary details before finalizing a salary, and leave and attendance management. slip generation and printing, faculty management, overtime calculation, and salary slip mailing.

N. Shiva Kumar et al.,[5] this paper aims to automate one of the repetitive tasks called salary calculations and payment processing. Moreover, the advantage of automating this process over manual work is also addressed. In order to do so, the biometric information of the employees of an organization is considered. This paper provides an overview of the RPA definition and one of its tools, called UiPath, which is used in this to automate the process, which results in sending the mail to the respective employees after all the calculations without any human intervention.

Kritika Mahajan et al.,[6] gives a solution for payroll administration system service on the cloud is presented. This technology allows several users to access data. Each user, such as an employee, HR, or admin, can enter into the software using the username and password that the organization has assigned to them. It entails keeping track of hours worked and is capable of retaining a record of employee data, such as pay, allowances, deductions, and taxes, on a monthly basis so that new definitions are reflected from the following month onwards while all previous data is preserved. The proposed payroll system is beneficial because it creates a user-friendly environment while simultaneously increasing security and reducing human calculation errors.

METHODOLOGY

This project will use robotic process automation to create a payroll administration system (RPA). There are many robotic process automation (RPA) solutions available, we have used Automation anywhere. The proposed system includes capabilities such as maintaining employee information, importing attendance from a biometric machine, managing leave and attendance and mailing salary details to employees.

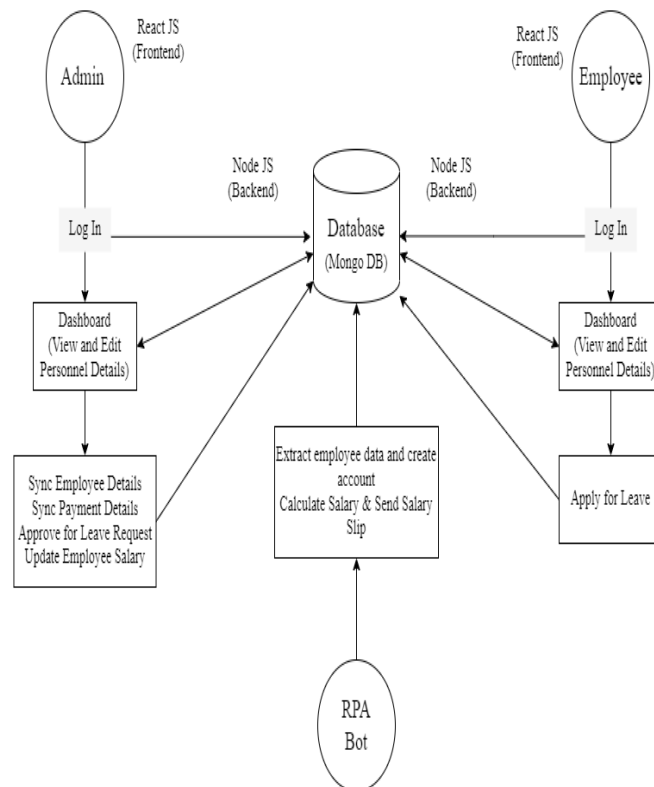


Figure 1:Architectural design



There are two portals for administrators and employees. When a employee gets hired the HR team will send the employee details to the admin in certain format. The bot will retrieve the data from the files when the admin clicks the "sync employee" button the employee database will be updated. The bot will use a user interface to enter all of the gathered data in order to create a new employee account. Following this, the payroll bot will use email automation to send an email to the employee providing the login credentials. These credentials can be used by employees to access their accounts. After successfully logging in to the employee portal, the employee will be able to check their attendance and salary status, as well as apply for leave. Additionally, users have the ability to manage their account information. The manager of the concerned department will approve or deny the employee's leave request.

The administrator will be able to upload the monthly attendance status of employees in excel format, which will be updated in the database. This pay salary button will only be available at the end of each month. The bot will calculate each employee's net compensation after deducting all deductions, and the net salary will be displayed in their portal. Following that, the bot will use email automation to send the salary slip to the appropriate employee.

**EXPERIMENTAL RESULTS**

The proposed system collects the employee details and store it in excel file. It calculates the employee salary by considering the leaves and deductions and salary slip is sent to the particular employee through email automation. All the process is done through RPA automatically. Result is shown in below figures.

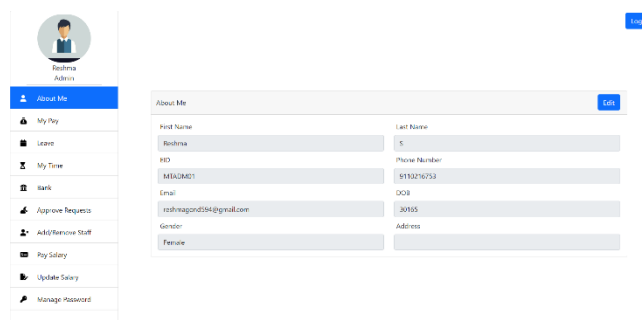


Figure 2: Admin dashboard page

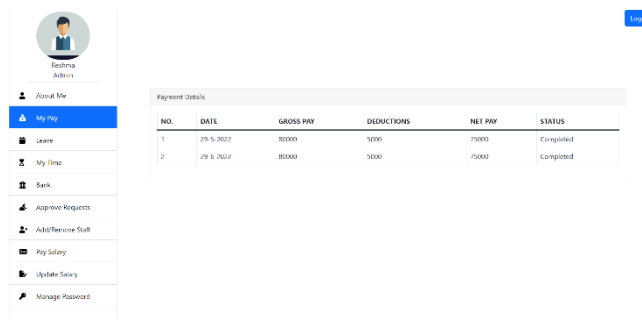


Figure 3: Admin salary paid status

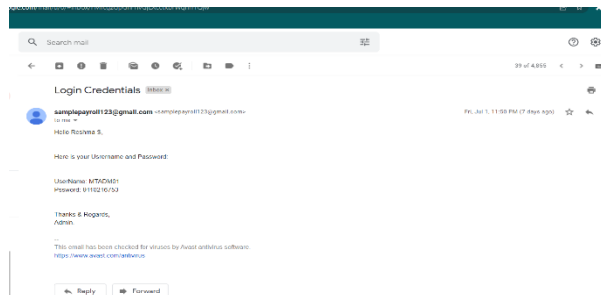


Figure 4: Login credential mailed to employees

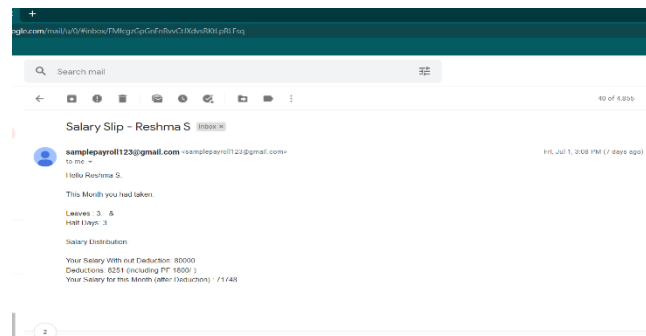


Figure 5: Salary status sent through mail

## CONCLUSION

A payroll system is essential for data capture, calculations, and reports. It contains a lot of information that, with the correct assistance, may be converted into knowledge that employees appreciate. Any software upgrade can create significant disruption and often comes at a high cost. However, RPA does not require any changes to your existing systems, resulting in significant cost savings. RPA can operate independently of any current software or systems. This implies it can be easily developed and altered. So, if you want to add or change an automation process, you can do so easily and quickly because it is carried out by tools and is much faster than a manual procedure.

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