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Automatic Payroll Processing System

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ABSTRACT

Payroll is a critical operation for every organization to pay employee accurately their salary and enrolments on time. Trouble free payroll processing is a critical need of our business. With the passage of time the needs of an organization grow, therefore, the operational work and responsibilities are also grown. That is why there is a need of hiring more employees. Calculating salaries of many employees requires a lot of work and chances of occurring errors also increase. Automatic Payroll Processing System (APPS) simplifies the work by reducing errors and saving the time. Another huge advantage of running Payroll software over a manual process is in the reporting, most systems allow, weekly, month and annually required reports to be run at the press of a button. Instead of shuffling through endless files let the software do the work. It possible with a lot of Payroll software to integrate with your time sheet systems that record employee attendance or time worked. It a simple way for information about employee hours worked to be transferred into the Payroll System removing yet another layer of manual processing.

Keywords : Automatic Payroll Processing System (APPS), UML, Java, MySQL Database, AWT.

I. INTRODUCTION

In an organization there are several departments and each department haspayroll section to manage payroll activities. Each section has to perform necessary operations like data collection and preparation, entry, updates monitoring and reporting of data. Many of these existing practices and procedures need to be reassessed at this time of changing needs, changing demands of employees and changing technology so an organization needs a payroll system that would manage the personnel and payroll related details, processing in each department and payroll audit in a more efficient way.[1] With this payroll system , payroll section would be able to keep a record of employees including their personnel data, pay slips, allowances, deductions, leave etc..

Net pay of each employee is calculated by this allowances and deductions mentioned according to the company rules. The individual pay slips are printed out as a receipt if employee want to get a print out. Pay bands, allowances, deduction, attendance and tax information are updated if there is any amendment in salary structure.[4]

For capturing behaviour of a system in an efficient way, Unified Modelling Language (UML) diagrams are useful approaches. Through UML diagram flow of a system, the interaction of a user with the system can be described in an efficient way. Automation is done

using APS that describes how the system behave according to the particular inputs it receives. In many applications [1, 2], NFA is used for modelling a system or pattern matching, and ultimately these are affective approaches for describing the system behaviour.

In existing work, authors describe the functional architecture for the payroll processing system that is based on state transition diagrams and stream processing functions, and processing using SAP. It has enhanced efficiency of the system by providing retroactive accounting on the basis of single wage type. Further, it has provided a list of deductions details of the employees, privacy act for securing system information. All these past work provide architectures and different tools for improving efficiency and productivity but do not provide any mechanism that may validate or verify the correctness of the system.

The rest of the paper organized as follows: section I presents UML based model of the system and the algorithm; section III presents NFA based model of the system; section IV describes experimental result of proposed system.

II. UML-BASED PAYROLL PROCESSING SYSTEM

Payroll processing system used to process the salaries of the employees as well as keeps the records of their attendance, income tax, allowances, overtime and many other deductions. It generates reports and pay slip of all employees. Software that we used to design the real word complex systems must be analysed in a better way otherwise ambiguities remain here.

Therefore, for better understanding and modelling, UML diagrams are a useful approach. APPS gets employee records, salary, tax, allowances and time schedule according to the received input, it processes the salaries of all employees and generates gross salary, Net salary, overtime payment and also generate reports and pay slip.

Algorithm :

1) Login
2) if (“error occur”)
goto step (1)
else
3) if (“New Employee Hire”)
Assign ID
Set pay period, Salary, Allowances.
Save
goto step(7)
4) if (“More Employee exist”)
goto step(4)
5) Calculate overtime, Gross Salary and Net salary.
6) if (“No Error occurs”)
Print pay slip
Generate reports
else
goto step(5)
7) Exit

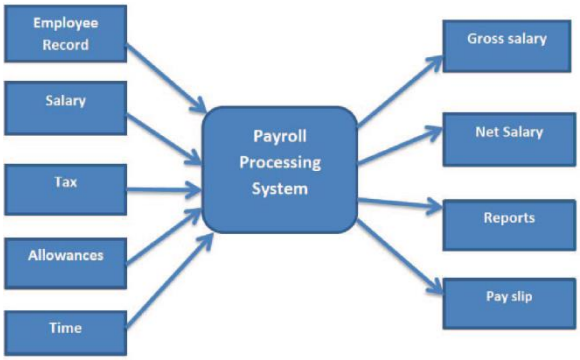

Figure 1. Visual representation of a system

Functions to be provided:

The various features that the proposed system will possess will be:

1. The system will be user friendly and completely menu-driven so that users shall have no problem in using allthe options provided.
2. The system will be efficient and fastin response by careful programming.
3. The system will be customized according to the needs of the organization.

4. It will provide overall security to database both from user as well as administrator side.
5. Generate and print salary slip
6. Faculty Management
7. Overtime Calculation

III. SOME EXPERIMENTAL RESULTS OF PROPOSED SYSTEM

Figure 2. Login Page

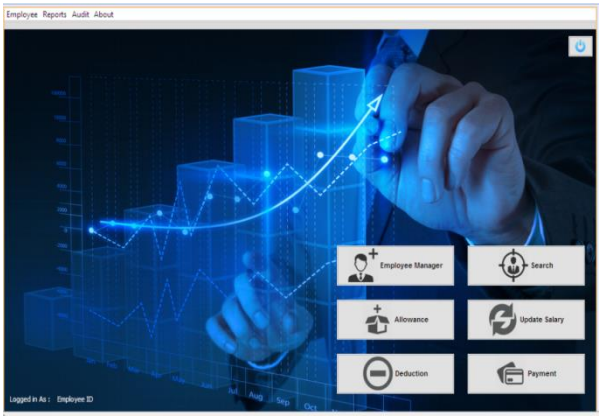

Figure 3. Main Page

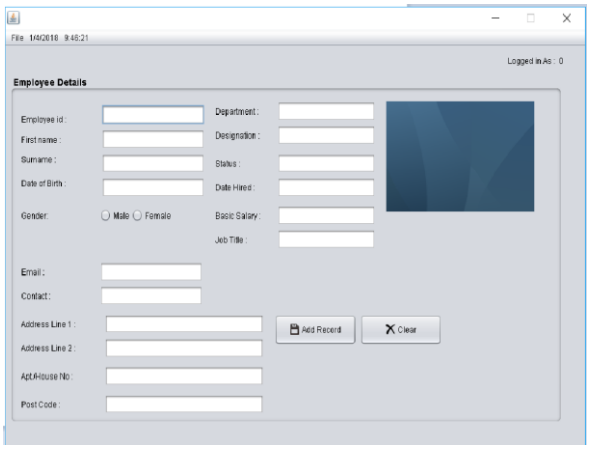

Figure 4. Employee Registration

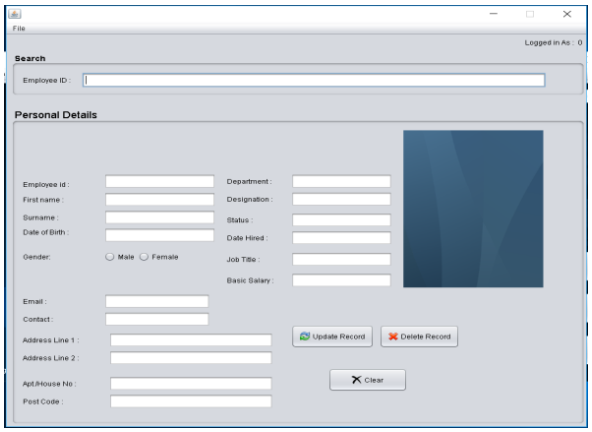

Figure 5. Search Employee

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