

Automated Payroll System (A-PAY)

Arjun V. Singh¹, Siddesh V. Chaphekar², Yogesh S. Sawant³
^{1,2,3}B.E.(CSE),SLRTCE

Abstract - Payroll is a critical operation for every organization to pay employee accurately their salary and enrollments on time.[1] Trouble free payroll processing is a critical need of our business. Payroll software completes payroll calculations within a fraction of time it would take to do them manually, whilst you're payroll staff may not like it, it make perfect sense if you are trying to run a business. Another huge advantage of running payroll software over a manual process is in the reporting, most systems allow weekly, monthly, 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 is possible with lot of payroll software to integrate with your time sheet systems that record employee attendance or time worked. It is a simple way for information about employee hours worked to be transferred into the payroll system removing yet another layer of manual processing.[2] The proposed payroll system is a desktop based application for a college which is developed in Vb.net as front end and Microsoft Access 2007 with SQL Server 2008 as a back end. It manages the faculties' personnel details, pay bands, allowances, deductions and many other details. It has biometric machine for attendance. The proposed payroll system provides individual pay receipts and deduction vouchers. It also has an option for backup and restore of all data just by click of a button. The proposed payroll system is advantageous as it provides a user friendly environment and also increases security and minimizes human calculation errors

Keywords- *Visual Studio 2010 Programming ,My SQL 2008,Visual Basic .Net Framework , Crystal reporting.*

I. INTRODUCTION

In an organization there are several departments and each department has payroll 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] The proposed payroll system calculates hourly based wages , leaves given to the faculties and it would be able to generates the salary slip, attendance and salary summary, graphs and other reports. It will provide SMS intimation for attendances and salary to each faculty and it also provides

appointment letter, promotion letter to the faculty etc. This System provides an option to restore or get the backup of all databases of faculties by just clicking a button.

A. Description:

There are many software's in the market which are available to limit the user from accessing the full potential of the software without the proper authentication process on the user. A-PAY should take care of Personnel Management, Payroll, Attendance Management using biometric machine, Leave Management, SMS intimation, statutory compliances like PT, PF, ESIC, TDS & IT etc. The system should be able to generate pay slip, attendance and salary summary, graphs and other HR reports. It also provides appointment letter, promotion letter & experience letter to the faculties. This System provides an option to restore or get the backup of all databases of faculties by just clicking a button. Payroll is method of administering faculty's salaries in an organization. Proper documentation of every faculty no need to look after manual folder and files. Complete detail of collage maintaining payroll software on a single click. These software's are used to provide features such as Flexible Salary Calculation, PF, ESIC and Professional Tax calculation, Tax Projection details of each Faculty etc.

B. Product Perspective:

This software is developed specifically to cater the college faculties Personnel Management leave management, attendance management & all reports is totally self-contained and works efficiently. It provides simple database rather than complex ones for high requirements and it provides good and easy graphical user interface to both new as well as experienced user of the computer.

II. PROBLEM FORMULATION

The use of traditional spreadsheet applications such as Excel in the past few years has proved to be an inefficient way of keeping faculties' records, calculating faculties' enumerations and deducting obligatory contributions from salaries. No option to restore or get the backup of all databases of faculties by just clicking a button Small and mid-sized enterprises (SMEs) are most affected as they sometimes tend to use low end applications even as they expand in business activities. This manual method of calculating faculties' salaries and carrying out deductions impossible task due to its incapacity to handle large amount of data without error. No bar graphs to show the financial profit or loss of colleges.

III. RESEARCH METHODOLOGY

Software Development Life Cycle (SDLC) is a framework that describes the activities performed at each stage a software development project.[7] It starts with the system analysis, design and implementation and continues through the maintenance and disposal of the system. The algorithm is a process of problem-solving in step by step to get result. Algorithm is very important for the programmers to do computer programming because it figures out the programming process. Algorithm is a part of problem solving techniques. After the problem has been raise, we have to analyze the problem first then the inputs and outputs are defined after that we start to design the algorithm that is process to transform inputs into outputs [4].The proposed system gives the flowchart for solving the problem on salary Module

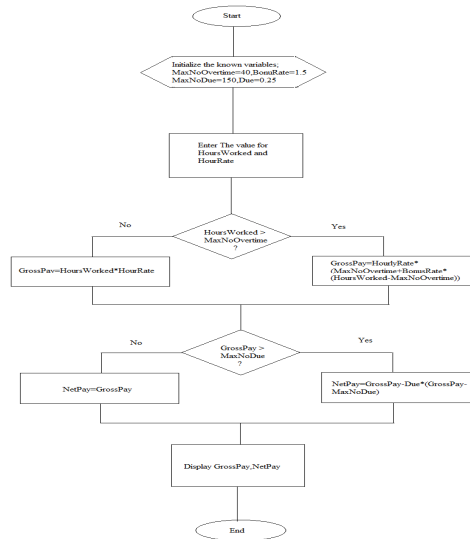


Fig0.0 Flow Chart

C. System Analysis :

Analysis involved a detailed study of the current Clipper based system. During analysis, data are collected on available files, decision points and transactions handled by the present system. Interviews, on-site observations and questionnaire are the tools used for system analysis of present system. System analysis also includes sub dividing of complex process involving the entire system, identification of data store and manual process.

D. Existing System:

In order to maintain their design pay slips and other related information to project development, which includes client requirements, storage department is immense. The lack of consistency in pay slips maintenance leads to both loss of work as well as money and time with the automation of payroll management system, the manual storage dependency is minimized to a large extent. Present day organizations, especially large companies house employees in large number [3].

E. Proposed System:

The proposed system is a desktop based system. The base of the proposed system is a database, which stores all the information pertinent to personnel, allowances, deductions, taxes and net pay. The payroll system will stay up to date with pay checks and tax fillings [3]. This includes calculating allowances, taxes and other deductions, printing individual pay slips and deduction vouchers.

F. Features Of Proposed System:

- Attendance import from Biometric Machine
- SMS intimation of attendance and salary details before finalizing salary
- Leave and attendance management
- Generate and print salary slip
- Faculty Management
- Overtime Calculation
- Send salary slips through mail

- User level access right
- HRD modules like offer letter, appointment letter, promotion letter etc..
- Faculty Birthday notification
- Generate annual profit-loss of college by using graphs

G. System Flow:

A data flow diagram (DFD) is a graphical representation of the "flow" of data through an information system, modeling its process aspects. A DFD is often used as a preliminary step to create an overview of the system, which can later be elaborated. A two-dimensional diagram that explains how data is processed and transferred in a system. The graphical depiction identifies each source of data and how it interacts with other data sources to reach a common output.

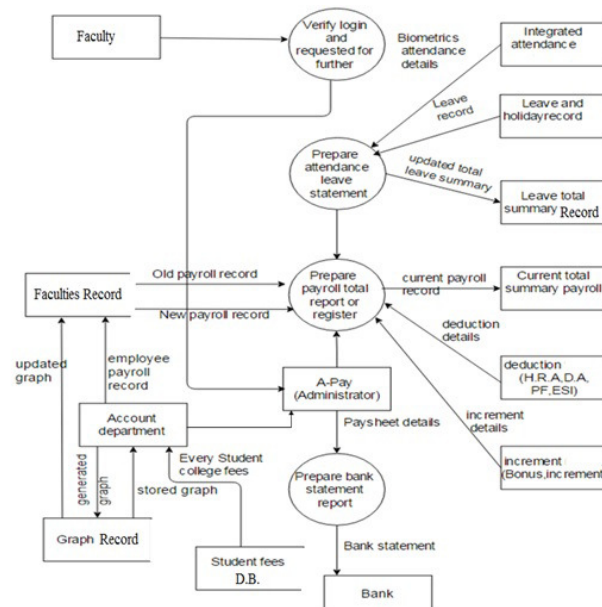


Fig 0.1 DFD Level 2

H. Some Experimental Results Of Proposed System:

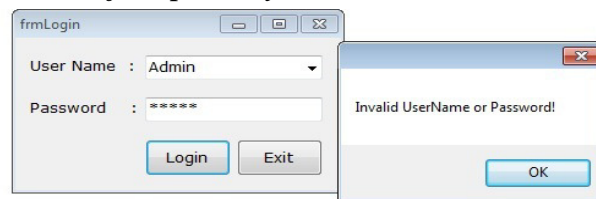


Fig 1. Login Form

Faculty Info Form

Prefix : Mr.

Faculty Name : yogesh sunit savant

Gender : Male D.O.B : 29/10/1992 Blood Group: AB-

Edu. Qualification : BE Computer Prof. Qualification : MBA Religion : Hindu

Married : Spouse Name : Annivesary : 12/12/2018

Father's Name : Sunit Savant PAN No : HG6376L Aadhar No : 6736736743763

Address For Correspondence : Kandivali Permanent Address : Kandivali

City : Mumbai Pincode : 4000210 City : mumbai Pincode : 400210

State : Maharashtra State : Maharashtra

Contact Person : Sunit Savant Relation : Father

E-mail Id : yogesh29@gmail.com Mobile : 9338749234 Tel. No : 0222 7837833

Driving Licence : HJ85348 Voter Id : 78477 Passport No : 37883

Enal_ID	Mob_No	Std_Code	Tel_No	DLicence_No	Voter_Id	Passport	Emp_Pic
ajunsngh1@un...	7798169854	0250	3367453	DG7837	89482	453453	
ajunsngh1@un...	7798169854	0250	7387833	VB2222	84567	322223	

Buttons: Top, Previous, Next, Bottom, Update, Save, Delete, First, Cancel

Fig 2. Faculty info Form

College Details Form

Name of College : Shri L.R. Tiwari College Of Engineering

Address Of College : Mira Road

City : Mumbai Pincode : 400221 State : Maharashtra

Telephone No : 0250 6577571 Fax No : 0221 79678367

Email Id Of The College : sitce@gmail.com Website : ghgdahghgd

Financial Year From : 09/02/2016 To : 10/02/2016 Est. Date : 16/02/2016

College Regn. No : Certificate No :

Permanent A/C No : 61380202004532 Tax Deduction A/C No :

Name Of Contact Person : Contact No :

PF Regn. No and Date : 10/02/2016 ESI Regn. No and Date : 10/02/2016

Prof. Tax Regn. No and Date : 10/02/2016 Gratuity Regn. No :

ID	Colg_Name	Colg_Add	City	Pincode	State	Std_Code
1	Universal College	Vasai	Mumbai			
3	Shri L. R. Tiwari C.	Mira Road	Mumbai	400221	Maharashtra	0250
7	Shri L. R. Tiwari...	Mira Road	Mumbai	400320	Maharashtra	0250
11	colbic	cvr o	vsbcb	401204	Maharashtra	343
12	L.R Tiwari College	Mira Road	Mumbai	400010	Maharashtra	

Fig 3. College Details Form

College Misc. Details Form

Misc. Details

Weekly Off On : Mon Tue Wed Thu Fri Sat Sun

College Logo : Browse

Default Attendance : Absent

Attendance Database : Browse

Minimum Age For Joining : 24

Maximum Age For Retirement : 65

Principal Officer Name : R. Reddy

Designation : Principal

Father's Name : Rameshwar Reddy

Residence Address : Andher (W)

Contact Number : 9856736891

ID	Default_At	Min_Age_Join	Max_Age_Retre	Princi_OfficerName	Princi_Design	Princi...
11		34	67	rsr	rwer	rsrwr

Buttons: Save, Update, Delete

Fig 4. College Misc. Details Form

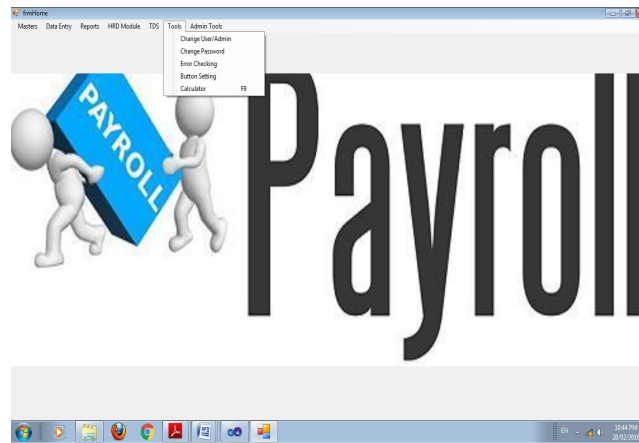


Fig 5 Home Page

IV. FUTURE ENHANCEMENT

- I. This salary management program can be further enhanced by a budget program in future. In budget program every team leader will have support to manage and utilize specific amount of money in an efficient way with this amount he will manage everything like college expenditures etc.[4].
- J. The prototype automated payroll system is complete in itself and ready to be implemented but changes and growth in requirements will be a reality on every software project so there is a need to timely update them. The same applies to this payroll system [1].

V. CONCLUSION

The goal of this review paper was to develop a desktop based payroll system using .Net, SQL and MS-Access. This automated payroll system calculates, maintains and records the payroll information of the faculties. This application will help to automate the payroll system of an organization. The administrator of the college will have the full control to completely customize the payroll system because there is only one person who is authorized that is the admin of the college will be able to login and logout into the system. The head of the departments will be able to authenticate new faculties, update existing faculties pay, view reports. The system is user friendly, whenever there is any error in entering data, it immediately shows an error. The application is equipped with tools for updating salary records, tax calculations, adding new allowances, deductions and many other features that are easy to be operated by the administrator [3].

REFERENCES

- [1] International Journal of Engineering Research and Development, Punjab Agricultural University, <http://www.ijerd.com/paper/vol5-issue3/H05035560.pdf>
- [2] International Journal of Advanced Research in Computer and Communication Engineering Vol. 4, Issue 1, January 2015.
- [3] Payroll Management System”Bangladesh SCHOOL OF SCIENCE AND TECHNOLOGY Project Prepared by Rafiqul Alam Khan, Md. Jahirul Kader Institute of Science & Technology.
- [4] International Journal of Research (IJR) Vol-1, Issue-6, July 2014 ISSN 2348-6848 Implementation and Development of a Proposed Payroll System
- [5] IOSR Journal of Business and Management (IOSR-JBM) e-ISSN: 2278-487X, p-ISSN: 2319-7668. PP 13-20, www.iosrjournals.org Case Study on College Payroll System Mrs. Manisha Y Patil, Asst. Professor, Mrs. Anagha V Dudgikar, Asst. Professor Marathwada Mitra Mandal’s College of Engineering, Pune