PAYROLL MANAGEMENT SYSTEM

Course: IT314-Software Engineering.

Course Instructor: Prof. Rakesh Shukla

Team #12: SEnsational

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[SOFTWARE REQUIREMENT SPECIFICATION]

[22nd February, 2008]

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1. INTRODUCTION

1.1 Purpose

Our payroll software keeps track of all the details about employees' salary in the company. Our payroll software reduces the amount of time needed to perform payroll tasks by a great extent along with increase in accuracy and efficiency which simplifies and systemizes the payroll work in the company.

1.2 Scope of the Project

Our automated payroll software provides records detailing the salary, allowances and deductions for the entire working period of each employee. Our Payroll software also includes details about loans, bonuses, reimbursements, performance incentives along with keeping track of conversion of overtime into holidays in attendance register of each employee.

1.3 References

[1]. Saral Pay pack – Trial version. It is automated desktop software to calculate payroll of employees in an organization.

[2]. Lecture slides on 'Requirements', Prof. Rakesh Shukla, DA-IICT, slide no. 18 - 20.

[3]. Lecture slides on 'Requirements', Prof. Rakesh Shukla, DA-IICT, slide no. 23 - 27

Software engineering, Ian Sommerville, 5th edition, Pearson education Asia, Ch-5, Requirement analysis, pp. 79-85

[4]. SRS Template – Time Trakker System. www.softwarestudio.org

[5]. Lecture slides on 'Requirements', Prof. Rakesh Shukla, DA-IICT, slide no. 7, 17, 32 - 34.

[6]. Lecture slides on 'Feasibility Analysis', Prof. Rakesh Shukla, DA-IICT.

[7]. Lecture slides on 'Risk Management', Prof. Rakesh Shukla, DA-IICT

Software Engineering, Ian Sommerville, 5th edition, Pearson education, pp. 427-430.

[8]. Lecture slides on 'Estimation', Prof. Rakesh Shukla, DA-IICT, slide no. 10 - 30

Roger Pressman, 6th edition,

[9]. Lecture slides on 'Estimation', Prof. Rakesh Shukla, DA-IICT, slide no. 30 – 40.

[10]. Lecture slides on 'Process Models', Prof. Rakesh Shukla, DA-IICT

[11]. Microsoft Project Plan – Software to plan the different phases of the project.

[12]. SRS template references – www.ieee.org

KSMS template – Knowledge sharing and Management Software SRS, author – Btech 2003, DA-IICT.

1.4 Intended Audience

- **Advanced End users**
- **Developers**
- **System Administrators**

1.5 Client Details

Mr. Ramesh Patta,
Project Manager/ Director,
Vertical Softech Markets Pvt Ltd.,
51-8-40/25, Vack-31,
Rythu Bazaar Street,
Behind Eenadu,
Seethamadhara,
Visakhapatnam- 530013.

Email: pramesh@vermar.com
Website: www.salesteam.com
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2. VISIBILITY PLAN

A very important part of the project is the 'visibility plan'. It helps to keep in contact with the client and the stakeholders of the project as well as tracks the current progress of the project. We need to communicate regularly with the client and other stakeholders for a consistent progress and proper working of the project plan. The following was decided and shall be followed strictly by all our team members during the course of the project:

Maintaining contacts with the client and stakeholders:

- **A specific subgroup is formed for the client meetings**
- **A time is fixed for meeting with the client (every week, Sunday 7:00 PM) and contacted through chatting over internet messengers.**
- **By emails**

- **By phone call(optional backup)**

Maintaining contact within the team:

- **Fixed time for weekly meetings(**10:00 PM **every Tuesday, Thursday and Saturday)**
- **On the requirement of the group, additional meetings are also scheduled.**
- **Hard and soft deadlines are followed.**
- **Changes in venue and time of meeting are informed in person and email.**
- **Google Groups is used as common platform for information and file sharing.**

3. DELIVERABLES

The following are the deliverables we intend to provide to the client:

1. **Software Requirement Specification document**
2. **Source code**
3. **Final Software**
4. **User Manual**

The current status of the deliverables:

The project is still in genesis. We are not yet into the development phase. Therefore, the source code is not available. The inputs have been gathered and rules formed. We have made a detailed analysis of existing software namely "Saral pay pack" [1] which helped us getting a better clarity of the project and requirements. The SRS and the pre-user manual documents are complete.

4. REQUIREMENT ANALYSIS

4.1 User Requirements

4.1.1 Functional Requirements [2]

1. **The end user i.e. the employee or the administrator can login into the software using his/her username and password.**
2. **Various user accounts for the employees can be created.**
3. **If the employee already exists, then the system denies such an operation.**
4. **All the company details along with the financial institutions' details in which the company has accounts can be entered.**
5. **The profiles of all the employees of the company can be updated.**

6. **Various salary ranges and the corresponding income tax, professional tax and the provident fund (a defined percentage of salary) can be defined.**
7. **Various salary structures can be defined on the basis of defined salary ranges of the employees.**
8. **The company calendar for the entire financial year can be filled along with the holidays' list which can be updated down the line. The system denies the operation of updating the holidays' list of the past dates.**
9. **The type of attendance which has to be given to the employees in their attendance register can be defined.**
10. **The attendance of the employees can be filled with the defined types of attendance which can keep track of the no. of present days of the employee, the no. of days in which he/she has taken a half day leave (present in only one session) and the no. of days on which the employee has taken leaves. The employee can also work overtime (working 3 sessions in a day) and the system can also keep track no. of sessions he has worked overtime.**
11. **The software can hence keep track of the no. of leaves availed by each employee and the corresponding dates on which leave has been availed.**
12. **The system can also show the details about who all have taken a leave on a particular date using filter options.**
13. **The system provides services to store all the loan details availed by all the employees of the company. All the loans availed by any employee can be easily displayed along with the status of recovery and the total due amount can also be easily derived from the software. The loan repayment is either in lump sum or installments can be directly reflected in the salary's net deductions for a month.**
14. **The salary calculations of any employee can be done based on the defined salary structure which has allowances like HRA, DA, conveyance allowance, special allowance as parameters. Various other allowances like reimbursements, bonus and performance incentives may get added to the salary. The deductions include loan repayment as one of its major components along with the defined taxes and provident fund.**
15. **The software can generate monthly reports like salary sheet, pay slip, bank statement, attended days report, overtime report, variance report, additional report, additional payments, and increments. The software can also produce other reports like PF reports, annual reports, loan reports, leave reports, salary certificates, bonus, and reimbursements.**
16. **These are special services provided by the software to the users who are well-versed with Excel. The reports generated by the software can directly be exported to an Excel document and the excel documents in a specific defined format can be imported to the software.**

4.1.2 Non-Functional Requirements [3]

Non functional requirements are the constraints on the services or functions offered by the system consists of timing constraints, performance, security, reliability, constraints on development process and standards.

4.1.2.1 Product Requirements [3]:

a) Performance requirements

- **The payroll management system is a web-based portal and hence many variables like net speed, server, operating system and client browser affect performance of the system.**
- **It has to be kept in mind that the software is designed to be a multi-user system, and hence increase in the number of users should not affect the individual response time of each user, which should not fall below an optimum range.**
- **There is no hard limit on the total number of queries executed in the software.**
- **The size of the database is not fixed and it subsequently grows on addition of new records in employees, loans and salaries.**

b) Security, Recovery and Usability requirements:

Since the payroll data is highly sensitive, a high level of security is required.

- **The end users and administrators will be given unique username and passwords to view or edit exclusive pages depending on their permissions to access the data.**
- **For security reasons, the web based application logs off the user after a certain duration of inactivity. In order to regain entry to the system, the user must log back in.**
- **The system automatically logs off the user when the application is shut down by any means. In order to regain entry to the system, the user must log back in.**
- **If any user logs out, then the session is said to be closed and he has to login again to use the software i.e. he cannot get back with simply using 'Back' button of the web browser.**
- **The system would use a secure database and application server, so that an unauthorized person cannot access, or change present data.**
- **System administrators are given edit privileges on the application server.**
- **We intend to have a backup of the entire system along with the information in order to address the problems like power failure, disk failure etc.**

4.1.2.2 External Requirements [3]:

a) Safety Requirements

Since the use of the software do not account for any possible loss, damage or harm of any kind, no safety requirements have been identified.

b) System Size*[4]*:

- **Number of employees in the company - 75**

- **Number of HR or administrators - 5**

4.2 System Requirements[5]:

4.2.1 Software Requirements

The user needs a standard internet connection of 56 kbps or a LAN connection to view the software. The portal can be viewed on a web browser. Also, we need a dot net platform to be available on all the systems that use this software and a Web browser.

The following web browsers can be used:

- **Mozilla(2.0 +)**
- **Firefox(2.0 +)**
- **Internet Explorer(6.0 +)**

4.2.2 Hardware Requirements

The application does not interact with any additional external hardware, but the computer. The computer system is to be equipped with the following hardware requirements for proper functioning:

- **256 MB of RAM(Physical Memory)**
- **Processor - 'P3' or greater**
- **Additional Hard disk space for software installation of at least 100MB**
- **Ethernet Card(10/100)**

5. FEASIBILITY[6]:

Payroll Management System deals with maintaining the salary details of employees in a company. The Salary details depend on many parameters like his Salary Structure, his Attendance, Loans, Tax and Leaves taken by him. Payroll Software is being used in almost every company to ease the process of salary payment and Vertical Softech Markets Pvt Ltd not having a Payroll Software have given us the work of developing it for them.

Feasibility Study

- **Operational**

Performance: **The complexity of maintaining the details of various parameters related to salary of an employee is reduced to such a great extent by our software that it results in adequate throughput and response time.**

Information: **As our system systematically organizes all the information in a modular form, the end-users and managers are provided with timely, pertinent, accurate and usefully formatted information.**

Economy: **Our system does not directly reduce the cost of the business or the profits of the business but saves a lot of time and resources, which can be utilized in economy gain activities.**

Control: **We are building our application using .Net, SQL Server 2005, ASP.Net which provide adequate controls against fraud and security.**

Efficiency: **We are efficiently using human resources and time by identifying the abilities and skill sets of a person and assigning the appropriate module to him. Efficiency is also maintained by using SCM tool to do our work thus reducing the delays due to flow of forms and processing.**

Services: **Our system does provide desirable and reliable service to our end-Users. Our system is flexible and expandable, like the Admin can add a new type of Leave and update the list of types of leaves the company is providing. Also new features can be easily added as modules to our project as we are doing the project in a modular fashion.**

- **Usability Analysis**

  With our simple and easy to use interfaces provided by the software, the employees will find our software user friendly.

- **Technical**

  The technologies we are using are Microsoft Visual Studio 2005 as the Development Platform, Microsoft SQL Server 2005 as the Database, AJAX to make the web interface dynamic and ASP.Net to access and retrieve information from Database. Some of the members are skilled in the above technologies and will take sessions for others who don't know. Since we are having good programming background, we feel getting acquainted with the technologies will not be a problem.

- **Schedule**

  Our project contains many modules but none of the modules are complex. With proper planning and management of our schedule, we feel a 4 month period is sufficient enough to complete our project. With many of us technically sound with the technologies, we feel we can meet our deadlines.

- **Economic**

The technologies we are using for our project like Microsoft Visual Studio 2005, Microsoft SQL Server 2005 were provided by our college. Also computers needed to work on are also provided by the college so System Development Costs are minimal.

We many times deal with our client through phone call, so prorated overhead costs occur. Internet is provided free in our college so overall the System Operating costs are economically feasible.

6. RISK ANALYSIS[7]:

Impact - 1 : low impact on project success
5 : catastrophic impact on project success

Probability – 0 % : Minimum probability of occurrence of the risk.
100 % : Maximum probability of occurrence of the risk.

Risks	Category	Probability	Impact	Fallback Plan
Inexperience in dealing with big projects	PROCESS RISK	65%	3	Discussions and reviews inside the team and proper planning in each phase
Unable to complete the project in a semester period	PRODUCT SIZE RISK	65%	3	Implementing only the basic and necessary modules in the software during the period and enhancing the features after the course.
Insufficient Technological knowledge (ASP .NET)	TECHNOLOGY RISK	60%	3	Refer to online resources, e-books and senior students who have prior experience in .NET framework. Session by peer members having knowledge on ASP.NET
Difficulty in coping with pressure due to other courses	SCHEDULE RISK	50%	2	Revise the schedule to distribute the work.
Insufficient Business Knowledge	PROCESS RISK	50%	3	Refer to the terminologies used and gaining assistance from the client.

Inexperience in team work	**PROCESS RISK**	**40%**	**3**	**More frequent meetings to identify the cause and work around identified problem during the course of the project.**
Underestimation of problem size	**PRODUCT SIZE RISK**	**30%**	**2**	**Revise the scope of the project.**
Unrealistic Deadlines for deliverables	**SCHEDULE RISK**	**30%**	**2**	**Increase and reallocate resources. Identify parallel tasks and revise schedule in the plan to account for unforeseen events.**
Changes to the requirements	**PROCESS RISK**	**30%**	**3**	**Develop the skill to manage the change, and maintain cumulative impact of the change and make it visible to the client.**
Unavailability of system / tools	**DEVELOP-MENT ENVIRON-MENT RISK**	**30%**	**1**	**Prior planning for availability of systems with required tools like Visual Web Developer Tool, Microsoft SQL server 2005 and Visual Studio.**
Inconsistent documentations and reviews	**PROCESS RISK**	**25%**	**2**	**Frequent review and analysis of documents by other team members, Inform the developers about the reviews made.**
Miscommunication and conflicts among team members	**SCHEDULE RISK**	**10%**	**2**	**Resolve them based on the opinion of the majority.**
Unable to integrate modules	**DEVELOP-MENT ENVIRON-MENT RISK**	**10%**	**2**	**Understand the dependencies properly and follow uniform coding style.**
Difficulty in maintaining the software	**SUPPORT RISK**	**10%**	**2**	**Proper documentation of user manual**
Unavailability of Team Members	**SCHEDULE RISK**	**5%**	**2**	**Tasks assigned to the unavailable members can be divided temporarily among the available members.**
Database capacity	**PERFORM**	**5%**	**2**	**Store the backup of the records in the local**

exceeds	ANCE RISK			hard disk
Database Crashing	PERFORM ANCE RISK	3%	4	Backup all the records at regular intervals so that they can be restored after a crash.

7. ESTIMATION [8]:

FP Approach

Type of Component	Count	Component Complexity		
		Low	*Average*	*High*
No. of external Inputs	24	24 x 3	24 x 4	24 x 6
No. of external Outputs	26	26 x 4	26 x 5	26 x 7
No. of external Inquiries	1	1 x 3	1 x 4	1 x 6
No. of internal Logic File	10	10 x 7	10 x 10	10 x 15
No. of external Interface Files	1	1 x 5	1 x 7	1 x 10
Unadjusted Function Points (UAF) =		*254*		

Does the system require reliable backup and recovery?	4
Are data communications required?	2
Are there distributed processing functions?	2
Is performance critical?	3
Will the system run in an existing, heavily utilized operational environment?	4
Does the system require on-line data entry?	4
Does the on-line data entry require the input transaction to be built over multiple	1

screens or operations?

Are the master files updated on-line?	**2**
Are the inputs, outputs, files, or inquiries complex?	**3**
Is the internal processing complex?	**3**
Is the code designed to be reusable?	**3**
Are conversion and installation included in the design?	**3**
Is the system designed for multiple installations in different organizations?	**2**
Is the application designed to facilitate change and ease of use by the user?	**4**

Sum of general system characteristics = Sigma (F)	**39**

Value Adjusted Functional Points (VAF) = ***0.65 + 0.01 * Sigma (F)*** = **1.04**

Function Point Count (FP) = **UAF * VAF** = **264**

1 FP = **3 person hours**

Total Functional points = FP x No. of person hrs. per FP = 792.48 person hours

No. of members in the team = 11 members

No. of person hrs. for each member = Total Functional points / No. of members in the team

= 72.0436 hrs. per member

LOC per function point in visual basic = **42**

Total LOC = **FP x LOC per function point in Visual basic**

= **11094.7**

Kilo LOC = **11.0947**

For Organic COCOMO[9],

a = 2.4, b = 1.05 and d = 0.38

Effort in person months (PM) = a x (Kilo LOC)^b

= 30.0319 person months (~ 30 person months)

Development Time in months (D) = 2.5 x (PM)^d

= 9.10797 months (~ 9 months)

No. of members needed = PM / D

= 3.29732 members (~ 3 members)

8. SOFTWARE PROCESS MODEL[10]:

Our process model is derived from RUP and Agile process models. It consists of the following phases:

- **Requirement phase**
- **Design and Planning Phase**
- **Implementation and Testing Phase**
- **Deployment Phase**

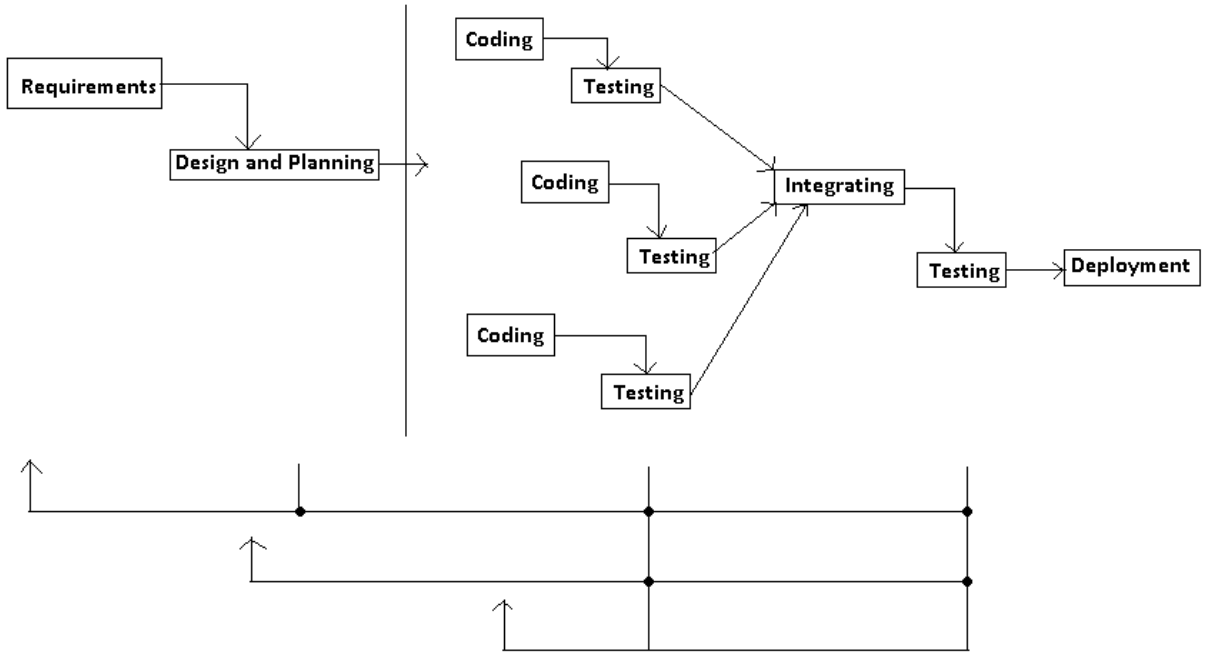
In *Requirements phase* we gather all the requirements, analyze and elicit them.

In *Design and Planning Phase* we identify different features that have to be provided and categorize the requirements into different modules. We also design the database.

In *Implementation and Testing Phase* we form small subgroups and code and test different modules simultaneously. Subgroups will exchange their work with other subgroups for reviewing. The subgroups involved are merged to form a larger group while integrating the modules. After every such integration testing is done.

In *Deployment Phase* the fully integrated modules are finally shipped.

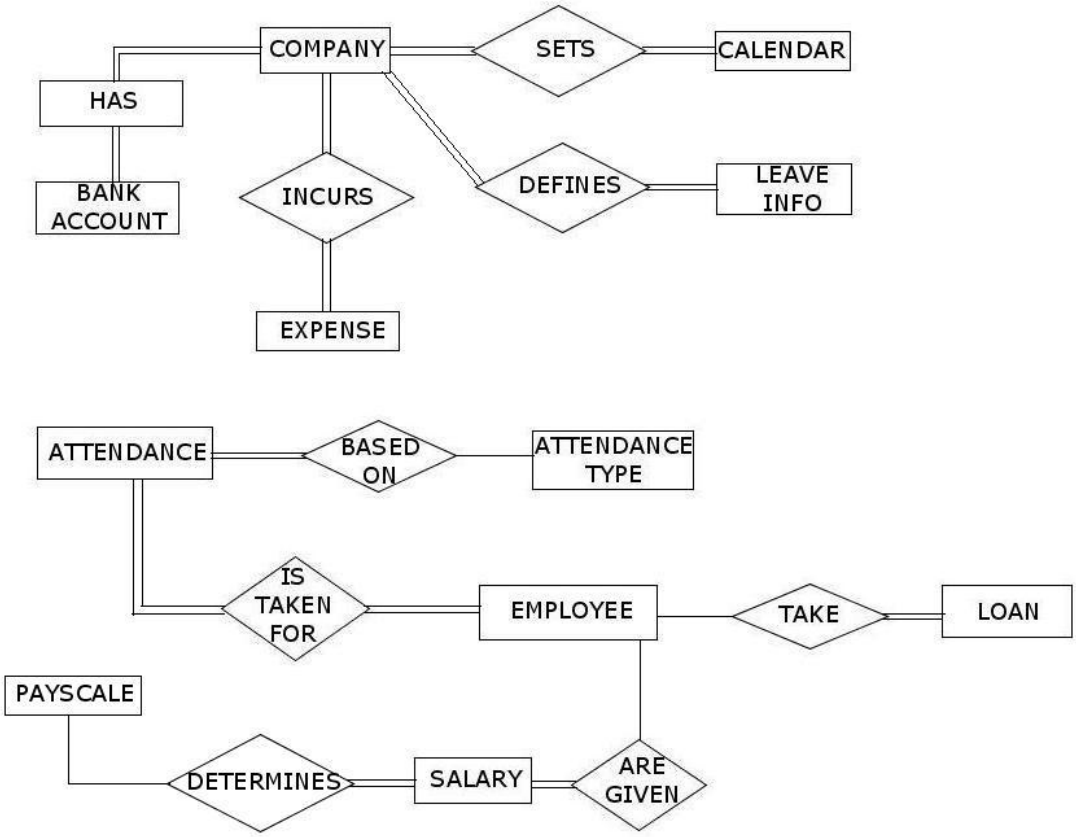
We provide the flexibility to make small changes in any previous phases at any point of time.



9. Activity Charts *[11]*

Please refer to the Microsoft Project file 'Project_Management_Team_12.mpp' attached for Gantt Charts and network diagram.

10. DATABASE DESIGN



11. USER MANUAL

1. **Initially, when you run the software for the first time, administrator logs in. The company profile has to be updated. Company profile includes company name, address, phone number, email and website.**

2. **Administrator creates employee accounts. Employee profiles are to be updated. Employee profile includes personal details, professional details, contact details and other details.**

a) Personal details: Name, Father's Name, Sex, Marital Status, Date of Birth, blood group, caste category, qualification.

b) Professional Details: Employee reference No., Designation, Occupation, Division, Department, Grade of Pay (Scale A, B, C), Bank Account No., Join Date, Date of Leaving, Reasons for Leaving.

c) Contact Details: Address – Present & Permanent, Contact – email, phone, mobile

d) Other Details: PAN No., PF No., login password.

3. **Then the initial settings are to be defined.**

a) Tax Structure: Tax structure (Income tax - IT and professional tax - PT) based on the salary has to be defined, i.e. tax amount for each salary range has to be defined.

b) Salary Structure: Salary Structures that the company has are to be defined.

c) Provident Fund: Provident Fund based on pay scale (salary range) has to be defined.

d) Financial institutions: Financial institutions with which the company is dealing or having accounts are to be defined. The details include bank name, bank address and the bank account No. of the company in that bank.

e) Company Calendar: Company Calendar for a financial year has to be defined.

f) Holiday list & Weekly Holiday: Holiday list of the company and the weekly holiday has to be defined.

g) Attendance Type: Attendance type (session-wise or day-wise) has to be defined.

4. **Employee attendance can be added depending on the attendance type.**

On a particular day, select an employee and then mark the attendance ('G' for general shift, 'N' for night shift, 'O' for Overtime, 'F' for only first session present, 'S' for only second session present, 'A' for absent).

Overtime: The overtime is considered only session-wise and there can be only three sessions in a day. It constitutes to working half of a working day.

5. **If an employee takes leave, the date of leave, then the reason for taking the leave, and No. of leaves availed are to be entered.**

6. **Employee loan details have to be entered. Loan details includes Loan ID, issue date of loan, amount that has been granted, interest, type of payment (lump sum or installments), premium type and the premium amount in case of installments, start and end months of the loan and the status of recovery.**

7. **Salary includes basic pay, earnings, deductions and additional earnings. Earnings include bonus, increments, and allowances (like HRA, DA, conveyance and special allowances).**

Deductions include loan repayments. Additional earnings include any incentives given for the good performance.

Full & final Settlement has to be done when the employee leaves the company. The reason for leaving the company, date of leaving is to be updated.

8. **Reports: Once the salary has been calculated, we can generate the following reports.**

Monthly reports: Salary sheet, pay slip, bank statement, attended days report, over time, variance report, additional payments, and increments.

Statutory reports: PF reports, annual reports

Additional reports: Loan reports, leave reports, salary certificates, bonus, reimbursement.

9. **Imports / Exports: This is an option that enables the users who are very comfortable with Microsoft Excel and want to stick to it. They can export the data from the software into an excel sheet. Similarly, they can enter the details in excel sheet in specified format and can import it in the software.**

10. **Security: The details of his / her salary payment or loan details can be seen by the employee. However, he/she is not permitted to view the details of other employees. 'Change password' option is also included so that any valid user of the software can change his/her password.**

Database back-up option is also provided. This is done so that the end-user (only administrator) can create a back-up of the entire database and then store it in his/her local hard disk.

12. TEST CASES

- **If the administrator logs in for the first time; enters the company details and ask for the company details, he/she should be able to see the company name, address, phone number, email and website url.**
- **Before creation of the employee accounts, if the administrator asks for the employee details, it should show 'No employees found'.**
- **If administrator tries to create an account of an employee that already exists in the system, the system should deny the operation.**
- **If administrator creates accounts for the employees and ask for the list of employees, he/she must be able to see the employees for whom accounts have been created.**
- **If administrator enters the employees details (personal, professional, contact and other), he/she must be able to see them and also be able to update them if necessary.**
- **If administrator deletes an account of an employee, it should not appear in the new listing of employees.**
- **If an employee without the administrator privileges logs in, he/she can view only their details. Employee should not be able to update his/her profile.**

- **If administrator sets the entire initial settings (tax structure, salary structure, provident fund, financial institutions, company calendar, holiday list & weekly holiday, attendance type), he/she must be able to see any of the above mentioned settings.**
- **The amount for professional tax and provident fund filled for various salary ranges should be consistent. For example, if the administrator sets higher value of professional tax and provident fund for a salary range of 10,000-12,000 than the salary range of 5000-7000, it should give an error message.**
- **Administrator should be able to add any new holiday once the list of holidays is defined, i.e. he should be able to update the list of holidays.**
- **Administrator should be able to update only the future dates of the company calendar. If he/she tries to update the calendar of the past dates, it should give an error message.**
- **Administrator should be able to update the salary structures, provident fund details, and attendance type if necessary. But the changes should be reflected only from the start of a new month in the company calendar.**
- **Administrator should be able to add/delete a financial institution to/from the existing list on any working day of the company calendar.**
- **Any general employee other than the administrator should just be able to view all the initial settings. Employee should not be able to update.**
- **If an administrator selects a particular date and an employee, he/she should be able to mark attendance for that employee for that date.**
- **Administrator should not be able to add attendance for the future dates and the software should deny such an operation.**
- **Administrator should be able to update the entries for attendance only for last seven working days from the current date.**
- **Employee should only be able to view his/her attendance details, but should not be able to update the entries.**
- **Administrator should be able to create an entry to register the leave taken by the employee. Administrator should be able to make entries for the date of leave, reason for the leave and No. of leaves availed by the employee.**
- **Administrator should be able to see the leaves employee-wise or date-wise or no. of leaves availed-wise.**
- **Employee can see his/her leave details, but cannot update them.**

- **Administrator should be able to create an entry of loan for an employee with details of loan (like Loan ID, issue date of loan, amount that has been granted, interest, type of payment (lump sum or installments), premium type and the premium amount in case of installments, start and end months of the loan and the status of recovery).**
- **Administrator should be able to see the loan details date-wise, employee-wise, due amount wise, loan amount wise.**
- **Employee should be able to see his/her loan details.**
- **Administrator as well as employee should also be able to see the amount that has been deducted from salary and total due till date.**
- **If the administrator enters the type of payment as 'lump sum', he should not be able to enter anything in 'premium type' and 'premium amount' fields.**
- **The 'status of recovery' when displayed on a date in between the start and end months should show 'No' and on a date after the end-month should display 'Yes'.**
- **Administrator should be able to add entries for additional earnings for any employee along with remarks if any.**
- **Administrator should be able to update the entries for 'reason for leaving', 'date of leaving' in the employee profile when an employee leaves a company.**
- **Employee should be able to see his/her salary, but cannot update.**
- **Administrator as well as employee should be able to change the password of their account.**
- **The employee can only change his/her password if he/she types the old password for security.**
- **Administrator should be able to create back-up for the database on any day of the company calendar.**

13. Glossary

***Additional earning*:**

The performance incentives given by the company which are not a part of regular salary structure constitute additional earnings.

Basic:

A fixed amount of income earned by an employee in a month which decide all the other allowances earned by the employee.

Bonus:

Bonus is a personal benefit given by the organization, as an extra pay to the employees for festivals, and for other special occasions in the company, for example, rise in gross profit of the company.

Conveyance Allowance:

Allowance provided to employees for their travelling expenses to offsite work place or for travelling on official duty, when office transportation is not available.

Dearness Allowance (DA):

When there is a change in the whole sale index of the market, an allowance is provided to the employees to compensate for the above change. DA is given for every six months. Depending on whether the change in the whole sale index is positive or negative, a corresponding increase or decrease in allowance is considered for an employee.

***Employee Reference No.*:**

Employee Reference No. is a unique number given to every employee of the company.

Financial Institutions:

A company maintains a certain amount of deposits with the Financial Institutions for any transactions.

House Rent Allowance (HRA):

House Rent Allowance (HRA) is provided to employees who reside in a rented house. This allowance depends on the basic salary of the employee.

Incentives:

Incentives are employee benefits which are given when an employee's performance is exceptional.

Income Tax (IT):

Tax paid by the employee that is fixed by the Government based on the range of earnings and income of the employee.

Increment:

It is an increase in the salary of the employee which is done periodically (say once in 6 months or 8 months).

Leaves Availed:

These are leaves taken or availed by an employee out of his leaves quota.

Loans:

The amount that an employee avails from the company for purchase or construction of house, purchase of vehicles etc.

Loss of Pay (LOP):

Loss of Pay is a deduction in salary due to an employee taking extra leaves than the maximum allowed.

OB:

Opening Balance

OOD:

On Official Duty (An employee may be at leave or on official duty).

Over Time:

An employee may work more than the requisite period of time on a working day. The hours of extra work in this context corresponds to Over Time (an extra session worked by an employee is considered to be over time here).

PAN:

Personal Account Number

All the tax details of an employee are associated with PAN.

Pay slip:

It is similar to salary sheet but companies send salary details through this report either giving it personally or through mail.

Provident Fund (PF):

A percentage of the basic salary is deducted and maintained in a separate account every month. Normal withdrawal rules do not apply for PF but a facility of temporary withdrawals and permanent withdrawals is provided to the employees to use the savings in PF. These withdrawals are allowed only after a stipulated period of time and not before that. In case of temporary withdrawals, the employee has to submit the withdrawn amount back to the account. This rule does not apply for permanent withdrawals.

Provident Fund A/C Number:

This account is unique to an employee and contains his/her provident fund savings.

Reimbursement:

Money spent by an employee from his pocket for the company's work is paid back to him on submission of bills and vouchers, this is called Reimbursement. For example, Travel charges for an employee during an official trip are paid to him on submission of bills.

Salary A/c Bank:

Salary is usually given indirectly through a bank account which is maintained with the salary A/c bank.

Salary Sheet:

It contains the overall monthly information of the salary of the specified employee, like number of days worked, earnings and deductions, and net salary. This report will show the summary result of the specified month.

Salary Heads:

Salary is composed of various salary heads all of which contribute to the making of salary. For example BASIC, DA, HRA are some of the salary heads.

SCF:

Salary Calculation from Date

***Variance Report*:**

This report compares any 2 successive months' salary.

ANNEXURE

1. Risk Analysis

Product Size Risk:

Risks associated with the overall size of the software to be built or modified.

Process Risk:

Risks associated with the degree to which the software process has been defined and is followed by the development organization.

Development environment:

Risks associated with the availability and quality of the tools to be used to build the product.

Technology to be built:

Risks associated with the complexity of the system to be built and the "newness" of the technology that is packaged by the system.

Staff size and experience:

Risks associated with the overall technical and project experience of the software engineers who will do the work.

Performance risk:

The degree of uncertainty that the product will meet its requirements and be fit for its intended use.

Support risk:

The degree of uncertainty that the resultant software will be easy to correct, adopt, enhance.

Schedule risk:

The degree of uncertainty that the project schedule will be maintained and that the product will be delivered on time.

Estimation

The cost estimation report document aims to provide an estimate of the development cost for the project "Payroll Management System". The report will estimate the amount of effort to be put in by the members of the team in order to attain the feasibility of the project in the stipulated time.

1. **External Inputs**
2. **External Outputs**
3. **External Inquiries**
4. **Internal Files**
5. **External Files**

Interface-wise :

a) Login

1. **External Inputs (1)**
    a. **Employee login details**
2. **External Outputs (0)**
3. **External Inquiries (1)**
    a. **Employee login request**

b) Employee account creation

1. **External Inputs (1)**
    a. **New Employee details**
2. **External Outputs (0)**
3. **External Inquiries (0)**

c) Company Profile

1. **External Inputs (1)**
   a. **Company Details**
2. **External Outputs (0)**
3. **External Inquiries (0)**

d) User Profile

1. **External Inputs (2)**
   a. **Employee Profile**
   b. **Employee HR details**
2. **External outputs (2)**
   a. **Employee HR details**
   b. **General employee profile**
3. **External Inquiries (0)**

e) Initial settings of Payroll system

1. **External Inputs (7)**
   a. **Tax structure**
   b. **Provident Fund**
   c. **Salary structure**
   d. **Financial institutions**
   e. **Company calendar**
   f. **Holiday List & weekly holiday**
   g. **Attendance type**

2. **External outputs (5)**
   a. **Tax structure**
   b. **Provident Fund details**
   c. **Salary structure details**
   d. **Financial institutions details**
   e. **Company Holiday details**

3. **External Inquiries (0)**

f) Attendance

1. **External Inputs (1)**
   a. **Attendance entry**
2. **External outputs (1)**
   a. **Attendance details**
3. **External Inquiries (0)**

g) Leave

1. **External Inputs (1)**
   a. **Leave entry**
2. **External outputs (1)**

   a. **Leave details**
3. **External Inquiries (0)**

g) Loans

1. **External Inputs (1)**
   a. **Loan Details**
2. **External outputs (1)**
   a. **Loan details**
3. **External Inquiries (0)**

h) Salary

1. **External Inputs (5)**
   a. **Basic**
   b. **Earnings**
   c. **Deductions**
   d. **Additional Earnings**
   e. **Full & Final settlement**
2. **External outputs (1)**
   a. **Salary Details**
3. **External Inquiries (0)**

i) Reports

1. **External Inputs (1)**
   a. **Menu selection**
2. **External outputs (16)**
   a. **Salary sheet**
   b. **Pay slip**
   c. **Bank statement**
   d. **Attendance report**
   e. **Over time report**
   f. **Variance report**
   g. **Additional payments**
   h. **Increments report**
   i. **PF report**
   j. **Annual report**
   k. **Loans report**
   l. **Leaves report**
   m. **Salary certificate**
   n. **Bonus report**
   o. **Reimbursement report**
3. **External Inquiries (0)**
4. **Internal Files (10)**
   a. **Employee File**
   b. **Company File**
   c. **Tax File**

d. **PF File**
e. **Salary File**
f. **Financial institutions File**
g. **Holidays File**
h. **Attendance File**
i. **Leave File**
j. **Loan File**

j) Import / Export

1. **External Inputs (1)**
   a. **Type of report**
2. **External outputs (1)**
   a. **Report**
3. **External Inquiries (0)**
4. **External Files (1)**
   a. **Report in Excel**

k) Security

1. **External Inputs (2)**
   a. **Change password**
   b. **Database back-up**
2. **External outputs (0)**
3. **External Inquiries (0)**