



SCHOOL OF INFORMATION TECHNOLOGY AND ENGINEERING

SWE2006 – SOFTWARE PROJECT MANAGEMENT

PROJECT TITLE: PAYROLL MANAGEMENT SYSTEM

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SOFTWARE REQUIREMENTS SPECIFICATIONS(SRS):

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1. Introduction:

Payroll system is the heart of any Human Resource System of an organization. The solution has to take care of the calculation of salary as per rules of the company, income tax calculation and various deductions to be done from the salary including statutory deductions like Income tax and provident fund deductions. It has to generate pay-slip, cheque summary and MIS reports.

It is understood that we are tired of managing thousands of odd papers, pay slips, payroll reports, and salary details and so on. Imagine that we have a payroll processing system which will generate our pay slips and payroll reports within seconds. We can help others automated your payroll system by developing a customized payroll application that suits your specific requirements

1.1 Purpose :

Main aim of developing Employee Payroll Management is to provide an easy way not only to automate all functionalities involved managing leaves and Payroll for the employees of Company, but also to provide full functional reports to management of Company with the details about usage of leave facility and Salaries paid or to be paid to employees.

We are committed to bring the best way of management in the various forms of EPM. We understand that EPM is not just a product to be sold, it is a tool to manage the inner operation of Company related to employee leave and Payroll.

1.2 Scope :

This Application works in Multiple PC's installed on multiple Computers by sharing same database by which users of different department can use it sitting at different locations simultaneously.

We have made an Application where the database will be hosted in order to manage the all departments which will be located in different places and by keeping domain of Application as Online.

1.3 Benefits:

- 1 Our Payroll System has user friendly interface, can be customized as per a business requirement and can be scalable.
- 2 Our Payroll system saves time and lowers the error ratio.
- 3 You can enter payment information quicker when compared to a manual system
- 4 Run payroll registers to double-check your information before depositing salary in employee's bank accounts. This allows you to identify errors and adjust them in advance.
- 5 Computerized payrolls simplify tax processing by computing the data.
- 6 Our payroll system can integrate with other software's as well.
- 7 Computerized payroll eliminates the stress of processing all the records.
- 8 You can get your old payroll reports when you needed in just a click.
- 9 Our payroll system will reduce TCO and increase ROI.
- 10 This payroll system will track and maintain all the information of salary transfer.
- 11 Payroll system helps saves much time

1.4 Definitions, Acronyms and Abbreviations:

Visual Basic .NET (VB.NET) is an object-oriented computer programming language that can be viewed as an evolution of the classic Visual Basic (VB) which is implemented on the .NET Framework.

Microsoft SQL Server is a relational model database server produced by Microsoft.

SRS - Software Requirements Specification.

EPM - Employee Payroll Management.

1.5 Project Overview:

The following subsections provide the complete overview of the software specifications requirements documentation for the product Employee Payroll Management. The entire SRS is documented in view of User and the following sub sections are arranged to give a complete outlook of the software, its perspective, features, system requirements and users know how it is.

2. Overall Description:

2.1 Product perspective:

This software is developed specifically to cater the company employees leave management, 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.

2.2 Product Functions:

2.2.1 Employee module

- Designation

- Department
- Employee details

2.2.2 Search module

2.2.3 Attendance module

- Leave
- Attendance
- Managing Leave

2.2.4 Salary module

- Allowance
- Deduction
- Pay Slip

2.3 Hardware interfaces:

- Memory minimum of 512MB RAM (1GB Recommended)
- Hard disk of 40 GB
- Printer

2.4 Software interfaces:

- | | |
|--------------------|-----------------------|
| • Operating System | Windows XP. |
| • Front End | Microsoft VB.Net 2008 |
| • Backend | MS SQL Server 2008 |

2.5 User Characteristics:

2.5.1 End Users

1) No specific knowledge or skills are required from the end user.

2) End user should have basic idea about computer operations and database.

2.5.2 Administrator

1) Administrator must be capable to manage user rights.

2) If the network connection does not work properly then our system should not work as intended.

3) Also that is assumed that the product is installed properly at web server.

4) This system will not take care of any virus problem, which might occur either on the Client or the server system. Avoiding the use of pirated software and ensuring that floppies and other removable media are scanned for viruses before use could minimize the possibility of viral infection.

5) Recovery of data after a system crash will be possible only if backups are taken at regular intervals.

2.6 Assumptions and Dependencies :

- The product must have an interface which is simple enough to understand.

- All necessary hardware and software are available for implementing and use of the tool.

- The proposed system would be designed, developed and implemented based on the software requirements specifications document.

- End users should have basic knowledge of computer and we also assure that the users will be given software training documentation and reference material.
- The system is not required to save generated reports.

3. *Specific Requirements :*

3.1 *Functional Requirements:*

3.1.1 Masters:

This module helps the administrator to enter the designation and the related description. It also helps to add the department.

3.1.2 Employee:

This module helps to add the details of the employee like the personal detail and the employee detail.

3.1.3 Search:

This module helps to search the employee details department wise and designation wise.

3.1.4 Attendance:

This module helps to different types of leave for different year. It also helps the employee to enter their entry and exit time. Using the attendance module the employee can also check their remaining leaves and also apply for the leave.

3.1.5 Salary:

This module helps to calculate the salary by adding the allowances and the basic salary and by deducting the deductions based on the leaves and also the PF, ESI. It also helps to generate the employee pay slip.

3.1.6 Report:

This module helps to generate the administrative reports like the Salary Report, Attendance Report and the Employee Report which is in can be exported to word, pdf.

3.2 Performance Requirements:

- The overall system should be fast and error free.
- It should have built in error checking and correction facilities.
- The system should be able to handle large amount of data comfortably.

3.3 Design Constraints :

- The system runs under Windows XP / 7 / 8 / 8.1 or Any version of Linux.
- The application is developed on VB.Net platform and SQL server 2008 as back end.

3.4 Attributes :

3.4.1 Reliability

In order to ensure reliability, this system is being designed using software that is established to be stable and easy to use.

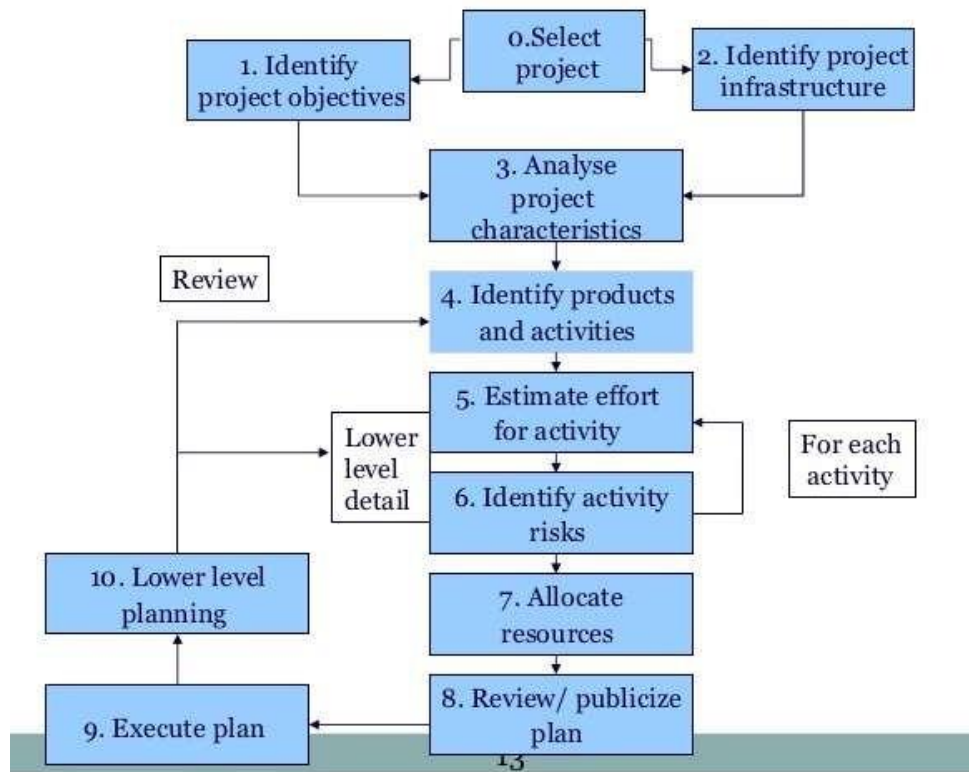
3.4.2 Availability

This system is designed to run 24/7 and be readily available to the user.

3.4.3 Security

The access to the software is given only to valid operators. We need a specific ID and password to get access to the software.

Step wise project planning:



STEP 0: SELECT PROJECT

STEP 1: ESTABLISH PROJECT SCOPE AND OBJECTIVES

STEP2: IDENTIFY PROJECT INFRASTRUCTURE

STEP3: ANALYSIS OF PROJECT CHARACTERISTICS

STEP4: IDENTIFY PROJECT PRODUCT AND ACTIVITIES

STEP5: ESTIMATE EFFORT FOR EACH ACTIVITIES

STEP6: IDENTIFY RISK OF EACH ACTIVITIES:

STEP7: ALLOCATE RESOURCES

STEP8:REVIEW /PUBLISIZE PLAN

STEP9: EXECUTE PLAN

STEP10 : LOWER LEVEL PLANNING

Step0 : select project

The project we selected is " payroll management system"

Step 1: establish project scope and objectives

1.1) PROJECT SCOPE:

Payroll management system is one of the core areas of your business. Usually, it is pursued to manage the employee's expenses, allowances, salary, gross salary, deduction, tax and many more for a specific time period. Management and accounting are two main essentials of payroll. Payroll is a serious concerns for any enterprise or any business.

1.2) OBJECTIVES OF THE PROJECT:

- gross pay calculations (basic salary, wage supplements, occasional payments, cost reimbursements, etc...).
- calculation of payroll related taxes and contributions.
- preparation of payroll slips and other outputs broken down by employees or by cost centres managerial and operational use.
- data recording and processing in connection with voluntary pension and health insurance funds, reporting to the pension funds.
- Manage your own security
- Providing data and information for posting into the general ledger.
- Data reports and certificates related to payroll processing (to the tax and social security authorities, the statistical office, etc).

1.3) identify the stakeholders for payroll management system:

- I. Employees
- II. Employer
- III. Benefit carriers
- IV. Courts
- V. Unions
- VI. Pension providers
- VII. Charities
- VIII. Payroll vendors
- IX. Labour
- X. Tax advisory

1.4) Modify objectives in the light of stakeholder analysis:

The following two are very important,

- We have to modify the objectives according to stakeholders needs.
- The system should be flexible so that the users will be able to modify and add the objectives.

1.5) Establish method of communication:

We should communicate with everyone in the project team so that the failure rate of the system should decrease and everyone in the team should know how the website so that next phases should be done easily.

STEP2:IDENTIFY PROJECT INFRASTRUCTURE

The project can be used in various business places for storing all employee salary details.

2.1) Identify relationship between the project and strategic planning:

the stakeholders need this system to know about their salary details, insurance policies, to ensure the security and privacy etc.in such a way the system should be build so that everyone understands how the enterprise or the business functioning.

2.2) Identify installation standards and procedures:

Installation standards:

- Backup
- high level security
- high quality
- high efficiency
- good interface
- cost

procedures:

- update employee master file
- et pay period
- enter time worked
- enter manual payments
- calculate termination pay
- alter deductions
- calculate pay review reports

2.3) Identify project team organization.

In this project the project manager should organize the team and he should separate of the works of each person in their team and he should have some control over the project as well as project team members.

STEP3: ANALYSIS OF PROJECT CHARACTERISTICS

Some characteristics:

- Manage Employee Information Efficiently.
- Define the deductions, etc.
- Generate Pay-Slip .
- Generate and Manage the Payroll Processes according to the Salary Structure assigned to the employee.
 - Generate all the Reports related to employee, attendance/leave, payroll etc.
- Manage your own Security

3.1) Distinguish the project as either objective- product driven:

This payroll management system is objective based approach.

3.2) Analyse other project characteristics:

It is pursued to manage the employee's expenses, allowances, salary, gross salary, deduction, tax and many more for a specific time period. Management and accounting are two main essentials of payroll. Payroll is a serious concerns for any enterprise or any business.

3.3) Identify high level project risks:

The Possibilities of risk could be avoided in our project if we follow incremental model, through this model we can face the uncertain user requirements, in future if any requirement changed by the user we can handle this without affecting the other modules of the system.

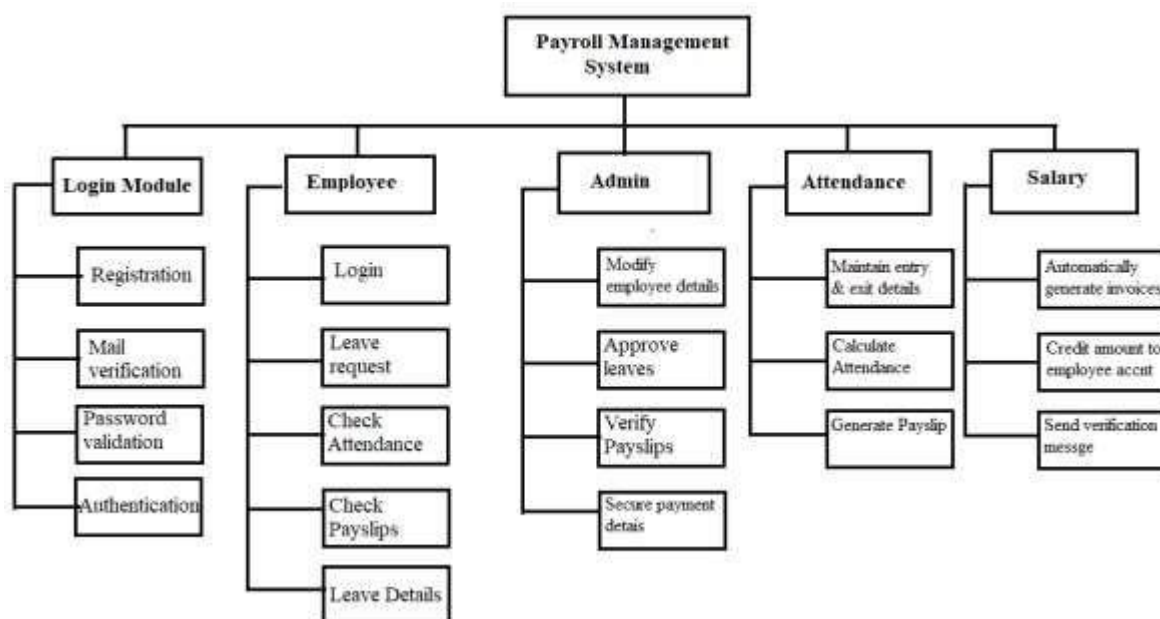
STEP4:IDENTIFY PROJECT PRODUCT AND ACTIVITIES

The more detailed planning of the individual activities now takes place. The longer term planning is broad and in outline, while the more immediate tasks are planned in some detail.

4.1) Identifying and describing project products IDENTIFYING PROJECT

In this we will document the relationship between the product and the components or a sub-sub component is documented in the form of “Product breakdown Structure”.

Product Breakdown structure :



4.2) Document Generic Product Flows

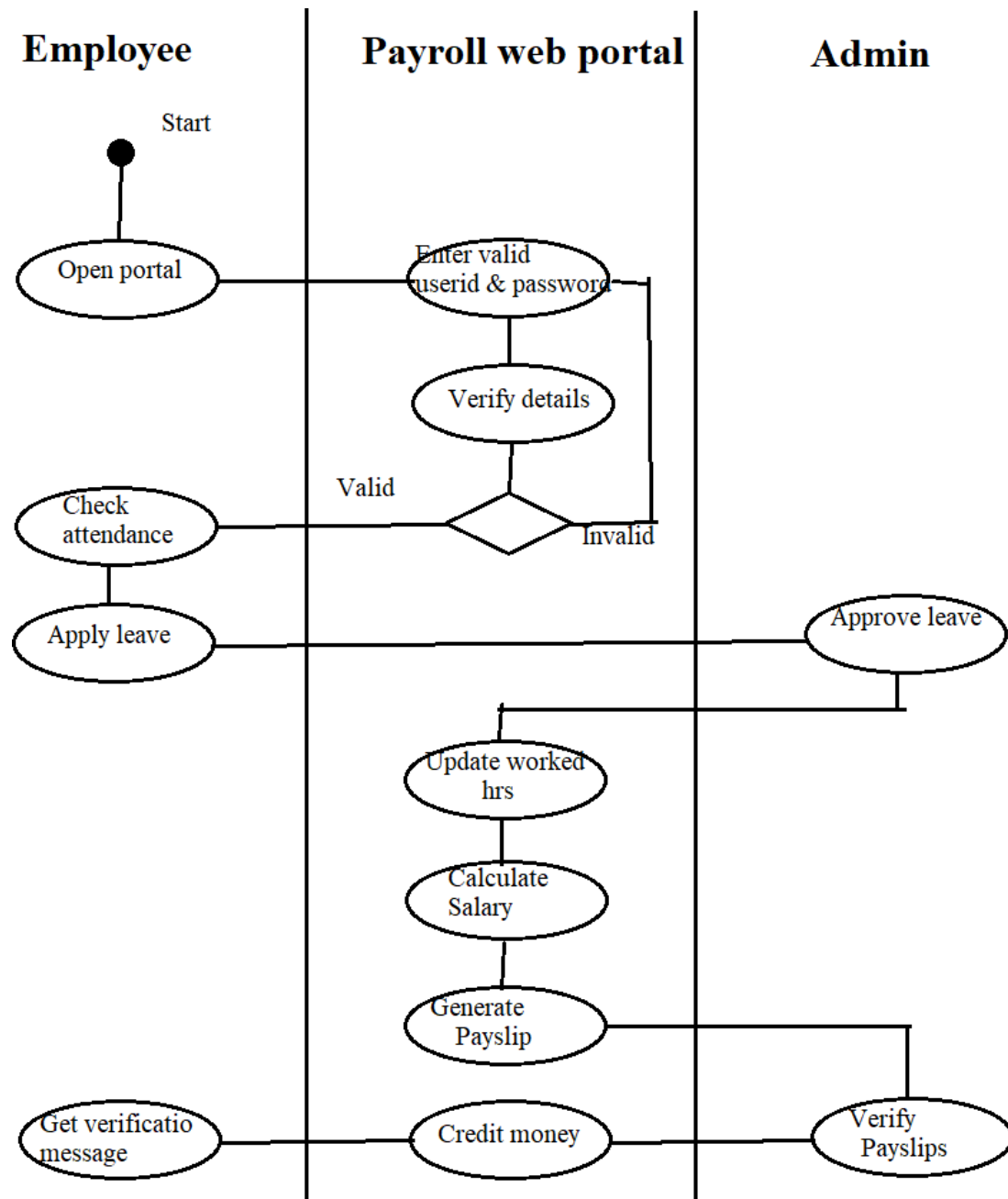
In this product Flow Draw will be drawn to specify the program.

4.3) Recognizing Product Instances

After release of the product it should be maintained and the security must be increased.

4.4) Produce ideal activity network

It describes the activities and transformation.

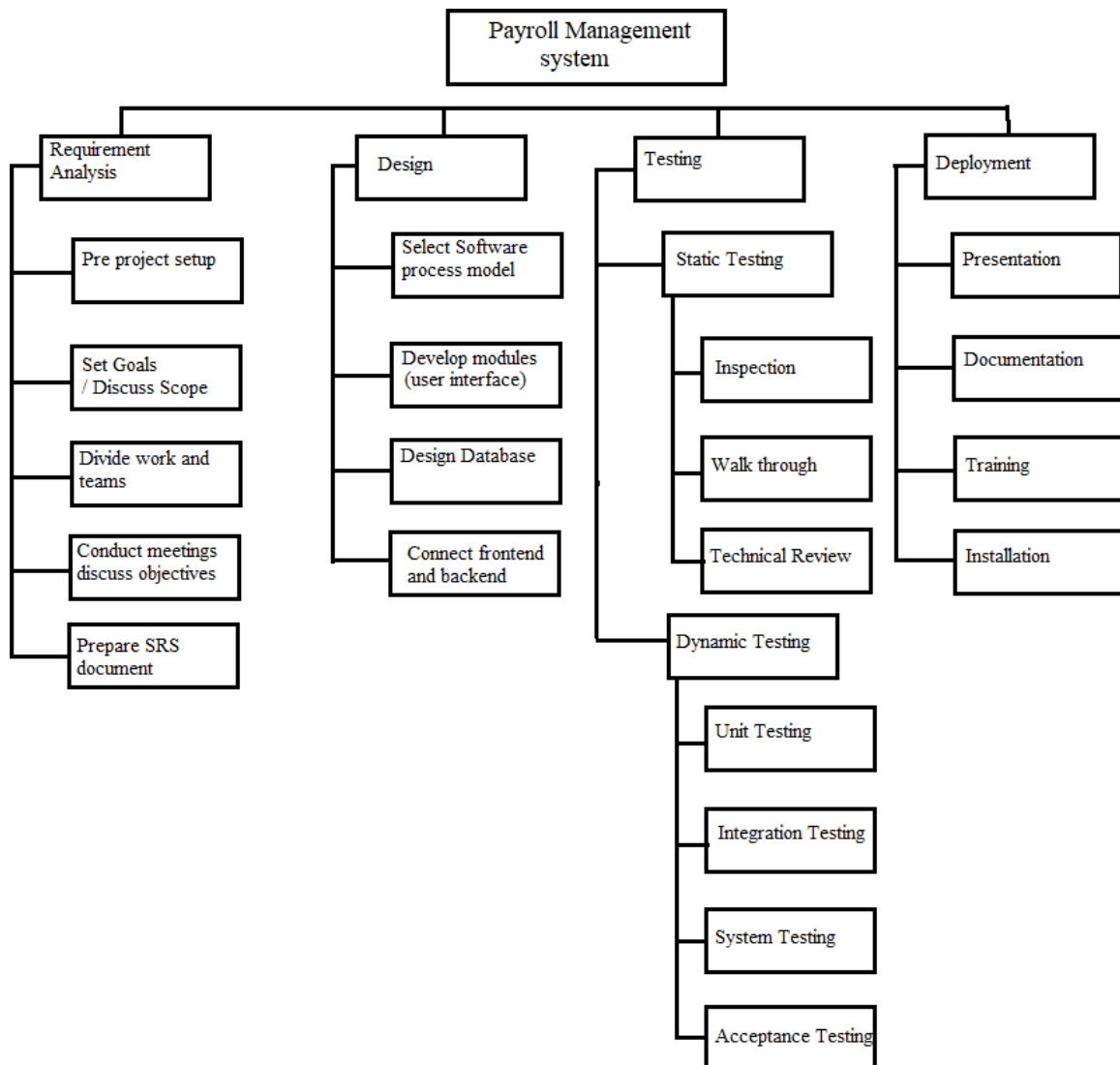


4.5) Add check points if needed

If we want to modify any objectives of the system we have to divide into check points.

PAYROLL MANAGEMENT SYSTEM

Work Break-Down Structure:



STEP5:ESTIMATE EFFORT FOR EACH ACTIVITIES

5.1) Estimate Effort

Requirement and Analysis – 13 Days

Design – 38 Days

Testing – 23Days

Deployment – 7Days

5.2) Elapsed Time

If the staff start and finish at same time then the elapsed time for the activity is 81 days.

STEP6:IDENTIFY ACTIVITY RISKS

1. Identify and quantify risks
2. Risk reduction (mitigation, avoid mistakes)

1) Identify and quantify risks:

i. SECURITY

- Confidential payroll data contains some of the company's most sensitive information. Is your data safe? Internal and external security measures should focus on systems, staff and technology. This includes looking at data-sharing, privacy, access and training.

ii. BUSINESS KNOWLEDGE

- PAYROLL MANAGEMENT SYSTEM Often there's only a few people in your organisation that understand the ins-and outs of your specific payroll and its workarounds. You need to protect

the knowledge surrounding your systems' running, configuration and maintenance.

iii. FRAUDULENT ACTIVITY

- Companies say 13% of the fraud they experienced is through their payroll. Are your approval processes, workflows and duties watertight?

iv. SYSTEM FAILURE OR DATA LOSS

- To keep business running you need to be able to pay employees. Testing, backup and data recovery processes safeguard data both in the cloud and on-premise servers. Do you have robust backup and recovery plans for disasters or system failures

v. BUSINESS FIT

Once in place, an organisation's payroll processes and systems tend to remain as such for years... even after the business needs have changed.

2) how to mitigate payroll risk and avoid mistakes

Risk #1

Incorrect processing of payroll by mistake, or with intention

- This could mean employees colluding with HR for personal gain, employees making unauthorized modifications to the payroll database, or inputting incorrect details during payroll (number of days worked and overtime, for instance). These are all risks when humans deal with payroll.

- Some of this can be intentional, and some may be true mistakes. Still, it's important to be aware of these risks when it comes to payroll processing.

Risk #2

Miscalculations

According to the E&Y Fraud Risks in Recruitment and Payroll white paper, common miscalculations are:

- Reimbursement claims made on the basis of improper bills
- Improper verification of bills leading to excess payments
- e-TDS filed with wrong Permanent Account Number (PAN) for multiple months for several employees
- e-TDS filed with 1 PAN for more than one employee
- Incorrect reporting of income details leading to excess tax paid

Risk #3

Ignoring payroll patterns

- Pay attention to payroll to reduce the risk of losing employees. Payroll can divulge important employee information like leave patterns or management issues. Payroll has the ability to uncover behavioral patterns that can be managed or addressed to boost business productivity.
- If you start to notice payroll patterns that show a particular employee is calling in frequently, you might have an employee who is unengaged. Rather than losing money on what seems to be inevitable employee turnover, start uncovering what is causing this behavior.

STEP7:ALLOCATE RESOURCES TO THE ACTIVITIES

Establish Electronic Security

- Since the majority of payroll is handled electronically, the choice of software and the company's electronic security is essential. Your company needs a firewall to protect your computer systems and databases. Password protection on all computer stations provides further electronic protection. Work with the information technology department or with an independent consultant to upgrade your security, and conduct regular checks to ensure the system works properly

Standardize External Requests

- External inquiries for payroll information leave you open to a potential breach. While creditors, mortgage companies and other entities with a financial interest may contact you, there is no way to verify who is actually on the other end of the line. You may get calls seeking to verify income for an employee or from creditors who want to garnish wages. Create a standard system for inquiring about this information in writing. In the case of a garnishment, the proper legal channels need to be followed. Train all payroll employees on the proper procedures for releasing any personal information about employees.

Properly Handle Disposal

- A smaller amount of documents and information on hand means less possibility for a security breach. When possible, limit the number of items kept unless needed for tax or auditing reasons. When you do get rid of documents, proper disposal is essential. Establish guidelines for handling sensitive documents, which should include secure shredding of the materials.

HANDLING PAYROLL TAXES:

- **FEDERAL TAX**
 1. How to calculate income tax withholdings
 2. How to determine tax depositing frequency
- **SOCIAL SECURITY AND MEDICARE TAXES**
- **STATE AND LOCAL INCOME TAXES**

STEP8: REVIEW/PUBLICIZE PROJECT

1.Create a budget:

- Creating a payroll budget helps you plan for future growth and avoid unwanted surprises. Your employees' salaries will, of course, take up a large portion of your budget. But you should also plan ahead for expenses like taxes and benefits, and make sure you consistently stick to your budget.

2.Classify Your Workers

- Correctly classifying your employees (as full-time, part-time, or temporary employees, or contractors) is crucial. Failing to do so could seriously harm your business. To avoid serious legal and financial consequences due to misclassification, ensure you're properly classifying your workers from the get-go.

.3. Establish a Consistent Payment Schedule:

- Whether your employees are hourly or salaried, pay everyone the same way and on the same day. Using the same pay

structure and process makes things easier to manage. Once you decide how often to pay your employees and stick to that timeline, the process will run much more smoothly. Paying salaried employees is, of course, easier since you don't have to calculate the amount they're owed each pay period. But even if you have hourly employees, the payment process doesn't have to be stressful. Having an efficient and consistent system in place will keep things in order.

4. Provide Payroll Information Online

- Your employees will likely want to access their pay information from previous periods and they may have questions about your payroll policy. Answering all their questions, however, can take up a lot of time. To simplify the process and save time, make payroll information available online and encourage employees to check these resources.

5. Consolidate All Payroll Information

- Keep all your payroll records and documents in one centralized location. Some federal and state laws require employers to hold on to records for a specific amount of time. Knowing where all your data is will give you peace of mind. When you consolidate all your information and can easily access it, you'll never be left scrambling at the last minute.

6. Automate Time Tracking

- Manually entering time is an outdated practice. Verifying your employees' entered hours takes up both your managers' and your payroll staff's time. What's the solution? Automate time tracking.

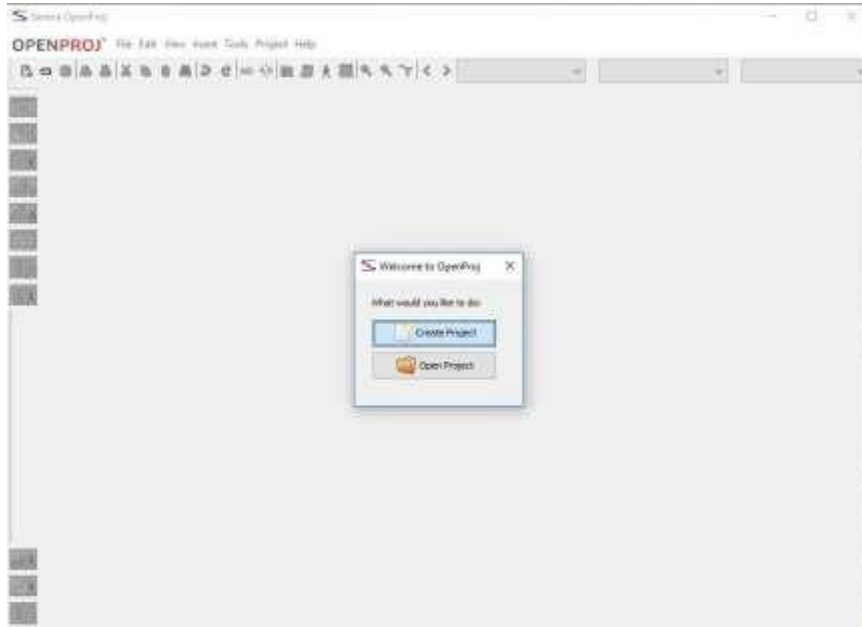
STEP 9&10: EXECUTE PLAN/LOWER LEVEL OF PLANNING

TOOL DEMO

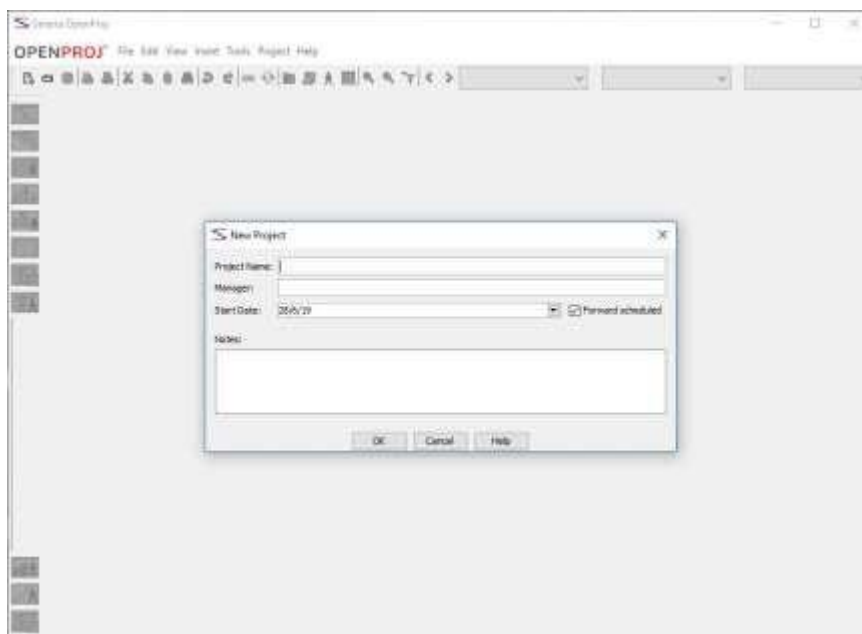
TOOL USED : OpenProj

To implement scenario in our tool :

Create a project

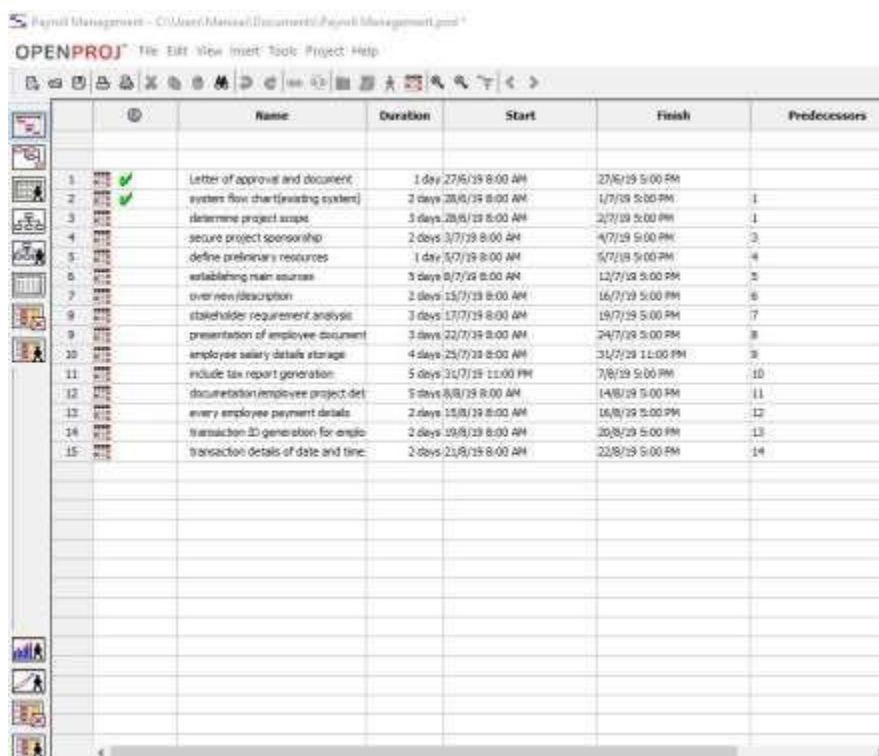
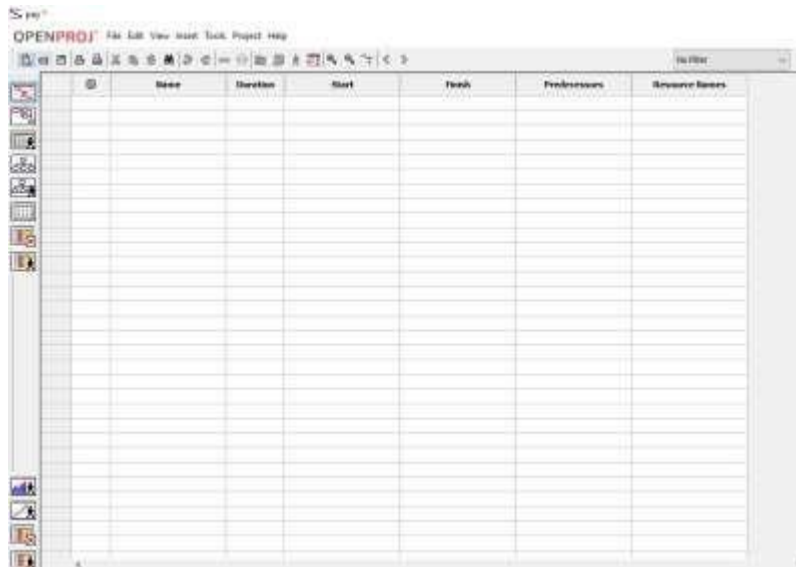


Give Project Details



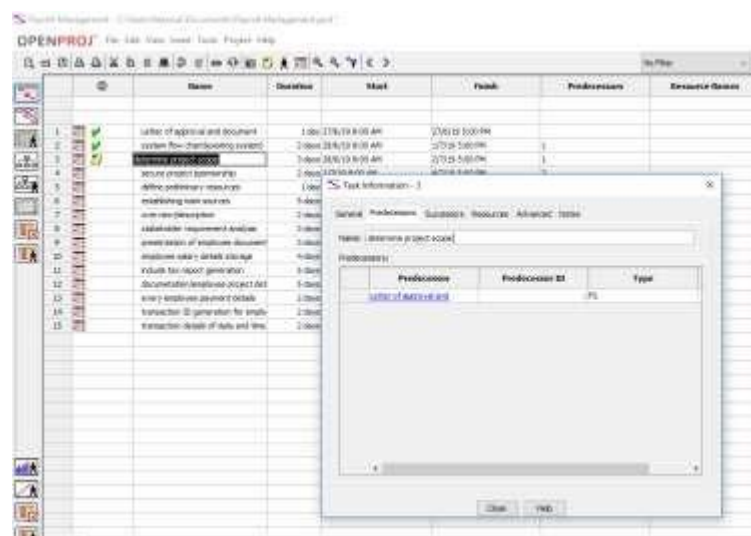
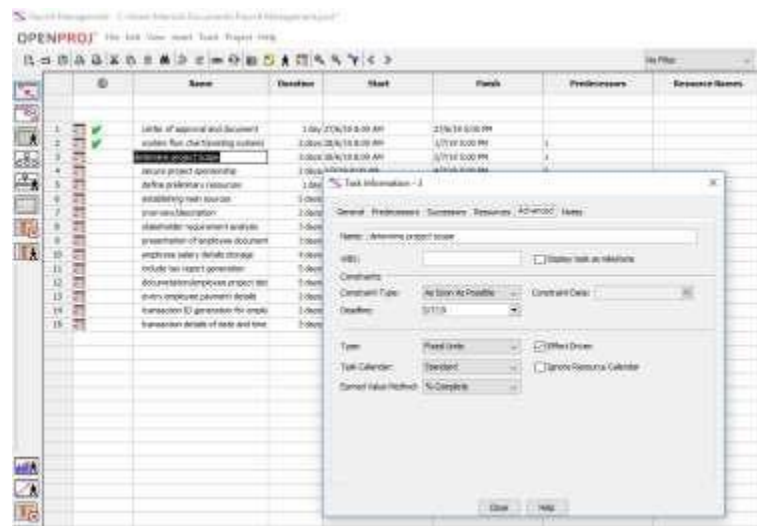
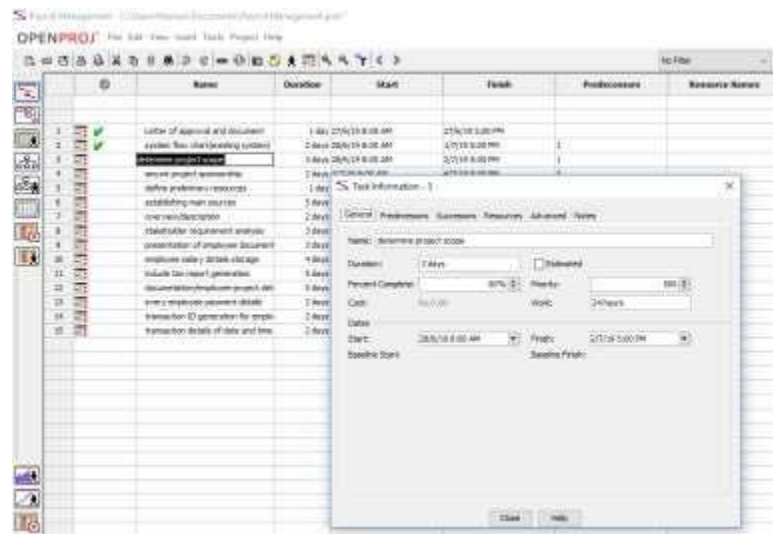
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Give Input as Tasks :

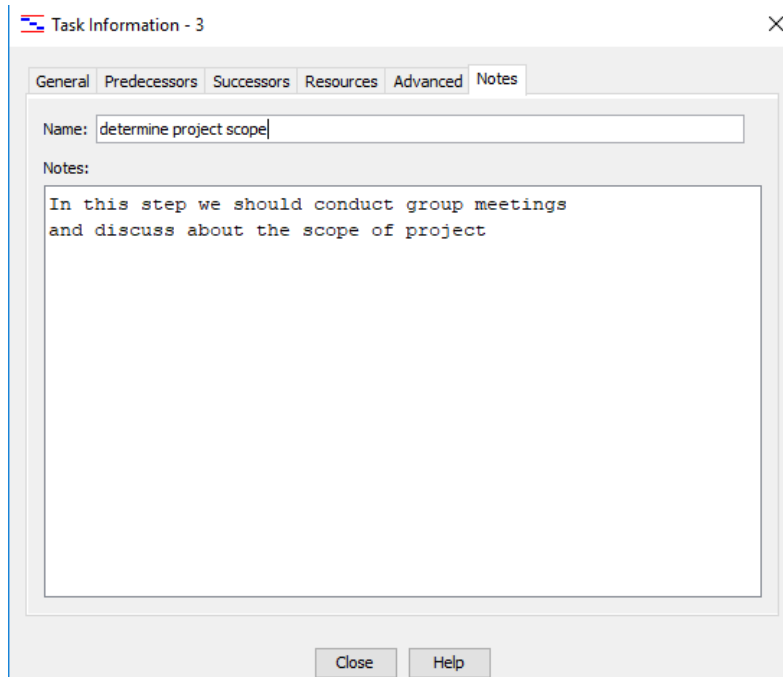


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After Writing tasks Give details about task:

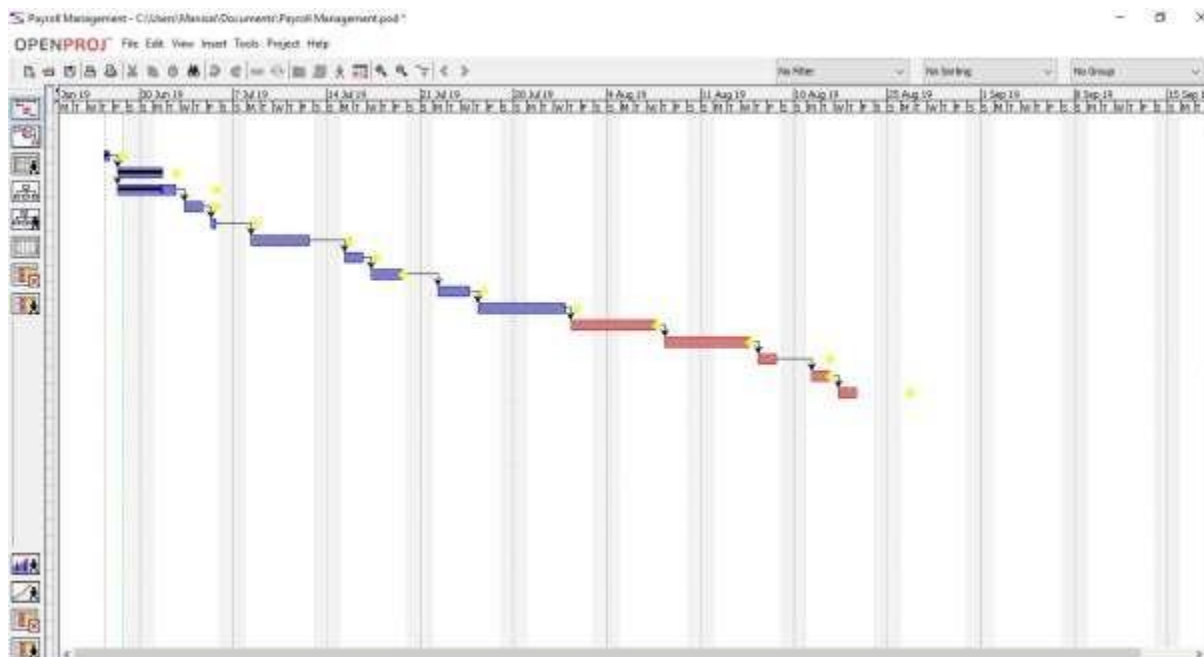


We can mention about the objective of task in notes :



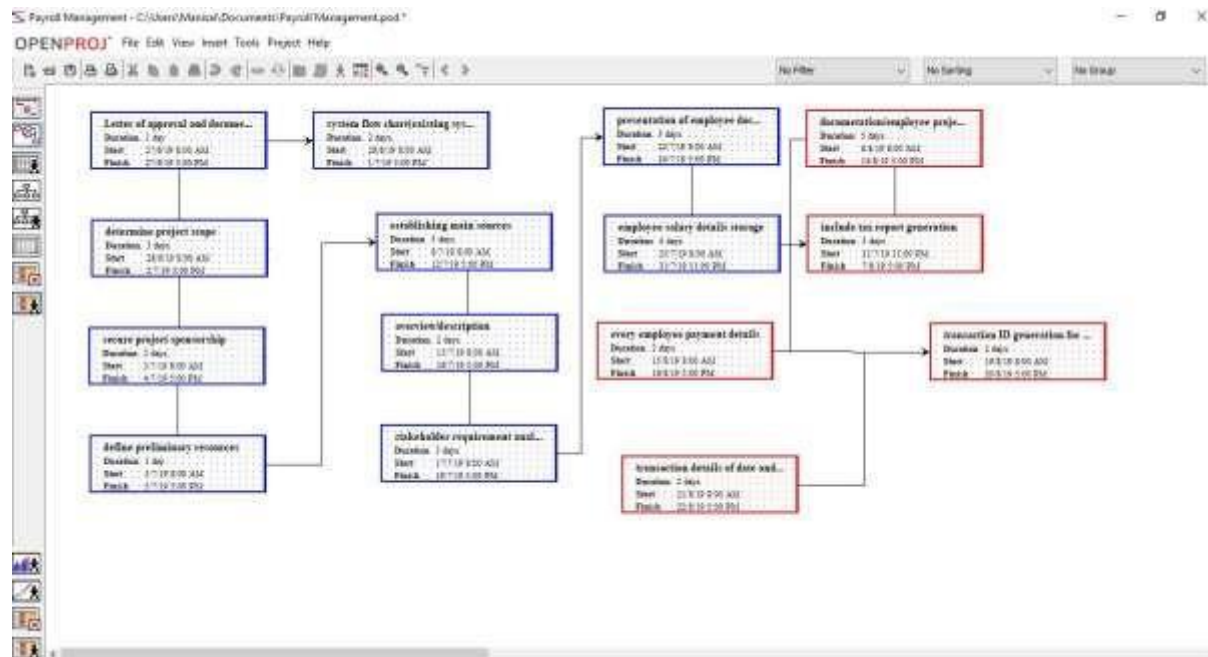
After giving all the task details we will obtain:

Gantt Chart :

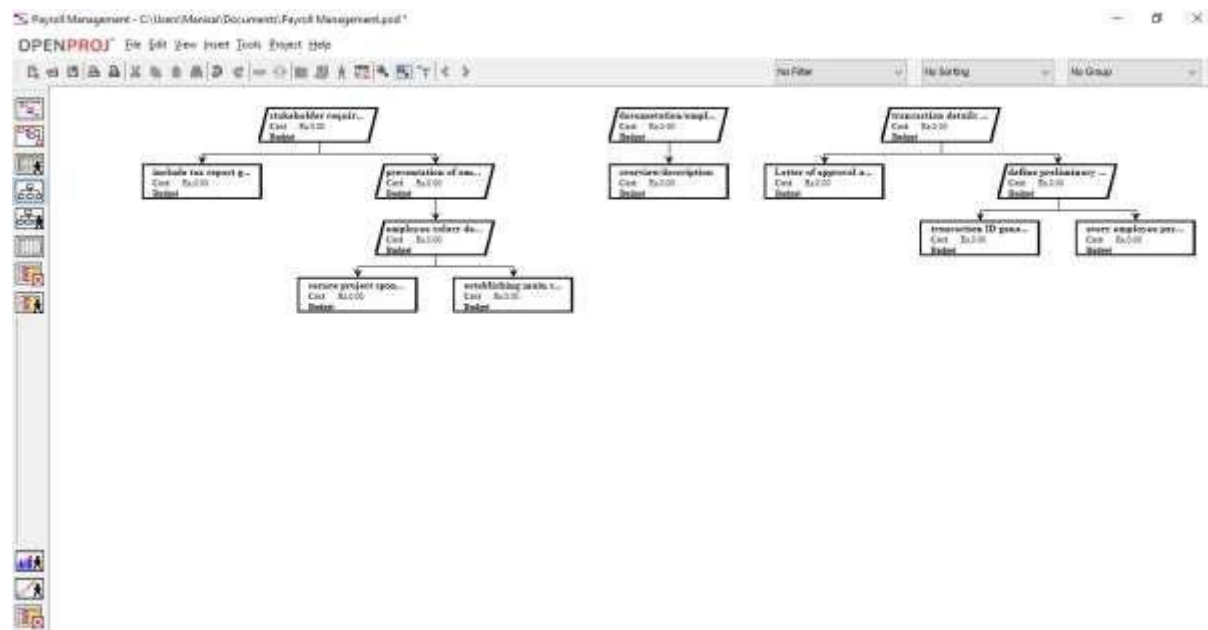


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Network Diagram :

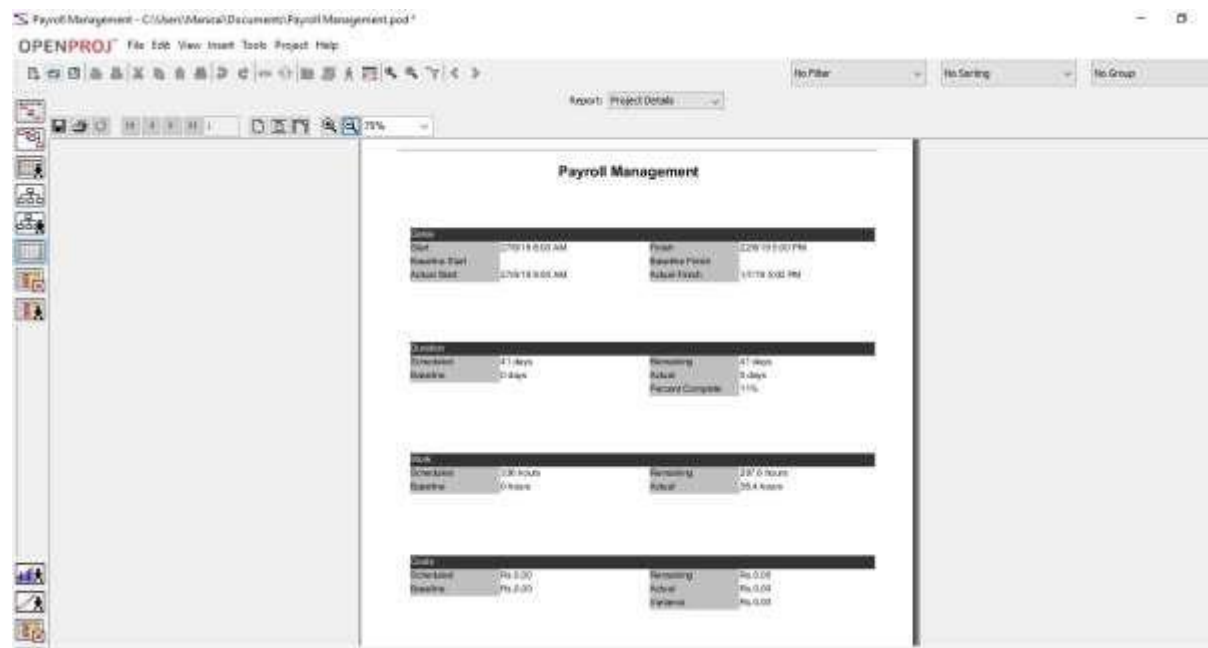


WBS :

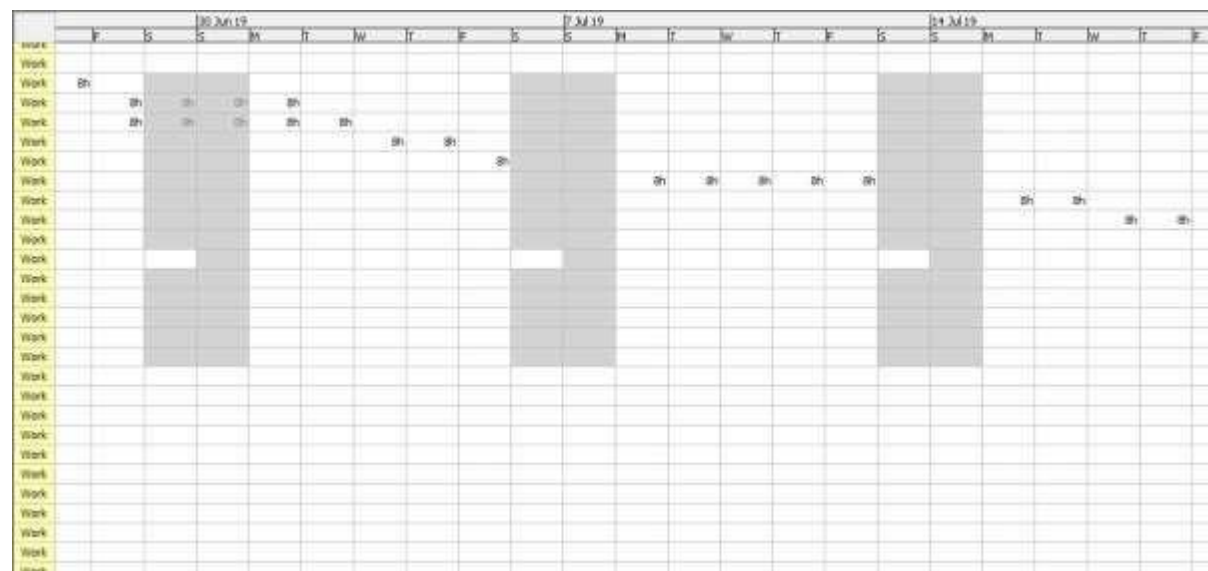


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Project Report :



Task Usage Structure :



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Automatically Calendar will be generated :

Change Working Calendar [X]

For: Standard

☒ Use default
☐ Non-working time
☐ Non-default working time

From: 8:00 To: 12:00
 13:00 17:00

June 2019 July 2019

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 August 2019 September 2019

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18	19	20	21	22	23	24	22	23	24	25	26	27	28
25	26	27	28	29	30	31	29	30					

New... Options... OK Cancel Help

Task Usage for Individual Step:

