Software Personnel Management System (SPMS) Documentation

Aim:

To analyze, Design and develop code for Software Personnel Management system using Rational Rose software and Visual Basic 6.0.

Problem statement:

Software personnel system is a real time application used in the developer's day to day system. This is a database to store the project configuration that is specified by the customer and the software developed for it includes customer and developer requirements needed for the process. Here we assume ourselves as the developing company:

1. 1.The company is the developer of the software and it contains the necessary information of the software such as requirements, time limit etc.
2. The customer provides the requirements to the company and requests a suitable solution system. The company is only responsible for developing the system out of the requirements of the customer.
3. The company mainly obtains the requirements from the customer and by analyzing it, prepares a requirements and feasibility documentation initially.
4. Then the company develops a software system that is apt for the integrated requirements and tests it within itself and by exposure to the concerned customer, and finally builds a complete a satisfactory solution.

1. Introduction

1.1 Purpose

The Software Personnel Management System (SPMS) is designed to streamline and automate personnel-related tasks within a software development organization. It aims to enhance efficiency and organization by providing comprehensive tools for managing employee data, scheduling, performance evaluation, and communication.

1.2 Document Conventions

Font: Times New Roman
Style: Bold for headings, Regular for content
Size: Heading - 18, Sub-heading - 14, Content - 11

1.3 Intended Audience and Reading Suggestions

This document is intended for the project development team, including project managers, developers, testers, and documentation writers. It serves as a reference for stakeholders involved in personnel management.

1.4 Product Scope

The SPMS encompasses features for employee information management, task scheduling, performance evaluation, and communication. It aims to improve productivity and organization within the software development team.

1.5 Definitions, Acronyms and Abbreviations

- SPMS: Software Personnel Management System
- HR: Human Resources
- GUI: Graphical User Interface
- API: Application Programming Interface

2. Overall Description

2.1 Product Perspective

The SPMS acts as an integrated platform for managing personnel-related tasks within the software development organization. It interfaces with HR systems, databases, and communication tools to provide a comprehensive solution.

2.2 Product Functions

- Employee Information Management
- Task Scheduling and Assignment
- Performance Evaluation and Feedback
- Communication and Collaboration

2.3 User Classes and Characteristics

Administrators: HR personnel and managers responsible for system administration.

Employees: Software developers, testers, and other team members who interact with the system.

2.4 Operating Environment

Client System:

- Operating System: Windows/Linux/macOS
- Processor: Intel or AMD
- RAM: 4GB or higher

Server System:

- Operating System: Linux
- Processor: Intel or AMD
- RAM: 8GB or higher

2.5 Design and Implementation Constraints

- Accessibility via web browsers
- Implementation of security measures to protect sensitive data
- Integration with existing HR systems may require API access

2.6 Assumptions and Dependencies

- Basic computer literacy among users
- Reliable internet connectivity
- Access control based on user roles and permissions

3. External Interface Requirements

3.1 User Interfaces

Intuitive GUIs for administrators and employees to perform various tasks such as data entry, scheduling, and performance evaluation.

3.2 Hardware Interfaces

Standard hardware configurations for client systems accessing the system via web browsers.

3.3 Software Interfaces

- Front End: HTML, CSS, JavaScript
- Back End: Java, Spring Framework
- Database: MySQL or similar RDBMS

3.4 Communications Interfaces

Integration with external APIs for HR systems and other tools.

4. System Functions

- Employee Information Management
- Task Scheduling and Assignment
- Performance Evaluation and Feedback
- Communication and Collaboration

5. Other Nonfunctional Requirements

5.1 Performance Requirements

System response time within 2 seconds under normal load conditions.

5.2 Safety Requirements

Access control for sensitive data based on user roles and permissions.

5.3 Security Requirements

Implementation of data encryption and secure authentication mechanisms.

5.4 Software Quality Attributes

Emphasis on usability, reliability, and scalability.

5.5 Business Rules

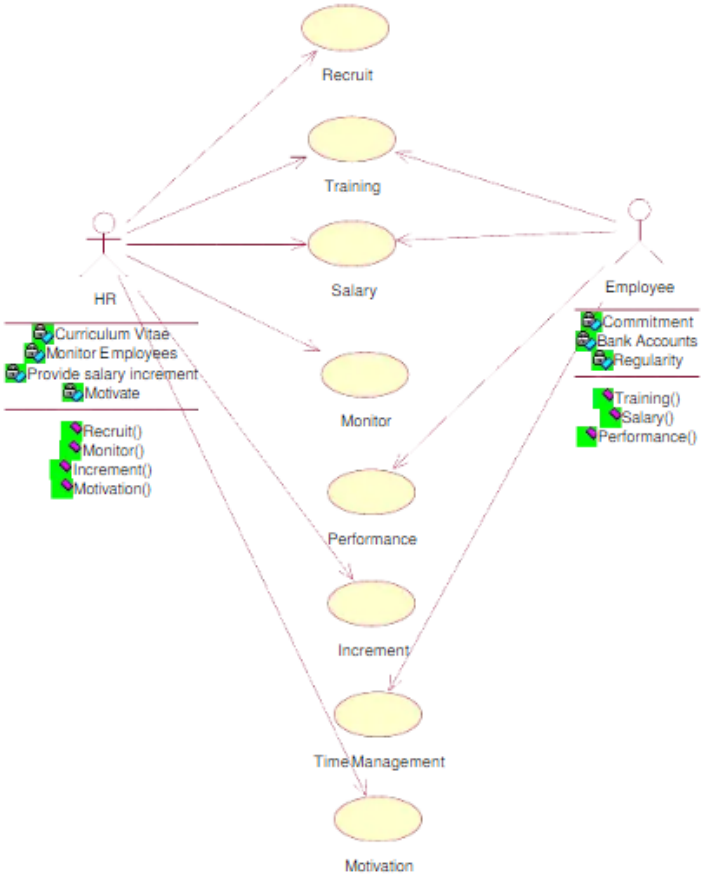
Enforcement of principles such as confidentiality, data integrity, and compliance with labor laws.

Appendix A: Glossary

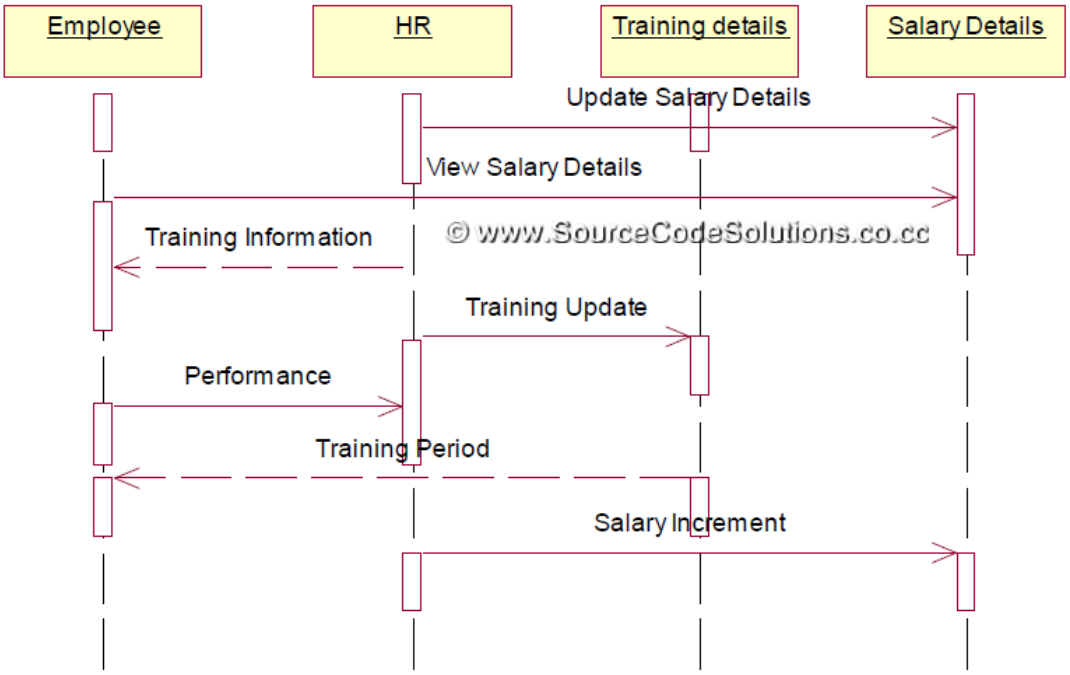
- SPMS: Software Personnel Management System
- HR: Human Resources
- GUI: Graphical User Interface
- API: Application Programming Interface

Use-case Diagram:

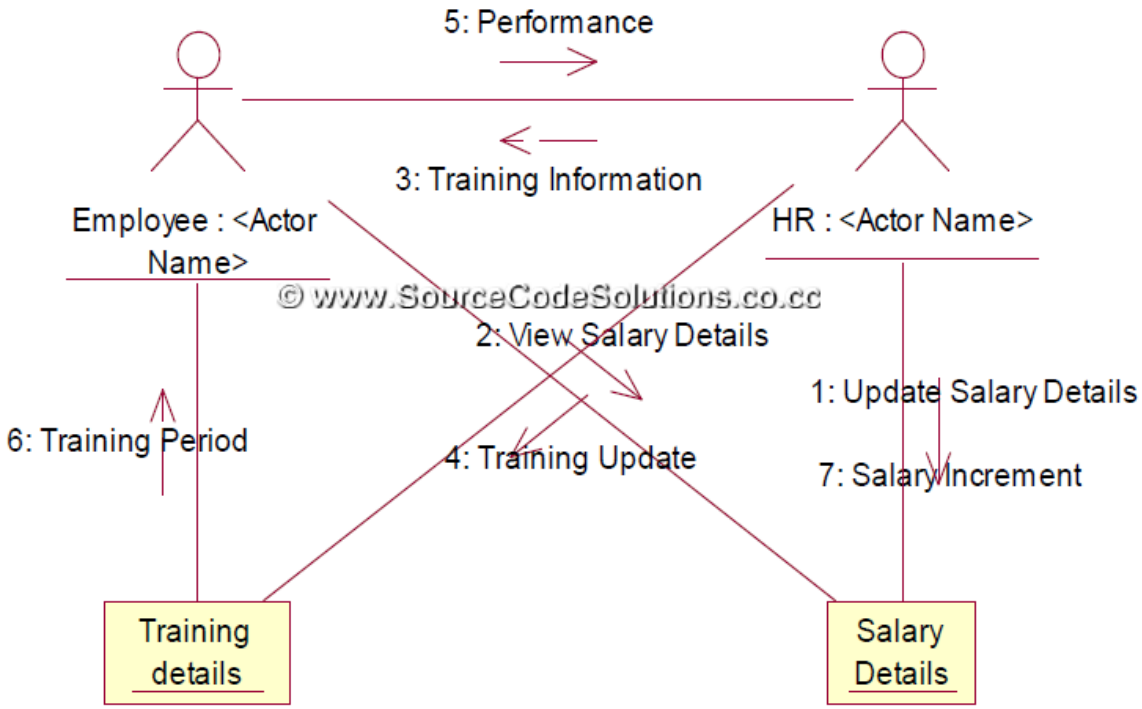
The HR of an organization involves recruitment training, monitoring and motivation of an employee. The HR also involves giving salary as observed in the payroll sheet. The employee undergoes training, receives the salary , gives the expected performance and manages time inorder to complete a given task within the required period.



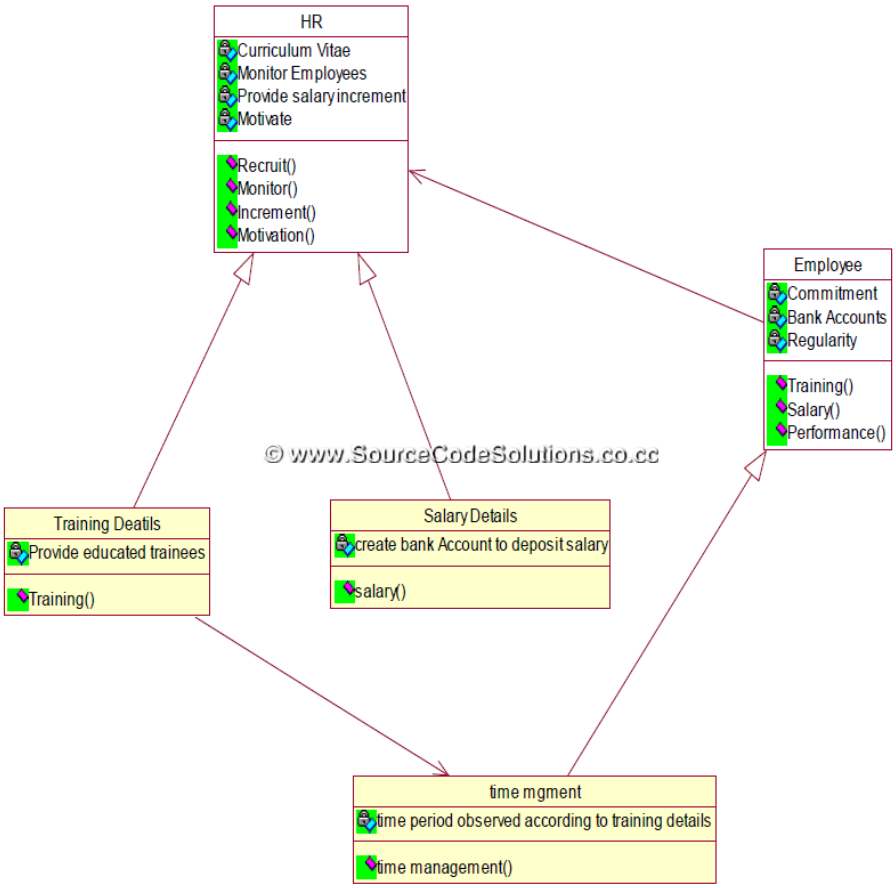
Sequence Diagram:



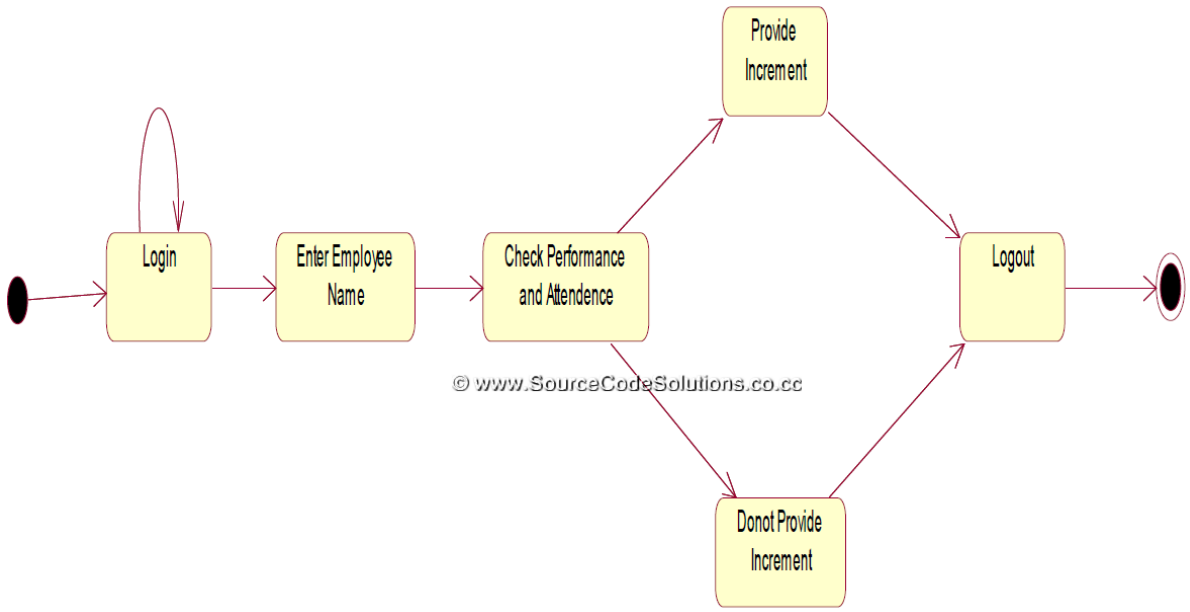
Collaboration Diagram:



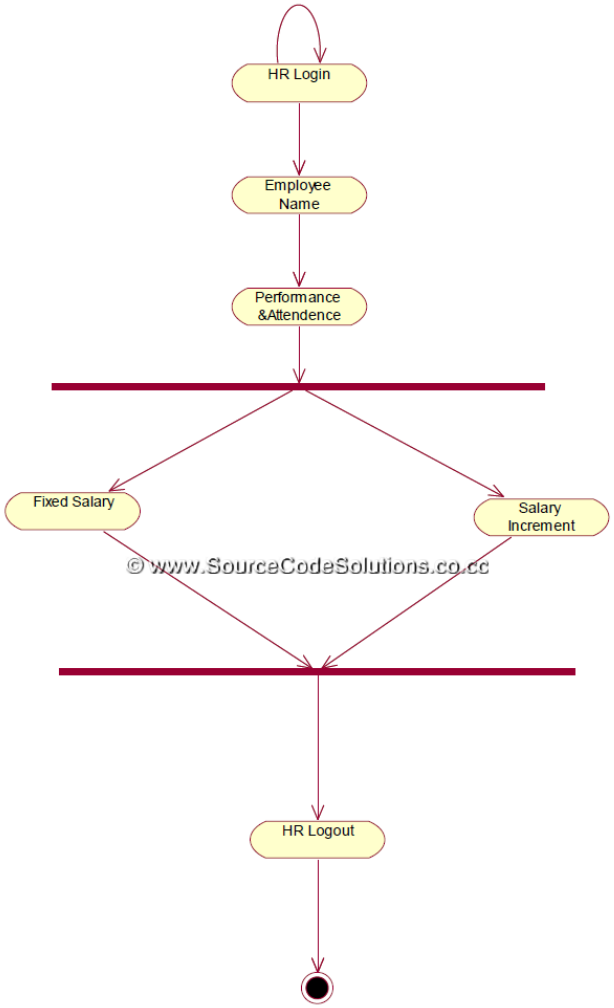
Class Diagram:



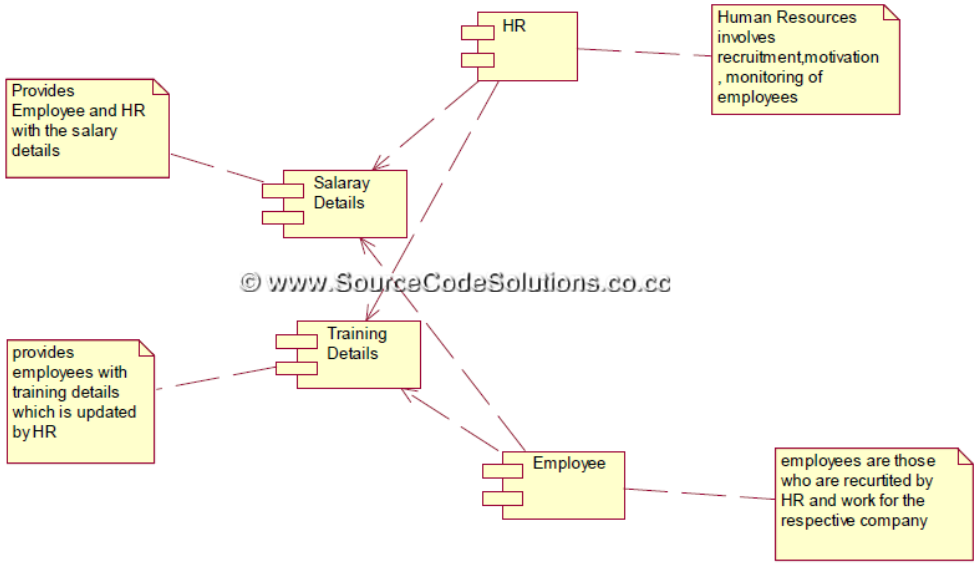
State Chart Diagram:



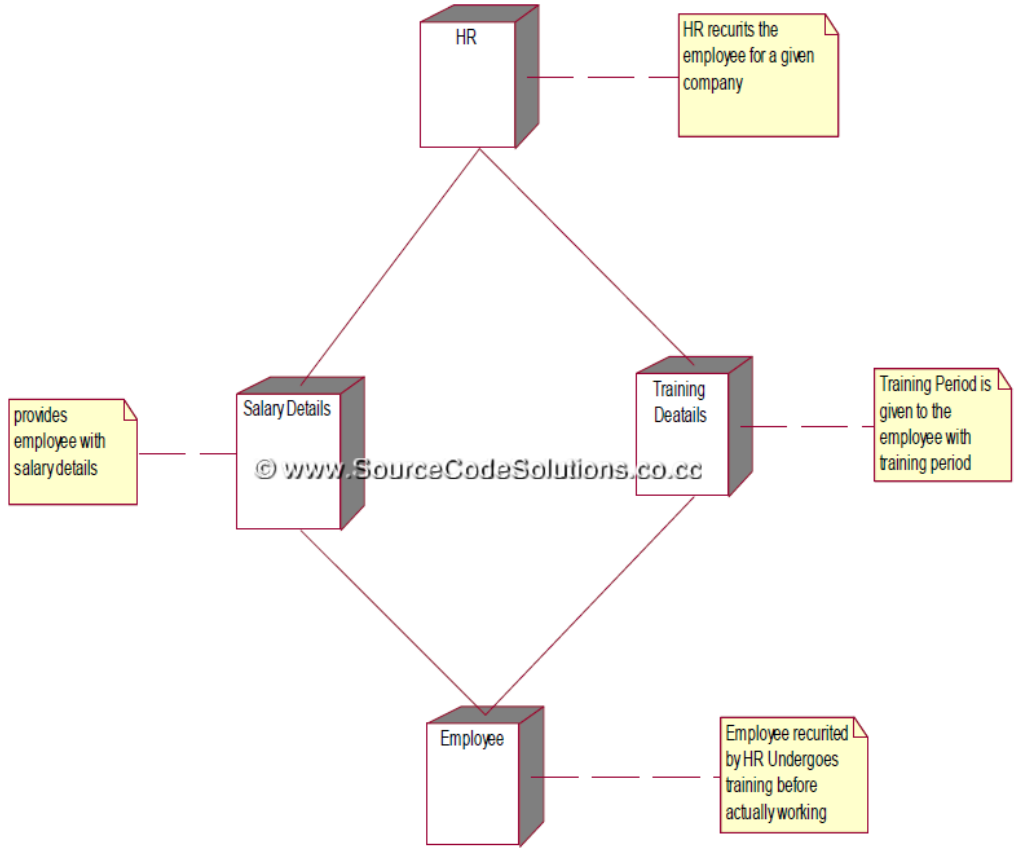
Activity Diagram:



Component Diagram:



Deployment Diagram:



RESULT:

Thus the project to develop software personal management system is done successfully.