Software Requirements Specification (SRS) for Payroll Management System


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1. Introduction

1.1 Purpose

This document specifies the requirements for the Payroll Management System (PMS), designed to automate the payroll process, including salary calculations, tax deductions, and generating payslips. The system aims to enhance the efficiency and accuracy of payroll processing in small to medium-sized enterprises (SMEs).

1.2 Scope

The Payroll Management System is designed for use by HR and finance departments within SMEs. It provides functionalities for managing employee records, calculating salaries, handling tax computations, and generating payroll reports. The system interacts with the company's financial and HR databases to ensure accurate and up-to-date payroll processing.

1.3 Definitions, Acronyms, and Abbreviations

- **PMS**: Payroll Management System
- **HR**: Human Resources
- **SMEs**: Small and Medium-sized Enterprises
- **UI**: User Interface

1.4 References

- IEEE Standard for Software Requirements Specifications (IEEE Std 830-1998)
- Existing payroll management software like QuickBooks and ADP

1.5 Overview

This document outlines the functional and non-functional requirements of the Payroll Management System. It includes detailed descriptions of system features, external interface requirements, and design constraints.

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2. Overall Description

2.1 Product Perspective

The Payroll Management System is a standalone application that integrates with existing HR and financial systems within the organization. It serves as a critical tool for automating payroll tasks, reducing manual errors, and ensuring compliance with legal and tax regulations.

2.2 Product Functions

- **Employee Management**: Add, update, and delete employee records.
- **Payroll Calculation**: Calculate salaries, bonuses, and deductions.
- **Tax Management**: Compute tax deductions based on current tax laws.
- **Leave Management**: Track and manage employee leave records.
- **Payslip Generation**: Automatically generate and distribute payslips.
- **Report Generation**: Create payroll and tax reports for management and compliance purposes.

2.3 User Classes and Characteristics

- **HR Administrators**: Responsible for managing employee records and payroll processing.
- **Finance Department**: Handles financial reports, tax deductions, and salary disbursements.
- **Employees**: End-users who will access their payroll details and payslips.

2.4 Operating Environment

- **Software**: Runs on a web-based or desktop application platform, compatible with major operating systems like Windows, macOS, and Linux.
- **Hardware**: Requires a standard computer system with internet access for online functionality.

2.5 Design and Implementation Constraints

- **Compliance**: Must comply with local tax regulations and labor laws.
- **Security**: Must ensure the confidentiality of employee data through secure data transmission and storage.
- **Scalability**: The system should be scalable to accommodate a growing number of employees.

2.6 Assumptions and Dependencies

- The system assumes the availability of an existing HR and financial database.
- Regular software updates and maintenance will be performed to keep the system compliant with new regulations.

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3. External Interface Requirements

3.1 User Interfaces

- **Web Interface**: A user-friendly interface for HR administrators and employees to interact with the system.
- **Employee Portal**: Allows employees to view their payslips, tax deductions, and leave balances.

3.2 Hardware Interfaces

- **Database Server**: Requires a server to host the payroll database.
- **Printers**: For printing payslips and reports.

3.3 Software Interfaces

- **HR System Integration**: API integration with the existing HR system for employee data.

- **Financial System Integration**: API integration with the company’s financial system for salary disbursements and tax reporting.

3.4 Communication Interfaces

- **Secure Protocols**: Use of SSL/TLS for secure data transmission between the PMS and other systems.

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4. System Features

4.1 Employee Management

- **4.1.1 Description**: Manage employee records including personal details, employment status, and salary information.
- **4.1.2 Functional Requirements**:
  - The system shall allow HR administrators to add, update, or delete employee records.
  - The system shall maintain a history of employment changes for auditing purposes.

4.2 Payroll Calculation

- **4.2.1 Description**: Calculate employee salaries based on attendance, bonuses, deductions, and taxes.
- **4.2.2 Functional Requirements**:
  - The system shall automatically calculate salaries based on predefined rules.
  - The system shall update the payroll database after each calculation.

4.3 Tax Management

- **4.3.1 Description**: Compute tax deductions based on current tax regulations.
- **4.3.2 Functional Requirements**:
  - The system shall apply the correct tax rates based on the employee's salary and tax bracket.
  - The system shall generate tax reports for compliance purposes.

4.4 Leave Management

- **4.4.1 Description**: Track and manage employee leave requests and balances.
- **4.4.2 Functional Requirements**:
  - The system shall allow employees to submit leave requests through the employee portal.
  - The system shall automatically update leave balances upon approval of a leave request.

4.5 Payslip Generation

- **4.5.1 Description**: Generate and distribute electronic payslips to employees.
- **4.5.2 Functional Requirements**:
  - The system shall generate payslips in PDF format.
  - The system shall email payslips to employees automatically on payday.

4.6 Report Generation

- **4.6.1 Description**: Generate various payroll and tax reports for management.

- **4.6.2 Functional Requirements**:
  - The system shall generate monthly, quarterly, and annual payroll reports.
  - The system shall allow reports to be exported in CSV and PDF formats.

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5. Non-Functional Requirements

5.1 Performance Requirements

- The system shall handle payroll processing for up to 1,000 employees within 5 seconds.
- The system shall generate payslips for all employees within 2 minutes.

5.2 Security Requirements

- All employee data shall be encrypted during transmission and storage.
- The system shall require multi-factor authentication for HR administrators.

5.3 Usability Requirements

- The system shall provide a simple, intuitive interface for HR administrators and employees.
- The system shall support multi-language interfaces.

5.4 Reliability Requirements

- The system shall have an uptime of 99.9%.
- The system shall be able to recover from failures within 5 minutes.

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6. Other Requirements

6.1 Regulatory Requirements

- The system shall comply with local and international labor and tax laws.
- The system shall generate tax forms in accordance with local tax authorities' requirements.

6.2 Environmental Requirements

- The system shall operate under standard office conditions, with a temperature range of 10°C to 35°C.

Requirements Traceability Matrix (RTM) for Payroll Management System

Below is a simplified RTM template tailored to the Payroll Management System:

Requirement ID	*Requirement Description*	*Design Specification ID*	*Implementation Module*	*Test Case ID*
REQ-1	Employee Management Functionality	DS-1	EMP_MODULE	TC-01
REQ-2	Payroll Calculation Automation	DS-2	PAYROLL_MODULE	TC-02

Requirement ID	*Requirement Description*	*Design Specification ID*	*Implementation Module*	*Test Case ID*
REQ-3	Tax Deduction Computation	DS-3	TAX_MODULE	TC-03
REQ-4	Leave Management System	DS-4	LEAVE_MODULE	TC-04
REQ-5	Payslip Generation & Distribution	DS-5	PAYSLIP_MODULE	TC-05
REQ-6	Report Generation for Payroll	DS-6	REPORT_MODULE	TC-06
REQ-7	User Authentication & Security	DS-7	AUTH_MODULE	TC-07
REQ-8	System Performance Requirements	DS-8	PERFORMANCE_MODULE	TC-08
REQ-9	Compliance with Regulatory Standards	DS-9	COMPLAINCE_MODULE	TC-09
REQ-10	Multi-language Support	DS-10	UI_MODULE	TC-10

Explanation of Columns:

1. **Requirement ID**: A unique identifier for each requirement in the SRS.
2. **Requirement Description**: A brief description of the requirement as defined in the SRS.
3. **Design Specification ID**: The corresponding design specification that addresses the requirement.
4. **Implementation Module**: The software module where the requirement is implemented.
5. **Test Case ID**: The ID of the test case(s) that will be used to verify that the requirement has been implemented correctly.

Purpose of RTM:

- **Verification and Validation**: Ensures that each requirement is tested and validated.
- **Project Tracking**: Helps in tracking the project's progress and coverage of all requirements.
- **Quality Assurance**: Assists in ensuring that all requirements are met before the system goes live.

The RTM should be regularly updated throughout the development process to ensure all requirements are consistently tracked, implemented, and tested.
