SRS DOCUMENTATION OF BATCH PAYROLL:

**1. Introduction**

**1.1 Purpose**

The purpose of this Software Requirements Specification (SRS) is to define the functional and non-functional requirements for the Payroll Management System. The system automates the process of payroll calculation, applying deductions, generating payslips, and initiating salary transfers for employees efficiently and accurately.

**1.2 Scope**

The Payroll Management System automates the manual payroll process by:

* Retrieving employee details from the database.
* Calculating gross pay based on work hours.
* Applying necessary deductions such as tax and insurance.
* Generating payslips for employees.
* Transferring payments through the bank system.

The system ensures accurate salary computation, timely payment processing, and generation of payroll reports for administrative use.

**1.3 Definitions, Acronyms, and Abbreviations**

| **Term** | **Definition** |
| --- | --- |
| SRS | Software Requirements Specification |
| UI | User Interface |
| DB | Database |
| Payroll | Total amount to paid employees during a payroll period |

**1.4 References**

* IEEE Std 830-1998: Recommended Practice for Software Requirements Specifications
* Payroll Management Guidelines (ISO/IEC 27001)
* UML Sequence Diagram provided (Payroll System Flow)

**1.5 Overview**

This document outlines the structure, features, and requirements of the Payroll Management System. It provides detailed descriptions of user interactions, payroll processing steps, and system constraints for developers and stakeholders.

**2. Overall Description**

**2.1 Product Perspective**

The Payroll Management System interacts with multiple subsystems:

* **Payroll Clerk:** Initiates payroll processing and generates reports.
* **Employee Database:** Provides employee and timesheet data.
* **Timestamp Card:** Supplies time records for each employee.
* **Payment Processor:** Handles transaction generation and confirmation.
* **Bank System:** Executes final salary transfers.

The system automates the end-to-end payroll cycle, reducing manual intervention and improving accuracy.

**2.2 Product Functions**

* Retrieve employee details from the database.
* Fetch timesheet data for each employee.
* Calculate gross pay and apply deductions.
* Generate payslips and payment details.
* Transfer payments to employee accounts.
* Generate payroll summary reports.

**2.3 User Characteristics**

Users include HR administrators or payroll clerks familiar with employee management and basic computer operations. They should understand company payroll policies and reporting standards.

**2.4 Constraints**

* Requires a secure connection to the database and bank system.
* Must comply with taxation and data privacy laws.
* Salary computation rules must align with company policies.
* Payroll should be processed within the designated pay cycle time.

**2.5 Assumptions and Dependencies**

* Employee details and work hours are correctly recorded in the database.
* Bank and payment systems are operational.
* Deductions are configured in the system before processing.
* System relies on accurate timestamp card entries.

**3. Specific Requirements**

**3.1 Functional Requirements**

1. **Employee Data Retrieval:**
   * The system retrieves employee information from the database.
   * If employee details are missing, an error is logged.
2. **Timesheet Fetching:**
   * The system fetches timestamp data to calculate total work hours.
3. **Gross Pay Calculation:**
   * The system multiplies worked hours by hourly rate.
4. **Deduction Application:**
   * System applies predefined deductions such as tax or insurance.
5. **Payslip Generation:**
   * The system generates digital payslips for employees.
6. **Payment Processing:**
   * Payment processor sends payment information to the bank system.
7. **Report Generation:**
   * After successful payment, payroll reports are generated for records.

**3.2 System Features**

**Feature 1: Employee Data Retrieval**

* **Description:** Extract employee details from the database.
* **Input:** Employee IDs.
* **Output:** Employee personal and salary data.

**Feature 2: Gross Pay Calculation**

* **Description:** Calculate gross pay using worked hours and rate.
* **Input:** Timestamp card data.
* **Output:** Gross pay value.

**Feature 3: Deduction Application**

* **Description:** Apply tax, insurance, and other deductions.
* **Input:** Employee deduction policies.
* **Output:** Net salary after deduction.

**Feature 4: Payment Processing**

* **Description:** Send payment info to payment processor and bank.
* **Input:** Employee net salary details.
* **Output:** Confirmation of payment success.

**Feature 5: Report Generation**

* **Description:** Generate and store payroll reports.
* **Input:** Processed payroll data.
* **Output:** Payroll report for the pay period.

**3.3 Interface Requirements**

**User Interface**

* Web or desktop interface for payroll clerks.
* Interactive dashboard for payroll progress tracking.

**Hardware Interface**

* System runs on a secure workstation or server.

**Software Interface**

* Interfaces with Employee Database, Payment Processor, and Bank APIs.

**Communication Interface**

* Encrypted data transfer via secure communication protocols (HTTPS/TCP).

**4. Non-Functional Requirements**

**4.1 Performance Requirements**

* Must process payroll for 500 employees within 10 minutes.
* Response time for database queries should not exceed 2 seconds.

**4.2 Security Requirements**

* All financial and employee data must be encrypted.
* Only authorized users can initiate payroll or view reports.
* User sessions should automatically log out after inactivity.

**4.3 Reliability**

* The system should ensure 99.5% uptime.
* All transactions must be logged for audit purposes.
* In case of failure, payroll should resume without data loss.

**4.4 Maintainability**

* Payroll policies and deduction rules should be easily updatable.
* System should allow modular maintenance and regular patches.

**5. Other Supporting Information**

**5.1 Appendices**

**Appendix A:** Sequence of Payroll Processing

1. Initiate Payroll
2. Retrieve Employee Data
3. Fetch Timecards
4. Calculate Gross Pay
5. Apply Deductions
6. Generate Payslip
7. Process Payment
8. Generate Payroll Report

**Appendix B:** Actors

* Payroll Clerk
* Payroll System
* Employee Database
* Timestamp Card
* Payment Processor
* Bank System

**5.2 Index**

| **Term** | **Description** |
| --- | --- |
| Payroll Clerk | Authorized person managing payroll |
| Payroll System | Software responsible for automating payroll |
| Employee Database | Repository of employee records |
| Timestamp Card | Source of employee time and attendance data |
| Payment Processor | Handles transaction and payment processing |
| Bank System | Executes payment transfers |