**A PROPOSED OFFERING OF PAYROLL**

**SYSTEM FOR WILLTOP HARDWARE AND ELECTRICAL SUPPLIES**

A Project Proposal Presented to the

Faculty of Datamex College of Saint Adeline, Inc.

In Partial Fulfillment of the Requirements for the

Degree of Bachelor of Science in Information Technology

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September 2025

**TECHNICAL DOCUMENTATION**

**INTRODUCTION**

This Technical Documentation explains the Payroll System developed for WILLTOP Hardware and Electrical Supplies. The system aims to help the store compute salaries, record attendance, and manage payroll in a faster and more organized way. It reduces manual work and errors in salary computation.

The purpose of this document is to provide complete instructions and technical information on installing, configuring, using, and maintaining the Payroll System.

This document includes the system overview, installation guide, configuration guide, database documentation, user manual, troubleshooting guide, testing documentation, and maintenance guide.

**SYSTEM OVERVIEW**

The Payroll System is an offline, desktop-based system created to help WILLTOP Hardware and Electrical Supplies manage employee information, attendance records, and salary computation. The system provides a faster and more organized process compared to manual payroll recording. It reduces human error, saves time, and keeps records safe and easy to access.

**System Features**

**The Payroll System includes the following features:**

• Employee Information Management – stores employee profiles in the database.

• Attendance Recording – logs daily time in and time out of employees.

• Payroll Computation – computes salaries, deductions, and total pay.

• Payslip Generation – produces a printable payslip for each cutoff period.

• User Login – allows secure access to the system.

**System Architecture**

**The system uses a three-layer architecture:**

1. User Interface – VB.NET forms that allow the user to interact with the system.

2. Logic Layer – handles attendance, salary computation, and system functions.

3. Database Layer – uses SQL Server to store records and payroll data.

**Deployment Architecture**

The system is installed on a single computer and does not require internet access. The database and the application are stored on the same machine, which makes it easy to maintain and manage.

**INSTALLATION GUIDE**

This chapter provides the steps and requirements needed to install the Payroll System on a computer.

**System Requirements**

**To run the system, the following minimum requirements must be met:**

**Hardware Requirements**

• Processor: Dual-Core or higher

• Memory: 4GB RAM or higher

• Storage: At least 2GB free space

**Software Requirements**

• Operating System: Windows 10 or Windows 11

• Database: SQL Server

• Application: VB.NET Runtime

**Installation Steps**

**Follow the steps below to install the Payroll System:**

1. Install SQL Server on the computer.

2. Restore the system database using SQL Server Management Studio (SSMS).

3. Install the Payroll System application file (.exe) on the computer.

4. Open the Payroll System and configure the database connection.

5. Log in using the admin account to start using the system.

After completing the installation, you may proceed to configure the system settings and register employee information.

**CONFIGURATION GUIDE**

This chapter explains how to configure the Payroll System after installation. Configuration is required so the system can connect to the database and allow the user to start encoding records.

**Database Configuration**

1. Open the Payroll System.

2. Go to the Database Configuration or Settings panel.

3. Enter the required database information (Server Name, Username, and Password).

4. Click the “Save” or “Test Connection” button to check if the database is connected.

5. Restart the system to apply the settings.

**User Account Setup**

1. Log in using the default Admin account.

2. Go to the User Account panel.

3. Create or update user accounts if needed.

4. Assign a secure password to protect the system from unauthorized access.

**Employee Setup**

1. Go to the Employee Module.

2. Add employee information such as name, position, rate, and deductions.

3. Save the information. Employees will now appear in the system list.

**Configuration Notes**

• Always make sure the database is connected before using the system.

• Only authorized users should have Admin access.

• Backup the database regularly to avoid losing records.

Once configuration is complete, the system is ready for attendance recording and payroll processing.

**API DOCUMENTATION**

The Payroll System does not include an API. It is an offline, standalone, and desktop-based system designed for local use only. Since the system does not connect to any web server or external application, there are no API endpoints, tokens, or authentication keys needed.

**Purpose of Excluding API**

**The system was designed without an API for the following reasons:**

• It is intended for single-computer use only.

• It does not require internet or network connection.

• It avoids external access for better data privacy and security.

**Summary**

• API Availability: Not Applicable

• Reason: The system is offline and runs on a local machine

• Security Impact: System is protected from external attacks because it is not connected to the web.

**DATABASE DOCUMENTATION**

This chapter explains the database structure used by the Payroll System. The database stores all necessary information such as employee records, attendance logs, and payroll data.

**Entity–Relationship Diagram (ERD)**

**The system uses a relational database. Below is the simplified ERD description:**

• One (1) Employee can have many Attendances records

• One (1) Employee can have many Payroll records

**Main Database Tables**

1. Employee Table

- Stores employee information

- Sample Fields: EmployeeID, FirstName, LastName, Position, Rate

2. Attendance Table

- Stores time-in and time-out records

- Sample Fields: AttendanceID, EmployeeID, Date, TimeIn, TimeOut, TotalHours

3. Payroll Table

- Stores payroll summaries per cutoff

- Sample Fields: PayrollID, EmployeeID, CutoffDate, TotalHours, GrossPay, Deductions, NetPay

4. Deductions Table

- Stores deduction values such as SSS, PhilHealth, and Pag-IBIG

- Sample Fields: DeductionID, EmployeeID, SSS, PhilHealth, Pagibig, OtherDeductions

5. Users Table

- Stores system login credentials

- Sample Fields: UserID, Username, Password, UserRole

**Data Backup and Recovery**

• Backup the database weekly or after every cutoff.

• Store backups in a safe folder or external drive.

• Use SQL Server Management Studio to restore the database if needed.

**USER MANUAL**

This chapter explains the basic steps on how to use the Payroll System. The user must log in, add employees, record attendance, and generate payroll to produce payslips.

**How to Use the System**

1. Login

• Open the Payroll System.

• Enter your username and password.

• Click the “Login” button to access the system.

2. Add Employee

• Go to the Employee Module.

• Click “Add New Employee.”

• Enter the employee’s personal information, rate, and deductions.

• Click “Save.”

3. Record Attendance

• Go to the Attendance Module.

• Select an employee and enter the time-in and time-out.

• Save the record. Attendance will be stored in the database.

4. Generate Payroll

• Open the Payroll Module.

• Select the employee and cutoff period.

• The system will compute hours worked, gross pay, deductions, and net pay.

• Click “Generate Payroll.”

5. Print Payslip

• After generating payroll, click “Print Payslip.”

• A payslip will be displayed and can be printed or saved as PDF.

**Navigation Notes**

• Use the menu buttons to move between modules.

• Save every transaction to avoid losing data.

• Logout after using the system to keep data secure.

The user manual ensures that even first-time users can operate the system with ease.

**TROUBLESHOOTING GUIDE**

This chapter lists common system problems, their possible causes, and the recommended solutions. This helps the user fix basic errors without technical assistance.

**Common Issues and Solutions**

|  |  |  |
| --- | --- | --- |
| **ISSUE** | **POSSIBLE CAUSE** | **SOLUTION** |
| Cannot Login | Wrong username or password. | Re-type the correct login credentials. |
| System cannot connect to database. | Incorrect database configuration. | Re-configure the server’s name, username, and password. |
| No Payroll Generated. | Attendance not recorded. | Enter attendance records before generating payroll. |
| Payslip Not Printing. | Printer not detected or connected. | Check printer connection and try again. |
| System Freezes. | Too many windows open or low RAM. | Close other applications or restart the system. |

*Table 1. Common issues and solutions*

**Error Messages**

• “Invalid Login” – The username or password is incorrect.

• “Database Connection Failed” – The database is not connected.

• “No Attendance Found” – The employee has no recorded attendance for the selected cutoff.

**Troubleshooting Tips**

• Always double-check input fields before saving.

• Make sure the database is properly connected before using the system.

• Restart the system if it becomes unresponsive.

• Use Admin account for configuration changes.

For unresolved issues, contact the system administrator for technical support.

**CODE DOCUMENTATION**

This chapter explains the main modules and functions of the Payroll System. Each module has a specific role in processing data and running the system.

**Code Structure**

The system is divided into different modules for easier maintenance and readability. Each module focuses on one major function of the system.

**Main Modules**

1. Employee Module

• Handles adding, updating, viewing, and deleting employee information.

• Connects to the database to save and retrieve employee records.

2. Attendance Module

• Records time-in and time-out of employees.

• Computes total hours worked per cutoff.

• Saves attendance data to the database.

3. Payroll Module

• Computes gross pay, deductions, and net pay.

• Retrieves attendance and employee rate from the database.

• Generates payroll summary per cutoff period.

4. Deduction Module

• Computes government deductions such as SSS, PhilHealth, and Pag-IBIG.

• Applies deduction values to payroll computation.

5. Report / Payslip Module

• Generates a printable payslip for each employee.

• Shows summary of hours worked, deductions, gross pay, and net pay.

6. Login and Security Module

• Handles user authentication.

• Blocks invalid users from entering the system.

**Coding Standards**

• Variable names are simple and descriptive.

• Functions are divided based on purpose to improve readability.

• Comments are added in important parts of the code for clarity.

This structure makes the system easier to update and maintain in the future.

**TESTING DOCUMENTATION**

This chapter shows the test cases used to check if the system works properly. Testing ensures that each function performs as expected and produces the correct output.

**Test Objectives**

• To verify that the system runs without errors.

• To check if each module functions correctly.

• To ensure that data is saved, updated, and displayed properly.

**Test Cases**

|  |  |  |
| --- | --- | --- |
| **TEST CASE** | **TEST DESCRIPTION** | **EXPECTED RESULT** |
| **TC01** | Login with correct username and password. | System grants access. |
| **TC02** | Login with wrong password. | System shows “Invalid Login” message. |
| **TC03** | Add employee records. | Employee is saved in the database. |
| **TC04** | Record attendance | Attendance is stored and displayed. |
| **TC05** | Generate payroll | Correct gross pay, deductions, and net pay is computed. |
| **TC06** | Print payslip | Printable payslip is generated. |
| **TC07** | Database not connected. | System shows connection error. |
| **TC08** | Leave required field blank. | System shows warning message. |
| **TC09** | Logout | System returns to login form. |
| **TC10** | Close system | System exits without error. |

*Table 2. Test Cases*

**Test Result Summary**

All test cases were successfully performed, and the system functions based on expected results.

**MAINTENANCE GUIDE**

This chapter provides the procedures for maintaining and updating the Payroll System. Proper maintenance helps ensure that the system continues to work smoothly over time.

**Maintenance Procedures**

1. Database Backup

• Backup the database every week or after each cutoff period.

• Store backup files in a safe folder or external storage.

• Use SQL Server Management Studio (SSMS) for backup and restore.

2. System Update

• Apply updates if new features, fixes, or improvements are needed.

• Update modules separately to avoid affecting other functions.

3. User Account Management

• Review user accounts regularly.

• Delete or disable accounts that are no longer in use.

• Update passwords to maintain system security.

4. Error Log Review

• Check for system errors or logs.

• Report repeated errors to the system developer for fixing.

**Version Control and Release Management**

• Keep a copy of each updated version.

• Label versions clearly (e.g., v1.0, v1.1, v2.0).

• Test new versions before releasing them to users.

Following these maintenance steps will help extend the life and reliability of the Payroll System.

**REVISION HISTORY**

The Revision History shows a record of all changes made to this technical document. It includes the version number, date, author, and a short description of what was updated.

|  |  |  |  |
| --- | --- | --- | --- |
| **VERSION** | **DATE** | **AUTHOR** | **DESCRIPTION OF CHANGES** |
| 1.0 | 2025-10-14 | Carlo Ablola | Initial creation of the technical documentation for WILLTOP Payroll System. |
| 1.1 | 2025-10-15 | Carlo Ablola | Added detailed user manual and troubleshooting guide. |
| 1.2 | 2025-10-16 | Carlo Ablola | |  | | --- | |  |  |  | | --- | | Included code documentation and test case results. | |
| 1.3 | 2025-10-17 | Carlo Ablola | Updated maintenance guide and configuration instructions. |
| 1.4 | 2025-10-18 | Carlo Ablola | |  | | --- | |  |  |  | | --- | | Final review, formatting, and proofreading before submission. | |

*Table 3. Revision History*

**APPROVAL**

The Approval section is for key people to confirm that the technical documentation is complete and correct. By signing this document, they agree that it can be used as the official guide for the Payroll System.

| **Name:** | **Position** | **Signature** | **Date** |
| --- | --- | --- | --- |
| Ablola, Carlo | Project Manager |  |  |
| Bernadez, Brian R. | System Administrator |  |  |
| Torneros, Gabriel Thomas | Department Head |  |  |
| Torneros, Gabriel Thomas | IT Supervisor |  |  |

**APPENDIX**

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