# Software Requirements Specification

**for**

# BillWise Pro

**Version 1.0**

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# Table of Contents

# Revision History

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|---|---|---|---|
| | | | |
| | | | |

# 1. Introduction

## 1.1 Purpose

This document specifies requirements for the new billing and accounting software for user to user. The format of this document is based on IEEE standard 830-1998 and conforms to that standard where possible. Because the IEEE standard does not group non-functional requirements into a separate category, this document will deviate from the standard in presenting non-functional requirements together in one section.
The basic issues to be addressed by this document, as defined in the standard, are:

- Functionality: The tasks the software is required to perform
- External Interfaces: How the system interacts with people, hardware, and software.
- Performance: Speed, availability, response time, recovery time.
- Attributes: Portability, correctness, maintainability, security, etc.
- Design Constraints: Required standards, implementation language, policies for database integrity, resource limits, operating environments, etc.

The requirements analysis contained in this document defines the specific functionality that must be met in order to successfully deploy a new billing and accounting system. The client's desires for the new system have been translated into measurable and definable business rules and functions to allow for successful development of a comprehensive new billing system. The intended audience for this SRS includes technical personnel involved in the design, coding and testing of the system.

## 1.2 Product Scope

Billing and accounting software play a crucial role in managing financial transactions, tracking expenses, and ensuring accurate financial reporting for businesses. The scope of billing and accounting software is broad and encompasses various features and functionalities. Here's an overview of the key aspects of their scope:

1. **Invoicing:**
   - Generation of invoices for products or services rendered.
   - Customization of invoice templates to reflect the company's branding.
   - Automation of recurring invoices for subscription-based services.
2. **Expense Tracking:**
   - Recording and categorizing expenses incurred by the business.
   - Integration with bank accounts and credit cards for automatic expense updates.
   - Monitoring and controlling expenses to maintain financial health.
3. **Financial Reporting:**
   - Generation of financial statements such as balance sheets, income statements, and cash flow statements.
   - Analysis of financial data to gain insights into the company's performance.
   - Compliance with accounting standards and regulations.

4. **Inventory Management:**

    - Tracking and managing inventory levels.
    - Integration with sales and purchase transactions to update stock levels in real-time.
    - Alerts for low stock levels and automated reorder points.

5. **Scalability:**

    - Adapting to the growth of the business by handling increased data and transaction volumes.
    - Compatibility with additional features and modules as needed.

6. **User-Friendly Interface:**

    - Intuitive interfaces for easy navigation and use by individuals with varying levels of financial expertise.
    - Training and support resources for users.

The scope of billing and accounting software is dynamic and evolves with advancements in technology and changes in business needs. Businesses can choose software that aligns with their specific requirements and provides the necessary tools for efficient financial management.

# 2. Overall Description

## 2.1 Product Perspective

Here are key elements of the product perspective for billing and accounting software:

1. **Automation and Efficiency:**

    - The software automates repetitive tasks, such as invoice generation, expense tracking, and payroll processing, improving overall efficiency.
    - Automated workflows reduce the likelihood of errors and save time for finance professionals.

2. **Customization and Flexibility:**

    - Billing and accounting software often offer customizable templates for invoices, reports, and other financial documents to align with the company's branding.
    - Flexible settings allow businesses to adapt the software to their specific needs and industry requirements.

3. **Integration Capabilities:**

    - Successful accounting software integrates seamlessly with other business systems, such as inventory management, and e-commerce platforms, providing a unified view of the company's operations.
    - Integration enhances data accuracy and reduces the need for manual data entry.

4. **Real-Time Financial Insights:**
    - The software provides real-time visibility into the financial health of the business, allowing stakeholders to make informed decisions based on up-to-date information.
    - Dashboards and reports offer key performance indicators (KPIs) for financial analysis.
5. **Security and Compliance:**
    - Billing and accounting software prioritizes data security to protect sensitive financial information.
    - Compliance features help businesses adhere to accounting standards and tax regulations.

## 2.2 Product Functions

The major functions of billing and accounting software include:

1. **Invoicing:**
    - Generate and customize invoices for products or services rendered.
    - Support for recurring invoices and automated billing for subscription-based services.
2. **Expense Tracking:**
    - Record and categorize business expenses.
    - Integration with bank accounts and credit cards for automatic expense updates.
    - Real-time tracking of expenses to manage budgets effectively.
3. **Financial Reporting:**
    - Generate financial statements, including balance sheets, income statements, and cash flow statements.
    - Provide insights into the company's financial performance and health.
    - Compliance with accounting standards and regulations.
4. **Account Reconciliation:**
    - Match and reconcile financial transactions to ensure accuracy.
    - Identify and resolve discrepancies between financial records and bank statements.
5. **Inventory Management:**
    - Track and manage inventory levels.
    - Integrate with sales and purchase transactions to update stock levels in real-time.
    - Set alerts for low stock levels and automate reorder processes.

## 2.3 User Classes and Characteristics

Billing and accounting software caters to different user classes, each with specific roles and characteristics. Here are various user classes commonly associated with billing and accounting software:

1. **Accountant/Financial Controller:**

Characteristics:
- Highly knowledgeable in accounting principles and financial management.
- Responsible for overseeing financial operations and ensuring compliance.
- Access to all financial modules for comprehensive control.
- Often involved in financial reporting and decision-making.

2. **Accounts Payable (AP) Clerk:**

Characteristics:
- Specializes in managing and processing vendor invoices.
- Responsible for tracking and paying bills in a timely manner.
- Handles supplier relationships and resolves payment discrepancies.

3. **Business Owner/Manager:**

Characteristics:
- Focuses on high-level financial decisions for the business.
- Relies on financial reports for performance evaluation and strategic planning.
- May use the software for a broad overview of financial health.

4. **Project Manager:**

Characteristics:
- Monitors project budgets and expenses.
- Utilizes financial data for project cost analysis and profitability assessments.
- Collaborates with finance teams to ensure accurate project accounting.

## 2.4 Design and Implementation Constraints

*Design and implementation constraints for billing* and accounting software refer to limitations, considerations, and factors that influence the development and deployment of such software. These constraints play a crucial role in shaping the features, performance, and usability of the software. Here are some common design and implementation constraints for billing and accounting software:

1. **Compliance with Regulations:**

- Designing the software to comply with accounting standards, tax regulations, and other legal requirements specific to the target market.
- Ensuring that the software is adaptable to changes in regulations.

2. **Data Security and Privacy:**

- Implementing robust security measures to protect sensitive financial data.
- Complying with data protection laws and ensuring user privacy.

3. **User Accessibility and Training:**
    - Designing an intuitive user interface to cater to users with different levels of financial expertise.
    - Providing training resources and documentation to assist users in understanding and utilizing the software effectively.
4. **Maintainability and Upgradability:**
    - Designing the software with modularity and clean coding practices for ease of maintenance.
    - Providing mechanisms for easy software updates and upgrades.
5. **Reliability and Redundancy:**
    - Building reliability features to ensure the software functions correctly under different conditions.
    - Considering redundancy and failover mechanisms to prevent data loss or service disruptions.

# 3. External Interface Requirements

## 3.1 User Interfaces

Billing and accounting software typically feature various user interfaces to cater to the needs of different users within an organization. The specific interfaces may vary among different software solutions, but common interfaces include:

1. **Dashboard:**
    - Characteristics: Provides an overview of key financial metrics, recent transactions, outstanding invoices, and other important information.
    - Users: Executives, managers, and users who require a quick snapshot of the company's financial health.
2. **Invoicing Interface:**
    - Characteristics: Allows users to create, customize, and manage invoices. It may include options for setting payment terms, applying discounts, and attaching supporting documents.
    - Users: Accounting staff, invoicing clerks, and sales teams involved in creating and managing invoices.
3. **Inventory Management:**
    - Characteristics: Provides an interface for tracking and managing inventory levels. Users can monitor stock levels, set reorder points, and manage product information.
    - Users: Inventory managers, procurement teams, and those responsible for managing stock.

4. **User Management:**

   - Characteristics: Provides tools for creating, modifying, and managing user accounts. It includes user roles and permissions to control access to various features.
   - Users: System administrators and those responsible for managing user access.

5. **Settings and Configuration:**

   - Characteristics: Allows administrators to configure system settings, user permissions, and customize the software to align with the organization's needs.
   - Users: System administrators and IT personnel responsible for managing software settings.

## 3.2 Hardware Interfaces

Billing and accounting software primarily operate on computers and utilize standard hardware components. The hardware interface for billing and accounting software is generally straightforward and doesn't require specialized hardware. Here are the key hardware interfaces associated with billing and accounting software:

1. **Computing Devices:**

   - Characteristics: Billing and accounting software are designed to run on standard computing devices such as desktop computers, laptops, and servers.
   - Requirements: Generally, the software is compatible with Windows, macOS, or Linux operating systems.

2. **Processor (CPU):**

   - Characteristics: The software runs on standard processors commonly found in personal computers.
   - Requirements: The specific processor requirements depend on the software's complexity, but modern processors with sufficient speed and capabilities are usually suitable.

3. **Memory (RAM):**

   - Characteristics: Adequate RAM is necessary for smooth operation, especially when handling large datasets or running complex financial reports.
   - Requirements: The software may have minimum RAM requirements, and additional RAM can enhance performance.

4. **Storage:**

   - Characteristics: Billing and accounting software store data, documents, and configurations, requiring sufficient storage space.
   - Requirements: The software's storage needs depend on the size of the organization and the volume of transactions. Solid-state drives (SSDs) can improve data access speed.

5. **Input Devices:**

   - Characteristics: Standard input devices such as keyboards and mice are used to interact with the software.
   - Requirements: No specific requirements, as these are standard peripherals.

6. **Display:**
    - Characteristics: The software interfaces are displayed on standard monitors.
    - Requirements: The display requirements depend on user preferences and the software's user interface design. Higher resolution monitors may provide a better user experience.
7. **Network Interface:**
    - Characteristics: Billing and accounting software may require network connectivity for tasks such as updates, data synchronization, or accessing cloud-based features.
    - Requirements: A standard Ethernet or Wi-Fi interface is sufficient. The speed and reliability of the network connection may influence performance.
8. **Printers and Scanners:**
    - Characteristics: Billing and accounting software often interface with printers for generating hard copies of invoices, reports, or financial documents. Scanners may be used for digitizing paper receipts.
    - Requirements: Standard printer and scanner interfaces, such as USB or network connectivity.
9. **Backup Devices:**
    - Characteristics: Regular backups of financial data are crucial. External hard drives or network-attached storage (NAS) devices may be used for data backup.
    - Requirements: Compatible backup interfaces, such as USB or network connections.
10. **Security Devices:**
    - Characteristics: Security measures, such as encrypted connections and secure access controls, can enhance the protection of financial data.
    - Requirements: Standard security features are implemented at the software level, but hardware-level security, such as TPM (Trusted Platform Module) support, may contribute to overall security.

In summary, billing, and accounting software primarily interfaces with standard computing hardware components commonly found in office environments. The specific hardware requirements may vary depending on the software's complexity, the size of the organization, and the volume of financial transactions. It's important to check the software's documentation for detailed hardware specifications and recommendations.

## 3.3 Software Interfaces

Billing and accounting software incorporate various software interfaces to enable users to interact with the system, manage financial data, and perform necessary tasks. These interfaces contribute to the overall user experience and functionality of the software. Here are some software interfaces used in billing and accounting software:

1. **Graphical User Interface (GUI):**
    - Characteristics: GUI provides a visual way for users to interact with the software. It includes menus, buttons, forms, and other graphical elements.

- Functionality: Allows users to navigate through different features, enter data, generate reports, and manage financial transactions using a mouse and keyboard.

2. **Web Interface:**

   - Characteristics: Web-based interfaces allow users to access billing and accounting software through a web browser. This is common in cloud-based accounting solutions.
   - Functionality: Users can log in from any device with an internet connection, providing flexibility and accessibility.

3. **Reporting Interface:**

   - Characteristics: Dedicated interfaces for generating and customizing financial reports, such as balance sheets, income statements, and cash flow statements.
   - Functionality: Users can select specific parameters, date ranges, and criteria to generate detailed reports for analysis and decision-making.

4. **User Management Interface:**

   - Characteristics: Enables administrators to create, modify, and manage user accounts, roles, and permissions.
   - Functionality: Controls access to different features within the software, ensuring data security and compliance.

   These software interfaces collectively contribute to the usability, accessibility, and functionality of billing and accounting software, catering to the diverse needs of users within an organization.

## 3.4 Communications Interfaces

Billing and accounting software often utilize various communication interfaces to enable seamless interactions between different components, users, and external systems. Here are communication interfaces associated with billing and accounting software:

1. **Web Services:**

   - Characteristics: Web services enable communication over the web. They are commonly used for connecting accounting software with other web-based applications.
   - Functionality: Web services provide a standardized way for different systems to exchange data, making it easier to integrate accounting software with various online services.

2. **Database Connectivity:**

   - Characteristics: Billing and accounting software communicates with databases to store and retrieve financial data.
   - Functionality: Database connectivity interfaces, such as ODBC (Open Database Connectivity) or JDBC (Java Database Connectivity), allow the software to interact with relational databases efficiently.

These communication interfaces collectively contribute to the functionality, integration capabilities, and user experience of billing and accounting software, fostering efficient collaboration and data exchange within and outside the organization.

# 4. System Features

## 4.1 System Feature 1

### 4.1.1 Description and Priority

**Requirement 1 (REQ-1): User Sign-In**

- Description: Create a way for users to log in securely with their username/email and password. It's essential because users need to access their accounts.
- Priority: High

**Requirement 2 (REQ-2): Making Invoices**

- Description: Build a feature that lets users create invoices for their customers. This is crucial because users need to bill their customers for products or services.
- Priority: High

### 4.1.2 Stimulus/Response Sequences

**Requirement 1 (REQ-1): User Sign-In**

- **When a user tries to log in with their username and password:**
  - If the info is correct, let them in.
  - If not, tell them they made a mistake.

**Requirement 2 (REQ-2): Making Invoices**

- **When a user creates a new invoice:**
  - Give the invoice a unique number and save it.
- **When a user edits an existing invoice:**
  - Update the invoice with the changes they made.

### 4.1.3 Functional Requirements

**Requirement 1 (REQ-1): User Sign-In**

- **What it needs:**
  - User's username/email and password.
- **What it does:**
  - Checks if the username and password are right.
  - Keeps passwords safe and secret.
- **How we know it works:**
  - Users can only get in if they have the right info.

**Requirement 2 (REQ-2): Making Invoices**

**- What it needs:**
- Customer details, items for the invoice, and how they're billed.

**- What it does:**
- Adds up all the costs and gives the invoice a number.
- Saves all this info so users can see it later.

**- How we know it works:**
- Every invoice has the right info, and users can make changes if needed.

# 5. Other Nonfunctional Requirements

## 5.1 Performance Requirements

Performance requirements for billing and accounting systems are crucial to ensure that the software operates efficiently, meets user expectations, and handles the organization's financial processes effectively. Here are key performance requirements for billing and accounting systems:

1. **Response Time:**
   - Requirement: The system should provide quick response times for user interactions, such as generating reports, processing transactions, and accessing financial data.
   - Metric: Response times should typically be within a few seconds to ensure a smooth user experience.

2. **Throughput:**
   - Requirement: The system should handle a high volume of transactions, especially during peak periods, without experiencing significant degradation in performance.
   - Metric: Throughput is measured in transactions per second or other relevant units based on the system's processing capacity.

3. **Concurrency:**
   - Requirement: The system should support multiple users concurrently accessing and updating financial data without compromising performance.
   - Metric: Evaluate the system's ability to handle a specific number of simultaneous users and transactions.

4. **Reliability:**
   - Requirement: The system should be highly reliable, minimizing downtime and ensuring that critical financial processes can be executed without interruptions.
   - Metric: Measure system uptime and availability over time.

5. **Data Integrity:**
   - Requirement: The system should maintain the integrity of financial data, preventing errors, duplication, or loss of information.
   - Metric: Monitor data validation processes and implement mechanisms to detect and correct data anomalies.

These performance requirements are essential for ensuring that a billing and accounting system operates reliably, securely, and efficiently in support of the organization's financial processes. Periodic performance testing and optimization are crucial to maintaining the system's effectiveness as business needs evolve.

## 5.2 Safety / Security Requirements

Safety requirements for billing and accounting systems are essential to ensure the protection, integrity, and confidentiality of financial data. Adhering to safety measures helps prevent unauthorized access, data breaches, and ensures the overall security of the system. Here are key safety requirements for billing and accounting systems:

1. **Access Control:**

    - Requirement: Implement robust access controls to restrict system access based on user roles and responsibilities.
    - Details: Users should only have access to the features and data necessary for their specific roles. Use strong authentication methods, such as multi-factor authentication, to enhance access security.

2. **Encryption:**

    - Requirement: Use encryption mechanisms to protect sensitive financial data during transmission and storage.
    - Details: Employ encryption protocols (e.g., SSL/TLS) for secure communication over networks. Encrypt stored data to safeguard it from unauthorized access.

3. **Data Backup and Recovery:**

    - Requirement: Implement regular and secure data backup procedures to protect against data loss.
    - Details: Define backup schedules, store backups in secure locations, and regularly test the recovery process to ensure data can be restored efficiently.

3. **Firewall Protection:**

    - Requirement: Deploy firewalls to control incoming and outgoing network traffic, protecting the system from unauthorized access and cyber threats.
    - Details: Configure firewalls to allow only necessary and secure network traffic. Regularly update firewall rules to adapt to changing security requirements.

## 5.3 Client Requirements

1. **Interactive Financial Calendar:** Include an interactive financial calendar that displays important financial events, payment due dates, and customizable reminders.

2. **Subscription Management:** Integrate a subscription management system, allowing users to easily track and manage recurring subscriptions, payments, and renewals.

## 5.4 Software Quality Attributes

Software quality attributes for billing and accounting software are critical aspects that determine the effectiveness, reliability, and overall performance of the system. Here are key software quality attributes that are particularly important for billing and accounting software:

1. **Accuracy:**
   - Definition: The degree to which the software provides correct and precise financial calculations, ensuring accurate representation of financial data.
   - Importance: Essential for maintaining the integrity of financial records and ensuring compliance with accounting standards.

2. **Reliability:**
   - Definition: The ability of the software to consistently perform financial operations accurately and without errors.
   - Importance: Critical for maintaining the trust of users and stakeholders in the accuracy and consistency of financial information.

3. **Usability:**
   - Definition: The ease with which users can navigate the software, perform tasks, and understand the user interface.
   - Importance: Important for reducing training time, minimizing user errors, and enhancing overall user satisfaction.

4. **Maintainability:**
   - Definition: The ease with which the software can be updated, modified, or repaired to meet changing business requirements or address issues.
   - Importance: Necessary for adapting the software to evolving accounting standards, regulatory changes, and organizational needs.

5. **Flexibility:**
   - Definition: The software's ability to adapt to changes in business processes, user requirements, and accounting practices.

- Importance: Supports the organization's ability to evolve and respond to dynamic business conditions.

## 5.5 Business Rules

Business rules for billing and accounting software are essential to ensure accuracy, compliance, and efficiency in financial processes. While specific requirements may vary based on the industry, company size, and regulatory environment, here are some common business rules that are often applied in billing and accounting software:

- Accuracy and Precision
- Data Integrity
- Invoice Accuracy