Software requirements specification

Project: Accounting system
Revisión 1.0

November

Document sheet

Date	Review	Authors	Verified
10/11/2024	1.0	Lucas Góngora	
10/11/2024	1.0	Andrés Espinoza	
10/11/2024	1.0	Héctor Cuichan	
10/11/2024	1.0	Jair Charij	

Document validation by the parties on date: 10/11/2024

By the customer	By the supplying company
S./Mrs. Judith Esperanza Duque Ademaño	S./Mrs. Judith Esperanza Duque Ademaño

Index

Document sheet **3**
Index **4**
1 Introduction **6**
1.2 Scope 6
1.3 Personnel involved 6
1.4 Definitions, acronyms and abbreviations 6
1.5 References 7
1.6 Summary 7
2 General Description **9**
2.1 Product perspective 9
2.2 Product functionality 9
2.3 User characteristics 9
2.4 Restrictions 9
2.5 Assumptions and dependencies 10
2.6 Foreseeable evolution of the system 10
3 Specific Requirements **11**
3.1 Common interface requirements 11
[Inserte aquí el texto] 11
3.1.1 User Interfaces 12
[Inserte aquí el texto] 12
3.1.2 Hardware Interfaces 12
[Inserte aquí el texto] 12
3.1.3 Software Interfaces 12
[Inserte aquí el texto] 12
3.1.4 Communication 12
[Inserte aquí el texto] 12
3.2 Functional Requirements 12
[Inserte aquí el texto] 12
3.2.1 Functional Requirement 1 12
3.2.2 Functional Requirement 2 12
3.2.3 Functional Requirement 3 12
3.2.4 Functional Requirement 4 12
3.3 Non Functional Requirements 12
3.3.1 Performance Requirements 12
3.3.2 Security 13
3.3.3 Reliability 13
3.3.4 Availability 13
3.3.5 Maintainability 13
3.3.6 Portability 14
3.4 Other Requirements 14

[Inserte aquí el texto] 14
4 Apéndices **14**
[Inserte aquí el texto] 14

1 Introduction

The confectionery “Dulces Travesuras” has a deficient accounting system that only allows to perform the invoicing in a slow way, the business has four employees, one is in charge of cleaning, two are in charge of accounting system management and the last one is in charge of sweet’s production. The objective is to replace the accounting system with a new one, that also implements more functionalities such as the unit conversions in terms of merchandise and the allocation of prices according to the type of customer that will allow users to carry out the work of buying and selling sweets in a more optimal and efficient way.

1.1 Purpose

- Determine customer requirements for the creation of the software.
- Staff of the confectionery business “Dulces Travesuras”.

1.2 Scope

The product to be developed is an accounting system for the purchase and sale of merchandise within the country that allows invoicing and inventory management.

1.3 Personnel involved

Name	Lucas Góngora
Role	Lead developer
Responsibilities	design and develop the accounting system

Name	Andrés Espinosa
Role	Developer
Responsibilities	design and develop the accounting system

Name	Héctor Cuichan
Role	Developer
Responsibilities	design and develop the accounting system

Name	Jair Charij
Role	Developer
Responsibilities	design and develop the accounting system

1.4 Definitions, acronyms and abbreviations

- **Definitions**
  - **Electronic Invoice:** Digital document generated by the system detailing the sale of products, including taxes, discounts and payment terms. It is issued in compliance with local tax regulations.
  - **Inventory:** Set of products or merchandise that the confectionery business has stored for sale, including inputs used in the manufacture of products such as candies, sweets, etc.
  - **Accounting Module:** Part of the system responsible for recording financial transactions, generating reports such as balance sheets,

income statements and cash flow control.

- **User Interface (UI):** The part of the system with which users interact directly to perform tasks such as invoicing, inventory recording and report generation.

- **Acronyms**
  - **SRS:** Software Requirements Specification.
  - **ERP:** Enterprise Resource Planning.
  - **VAT:** Value Added Tax.
  - **UI:** User Interface.

1.5 References

References	Title	URL	Date	Author
1	Ley Orgánica de Régimen Tributario Interno (LORTI)	https://www.sri.gob.ec	2023	Servicio de Rentas Internas (SRI)
2	Resolución No. 01-2020 - Normativa Técnica para la Emisión de Comprobantes de Venta Electrónicos	https://www.sri.gob.ec	2020	Servicio de Rentas Internas (SRI)
3	ISO/IEC 9126-1:2001 - Calidad del Software	N/A	2021	ISO/IEC
4	Manual de Usuario del Sistema de Facturación Electrónica del SRI	https://www.sri.gob.ec	2021	Servicio de Rentas Internas (SRI)
5	Contabilidad Financiera: Teoría y Práctica" - 7ª edición	N/A	2021	Luis Rodríguez
6	SRI - Guía para la Declaración y Pago de Impuestos	https://www.sri.gob.ec	2023	Servicio de Rentas Internas (SRI)

1.6 Summary

The proposed accounting system for the confectionery business is primarily intended to automate and efficiently manage financial operations, including sales invoicing and product inventory management. This system will be designed to operate in a single store environment, with the ability to scale to multiple locations in the future.

Key functionalities include electronic invoice generation, sales and purchase recording, inventory control, financial reporting such as balance sheets and income statements, and compliance with local tax regulations, such as automatic VAT calculation.

The system will be used primarily by the store's administrative and

accounting staff, who will be able to access the functionalities through a user-friendly interface. Users will not need prior experience with advanced accounting software, as the system will be designed to be intuitive and accessible.

The system will not be designed for international operations, as it will only handle transactions within the country, and will not have direct integration with online payment or e-commerce platforms at this stage. The system will initially be implemented on desktops within the store and will not have remote access.

The system is expected to improve the operational efficiency of the business, reduce errors in accounting and inventory processes, and ensure compliance with the country's tax regulations.

2 General Description

2.1 Product perspective

The accounting system is a stand-alone product that only works on the computer in the business.

2.2 Product functionality

The accounting system must have the following functionalities:

- Record merchandise purchases for the business.
- Record the sales of the business merchandise.
- To make the invoicing or sales note for the sale of the products of the business.
- Record the balance sheet.
- To register the daily book.
- Perform conversions of both incoming and outgoing merchandise.
- Perform inventory management.

2.3 User characteristics

User type	Seller
Formación	Bachelor's Degree in Commerce and Administration
Habilidades	Proficiency in accounting principles and fundamental office automation skills.
Actividades	Buying and selling merchandise, recording the purchases and sales of the business

2.4 Restrictions

- **Technology Restriction:**

  The system must be compatible with the latest versions of Windows, MacOS or Linux.

- **Hardware Restriction:**

The system must run on desktop or laptop computers with a minimum of 4 GB RAM, 1 GB free disk space and core i3 or similar processor. Operation is not guaranteed on devices with lower specifications.

- **Internet Access Restriction:**

  The system will not have cloud access or remote access capabilities; it will only be able to run on the company's local computers.

- **Legal or Regulatory Restriction:**

The system must comply with the country's local tax regulations (such as electronic invoicing and tax calculation according to current legislation), but will not include adaptations for tax regulations of other countries.

- **Language Restriction:**

The system will be available only in Spanish, and no translation into other languages is planned at this stage.

- **Integration Restriction with Other Systems:**

The system will not integrate with external online payment management systems or sales platforms, it will only handle operations within the physical store

2.5 Assumptions and dependencies

- **Assumptions**
  - It is assumed that all system users will be familiar with the basic use of computers and office software, so no intensive training will be provided.
  - It is assumed that the company will maintain a stable Internet connection at its facilities for downloading updates and proper functionality of certain modules (such as electronic invoicing).
  - It is assumed that inventory data will be correctly entered by users into the system, and that it will not be necessary to implement an advanced data quality control system at this stage of the project.
  - It is assumed that local tax laws will not change during the first year after system implementation. If tax laws change, a system upgrade will be required.
- **Dependencies**
  - The system will depend on the correct configuration of the company's hardware equipment (such as Windows or MacOS computers) for the software to function properly.
  - The system depends on an e-invoicing management service provided by a tax entity in the country. If this service is interrupted, the system will not be able to generate valid electronic invoices.
  - The system will depend on the availability of internal personnel with basic accounting knowledge to perform the correct initial configuration and subsequent maintenance of the accounting system.
  - The system will be subject to updates and maintenance by the software developers. Without regular updates, it may not be compatible with changes in tax regulations.

2.6 Foreseeable evolution of the system

- **Expansion of Functionalities**
  - **Initial Release:** The system will start with basic invoicing and inventory management functionalities for the confectionery business, with a focus on in-country retail.
  - **Evolution:**
    - Purchasing Module: In the future, a module will be added to manage purchases of raw materials and products from suppliers, more fully integrating the accounting and inventory workflow.
    - Advanced Reporting Module: More detailed financial reports will be implemented, such as product profitability analysis, cash flow forecasts and sales trend analysis.
- **Scalability for New Branches**
  - **Initial Version:** The system will be designed for a single location or store.

- **Evolution:**
  - In the future, if the business grows and opens new branches, the system will be adapted to support multiple locations, allowing centralization of inventory and billing management across all stores.

- **Adaptation to Tax or Regulatory Changes**
  - **Initial Version:** The system will be configured to comply with local tax laws, such as generating electronic invoices and calculating taxes in accordance with current regulations.
  - **Evolution:**
    - If there are changes in tax laws (e.g., a new tax rate or the introduction of new reporting requirements), the system will be updated to comply with the new regulations.
- **Usability Enhancements**
  - **Initial Release:** The interface will be simple and tailored to users with basic knowledge of office software.
  - **Evolution:**
    - Continuous improvement of the interface will be planned, based on user feedback, to make it even more intuitive and with better customization functionalities.

3 Specific Requirements

3.1 Common interface requirements

This section contains the detailed description of all inputs and outputs of the software system. Requirements for interfaces between the system and users, hardware, other software systems, and communication elements are specified.

3.1.1 User Interfaces

Requirement Number	UI-01		
Requirement Name	Main User Interface		
Type	☑ Requirement	☐ Restriction	
Source of requirement	Accounting Staff		
Requirement priority	☑ High/Essential	☐ Average/Desired	☐ Low/ Optional

Description

The accounting system must have an intuitive and user-friendly interface, designed specifically to meet the requirements of the staff at the “Dulces Travesuras” confectionery.
The main interface should include:

- Main menu with access to all modules(sales, purchases, inventory, reports)
- Intuitive icons will be used along with text labels.
- Navigation elements will be consistent across all screens.

Requirement Number	UI-02		
Requirement Name	Billing Screen		
Type	☑ Requirement	☐ Restriction	
Source of requirement	Sales Staff		
Requirement priority	☑ High/Essential	☐ Average/Desired	☐ Low/ Optional

Description

The billing screen must include:

- Customer data fields
- List of products with prices
- Total calculator
- Payment options

3.1.2 Hardware Interfaces

Requirement Number	HI-01		
Requirement Name	Barcode Reader Support		
Type	☑ Requirement	☐ Restriction	
Source of requirement	Sales Staff		
Requirement priority	☐ High/Essential	☑ Average/Desired	☐ Low/ Optional

Description

This section specifies the logical characteristics of each interface between the software product and the hardware components of the system. The system shall support the following hardware elements:

- Desktops and Laptops
- Barcode readers

3.1.3 Software Interfaces

Requirement Number	SI-01		
Requirement Name	Operating System Compatibility		
Type	☑ Requirement	☐ Restriction	
Source of requirement	Technical Team		
Requirement priority	☑ High/Essential	☑ Average/Desired	☐ Low/ Optional

Description

The system must be integrated with other software products and operating systems. The integration requirements are specified below:

Operating System

- **Description:** Support for major operating systems.
- **Purpose:** Allow the system to run on different platforms.
- **Interface Definition:** Standard operating system APIs.

3.1.4 Communication Interfaces

Requirement Number	CI-01		
Requirement Name	Communication with SRI		
Type	☑ Requirement	☐ Restriction	
Source of requirement	Tax regulations		
Requirement priority	☑ High/Essential	☑ Average/Desired	☐ Low/ Optional

Description

The system requires specific communication interfaces fro:

- Communication with the SRI electronic billing server.
- Network protocols for local network operation.
- Communication protocols with peripheral devices.

3.2 Functional Requirements

This section defines the fundamental actions that the software must perform when receiving information, processing it, and producing results. Functional requirements include:

Validation of input validity:

- Validation of identification numbers
- Verification of date formats
- Validation of amounts and calculations

Exact sequence of operations:

- Invoicing process
- Recording of transactions
- Updating Inventory

Responding to abnormal situations:

- Handling connection errors
- Recovery from faults

System Parameters:

- Accounting periods
- Tax Configuration

Generation of outputs:

- Report Formats
- Presentation of results

3.2.1 Functional requirement 1

Requirement Number	FR-01		
Requirement Name	Sales Management		
Type	☑ Requirement	☐ Restriction	
Source of requirement	Sales Staff		
Requirement priority	☑ High/Essential	☑ Average/Desired	☐ Low/ Optional

Description

- Generation of electronic invoices according to SRI format
- Automatic calculation of taxes (IVA)
- Automatic sequential numbering

3.2.2 Functional requirement 2

Requirement Number	FR-02		
Requirement Name	Purchase Record		
Type	☑ Requirement	☐ Restriction	
Source of requirement	Accounting Staff		
Requirement priority	☑ High/Essential	☑ Average/Desired	☐ Low/ Optional

Description

- Supplier invoice registration
- Purchase order management
- Add a conversion system
- Automatic inventory update
- Purchase history by supplier

3.2.3 Functional requirement 3

Requirement Number	FR-03		
Requirement Name	Report Generation		
Type	☑ Requirement	☐ Restriction	
Source of requirement	Accounting Staff		
Requirement priority	☑ High/Essential	☑ Average/Desired	☐ Low/ Optional

Description

- Balance sheet
- Sales reports by period
- Income statement

3.2.4 Functional requirement 4

3.3 Requisitos no funcionales

3.3.1 Performing requirements

- *Inventory query: The system must respond to inventory queries in less than 2 seconds, even with a large number of products in the database.*
- *Billing: The invoice generation process must be completed in less than 10 seconds, ensuring a smooth user experience and minimizing wait times for customers.*
- *Inventory update: Inventory updates following a sale or replenishment must be reflected in less than 1 second to maintain real-time accuracy.*
- *Multiple user support: The system must allow multiple users to work simultaneously without affecting performance or causing delays.*
- *Interface load: The graphical interface must fully load in less than 3 seconds for a smooth user experience.*
- *Query efficiency: All sales and inventory queries should be optimized for fast results, even if you are searching for data over long periods or large quantities of products.*

3.3.2 Security

- *Access control: Implement user roles to restrict access to critical functions based on authorization level.*
- *Data backup: The system should automatically back up data periodically to prevent data loss.*
- *Encryption of sensitive information: Protect important data, such as sales and inventory records, using encryption.*
- *Implementation of Multi-factor authentication to reinforce the security in the most important role accounts, with important functions.*

3.3.3 Reliability

- *Data consistency: Ensure that all transactions (sales, inventory updates) are recorded correctly and synchronized without errors in the system.*
- *Failover: Implement recovery mechanisms to restore the system quickly in the event of unforeseen failures or errors.*
- *Testing and validation: Conduct thorough testing of the system to verify accuracy in data recording and processing, minimizing errors in logic or calculations.*
- *Easy access of the backup, in case of data lost.*

3.3.4 Availability

- *Continuous availability: The system must be accessible at all times to allow continuous business operations, even during times of high demand..*
- *Status monitoring: Include tools or processes to monitor system performance and health in real time, allowing early detection of availability problems.*

3.3.5 Maintainability

- *Ease of upgrades: Software upgrades should be able to be performed without disrupting daily operations, allowing for efficient implementation of security patches and enhancements.*
- *Clear documentation: Comprehensive technical documentation including user guides, maintenance manuals and system specifications should be provided, facilitating staff training and maintenance by technicians.*

- *Technical support: A technical support service should be available to resolve issues within 24 hours during business hours.*
- *Maintenance log: The system should include a module to record all maintenance activities performed, allowing historical tracking of changes and adjustments.*

3.3.6 Portability

- *Hardware independence: The software must be compatible with multiple hardware platforms, mainly in PC, allowing it to be installed on different types of servers and devices.*
- *Use of standard technologies: Programming languages and databases that are widely supported and recognized in the industry must be used, ensuring ease of migration and adaptation to new technologies.*
- *Flexible configuration: The system must allow customizable configurations that can be adjusted without the need to rewrite code, thus facilitating its adaptation to different operating environments.*

3.4 Other requirements

3.4.1 Performing requirements

- *The Billing system must adapt to the legal format of each country, in this case, in Ecuadorian law., and achieve all the legal requirements.*

4 Apéndices

[Inserte aquí el texto]
Pueden contener todo tipo de información relevante para la SRS pero que, propiamente, no forme parte de la SRS.