Software Requirements Specification

SOFTTSING
WELCOME FUTURE

Panagiotis Panagi - CHIEF

Paraskevas Costa

Stavrinos Kostopoulos

Andreas Michael

Giorgos Hadjimichael

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REVISION CHART

This chart contains a history of this document's revisions. The entries below are provided solely for purposes of illustration. Entries should be deleted until the revision they refer to has actually been created.

The document itself should be stored in revision control, and a brief description of each version should be entered in the revision control system. That brief description can be repeated in this section. Revisions do not need to be described elsewhere in the document except inasmuch as they explain the development plan itself.

Version	Primary Author(s)	Description of Version	Date Completed
Draft	SOFTTSING LTD	Initial draft created for distribution and review comments	24/02/2022
Preliminary	TBD	Second draft incorporating initial review comments, distributed for final review	TBD
Final	TBD	First complete draft, which is placed under change control	TBD
Revision 1	TBD	Revised draft, revised according to the change control process and maintained under change control	TBD
Revision 2	TBD	Revised draft, revised according to the change control process and maintained under change control	TBD
etc.	TBD	TBD	TBD

Contents

1. INTRODUCTION

"Welcome to the future"

1.1 Description of the client

Our client was found by our company, through people we know and was stopping by that shop. First of all, the shop is selling books and stationery. At the same time, the shop gives special importance to the copy-center, since the copy-center is the most profitable part of the company. In this section of the company, their clients can print professional business cards, copies or laminations of documents. Furthermore, our client inside the company has professional painting materials such as pens, pencils, notepads, files etc. Finally, they have a different section for the books that they sell.

1.2 Scope

The main scope for this cooperation with the client is to have the opportunity for better control of their storage and supplies. Also, they will have the ability to order books that they don't have at the company and re-order past orders, easy and fast. In addition to this, there will be a separate database with loyal customers that will take points each time that their customer makes purchases.

1.3 Definitions, Acronyms, and Abbreviations

ClientTsingDel - Name Of Our Software Based Project

GitHub - Cloud Service regarding programming scripts

Google Drive - Cloud Service

1.4 References

Did not need to reference any book since it is a work of our own!

2. Overall Description

"Welcome to the future"

2.1 Product Perspective

The product developed can be considered independent but it also needs the user to add/remove information etc. For instance, the product will automatically inform the customers of any updates when available. Furthermore, it is self-contained due to the fact that the information regarding the books, painting materials and anything else included, are gonna be stored inside the software through a database that will be created. So that way the program will know about what needs to be done and when. Compared now with other similar products, the only thing that can be said is that it is a typical program service for the specific purpose of managing data and importing/exporting data when needed and suitable for the customer.

2.1.1 System Interfaces

Now regarding the SYSTEM interface, we have the User Interface (UI) and Graphical User Interface (GUI). Our software is essentially a UI with graphics, which results in a GUI. So, the communication along with the machine and the people using it will be done through the UI of the software made.

2.1.2 User Interfaces (Same stands for 3.1.1)**

The User of the system will be provided with the Graphical User Interface (GUI), there is no need for a command-line interface for any use or function for the program.

There is only administrator (Staff) access.

The User will be able to scan products (books), and also interact with the system regarding the products, for example, the user can check or change the availability of the sock for a specific product.

Also, the User can add at the cash-out the ID number of the customer and add it to the receipt for points and send informative emails and messages.

2.1.3 Hardware Interfaces (What "WE" used)

Regarding the hardware requirement, what we used to built the software is:

- Processor Intel i5 or above.
- Ram 8GB or above.

2.1.4 Software Interfaces:

DATABASES

- Microsoft Access 2016
- Version 16.0
- Microsoft 365 Suits

The purpose for the use of databases is to keep track of the books purchased, "rented?" or requested to copy any other material included in the shop. The database will also include an ID for every customer, every book and for any other material such as the painting ones (UNIQUE ID NUMBERS PROVIDED). Lastly, it will include prices.

SOFTWARE SYSTEM

- Visual Studio 2022
- Version 17.0.5
- Microsoft
- For the object-oriented programming language used is C#, using a visual studio extension pack, which goes by the name "**.NET Desktop development**".

.NET Desktop development Used For

- windows forms
- Console Applications
- .NET framework

2.1.5 Communications Interfaces

Regarding communication interfaces, we have a LAN (local area network) as well as an internet service provider connected to the LAN, who of course provides access to the internet and so for the several machines connected to LAN (through ethernet cables) that can communicate with each other.

2.1.6 Memory Constraints

For memory constraints the minimum requirements that we will need are a minimum of 8 GB of RAM on the pc and at least 3 internal storage devices(SSD, HDD). Also every 2 weeks the database will be updated automatically in the Cloud.

2.1.7 Site Adaptation Requirements

The interface that we are creating is used by all the employers of the company. It's very simple and easy to use so all the employees no matter their educational background can easily learn to use it properly without any previous knowledge of the software.

2.2 User Characteristics

As a company, we involve people with a high educational level and expertise in both programming and designing. For the reason above, we strive to make good and respectable results. Our client might hold a higher educational level of degree with higher expertise, but the people working for him not that much. Hence, our objective is to create software that's applicable and easily workable for all! That way we can ensure a positive and productive corporation among us. Same stands for the technical expertise part.

2.3 Constraints

We don't have many constraints. The only constraints of our software are that you will need a pc for it and a login and password account in order to use it. Also, the interface will be in English only.

2.4 Assumptions and Dependencies

Some factors that can affect the overall design might be any possible customer complaints regarding the rent feature (if approved by the client) that also associate itself with timing. For example, in order for the customers to rent or purchase a book, our client needs to have stock of the particular kind of book, so in case the delivery of the books to our client’s bookshop delays, customers might be low key unsettle. Our software even though will take care of that possible problem due to the rapid corporation of it along with the people using it, might be occasions of occurring though. Hence, some future changes in case that happens could be an automated backup/proof that delivery of books was done.

3. SPECIFIC REQUIREMENTS

"Welcome to the future"

3.1 External Interface Requirements

3.1.1 User Interfaces

The User of the system will be provided with the Graphical User Interface (GUI), there is no need for a command-line interface for any use or function for the program.

There is only administrator (Staff) access.

The User will be able to scan products (books), and also interact with the system regarding the products, for example, the user can check or change the availability of the sock for a specific product.

Also, the User can add at the cash-out the ID number of the customer and add it to the receipt for points and send informative emails and messages.

3.1.2 Hardware Interfaces

Regarding the hardware requirement, our client will need

- A basic computer with basic characteristics.
- Internet access, modem/router.
- A barcode reader (POS).
- Lan (Local Area Network) cable.

3.1.3 Software Interfaces

The software that it is required for the use of our system is:

- Operating system: Windows 7 or later version.
- Support for the Internet.

3.1.4 Communications Interfaces

The software will use an email account and a telephone number to communicate with the clients about offers, any problems with their orders and any other problem with their bill and change their pick up destination.

3.2 Software Product Features

3.2.1 Feature 1

Functional Customer Database will include:

- Add a new customer
- Delete a customer
- Edit a customer

3.2.1.1 Purpose

The main purpose of this software feature is to control the number of customers coming into our client's shop, by keeping track of them in the database that relates to the customers.

3.2.1.2 Stimulus/Response Sequence

Add user

Stimulus: User requests to create a new user in a specific quarter.

Response: The user is entered into the database

Delete User

Stimulus: User requests to delete a user in a specific quarter.

Response: The user is removed from the database

Edit Customer

Stimulus: User requests to edit a user in a specific quarter.

Response: The user is successfully edited into the database

3.2.1.3 Associated Functional Requirements

3.2.1.3.1 Functional Requirements

Functional Requirement 1
ADD CUSTOMER

Functional Requirement 2
REMOVE CUSTOMER

Functional Requirement 3
EDIT CUSTOMER

3.2.1.3.1.1 Introduction

Requirement 1, would be for every customer to have a unique ID. By doing so we won't have any collision with the same IDs. Hence, we will have a validation sort of mechanisms, which will distinguish every customer in the database.

3.2.1.3.1.2 Inputs

Customer ID: Primary Key (INT)

Name: Char (20)

Surname: Char (30)

Email: Char (20)

Phone Number: INT(9)

Address: Char (20)

Loyalty Card Number: INT(6)

3.2.1.3.1.3 Processing

- add customer account
- delete customer account
- edit customer account

3.2.1.3.1.4 Outputs

It does not produce output, Customer is

- created
- removed
- edited.

3.2.2 Feature 2

Using our new database that we created for our client we also be able to:

- Message a customer about offers via email
- Updating the loyalty Card number of the member

3.2.2.1 Purpose

Our client will be able to message the loyal customers via email, about special offers, special discounts or important updates.

3.2.2.2 Stimulus/Response Sequence

Message a customer about offers via email.

Stimulus: Users can send an email to multiple customers.

Response: Email sent successfully to the customers.

Updating the loyalty Card number of the member.

Stimulus: Users can add loyalty points to each customer for each purchase.

Response: Loyalty points added to the customer database.

3.2.2.3 Associated Functional Requirements

3.2.2.3.1 Functional Requirements

Functional Requirement 1
Message a customer about offers via email.

Functional Requirement 2
Updating the loyalty Card number of the member.

3.2.2.3.1.1 Introduction

This function requires the necessary customer Email and Loyalty Card Number information.

3.2.2.3.1.2 Inputs

The input will be the message that owner of the company will sent their client

3.2.2.3.1.3 Processing

Inside a box, the user will be able to write a message. then the message can be sent via email or SMS depending the preference of the user.

3.2.2.3.1.4 Outputs

Email received and loyalty card successfully updated

3.2.3 Feature 3

The new database will consist:

- Customer orders.
- User orders.

3.2.3.1 Purpose

The main purpose of this feature is to keep a database with customer orders as well as the stock left in the storage. Also, the user will be able to add orders to fill the storage that has sold.

3.2.3.2 Stimulus/Response Sequence

Customer Orders

Stimulus: We add the order of the customer.

Response: We update the database with the customer order.

Owner Orders

Stimulus: We need to add our order of supplies for our store.

Response: We update our database with our order.

3.2.3.3 Associated Functional Requirements

3.2.3.3.1 Functional Requirements

Functional Requirement 1
Customer Orders

Functional Requirement 2
Owner Orders (our client)

3.2.3.3.1.1 Introduction

This function involves the various orders for the book shop, for the sake of serving the customers.

3.2.3.3.1.2 Inputs

Customer Orders

Customer ID: Primary (INT)

Order ID: Secondary Key

SKU: INT (BARCODE NUM)

Product ID: INT

Product Name: char(20)

Quantity: INT

Owner Orders

Product ID: INT - SHARED KEY

Product Name: char(20)

Quantity: INT

Supplier ID: Primary Key (INT)

Supplier Name: char(20)

3.2.3.3.1.3 Processing

Each time that a customer of the company will make a purchase they will generate an order list that will be attached to the customer and will decrease the current storage of the company.

3.2.3.3.1.4 Outputs

Orders made / delivered.

3.3 Performance Requirements

Performance should not be an issue since all of our server queries include small pieces of data. Change from one screen to another will require very small computation and thus will perform very quickly. In general every calculation by the application should be very efficient, taking very little time to compute.

3.4 Software System Attributes

Provided in the following subsections!

3.4.1 Reliability

The software made will be a private local one, used only by the people working in the book shop. In addition, our software provides security, accuracy and fail prevention mechanisms making it stable and reliable at all times.

3.4.2 Availability

Availability depends on the stock the book shop has. Also depends on the amount ordered by the owner.

3.4.3 Security

In the section of the security :

- Each user will be have the appropriate access to the software, this depending to their position on the company
- The customer database will be secure since inside will be the personal information of the clients

3.4.4 Maintainability

As for the maintainability the only thing that needs to be kept track, is for the software to be fully updated at all costs. Always update any new customers, orders and etc…

Specify attributes of the software that relate to ease of maintenance. These requirements may relate to modularity, complexity, or interface design. Requirements should not be placed here simply because they are thought to be good design practices.

3.4.5 Portability

The attributes of the software that would come to an ease of porting it, is the fact that it's saved in a server that the users can have easy access to if they have an average computer with a stable internet connection and the login and password that they will get if they have an account.

3.5 Logical Database Requirements

Stated and analysed in the following sections IN DETAIL:

3.2.1.3.1.2

3.2.3.3.1.2

3.6 Other Requirements

NO OTHER REQUIREMENTS NEEDED SO FAR! IN THE FUTURE WE MIGHT CHANGE STUFF.

4. APPENDICES**

Appendices could include the feedback coming from our client and also his customers. If customers are satisfied it means that the software came to be an ease for both sides. Supporting details (MIGHT BE DONE IN THE NEAR FUTURE OR WHILE WE PROGRESS WITH THE PROJECT), is to make a questionnaire and see whether the employees as well as the owner is satisfied or need any new features that we can still include…

Include supporting detail that would be too distracting to include in the main body of the document.