SOFTWARE REQUIREMENT SPECIFICATION

for

TRANSPORT COMPANY COMPUTERIZATION SOFTWARE

Version 1.0 approved

Prepared By

Arpit Das 19CS10012

Suguna Bhaskar Tirupathi 19CS10063

Ankit Lalotra 19CS30004

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REVISION HISTORY

Name	Date	Reason for Change	Version

1. INTRODUCTION

1.1 Purpose

The purpose of this document is to present a detailed description of the transport computerization system. It will explain the purpose and features of the software in the best possible way. While developing the SRS document we as developers have taken utmost care to make it precise, unambiguous, consistent and understandable to the best of our knowledge. It will also promote better understanding of the project, outline the important concepts that may be developed later, and document the core ideas that are being considered in the development process, but nonetheless these ideas may be discarded as the product develops in due course of time.

In short, the purpose of this SRS document is to provide a detailed overview of our software product, the goals that are targeted and the parameters which lead to its development. The SRS document also describes the project's target audience and its user interface, hardware and software requirements. Last but not the least, it helps any designer and developer to assist in software delivery lifecycle (SDLC) processes.

1.2 Document Convention

TCCS	Transport Company Computerization Software
SRS	Software Requirement Specification
Consignment	The customer orders a consignment to be sent
Database	It refers to the data stored in an organized manner.

Manager	The only person who has the ability to order trucks, add employee, change rate etc.
Customer	Refers to the person who gives the order of the consignment to be sent.

1.3 Intended Audience and Reading Suggestion

This software can be used by any user having basic skills in operating a computer since the user interface is very simple. Or else a developer can read this to suggest/make changes according to him/her to further upgrade the software.

No specific reading suggestions, every sub-heading is unique and clearly mentioned in the 'Contents', reader must feel free to jump to any point whenever he/she likes.

1.4 Product Scope

Primarily, the scope pertains to the computerizing the book keeping activities of the transport company. It focuses on the company, the customers and applications which allow for the computerized control of the various ordered consignment transportation. This SRS is also aimed at specifying requirements of software to be developed. The standard can be used to create software requirements specifications directly or can be used as a model for defining an organization or project specific standard. It does not identify any specific method, nomenclature or tool for preparing an SRS.

1.5 References

The document has been prepared according to: -

- IEEE STD 830-1998 'Recommended Practices for Software Requirements Specifications'.
- www.geeksforgeeks.org/how-to-write-a-good-srs-for-your-project/
- www.wikipedia.org/wiki/SRS

2. Overall Description

2.1 Product Perspective

The remaining sections of this document provide a general description, including characteristics of the uses of this project, the product's hardware, and the functional and data requirements of the product.

General description of the project is discussed in this section of the document, along with the characteristics of the product, it's implementation constraints and assumptions made while designing the software.

Section 3 gives the interface requirements of the software, like the hardware and software requirements.

Section 4 explains the system features implemented in the software.

Section 5 explains various performance requirements of the software under various circumstances. It also states any security or privacy surrounding the use of the product.

Section 6 is supporting information.

2.2 Product Functions

The set of functions that are supported by the system is documented below: -

2.2.1 Compute Charge

Once the consignment arrives at the office of the transport company, the details of the volume, destination address, sender address, etc. are entered into the computer. The computer would compute the transport charge depending upon the volume of the consignment and its destination and would issue a bill for the consignment.

2.2.2 Update Database

Whenever a truck is successfully loaded or manager adds a new employee, orders new trucks or a consignment is dispatched the computer updates the database based on that.

2.2.3 Allot Truck

Whenever the consignment volume for a particular destination crosses 500 cubic m. the computer automatically allots the next available truck.

2.2.4 Dispatch Consignment

Whenever a truck is fully loaded for a particular destination, the consignment is dispatched.

2.3 User Classes and Characteristics

This software can be used by Transport Companies with similar functionalities as the ones implemented in the product.

2.4 Operating Environment

This software requires a PC running Windows/Linus/MacOS and must have a python 3 code compiler installed.

Apart from these, there are no specific requirements.

2.5 Design and Implementation Constraints

- Limited amount of memory can cause issues if the database is too large.
- The algorithm followed is not an optimized one, as an optimized one would be very computationally heavy.

2.6 User Documentation

It contains an SRS file, a class diagram and a use-case diagram. The latter two being in a different file.

2.7 Assumptions and Dependencies

The software has following assumptions: -

- The users will have a computer with Windows/Linux/MacOS installed along with a python code compiler.
- User should not tamper/experiment with the source code.
- The user should have basic knowledge about the attributes of an object and fill in the details of the object properly.
- Whenever a truck is dispatched, the receiver receives the consignment without fail.
- There is no clubbing of trucks, i.e., if an order of less than 500 cubic m. is received and a truck is available, then that truck will be dispatched.

- The trucks of the company will never face any kind of accident.

The main dependencies for the working of the software are: -

- All the tools on which the software is dependent, must be working properly.
- The Python code compiler should be functioning properly.
- It'll also depend on the database and the interaction of the Python application with the database.

3. External Interface Requirements

3.1 User Interfaces

The user interface of the software will be easy to use and interactive.

I. Employees: They are allowed access to do the following jobs: -
   - Enter details of consignment like type, volume, details of sender and receiver.
   - They'll be able to view truck details.
   - They'll be able to view allotment of truck.

II. Manager: Manager will have admin rights. He is allowed to do the following jobs: -
   - He is allowed to do all the jobs that an employee can do.
   - Can view status of all consignments and trucks.
   - Can see the waiting time of a consignment.
   - Can appoint and remove employees.

3.2 Hardware Interfaces

The software will run perfectly on a computer supporting a python code compiler. The computer should have a minimum RAM of 4GB and at least 50 GB of internal memory. More memory may be required if the database is too large.

3.3 Software Interfaces

Python will be used for the development of this software. Internet connection won't be required for using this software.

3.4 Communication Interfaces

Internet connection is not required for the functioning of the software.

4. System Features

This section describes the various functionalities of the software:

4.1 Compute Charge

Once the consignment arrives at the transport company, the details are entered into the computer. The computer would compute the transport charge depending upon the volume of the consignment and its destination and would issue a bill for the consignment.

4.2 Allot Truck

Whenever the consignment volume for a particular destination crosses 500 cubic m. the computer automatically allots the next available truck.

4.3 Dispatch Consignment

Whenever a truck is fully loaded for a particular destination, the consignment is dispatched.

5. Other Non-Functional Requirements

5.1 Performance Requirements

TCCS Software will run smoothly. The software uses a few computations that are not computationally heavy but are very much dependent on the database and processing and data handling power of the computer.

5.2 Safety Requirements

There will be no loss, damage or harm from the use of our software in the computer.

5.3 Security Requirements

The software is completely secure and there is no privacy issue in using this product. It'll ask for login ID and password to use our software and both manager and employees can use this.

5.4 Software Quality Attributes

The software is easy to use and should run without issues on Windows/Linux/MacOS. The system developed is flexible and hence there is provision for different changes like expanding the transport company. The software is reliable and reusable for additional purposes.

5.5 Business Rules

The software can be easily used by employees and managers. All the functions required by the company can be found inside the software.

6. Other Requirements

The user can use this software based on the functionalities he/she is provided. There is no legal issue with the use of this software.

Appendix A: Glossary

TCCS	Transport Company Computerization Software
SRS	Software Requirement Specification
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Appendix B: Analysis Models

Class diagram and use-case diagram are added as part of UML diagrams in a separate file along with this SRS.

Appendix C: To Be Determined List