Software Requirements Specification

for

Motor Part Shop Software

Version 1.0 approved

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1. INTRODUCTION

1.1 Purpose

The motor part shop management software (MPSS) streamlines the sales and supply ordering of the shop. The software helps in maintaining the inventory of the shop. It also helps in getting the required statistics of the sales of the shop.

1.2 Document Conventions

The document is written in arial font. Main headings (size 16) and subheadings (size 14) are written in bold. Rest of the document is written in size 12.

1.3 Intended Audience and Reading Suggestions

The document can be used by the motor shop managers. The software can be used by the managers and owners who want to automate and streamline the process of sales and supply ordering.

The SRS document contains the structure of the software. It will help the reader to get acquainted with all the features that the software offers.

1.4 Product Scope

- MPSS would keep track of the sales of the shop. After selling an item, the owner will add the item and the selling price in the database using the sell tab of the software.
- The software has to maintain the inventory of the shop. The owner would be able to see the inventory of the shops and the items having stock less than the threshold.
- The software has the buy tab which will update the inventory if the owner purchases new parts.
- MPSS can also generate the revenue for each day. It will also plot a graph depicting the sales for each day.

1.5 References

The basic outline of the SRS document provided by the institute has been referred to while making this document.

2. Overall Description

2.1 Product Perspective

The Motor Part Shop Software (MPSS) is a very useful software for shop owners for automating the sales and supply ordering. It ensures connection between the shop owner, customer and vendor. It provides a hassle-free management of the shop inventory. The software also helps to keep track of the transactions of the shop.

2.2 Product Functions

The Motor Part Shop Software deals with the following:

- The software maintains the inventory of various items and parts of the shop. It reduces the count of the item when the item is purchased by a buyer. It also shows the owner the items whose stock is below their threshold value. The owner can then order the item from the suggested

vendor. The stock of the item in the inventory will be updated again after the purchase of that item from a vendor.

- The software also shows the statistics of sales. The revenue generated after each day. It can also plot graphs for better visualization.
- The software will also generate invoices for the purchases of the customer.

2.3 User Classes and Characteristics

The various types of users that are expected to use this product are as follows:

Shop owner: The shop owner sells the parts to the customers and generates revenue. The shop owner orders the items whose inventory is below the threshold value. The shop owner also requests the software to generate the statistics of the sales of the day.

Buyer: The buyer orders the parts and buys them from the shop.
The customer should also get the invoice of his/her purchase.

Vendor: Vendor sells parts to the shop owner.

2.4 Operating Environment

The software will operate in a Windows 10 environment.

2.5 Design and Implementation Constraints

The backend of the software should be managed by Python. The database used is mySQL. The entire software will be written in python.

2.6 User Documentation

Brief description of the features of the software has been included in this SRS document. The software is easy to use and hands-on tutorials will be sufficient for understanding the working of the software.

2.7 Assumptions and Dependencies

We have assumed that the shop owner uses this software at the end of the day to update the sales of the day and then the software generates the list of items to be ordered from the respective vendor. The inventory of the shop is then updated at the end of the day.

Transactions and sales that were done before the installation of this software cannot be included in the statistics that were shown to the owner.

The owner should know the basics of handling computers.

3. External Interface Requirements

3.1 User Interfaces

When the software is opened, the user will get various options. The software has a tab to sell the items to the buyer, where the buyer will see a list of parts and their prices and then the buyer selects the part which he/she wants to buy. After the purchase, the software will print an invoice of the purchase of the buyer. The software also contains a tab for the shop owner to see statistics of sales of the day. The software can also plot the graph of the sales over a month. The software also has a tab where the shop owner can see the items which have the stock less than the threshold in the shop inventory. The owner can order these items then from a vendor. The software also has the option to add/remove parts from the shop. It can also add/remove vendors of a part. The user interface of the software is simple and easy to understand.

3.2 Hardware Interfaces

The software is supposed to run on a single system. So we do not require any cloud based hosting solution. If the software is to be used in multiple systems, then a cloud based solution is required to handle the database.

3.3 Software Interfaces

The data from the database can be accessed from the program itself using the python library. The software does not use any web browser for its functioning. The whole program is written using the language python.

3.4 Communications Interfaces

Since this is not an online software, it will not require any internet connection. The software takes data from the database files stored in the system and stores the updated information in the same database file for further use.

4. System Features

4.1 Showing the Sales Statistics

It is a high priority system feature. This has got two parts -

- Revenue calculation - The software has a function to calculate the revenue generated for the day and for the whole month.

- Graph Plotting - Software also has the function to generate a graph showing the daily sales of all the parts of the shop for the month

These can be stimulated when the owner asks for the statistics in the Statistics tab.

4.2 Showing threshold and list of parts to order (maintaining inventory)

Apart from this, the software also has a function to generate the threshold values for each item using the average sales of that item over the last seven days. It also shows the list of items that have their current stock below this threshold value and need to be restocked so that the owner can order these items from the vendors as per his requirements.

4.3 Buying from vendors

The shop owner orders those items which fall below the threshold value. For this the software will present the list of vendors and the shop owner selects from it and then he places the order. The stock will the get updated in the inventory of the shop.

4.4 Selling to customers

Whenever a customer orders an item(s), the software updates its inventory by decreasing the available stock of the item (s) by 1.

4.5 Invoice Maintenance

Once a customer buys a number of item(s), the computer generates the invoice for that customer showing the selling price (SP) and cost price (CP) of that particular item(s). The computer also keeps the total revenue collected on a given date in the database. At the end of the month the computer shows the graph of sales on each day of the month.

4.6 Searching with Filters

The buyer can use the filters option to filter out the items list displayed on the software. He can use various filters like part type to show the parts of a particular type. The software also has a search bar which can search for a substring in the item names. The owner can also use these filters to select the item to be ordered from the vendor.

4.7 Adding/Removing new parts

The shop owner has the choice to add a new part in his stock. The shop owner can also remove an existing item from the stock.

4.8 Adding/Removing new Vendors

The shop owner can add a new vendor from whom he may get the supply of the parts. He can also remove an existing vendor for a given part.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

The software is an offline application and runs without the requirement of an internet connection. It will be a 24x7 working software.

5.2 Safety Requirements

The database used and maintained by the application must be kept safe,and should not be tempered with to prevent any data loss.

5.3 Security Requirements

System should not be used by any unauthorized user. The database must be kept in a secure location with a backup available at all times.

5.4 Software Quality Attributes

- *Flexibility*

  The software is capable of adding and removing new parts and vendors and can handle a large number of parts manufactured by different vendors/Manufacturers.

- *Maintainability*

  The code is written in such a way that it can be maintained and amended easily.

- *Testability*

Suitable test cases are present which can verify the proper working of all the functions and can be provided at the time of evaluation.

- *Reliability*

  The software is reliable enough to produce correct outputs considering all the possible edge cases, it is reliable enough to produce correct invoices and sales statistics along with storing correct information of parts and vendors.

- *Usability and Portability*

  The software is easily portable with the .exe file extension only. Further, the source code can be compiled on different platforms to get their executable file format.

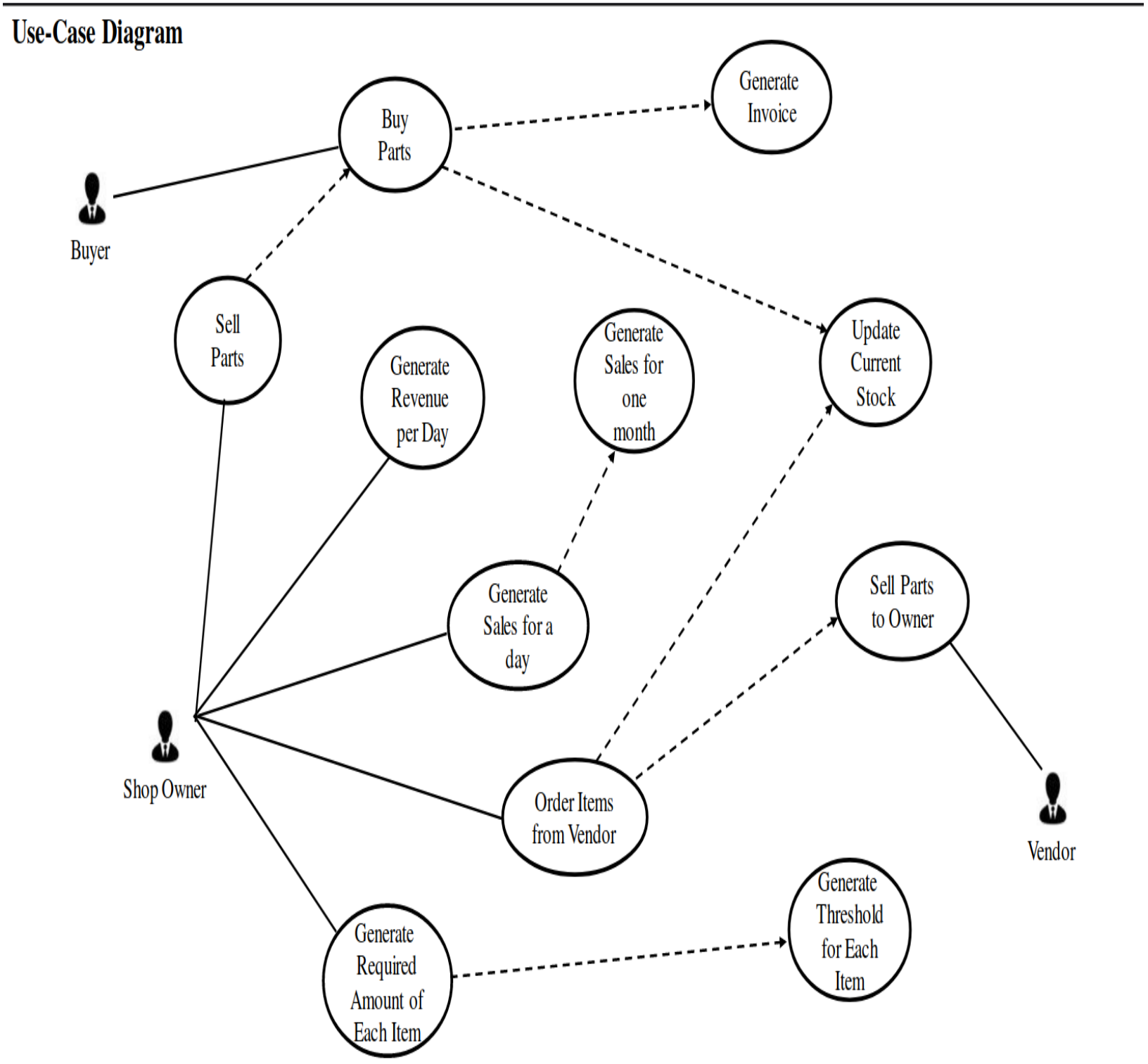
Appendix A: Glossary

SRS - Software Requirement Specification

MPSS - Motor Part Shop Software

IEEE - Institute of Electrical and Electronics Engineers

Appendix B: Analysis Models



Class Diagram