Software Requirements Specification

for

Motor Part Shop Software

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# Introduction

## Document Purpose

The purpose of the document is to serve as a guide to designers, developers and testers who are responsible for the engineering of the **Motor Part Shop** project. It should give the engineers all of the information necessary to design, develop and test the software.

## Product Scope

A small automobile spare parts shop sells the spare parts for vehicles of several models. Also each part is typically manufactured by several small industries. To stream line the sales and supply ordering, the shop owner has asked us to develop the following motor part shop software.

The motor part shop deals with large no. of motor parts of various manufacturers and various vehicle types. Some of the motor parts are very small and some are very large. The owner maintains different parts in wall mounted and numbered racks.

The shop owner maintains as few inventory for each item as reasonable, to reduce inventory overheads after being inspired by "just in time (JIT) philosophy".

The system can be accessed by:

* Customers (normal users)
* Shop owner(with unlimited access)

Both the user and shop owner are authorised before using the software.

## Intended Audience and Document Overview

This document is intended for developers, shop owner, testers, and documentation writers.

Start with the purpose, followed by the product scope and the functional and non-functional requirements of the system and also contains the contextual and data flow diagrams.

## Definitions, Acronyms and Abbreviations

|  |  |
| --- | --- |
| **Acronym, Abbreviations** | **Description** |
| SRS | Software Requirement Specification |
| IEEE | Institute of Electrical and Electronics Engineers |
| LAN | Local Area Network |
| HTML | Hyper Text Markup Language |
| CSS | Cascading Style Sheet |
| PHP | PHP Hypertext Preprocessor |

## Document Conventions

In general this document follows the IEEE formatting requirements. Document text is single spaced and maintains the 1” margins.

|  |  |  |
| --- | --- | --- |
| **Conventions** | **Description** | **Examples** |
| Font (Arial) | Whole of the document will be written in this font only. |  |
| Bold | Bold face and indentation is used on general topics and or specific points of interest. Headings of the topics are written in the Bold fonts. Web site links. | **1.5 Document Conventions** |
| Italics | personalized comments and notes |  |
| Capital letters | Shorts forms of words | HTML,SRS,MPS |

## References and Acknowledgments

Not applicable

# Overall Description

## Product Perspective

The **Motor Part Shop** system will be a newly developed and self contained product. This section includes the contextual diagram which gives much information and the interfaces between different entities.

OWNER

CUSTOMER

PAYMENT

SALES

ORDER PARTS ORDER PARTS, PAYMENT

ACCOUNTING

MANAGER

VENDOR

SALES INVOICES

PAYMENT TRANSACTION

Fig.1. Contextual Level Diagram

## Product Functionality

The motor part shop software deals with:

* Large no. of motor parts of various manufacturers and various vehicle types.
* The owner maintains different parts in wall mounted and numbered racks.
* The shop owner maintains as few inventory for each item as reasonable, to reduce inventory overheads after being inspired by "just in time (JIT) philosophy".
* The product solves the problem the shop owner faces to be able to order items as soon as the no. of items in the inventory reduces below a threshold value and enables the shop owner to maintain parts to be able to sustain selling for about one week.
* The product enables the comp to generate the items to be ordered, print out the part no. the amount required and the address of the vendor supplying the part.
* It also enables the comp to generate the revenue for each day and at the end of the month. The comp generates a graph showing the sales for each day of the month.

## Users and Characteristics

The various users that anticipate with this product are:

**Owner:**

* **Maintenance:** A wall mounted and numbered racks are maintained. Stream line the sales and supply ordering, maintains JIT philosophy.
* **View customer details:** View the personal details of the customer.
* **Managing Sales to Customers:** Responsible for properly allocating the selected product according to the customer’s choice and delivering product to the customer.
* **View Product Stocks:** Keep track of each product item’s stocks for selling purpose.
* **Contacting with Accounting Manager:** Responsible for informing administrator when any product item’s stock goes under the minimum level.

**Vendor:**

* Supplies raw materials to the owner.
* Receive payment from owner.

**Customer:**

* **Login:** Customers must have a valid login id to enter into the site.
* **Registration:** New users can sign up by creating new ID.
* **View and edit Own Details:** Can view/edit his personal details, payment details, anddetails about services provided.
* **Choosing and comparing products:** Can view all available products and can compare them and make a choice for purchasing products.
* **Purchasing:** Can purchase any product and make payment.
* **Logout:** Customer must logoutof the site after purchasing products.

**Accounting manager:**

* Manages invoices.
* Manages transactions.

## Operating Environment

The software will operate in any environment, including the hardware platform, operating system and versions, and any other software components or applications. This product is web based and can be viewed by any browser and has been tested for compliance with Mozilla, IE and Opera.

## Design and Implementation Constraints

The design and implementation constraints of this system are:

* Its front end should be implemented using HTML5, CSS3 and JavaScript.
* The back end should be managed by the PHP & SQL.

## User Documentation

The user documentation can be found in this SRS.

## Assumptions and Dependencies

We assume that extra documentation beyond this SRS would not be necessary in order for the user, owner to utilize this product.

# Specific Requirements

## External Interface Requirements

### User Interfaces

The interface between the system and the users mainly include the PHP page that is loaded using a web browser like Internet Explorer, Mozilla Firefox, or Chrome. The PHP page includes a form in which the user can enter the Username (unique to a user), Password and motor parts.

You can choose the products which you would want to purchase and will be added to the cart. At the end an invoice is generated in order to make payment.

### Hardware Interfaces

Hardware Requirements for insurance on internet will be same for all the parties’ i.e customer, vendor and owner:

* Hard disk: 1 GB for MS SQL Server 2008.
* Processor : Pentium 4 or faster
* Memory : at least 256 MB RAM
* Input output device : keyboard, mouse and colour monitor

### Software Interfaces

Along with the internet connection, the system makes indirect use of an internet browser. Outside of the HTML code and PHP, the code does not tell any software, including the browser, what to do.

Software Requirements:

* Operating system: Microsoft 2000 /XP Prof
* Back end : SQL Server 2008
* Language : JavaScript, HTML, PHP
* Other software: DIA

### Communications Interfaces

* We will be using PHP along with SSL encryption to send and receive updates
* We will be using HTTP for establishing connection between user and database.

## Functional Requirements

Initial functional requirements will be: -

* Secure registration facility for Customers.
* Browsing through the site to see the items that are there in each category of products like tyres, nut and bolts, engine etc.
* Adequate searching mechanisms for easy and quick access to particular products and services.
* Creating a Shopping cart so that customers can shop ‘n’ no. of items and checkout finally with the entire shopping carts.
* Strategic data and graphs for Administrators and Shop owners about the items that are popular in each category.
* Maintaining database of regular customers of different needs.
* Accounting manager is responsible for invoices.
* Keeping the daily sell and details of the customer at the end of the day.
* On reaching a threshold value, the owner orders the materials from the vendor.
* The software calculates the average part sale for one week.

# Other Non-functional Requirements

## Performance Requirements

* The connection to the servers will be based on the criteria of attributes of the user like his location and the server will be working whole 24x7 times.
* The system is accurate.
* Any transaction will not take more than 10 seconds.
* The system shall function in real time.
* The system shall allow simultaneous use by at least 100 users, without data corruption.
* The system will try to retain the integrity of data.

## Safety and Security Requirements

* In order to use certain features of the system, users must first authenticate themselves by entering a username and password. The system shall not allow access if the user fails to provide correct login information.
* Normal user will not be able to use the privilege provided to the owner in any case.
* Only administrator will be allowed to do the updates.

## Software Quality Attributes

**Flexibility**

The system should be flexible enough to handle several additions and deletions of users/parts and support extensions in the functionalities if required.

**Maintainability**

The software will be maintainable enough so that extra features can be added or modified at any time.

**Testability**

Web site can be tested with a number of users using it at a time.

**Reliability**

It will be reliable and will send the correct information to the correct user who have registered to the site.

**Usability and portability**

Software will be easy to use and will be portable enough to transfer from one server machine to another.

Appendix A – Data Dictionary

**5.1Login**

5.1.1 Login success

5.1.2Login fail

**5.2 User page**

5.2.1 User page for owner

5.2.2 User page for normal user

5.2.3 User page for accounting manager

**5.3 Owner special job**

5.3.1 Add/delete parts

5.3.2 Order raw material

5.3.3 Add/delete user

**5.4 Accounting manager special job**

5.4.1 Manage invoices

5.4.2 Manage transactions