**MALL MANAGEMENT SYSTEM**

**Software Requirements Specification**

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**1. Introduction**

The following subsections of the Software Requirements Specifications (SRS) document provide an overview of the entire SRS.

**1.1 Purpose**

The Software Requirements Specification (SRS) will provide a detailed description

of the requirements for the Mall Management System (MMS).  This SRS will allow for a complete understanding of what is to be expected of the Mall Management System  to be constructed. The clear understanding of the Mall Management System and it’s functionality will allow for the correct software to be developed for the end user and will be used for the development of the future stages of the project. This SRS will provide the foundation for the project. From this SRS, the Mall Management System can be designed, constructed, and finally tested.

This SRS will be used by the software engineers constructing the Mall Management System  and the mall end users.  The software engineers will use the SRS to fully understand the expectations of this Mall Management System to construct the appropriate software.  The mall end users will be able to use this SRS as a “test” to see if the software engineers will be constructing the system to their expectations. If it is not to their expectations the end users can specify how it is not to their liking and the software engineers will change the SRS to fit the end users’ needs. The mall will provide a soothing shopping experience for customers, while at the same time allowing us to explore design patterns.

**1.2 Scope**

The software product to be produced is a MMS which will automate the major Mall operations.  The first subsystem is for Administrator which consists of approval system and statistics system. The second subsystem is the Registration System, Display system and Billing system for shop owners.  The third subsystem is for customers comprising of  general shopping services and Automated Tasks System which gives a display of items for sale.  These three subsystems’ functionality will be described in detail in section 2-Overall Description.

There are three end users for the MMS. The end users are the shop owners and customers and administrator. Shop Owners have medium access and full access is given to administrator.

The Mall Management System’s objective is to provide a system to manage a complete mall.  Without automation the management of the mall has become an unwieldy task.  The end users’ day-to-day jobs of managing a mall will be simplified by a considerable amount through the automated system. The system will be able to handle many services to take care of all customers in a quick manner. The system should be user appropriate, easy to use, provide easy recovery of errors and have an overall end user high subjective satisfaction.

**1.3 Definitions, Acronyms, and Abbreviations**

SRS – Software Requirements Specification

MMS – Mall Management System

End users – The people who will be actually using the system

**1.4 Overview**

The SRS is organized into two main sections.  The first is The Overall Description

and the second is the Specific Requirements.  The Overall Description will describe the requirements of the MMS from a general high level perspective.  The Specific Requirements section will describe in detail the requirements of the system.

**2. General Description**

Describes the general factors that affect the product and its requirements.  This section does not state specific requirements.  Instead it provides a background for those requirements, which are defined in section 3, and makes them easier to understand.

**2.1 Product Perspective**

The MMS is an independent stand–alone system.  It is totally self contained

**2.2 Hardware Interfaces**

The MMS will be in main server controlled by administrator. All the end users can access it through their PC’s.

**2.3 Software Interfaces**

All databases for the MMS will be configured using MySQL.  These databases include all end users information. These can be modified by them.  The shop database will include the shop ID and items they want to sell. The customers information database will contain all the information of the customer such as first name, last name, phone number, confirmation number and abbreviated customer feedback.

**2.4 User Characteristics**

Educational level of MMS computer software – Low

Experience of MMS software – None

Technical Expertise – Little

**3. Specific Requirements**

This section contains all the software requirements at a level of detail, that when combined with the system context diagram, use cases, and use case descriptions, is sufficient to enable designers to design a system to satisfy those requirements, and testers to test that the system satisfies those requirements.   
  
**3.1 External Interfaces**  
The mall Management System will use the standard input/output devices for a personal computer. This includes the following:

* Keyboard
* Mouse
* Monitor

**3.1.1 User Interfaces**

Login page (Admin, Shop Owner)

Admin – Approval page, statistics page

Shop Owner – Product page(uploading), statistics page

Customer – Product browsing page, add to cart page

Logout page (Admin, Shop Owner)

**3.1.2 Hardware Interfaces**

Computer, mouse

**3.1.3 Software Interfaces**

OS – Windows

Browser – IE, Google Chrome, Mozilla  
Database – MySQL

**3.1.4 Communications Interfaces**

The system requires internet as it is a web based system.

**3.2 Functional Requirements**

Functional requirements define the fundamental actions that system must perform. For further details, refer to the use cases.

**3.2.1 Functional Requirements of Admin**

3.2.1.1 Inputs   
       Approval confirmation for shop owners.  
  History from every shop for him to analyze statistics.

3.2.1.2 Outputs

 Confirmation for shop owners registration.

 Statistics of each shop.

**3.2.2 Functional Requirements of Shop Owner**

3.2.2.1 Inputs

 Products added to cart by customers.

 Available Products in the shop.

 Alert from system if a particular product count becomes zero in his shop.

3.2.2.2 Outputs

 Billing information to customers.

 Responds to the alerts generated by system.

**3.2.3 Functional Requirements of Customer**

3.2.3.1 Inputs

 Display of available shops.

 Display of available items in a selected shop.

3.2.3.2 Outputs

 Adding products to cart.

**3.3 Non Functional Requirements**

Non Functional requirements define the needs in terms of performance, logical database requirements, design constraints, standards compliance, reliability, availability, security, maintainability, and portability.

**3.3.1        Performance Requirements**

Performance requirements define acceptable response times for system functionality.

* The load time for user interface screens shall take no longer than few seconds.
* The login information shall be verified within three seconds.
* Queries shall return results within five seconds.

**3.3.2        Logical Database Requirements**

The logical database requirements include the retention of the following data elements. This list is not a complete list and is designed as a starting point for development.

**Shop Owner Registration (Admin details are also saved in similar fashion)**

* Shop Owner First name
* Shop Owner Last name
* Full address
* Phone number
* Shop name
* Shop ID

**Products Database**

* Shop ID (in which shop is present)
* Product name
* Product ID
* Count of a product available
* Cost of the product
* Product Description

**Statistics Database (1 table for each shop)**

           Table is named after the shop ID  
    Columns:

* Product ID (which is sold)
* Product count of a particular item (which is sold)
* Cost of the product

**3.3.3        Design Constraints**

The Mall Management System shall be a web based system running in a Windows environment. The system shall be developed using PHP and MySQL database.

**3.3.4        Standards Compliance**

There shall be consistency in variable names within the system. The graphical user interface shall have a consistent look and feel.

**3.3.5        Availability**

The system shall be available for 24x7.

**3.3.6        Security**

Shop Owners will be able to login to the Mall Management System. They will have access to their shops(registered). Administrator will have access to the complete management system. Access to the various subsystems will be protected by a user log in screen that requires a username and password.

**3.3.7        Maintainability**

The Mall Management System is being developed in PHP. It is an object oriented programming language and shall be easy to maintain.

**3.4 Use Cases**

**3.4.1 Use Case for Admin**

Login

Add/Update Categories

Manage shop creation request

Send Notifications

Manage Guestbook

**3.4.2 Use Case for Shop Owner**

Login

Set Up shop

Discontinue shop

Add/Remove items

Add/Remove sub categories

Send notifications to Admin

**3.4.3 Use Case for Customer**

Login

Enter Shop

Browse for items

Add to cart

Check order details

**4. Change Management Process**  
  
           Changes to this document may be made after approval from the project manager and the client approval officer.

**5. Supporting Information**

            A system context diagram as well as use cases and use case descriptions have been developed in separate documents.

**6. Goal of Implementation**

The Mall Management System provides a platform to manage a complete mall.  Without automation the management of the mall has become an unwieldy task.  The end users’ day-to-day jobs of managing a mall will be simplified by a considerable amount through the automated system. The system will be able to handle many services to take care of all customers in a quick manner. The system should be user appropriate, easy to use, provide easy recovery of errors and have an overall end user high subjective satisfaction.  The system’s goal is to provide a soothing shopping experience for customers, while at the same time allowing us to explore design patterns.

**6. Conclusions & Future work**The project enabled us to understand all the design patterns thoroughly. The Iterator, Singleton, Observer are essential design patterns in order to capture the software design of such shopping malls. Various techniques like use case analysis, state machine, CRC, sequence diagram are helpful in prototyping software design. The project can be improved by incorporating the MVC design technique. More of design patterns such as factory patterns can be included in the project.