**Software Requirements Specification for**

**GroupA5’s Online Supermarket Simulation**

**Version 1.0**

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**1 Introduction**

**1.1 Purpose**

The GroupA5’s Online Supermarket system(OSS) simulates an online supermarket retailer where a customer makes a purchase. The user will interact with OSS in the role of one or more of the Supermarket’s customers.

**1.2 Intended Audience and Reading Suggestions**

This document was developed both as a guideline for student developers, and also as a reference for potential supermarket customers.

**1.3 Project Scope**

The goal of OSS is to support the simulation of a traditional supermarket that advertises its inventory online and allows users to make a purchase. Interaction will be through a series of menus displayed on the console. The implementation should be flexible enough that new kinds of orders and comments could be added with relatively little programming effort.

**2 Overall Description**

**2.1 Product Perspective**

This software product is being developed by students of the Object-Oriented Software Development course at DePauw University and is intended for use by anyone wanting to simulate an online supermarket system. The goal of this project is to develop a feature-rich application which will serve as a functioning prototype for a more comprehensive application which could be developed by extending the codebase.

**2.2 Product Features**

The main features of this product are:

* managing the menu-oriented interface to the simulation
* maintaining the state of a number of items left in the inventory after a purchase is made
* Maintaining user’s transaction history and details
* providing a flexible design to support expansion or revision of the simulation

**2.3 User Classes and Characteristics**

The users will include those who simply wish to use the simulation, as well as those (the developers) who are designing and testing the simulation or extensions to the simulation.

**2.4 Operating Environment**

This application is designed to work with a Java Virtual Machine in a desktop environment. Users of this application are expected to be running either a Windows, MacOS, or Linux desktop operating system.

**2.5 Design and Implementation Constraints**

This application may use the file system as a means of saving the state of the inventory as well as the product order history.

**2.6 User Documentation**

A programmer’s guide to working with the software components developed as part of this application will be provided for those who wish to continue development on this application. Additionally, a user’s guide will be provided for those who wish to use this application to simulate supermarket transactions. Within the simulation, a limited amount of help information will also be available.

**3 System Features**

The following features, with their associated requirements, will be implemented in the final revision of this software system:

**3.1 Menu Interface**

**3.1.1 Description and Priority**

A user can interact with the simulation through a series of menus.

**3.1.2 Functional Requirements**

**REQ-1:** There will be a main menu from which the user can select common operations or navigate to more specialized menus.

**REQ-2**: The user will interact with the menu by placing orders using the given interface

**REQ-3:** Any operations that needs additional information will also communicate with the user through the console.

**REQ-4:** It should be easy to navigate through the menu system, and to get help from the system in doing so.

**3.2 Making a Purchase**

**3.2.1 Description and Priority**

The system menu provides several types of products such as detergents and groceries to choose from. It should be easy to add and purchase additional products.

**3.2.2 Functional Requirements**

**REQ-1:** The system should decline the purchase if the product selected is not present in the inventory.

**REQ-2:** The system should decline the purchase if debit card is not working. User is informed of the purchase being declined.

**REQ-3:** The system should show a list of products added to cart and confirm from the user if anything is missing or extra before the purchase goes through.

**3.3 Creating an account and logging in**

**3.3.1 Description and Priority**

Having an account helps you store your billing and shipping address so the user does not have to type these details each time a purchase is made from the online supermarket.

**3.3.2 Functional Requirements**

**REQ-1:** The system should track the logging state of users when they make a purchase or write a comment.

**REQ-2:** The system should store the account information of users.

**REQ-3:** When creating an account, the system should warn users if the username they want has already been created or taken by another user.

**3.4 Product Review**

**3.4.1 Description and Priority**

Allows the user to make comments on products in order to obtain a survey of customer satisfaction.

**3.4.2 Functional Requirements**

**REQ-1:** Before writing comment, the system should check the logging in state of users and warn users if they have not yet logged in.

**REQ-2:** The system allows the user to report inappropriate comments.

**REQ-3:** The system should be able to save the comments and display them under the product description.

**3.5 Transaction History and Details**

**3.5.1 Description and Priority**

Keeps a detailed record of all items purchased from an account and generates a bill/ virtual receipt which can be viewed later.

**3.5.2 Functional Requirements**

**REQ-1:** The system should allow the user to sort their bills according to the date.

**REQ-2:** System should allow user to view details of a particular transaction such as transaction time, type of product purchased etc.

**REQ-3:** System should allow the user to delete old bills that are no longer needed,

**4 External Interface Requirements**

**4.1 Hardware Interfaces**

The software will run on a desktop or laptop and no additional hardware is needed.

**4.2 Software Interfaces**

The simulation does not need to interface with any software other than the Java platform.

**5 Other Nonfunctional Requirements**

**5.1 Performance Requirements**

Management of the menu interface and simulation state must consume minimal system resources so as to be accessible in real-time by users of the system. This application is intended to be used interactively, so users should not be expected to wait for the completion of any of the operations provided by the application.

**5.2 Security Requirements**

The application will not require any sensitive information from the user. It will rely on existing user-based security on the host operating system to keep saved simulation states private.

**5.3 Software Quality Attributes**

This application will ship with a suite of tests which insure its proper function, even if third-party updates to the source-code are integrated. Additionally, at run time, this application will verify the correctness of any data files it uses, or of any input provided by the user, and issue appropriate error messages in the cases of unexpected or erroneous input.