WinPC

Computer Store System

Software Requirements Specification

For Web Application

Version <1.0>

Revision History

Date	Version	Description	Author
March 28th, 2023	1.0	Create software requirement specification	Barry, Oumar Frost, Ian Niles Gao, Zhi Sehaumpai, Max Yeung, Richard

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Software Requirements Specification

1. Introduction

1.1. Purpose

The software requirements specification is designed to describe the relevant system as completely as possible. This includes external behavior, design constraints, nonfunctional requirements, and any other necessary information. The goal is to have a document that is comprehensive enough to prototype, implement, and test the entirety of the system. The primary method through which this is achieved is use-case modeling, in which actors and their behaviors are described through both diagrams and language in as much detail as possible.

1.2. Scope

This document pertains to the specifications of an online computer store. In this system, a graphical user interface (GUI) is presented to users who fall under 4 categories: visitor, customer, employee, and store owner. The contents of the page are tailored towards the actions that each of these users can take. Visitors can browse the store and leave comments but are otherwise encouraged to apply to become a customer. Customers primarily make purchases through the store and leave feedback on their experience. Employee accounts can approve applications, recommend computer configurations, and give feedback on customers. Store owner accounts are considered to be employees but have the responsibility of applying compliments and warnings to both customers and employees as well as having other admin privileges.

1.3. Definitions, Acronyms, and Abbreviations

GUI - Graphical User Interface

PC - personal computer

CPU - central processing unit

GPU - graphics processing unit

PSU - power supply

Build - a complete tower computer including motherboard, CPU, CPU cooler, GPU, PSU, and case.

Visitor - A person who visits the computer store but does not register as a customer.

Customer - A person who can make a purchase.

Employee - A person who is responsible for communicating with visitors and customers. An employee of the store.

Owner – A person who owns the computer store.

1.4. References

None at this time.

1.5. Overview

The remainder of this document is designed to concisely elaborate on the specifications of the computer store system. Part 2 offers an overview of the specifications through use-case modeling and lists some assumptions and dependencies the system relies on. Part 3 delves into the specific details of each actor in the use-case model, their behavior, and additional limitations related to the functionality, usability, reliability and performance of the system. Finally, part 4 lists any supporting information that may be relevant to the project.

2. Overall Description
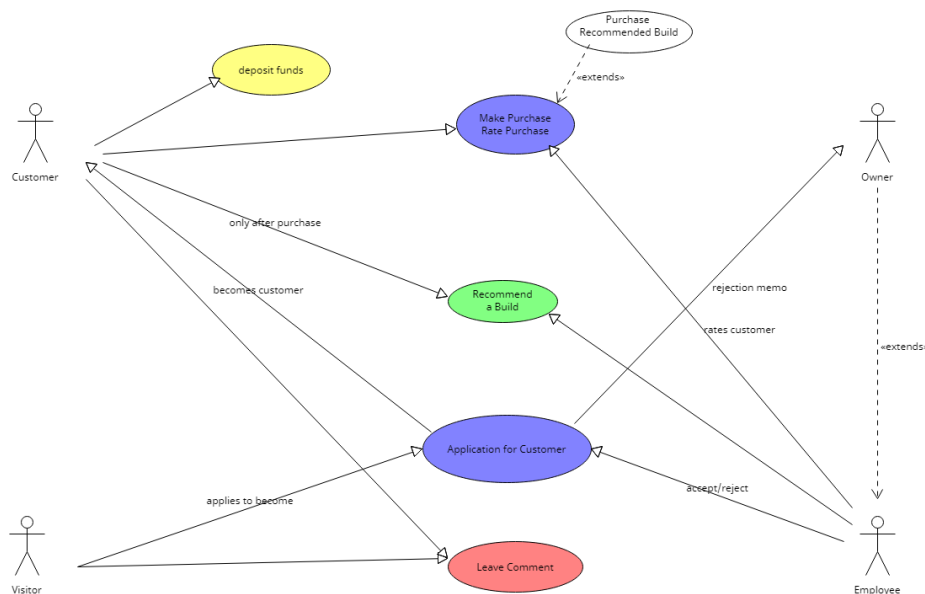
In this section, the overall model and foundation of our Computer Store System will be detailed here with the help of the Use-Case Diagram. The Use-Case Diagram visualizes the different types of roles in a system and how those roles interact with the system. The assumptions and dependencies are also listed in this section.

2.1. Use-Case Model Survey

According to the provided use case diagram, the system has different functionalities for the visitor, customer, employee, and owner. Visitors can browse the site, add items to their carts, and create an account to become an official customer of the store. Visitors are also welcome to leave comments, which will be classified as anonymous. Customers can deposit funds, rate their purchases, recommend a build, leave comments, and receive warnings or compliments. The rating system for the build is also part of the customer functionalities. Employees must interact with visitors and customers, manage products, and approve customer registrations. When certain conditions are met, customers can be promoted or demoted. They can also leave comments that are not anonymous, and if necessary, they can block customer accounts. The owner not only has employee power, but also specific powers such as viewing employee memos and promoting and demoting employees.

2.2. Assumptions and Dependencies

It is assumed that the client has a reliable internet connection to browse this computer store system and place orders.

It is also assumed that the website will be fully functional and fully responsive in case the customer is trying to access the store on a medium size device (tablet or phone)

It is also assumed that there will be an employee always available to accept or reject the application so the customer can have

It is also assumed that a memo will be sent automatically to the owner in case of a rejection of a customer's application.

3. Specific Requirements

This section contains a detailed analysis of the functionalities found available in the Online Computer Store System.

3.1. Use-Case Reports

Visitor

Visitors have the most limited functionalities but are indeed an integral part of the system. Our store does not limit access for visitors to navigate our site. Visitors are able to add items to the cart but will be prompted to create an account if they actually decide

to make a purchase, which in itself is one of the features. And even though visitors are only potential customers, they still have the ability to comment on products and builds. In this case, such comments will be categorized as anonymous. Additionally, since a registration request can potentially be denied by the store owner, a visitor also has the ability to complain about the denial.

Customer

From our UML, you can see that there are 4 main use cases for the Customer: Deposit Funds, Make Purchases/Rate Purchase, Recommend a Build, and Leave Comment. These functions are the most important for our software as it allows them to conduct their business purchasing products and leaving reviews. Customers also have a warning/compliment tally that will track how many warnings/compliments they received. Another important feature is the Build's Rating System which will allow users to recommend/rate each other's computer build.

Starting with **Deposit Funds**, customers should be able to add money into their account. This would mean that there should be a way for customers to specify how to add money (whether via connecting to their banks or possible from a gift card), input the required information, and check how much is in their account. Refunds may be a feature we can add, but not as important as getting their money.

Another ability of the customers is to **Make Purchases** and **Rate Purchases**. Making purchases is the most important function of the customers we want to get right. They should be able to add items to a chart and check it out. However, we want it to operate like a store, so instead of letting the users know they don't have enough money in their accounts, we will give them a warning for "reckless behavior". This will encourage users to put more money into their accounts or else they may get another warning. The **Warning/Compliment System** will be discussed more below. Customers can also rate their purchase as well, but only after they purchase said item(s). Ratings systems may be based on the typically five-star rating or something similar. Ratings should be allowed to be edited in cases where customers change their mind. This rating should be optional, though we should suggest five-star ratings to get other customers to purchase said item(s).

Recommend a Build is a unique ability of our customers taken from other websites such as Build-A-PC and its like. Here, customers can build their own PC with computer parts we have. They may be taken to a page where we list different types of computer components. There should also be certain restrictions such as only being able to chose one GPU at a time and such. In the likely case that customers have no idea how to build a PC, we will have a system that checks their build and whether the parts they chose is even compatible with each other. If their PC is deemed not a fire hazard, we will give them the option to recommend their build so other customers can see it and rate them. However, we will not warn users that if their build is trash, other customers who purchase it may give it terrible rating and thus a warning will be issued on the original customer's build. We will talk about the **Build's Rating System** later. If customers have any concerns about certain products/build, they can talk to a store employee. Their communication will be leaving comments to each other. The customer can then

complain (or compliment) about the store employee so long as they have justifications for it. This may be similar to how ratings are given to item(s), but instead it is given to store employees. This may also be grounds of receiving a warning from the store owner should s/he not grace us with their mercy.

Leaving a Comment is a fundamental part of a store website that allows customers to complain (or compliment) purchases. Leaving comments may allow customers to reply to each other should they feel the need to complain (or compliment) another customer's comment. These replies should have some unique identification so searches for them can be easy from store owner/employee.

Build's Rating System is how we regulate customer's recommended builds. It is not a part of customers function, but rather something the customers take a part of. If any builds get at least three maximum ratings and no less, then the customer who recommended it will receive a compliment. However, if any builds get at least three minimum ratings and no better, the customer who recommended it will get a warning. After a certain time, any builds that are consistently poorly received will be removed and the customer who recommended it will be issued another warning. In cases where builds are consistently highly received, the customer who recommended it will be given another compliment.

Warning/Compliment System is a tally system that keeps track of how many warnings were issued to the customer. Warnings can come from trying to purchase something without sufficient funds, recommending a trash build, or if store employees don't like want you said about them. As soon as a customer gets three warnings, their account will be block and their money seized. If the ex-customer were to log into their account, they will see a screen telling them to talk to a store employee in person. There is no decision of whether it is possible for these warnings to be removed. Any customer that gets three compliments will receive a 10% discount on their next purchase. As soon as they make their purchase, we should remove their compliments so they have to work to get their discount again.

Employee

The employee is primarily responsible for interacting with visitors and customers in the computer store system. This communication should be in real time, either one-to-one, or one-to-many. In addition, there should be a corresponding communication function between the employee and the store owner.

The employee will respond to visitors' registration requests. The employee may accept or reject the visitor's request. In case of rejection, the employee should leave a memo to the store owner.

The employee should be able to set recommended configurations in the store, which will be displayed to visitors and customers. Depending on the type of computer required, the employee will need to set up a variety of different recommended configurations.

After a customer completes a purchase, the system should prompt the employee to rate the customer for this purchase. These ratings will involve rewards and penalties.

<u>**Owner**</u>

The owner, by definition, is an extension of the employee class. That is, the owner will have the basic functions of an employee. But he/she will also have various functionality that the employees do not. For example, the owner can view employee memos, receive complaints or compliments from the customers about the employees as well as those from employees to the customer. Of course, the owner will also be able to add and remove as well as promoting and demoting employees.

3.2. Supplementary Requirements

This Supplementary Specification lists the requirements that are not readily captured in the use cases of the use-case model. The Supplementary Specifications and the use-case model together capture a complete set of requirements on the system.

3.2.1 Functionality
This section lists functional requirements that are common to more than one use case.
 – All system errors should be prompted to the user. The system error messages shall include a text description of the error, the error code (if applicable)

3.2.2 Usability
This section lists all those requirements that relate to, or affect, the usability of the system.
 – The user interface of the Computer Store System shall be designed for ease-of-use and shall be appropriate for a computer-literate user community with no additional training on the System.
 – Each feature of the Computer Store System shall have built-in online help for the user. Online Help shall include step by step instructions on using the System.

3.2.3 Reliability
This section lists all reliability requirements.
 – The Computer Store System shall be available 24 hours a day, 7 days a week.

3.2.4 Performance
The performance characteristics of the system are outlined in this section.
 – The system must be able to complete 80% of all transactions within a short period of time.
 – The system shall provide access to the database with no more than a 10 second latency.

4. Supporting Information

This Software Requirements Specification includes:

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