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**Group O**

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**Computer Store**

**Software Requirements Specification**

**For <Subsystem or Feature>**

**Version 1.0**

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# Software Requirements Specification

## 1. Introduction

The Online Computer Store project aims to create an ecommerce platform for computer builds and parts that caters to different types of users. The system will provide personalized recommendations of computer builds for users based on their search history and viewing behavior. Additionally, preset builds for different use cases such as work, student, and gaming will be created for desktop, laptop, and Raspberry PI or Jetson. The system will also allow users to customize components of preset builds. Customers will be able to browse the site without logging in, but to make purchases, they will need to deposit money in their account. The system will prevent reckless behavior by denying purchases if the user's balance is less than item cost. Users will also be able to give a rating to products and employees. Top-rated products and employees will be displayed on the main page. Comments and communication from customers, employees, or visitors will be inspected for taboo words which will be replaced with asterisks. Finally, the creative feature is to include a browsing history for the registered user and a favorites page.

### [1.1] Purpose

The Online Computer Store is a dedicated e-commerce platform for personalized computer builds, and parts. The platform allows for users to create their desired machines conveniently and efficiently with the addition of personalized browsing that displays suggestions and recommendations.

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## [1.2] Scope

The scope of the Online Computer Store project is to create a personalized e-commerce platform for buying and customizing computer components and pre-built computers.

## [1.3] Definitions, Acronyms, and Abbreviations

**E-Commerce** - commercial transactions conducted electronically on the internet.

**Jetson** - Nvidia Jetson is a series of embedded computing boards from Nvidia.

**Use-Case Model** - A use case diagram is a graphical depiction of a user's possible interactions with a system.

## [1.4] References

[None]

## [1.5] Overview

The foregoing sections in the document will go into greater detail about how the website will function and the desired specifications that must be met. The foregoing sections utilize a use-case model to model the various customer, guest, and employee interactions with the system. The specific requirements section will go into depth about the different software we will use. Supporting information will be provided.

## 2. Overall Description

The E-commerce website's main service is allowing customers to buy computer components.

To improve user experience, the website will have features that allow employees and members to make custom builds which can be given a rating after it has been purchased.

Based on customer preferences and item ratings, members' pages will be personalized when they enter the site so as to showcase items similar to the ones they had been browsing that

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they are most likely to buy. To properly display system interactions subsection **[2.1]** contains a use-case model and the dependencies in a later section.

### **[2.1] Use-Case Model Survey**

The purpose of this use case model is to describe the interactions of visitors and members with the online computer store. The model outlines the requirements and specifications our system needs to adequately service interactions between customers, employees and the store owner. Based on the survey responses, the most common use cases for the online computer store are:

- Browse store catalog
- Sign up to be a member
- Deposit money/purchasing items
- Suggested item (computer) builds
- Communication system (commenting, complaints, compliments)
- Reward/Punishment system (warnings, demotions, promotions)

The highly detailed Use-Case model below characterizes the many different possible use cases.

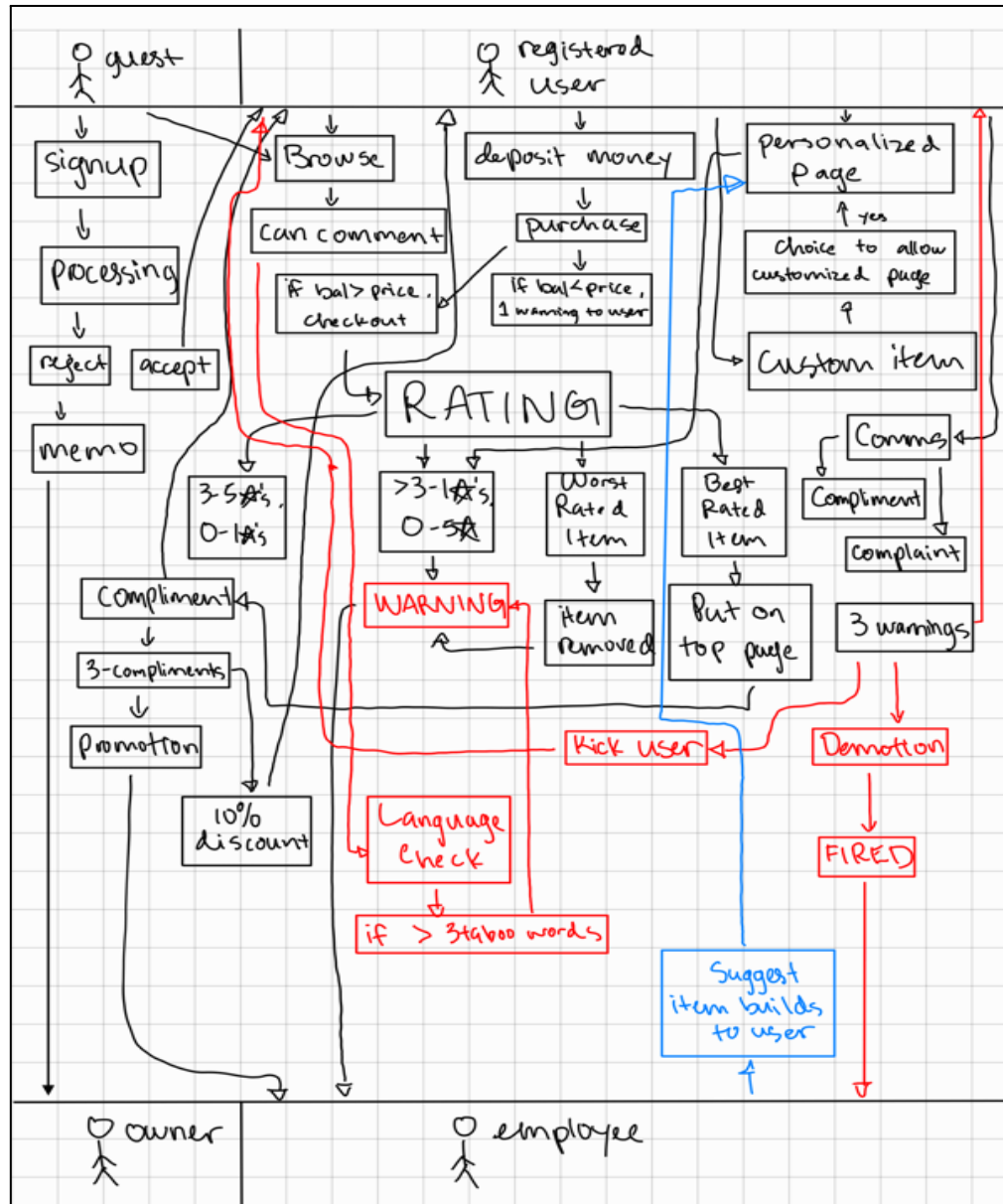


Figure 2.1: Use-case Model

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## **[2.2] Assumptions and Dependencies**

The primary dependencies for developing the software will be the framework ReactJS and Django. The software will be built using the ReactJS library. Any updates or changes to this library could impact the performance or compatibility of the software. ReactJS is very reliable, used by many developers, and has thorough documentation. The website will require access to a MySQL database. Any issues with the database server, including downtime or data corruption, could impact the functioning of the software. We have the option to use a computer component API to fill some of our inventory. If the API is used, the availability and reliability of this API will impact the functionality of the software.

## **3. Specific Requirements**

Since our computer store is going to be a website, our technologies are going to consist of a front-end and a back-end. For the front-end, we'll be using HTML for writing the contents of the page, CSS for styling the contents, and Javascript for handling interactivity and any dynamic behaviors in the page. For the back-end, we'll be using Python for handling user requests and alongside it is MySQL for database management. We'll also be using ReactJS for the front-end framework, and Django for the back-end framework.

### **[3.1] Use-Case Reports**

- The system will allow users to browse the site and make comments without logging in, but to make purchases the user must have an account in which they will need to deposit money.



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- Users can create and buy their own custom build or buy any of the many preset builds available. After any purchase, the user will have the choice to rate the items they bought.
- Guest users can choose to sign up, the information they provide will be reviewed by an employee. The employee can accept, or reject the sign up application. The employee will need to provide a memo for a rejection.
- Creator (employee/customer) of builds that have at least three high ratings (5-star ratings) and no low ratings (1-star ratings) will receive a compliment. Builds that have more than three low ratings and no high rating will result in the corresponding party to receive a warning.
- Lowest rated build (the build with the most number of 1-stars) will be removed from the store, and the related party (whoever set up the build) will receive a warning.
- Highest rated build (the build with the most number of 5-stars) will be placed on top of the page, and the related party (whoever who set up the build) receives a compliment.
- Customers and employees can take part in the compliment/complaint system, however, this will be reviewed by the owner for a final decision.. If justified the owner can give as much as three warnings or compliments to the said employee/customer.
- Comments/communication among guests, users or employees will go through language checking. Taboo words will be replaced by asterisks (\*). Comments made by guests (unregistered users) containing any taboo words will be deleted, whereas

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users and employees will receive a warning. If more than three taboo words are present in one message two warnings will be issued instead.

- Users with three compliments will receive a 10% discount on their next purchase. Users with 3 warnings will be kicked out of the system (unable to login). They will then need to be referred to an employee.
- Employees with three compliments will receive a promotion. Employees with three warnings will be demoted, and if demoted twice, the employee will be fired.

### **[3.2] Supplementary Requirements**

Personalized web features recommendations based on history searches and builds

## **4. Supporting Information**

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