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<Circuit City™>
Software Requirements Specification For An Online Computer Store

<Version 1.0>

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Revision History

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Software Requirements Specifications

1. Introduction

1.1. Purpose

- The purpose of Circuit City™ is to provide customers with a convenient and reliable online platform to purchase computer parts at competitive prices. This Software Requirements Specification will outline the external behavior of the application, nonfunctional requirements, design constraints, and other necessary factors to fully describe the requirements for this project.

1.2. Scope

- The scope of this project includes the development and implementation of the Circuit City online computer parts store, including necessary integrations with external systems. The Circuit City online computer parts store is a web-based application that allows customers to browse, search for, and purchase computer parts and accessories. This software is designed to provide a user-friendly interface, a comprehensive selection of products, and to ensure a seamless and enjoyable shopping experience for customers.The project will be divided into several system subgroups. These groupings will include product catalogs, shopping cart, checkout, payment processing, customer support, and product ratings.

1.3. Definitions, Acronyms, and Abbreviations

Definitions
- Product Catalog - A database that contains all commercial product information that product marketing managers can use to define and map new product offerings.

- Shopping Cart - A type of software that enables customers to make a list of the products they want to buy from a shop or store in the future.
- Checkout - The transactional procedure in which goods are paid for.
- Payment Processing - Payment processing is a system that enables financial transactions, typically used by a merchant, to handle transactions with customers from different channels such as credit cards, debit cards, or bank accounts.
- Customer Support - Customer Support is a range of services to assist customers in making cost effective and correct use of a product.

- GU (Guest User) - Any user that has no account on the website. GU's will be prompted to register for an account once they attempt checking out items.
- SU (Super User) - An Administrative user, capable of processing applications and products for users.
- OU (Ordinary User) - Any user with an account registered on the website. OU's are capable of viewing items, adding items to cart, and purchasing items through checkout.

<u>Abbreviations</u>
- API:
  Application Programming Interface
- HTTP:
  Hypertext Transfer Protocol
- UI:
  User Interface
- UX:
  User Experience
- HTML:
  Hypertext Markup Language
- CSS:
  Cascading Style Sheets
- JS:
  JavaScript

1.4. Reference

- spec_sample.pdf provided by Professor Jie Wei
- proj_requirements.docx provided by Professor Jie Wei

1.5. Overview

- Continuing on, the second section of the software requirements specifications, Overall Description, will describe the product and the factors that would affect the website when interacting with it. A Use - Case Model will be used to showcase the interactions between the system and users of the Circuit City website. The third section of the software requirements specifications, will provide supporting materials, use-case models and information that allow designers to design the website with the highest level of detail possible.

2. Overall Description

2.1. Use - Case Model Survey

2.1.1 GUI Functions of Each User Type

Store Owners
- Manages Users and Employees
- Manages User Application
- Processes Ratings
- Promote and Demote Employees

Store Employees
- Rates Customers
- Manages User Application
- Makes Comments
- Provide Suggested Computer Builds
- Log in to an Account

Customers
- Makes Comments
- Deposits Money and Makes Purchases
- Browses Through Catalog
- Rates Employees
- Rates Products
- Log in to an Account

Visitors
- Makes Comments
- Browses Through Catalog
- Registers for an Account
- Log in to an Account

2.1.2 GUI Functions Descriptions

Manages Users and Employees
- Allows administrators to manage users and employee accounts. This will provide admins to securely and efficiently manage accounts while ensuring security and privacy of customer and employee information.

Manages User Application
- Allows administrators to manage user applications for account creation and modification(i.e. Account name changes, contact info, etc). Administrators will have the ability to review and approve user applications.

Processes Ratings
- Allows administrators to view, process, and analyze customer ratings and feedback on products, services and employees. Administrators will be able to review and respond to customer feedback while ensuring the relevance, necessity, and accuracy of the data provided in feedback.

Promote and Demote Employees
- Administrators will be able to access employee data, and can demote or promote employees based on their performance, skills, and job responsibilities.

Rates Customers
- This function will give employees to rate and provide feedback on their experiences with specific customers they interacted with. This function should be designed to encourage employees to provide honest feedback, while also allowing the company to monitor and improve the quality of customer service provided.

Makes Comments
- Allows customers to provide feedback and comments on their experiences with products and services. Companies can monitor these comments and the design will make it so the customers are encouraged to leave comments on their experiences.

Provide Suggested Computer Builds
- Clients will be able to view pre-built computer systems that are recommended for their specific use cases or needs. This function will be designed in a way for customers to find the right system for their budget and needs in a simple and efficient manner.

Deposits Money and Makes Purchases
- Circuit City will require a secure checkout process for customers to make purchases. In addition, this function will allow users to add funds into their accounts for the purchase of products. Users will be able to manage their account balances and purchase products through the checkout process.

Browses Through Catalog
- These functions will aid in providing a clear and concise overview of available products, by allowing customers to search, sort, and filter products based on preferences.

Rates Employees
- Customers will be able to rate and provide feedback on their experiences with customer service representatives. This function will be designed to encourage customers to provide honest and constructive feedback, while allowing Circuit City to monitor and improve the performance of its employees.

Rates Products
- Customers will also be able to rate and provide feedback on their experiences with products they purchased. This function will be designed to encourage customers to provide honest and constructive feedback, while allowing Circuit City to monitor and improve the quality of products based on feedback of its clients.

Registers for an Account
- This GUI function will allow customers to create accounts with Circuit City. This will ensure customers can save information such as products, as well as keeping the privacy and security of their personal information(i.e. Addresses, billing info).

Log in to an Account
- Will allow customers to access their accounts and information associated with their accounts. In addition, there will need to be a 'password reset' and security features such as CAPTCHA or two-factor authentication to ensure a safe and secure login to each account.

2.2. Assumptions and Dependencies

- We are assuming that users are based in the United States of America or other English-speaking countries as most of our products will be based around these locations and our website will be offered mostly in English. We are also assuming that our users have access to some form of internet and have access to any computer in order to reach our website and browse through our catalogs.
- In order to run our website we will have to give great consideration to the hosting service, visually appealing front-end, and the functional back-end along with any database software that is implemented. Front-end will be done in HTML and CSS. Back-end will be done with JavaScript. These dependencies will allow for seemless website functionality and user experience. The website should also be able to work on most flagship phones supporting browsers such as Google Chrome, Safari or Bing.

3. Specific Description

3.1. Use - Case Reports

- The Use-Case Report of this project requires us to create a separate interface for four different types of users, those of which are store owners, store employees, customers, and visitors. For visitors we will create a UI
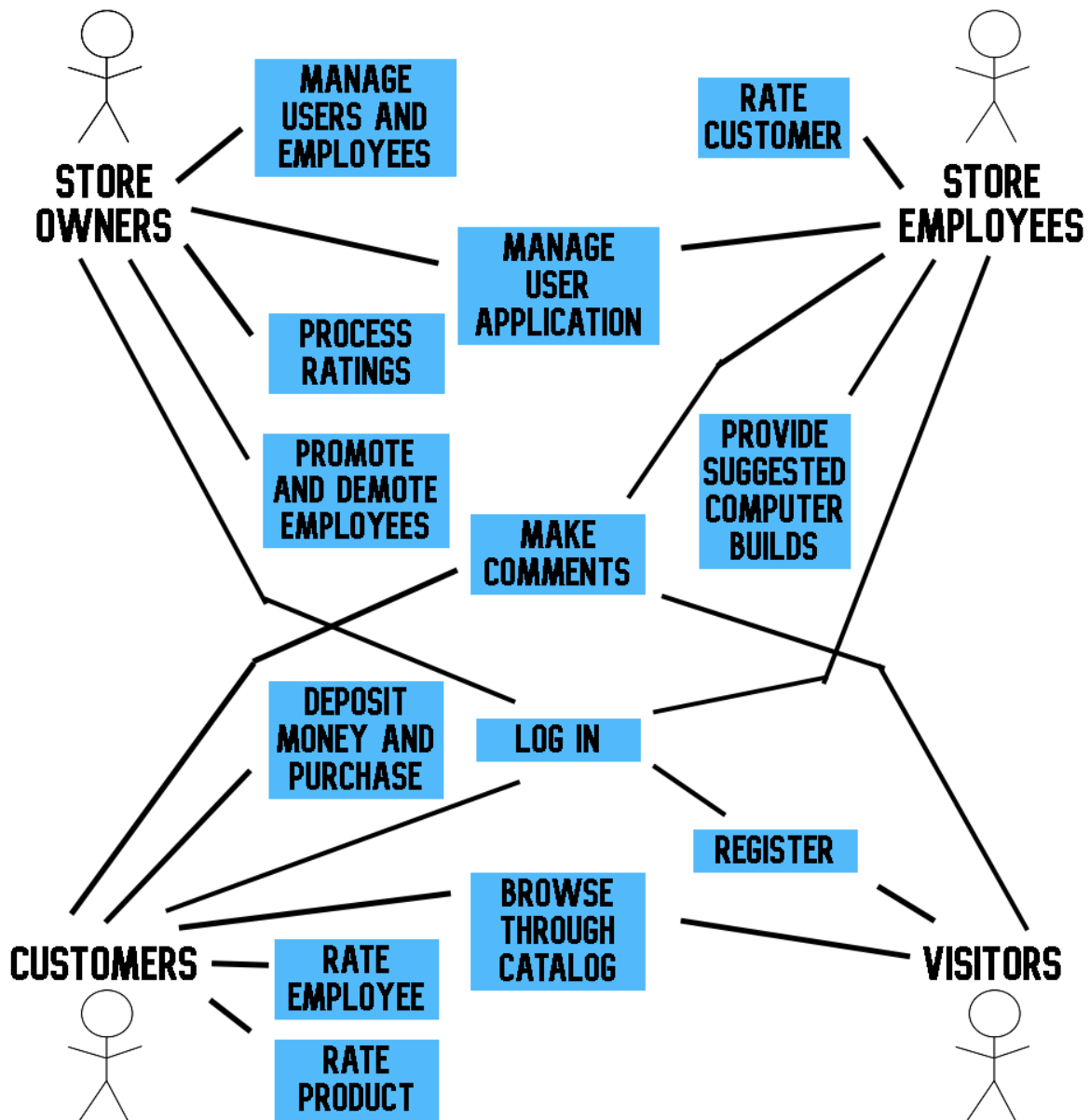
simple enough for our visitors to browse through our selections of computers and computer parts without needing to sign up or log in. The functionality for customers is a bit different as they are able to log in and make purchases as well as rate products and store employees. The UI for store employees will allow them to suggest computer builds tailored towards a user's needs and to rate customers. Store owners will have much more added to their UI so that they can manage their store. They will process complaints and if a store employee or customer is justifiably rated poorly then they will be demoted or kicked from the system respectively. If a store employee is rated positively they will then be promoted.

3.2. Supplementary Requirements

- There are some requirements needed in order to host and run the Circuit City website. Some of these requirements include: a 64-bit processor/CPU, operating systems such as Windows 10/11, MacOS Sierra or higher, or the latest Linux version. Programming languages that are updated to the latest versions such as HTML5, CSS3, and JavaScript version ES2022.

4. Supporting Information

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Software Requirements
- HTML5
- CSS3
- JavaScript

Software Requirement Descriptions
- HTML5 is a revision of the HTML4 standard. This improvement was great because it allowed web developers to add features to their sites that weren't supported by HTML. This update's main purpose was to remove the need to use extra plugins and still create offline applications and include animations, audio, videos into the website.

    - <STORAGE> Data can be stored on a user's computer or mobile device. So the apps work without an Internet connection

    - <TYPE> Web pages can have flashier type with more fonts, shadows, colors and other effects

    - <MOTION> Objects move on web pages and react to the movements of a cursor

- CSS3 is the updated version of CSS2. This change came with many improvements such as making it simpler to install graphics on a website page. Also to allow a precise positioning of all navigable elements in a web page and lets us adjust the white space of a document.

- JavaScript version ES2022 is the new standard when coding with JavaScript. The new features that are introduced with this update allows the program to run more smoothly and more efficiently. We now can declare the await operator even outside of the asynchronous function and classes which solves the issue of synchronization issues.