Software Requirements Specification

for

Pablo's Tech Company

Version 1.0 approved

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Pablo's Tech Company

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1. Introduction

1.1 Purpose

This document contains the specification requirements of Pablo's Tech Company Website, and will discuss its functions, planned requirements, and overall design of the product.

1.2 Document Conventions

The entirety of this document is typed in some variation of Arial font. Highlighted words or phrases indicate whether a term is in the glossary (yellow) or is important to the section in general (green).

1.3 Intended Audience and Reading

This document is only intended to be read by Group 10, the TA of this course, Tirian Judy, and the professor of the course, Dr. Nisha Pillai.

The rest of this document describes the basic outline and technical design behind the product. Section 2 will go further in depth onto the system and its mechanisms. Section 3 will describe the user interface, as well as the functions of the interface.

1.4 Product Scope

PTC is a web store designed to allow users to easily buy and sell aftermarket personal computers and computer components. PTC will allow users to search the webstore for certain categories of computers, specific components, and buy items from the store. PTC will also allow users to create listings to sell PCs or components and receive payment from other users. Admins will have direct control over the approval of listings and sales in order to ensure credibility and prevent fraud and false sales. The store will be available online and designed to be user-friendly.

1.5 References

- *TBD*

2. Overall Description

2.1 Product Perspective

This product began as a continuation of a service already being offered by Kenneth McGowan. In his spare time, Kenneth runs a business where he takes computer parts and assembles brand new computers using these parts and then sells them. For our project, we wanted to establish a platform to allow for easier access for users to buy and sell computers.

2.2 Product Functions

==Buyers== *can:*
- ➢ *Search for products*
- ➢ *Buy products*
- ➢ *Make accounts*
- ➢ *Delete accounts*

==Sellers== *can:*
- ➢ *Search for products*
- ➢ *Buy products*
- ➢ *Make accounts*
- ➢ *Delete accounts*

==Admin== *can:*
- ➢ *Remove users*
- ➢ *Approve new users*
- ➢ *Block new users*
- ➢ *Remove Listings*

2.3 User Classes and Characteristics

We plan to have 3 distinct classes: the ==Buyer-class==*,* ==Seller-class==*, and* ==Admin-class==*. The* ==Buyer-class== *will have the lowest privileges, and be the most widely used class, since it is how most people will interact with the website. The* ==Seller-class== *will have relatively higher privileges compared to the* ==Buyer-class==*. This class is reserved for companies or approved individuals to sell their products and receive payment for the purchases. Finally, the* ==Admin-class== *oversees and approves transactions and requests in the system. This class is the least frequent, but highest in terms of privilege, due to the need to manage approvals for new accounts and transactions between sellers and buyers.*

2.4 Operating Environment

Pablo's Tech Company (PTC) will be able to run on any electronic device with a viable search engine. The operating system will be either Windows, Macintosh, or Linux based.

2.5 Design and Implementation Constraints

Design:
- *Language: Python with Django*
- *Database: Python with Django*
- *Server: Local Machine via Django*

Constraints:
- *Must run on Google Chrome and Firefox*
- *User must be authenticated to access the site, unless viewing as a guest.*
- *Computer companies must grant access to their inventories to be ordered.*

3. System Features

3.1 Cart

3.1.1 Description and Priority

This is a system where Buyers *can add items to, in order to check out multiple items at once. This is easily one of the most critical systems to the site, as it allows customers to check out and pay for the purchased items. They can also remove items from the cart if they decide they don't need that item anymore.*

A bar at the top of the screen, where a user can type in keywords or a product name, and have the website filter and search for items matching the keyword/product name.

3.1.2 Stimulus/Response Sequences

Buyers *can, when looking at a listing, press the 'add item to cart' button on an item. This will store the item in the cart. Once a* Buyer *is done shopping, they can click on the cart to review the items in it before checking out. If a* Buyer *decides they no longer wish to purchase an item, they can click an x next to the item, removing it from the cart. Once they have confirmed the items in the cart, a* Buyer *will then click 'Check out' in order to proceed with payment processing.*

3.1.3 Functional Requirements

REQ-1: Must be able to add items to Cart
REQ-2: Must be able to view Cart
REQ-3: Must be able to remove items from Cart
REQ-4: Must be able to add multiple items to Cart
REQ-5: Must be able to display the individual cost of each item
REQ-6: Must be able to display the total cost of all items in Cart

3.2 Payment Processing

3.2.1 Description and Priority

This occurs after checkout, where money will move from the buyer *to the* seller*. In the intital stages, it will be of medium importance. However, once we get past the initial stages, it will switch to high priority.*

3.2.2 Stimulus/Response Sequences

Payment processing isn't seen by either the buyer or seller. The buyer, upon confirming their items in the Cart*, will press a 'checkout' button. This will show them a smaller list of their items, the total amount of their items combined, and a choice between a 'cancel' button and a 'pay now' button. Cancel will send them back to the cart, and pay now will proceed with payment. The funds will be withdrawn from the account, and then transferred to the sellers based on what items were sold.*

3.2.3 Functional Requirements

REQ-7: Must be able to take Buyer's 'money'
REQ-8: Must be approved or denied by Admin

REQ-9: Must be able to add the corresponding amount to <mark>seller's</mark> account.
REQ-10: must be able to pay out multiple <mark>sellers</mark> the correct amount
REQ-11: If an Admin denies, correct amount must be returned to the <mark>Buyer</mark>

3.3 Admin Page

3.3.1 Description and Priority

This is a page dedicated to Admin responsibilities, such as approving and denying new account creation and approving and denying listing requests. This is a high-priority goal, since it will serve as the basis and main page for almost all admin responsibilities and functions will be housed.

3.3.2 Stimulus/Response Sequences

There will be a number of tabs that an admin can filter between in order to access the separate responsibilities of an Admin. An example would be a tab for approving/denying new accounts, etc. With it, will come the ability to press the approve/deny button to do the corresponding action.

3.3.3 Functional Requirements

REQ-12: Must have multiple tabs, corresponding to <mark>Admin</mark> responsibilities
REQ-13: Capable of approving/denying actions as needed
REQ-14: Must be capable of switching between tabs with a mouse click.

3.4 Login Page

3.4.1 Description and Priority

This page is where most new users will start. They will be given an option to either Log in, sign up, or view as <mark>guest</mark>. This is a medium priority until the website has passed its early stages.

3.4.2 Stimulus/Response Sequences

There will be 3 buttons for someone viewing the page, Sign up, Log-in, and View as Guest. Sign-up will allow the user to input information that will allow them to create an account, this will include a username and password. Log-in will allow the user to enter information, which will be checked to see if it matches with an existing account. View As Guest will allow the user to freely browse the website without entering information, however they will be restricted from buying or adding to cart until an account has been created.

3.4.3 Functional Requirements

REQ-15: Must be able to take in user input
REQ-16: Must be able to check for an existing account with matching credentials when logging in
REQ-17: Page must be brought up when a <mark>Guest</mark> attempts to add an item to cart or attempt to add a listing for sale.

3.5 Listing Page

3.5.1   Description and Priority

This will be where the available items will be for display. It will showcase the various listings that are available for purchase. This will be of High Priority.

3.5.2   Stimulus/Response Sequences

The user will have to open the URL for the website to view this. They will be able to view the different listings and available items, but in order to add to cart/purchase, they will have to sign in/create an account.

3.5.3   Functional Requirements

REQ-18: Must be able to view all listings as a whole
REQ-19: Must be able to view individual listings
REQ-20: Must be able to take users to login page
REQ-21: Must be able to add items to cart

3.6 Inventory Management Page

3.6.1   Description and Priority

This will be where Admin can manage the available items that are to be displayed on the Listings Page. This will be of Medium Priority.

3.6.2   Stimulus/Response Sequences

The Admin will have to sign in as an Admin and click on a hyperlink that will direct them to the Inventory Page. There, they will be able to add and remove items, as well as view which items are in stock and the quantities of those items.

3.6.3   Functional Requirements

REQ-22: Must be able to log in as Admin
REQ-23: Must be able to view all listings
REQ-24: Must be able to view quantities of items
REQ-25: Must be able to add items to inventory
REQ-26: Must be able to remove items from inventory

3.7 Filter/Sorter

3.7.1   Description and Priority

This allow users to filter based on keywords and various descriptors to allow for a more personalized shopping experience. This system is a low priority, since it is not integral to the operation of the system.

3.7.2   Stimulus/Response Sequences

This will be next to/attached to the search bar. It will include a drop down with various categories that can be selected in order narrow down the listing page. Once all options have been selected. A confirm button can be pressed to apply the filter. A reset function will be included to clear the filter and return the listing page to normal.

3.7.3 Functional Requirements

REQ-27: Must only list items that have one or more tags that apply to the filter
REQ-28: Must have a working drop-down, with working buttons that indicate whether a filter has been selected or not
REQ-29: Reset button must clear the filter, and display a page without any filter applied.

3.8 Search Bar

3.8.1 Description and Priority

A bar at the top of the screen, where a user can type in keywords or a product name, and have the website filter and search for items matching the keyword/product name.

3.8.2 Stimulus/Response Sequences

The user will click on the search bar, enabling them to type out their keyword/product name. Once they have pressed enter, the website will display items that match the entered information.

4.8.3 Functional Requirements

<Each requirement should be uniquely identified with a sequence number or a meaningful tag of some kind.>

REQ-30: Must be able to take user input
REQ-31: Must be able to match the user input to items in database
REQ-32: Must display items of similar name
REQ-33: Must load search results after 6-7 seconds

4. Other Nonfunctional Requirements

4.1 Performance Requirements

- ➢ *Logging in should take less than 3 seconds*
- ➢ *Checkout should be complete in less than 4 seconds after the User confirms their order.*
- ➢ *Cart should retain items for a logged-in user, even after a page refresh.*
- ➢ *Admin approval decisions to take effect after 3-4 seconds. (Such as when approving or denying a listing for sale.)*
- ➢ *Item availability should be updated 3-4 seconds after change is made by admin.*

4.2 Safety Requirements

- *All sales must be confirmed by an admin account before the part begins 'shipping'*

-   *All listings must be approved by an admin*

4.3 Security Requirements

-   *Payment methods must remain secure*
-   *Only show the last 4 digits of a saved debit/credit card number*
-   *Password and username requirements for all accounts.*
-   *Double authentication (TBD)*

4.4 Software Quality Attributes

1.1 Reliability
-   *When a user commits an action, the system should produce the same result each time*
-   *The system should not fail when a user is using the site normally*

1.2 Usability
-   *System must be intuitive, and easy to learn so that users who visit the site for the first time know how to use it.*
-   *Must load fast enough that it doesn't harm the user experience.*

1.3 Maintainability
-   *System must be easy to maintain over the course of its use.*
-   *System must be capable of further expansion if PTC decides to broaden the requirements.*

5. Other Requirements

-   *If the company is overseas, make sure to apply proper shipping tax.*
-   *Must be able to comply with Copryight and Trademark laws, as well as any similar IP protection laws.*
-   *Must comply with freedom of speech laws*
-   *Must comply with FTC act and similar consumer protection laws*
-   *Must comply with General Data Protection Regulation (GDPR) and similar data privacy laws.*

Appendix A: Glossary

-   *TBD – To Be Decided.*
-   *PTC – Pablo's Tech Company*
-   *PCs – Personal Computers*
-   *Buyer – The role of the customer using the website.*
-   *Buyer-Class – the in code class containing the functions of the buyer*
-   *Seller – a distributor or other party using the website to offer a product*
-   *Seller-Class- the in-code class containing the functions of the seller*
-   *Admin – typically an employee or manager, capable of managerial tasks on the website*
-   *Admin-Class –*
-   *Cart – A system function, detailed in section 3.1, where customers can add/remove/purchase items.*

Appendix B: Analysis Models

TBD

Appendix C: To Be Determined List

TBD