

Software Requirements Specification

for

Product Price Comparison Software

Version 1.0

Prepared by

Group Name: Team 17

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Revisions

| Version | Primary Author(s) | Description of Version | Date Completed |
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# Introduction

*The Product Price Comparison Software is a web-based application that will compare the price of a product either through manual interaction from the client or through web scraping. In this section you will find a brief description of the project design along with information about the purpose of the product and who this product is intended for. One of the objectives for this Product Price Comparison Software is to avoid the need to use sensitive information from the client or user. The reason for this is to avoid any unnecessary complexities. At most the software may allow the user to input their email which will be used to create an account.*

## Document Purpose

The purpose of this document is to provide the client with a detailed guide of the Product Price Comparison Software. This software is in its planning stage with the project design still being planned out. This document will provide the reader with more detail about certain aspects and features about this software.

## Product Scope

The end goal is to give the user multiple methods for comparing the price of a product. One method is to have the user enter their product or service in the search bar and then the website searches for instances of the product through web scraping. The step by step details are provided in the Product Functionality Section of this document. Giving the user information about where the product comes from is a feature that may be implemented.

## Intended Audience and Document Overview

This document is intended for the client of this software. More specifically a client who may

seek more detailed information about the project such as the functionalities and development. The suggested order for reading this document is to start with the introduction then if the reader wants to know more about the functionality of the software, they should read section 2.2.

## Definitions, Acronyms and Abbreviations

Client – The user for whom this product is intended for

User Manual Input – Entering the name of the product into a search bar, this action is performed by the customer who is using the product

Web Scraping – Extracting data from a website into a database

## Document Conventions

To write this document the conventions for IEEE were followed.

## References and Acknowledgments

<List any other documents or Web addresses to which this SRS refers. These may include user interface style guides, contracts, standards, system requirements specifications, use case documents, or a vision and scope document.

TO DO: Use the standard IEEE citation guide (attached) for this section.>

https://dollarsprout.com/honey-review/

https://nevonprojects.com/product-review-analysis-for-genuine-rating/

https://nevonprojects.com/e-commerce-product-rating-based-on-customer-review-mining/

# Overall Description

## Product Perspective

This is a self-contained product unlike software such as Honey which is a browser extension. This software will have a website that will allow the user to manually enter the name of the product into the search bar. This gives the user the ability to save products, compare pictures of a product to verify the conditions of used products, compare the model numbers or versions of a product and the price of the products including shipping. A comparison of different brands of a similar product may also be implemented as well as allowing the user to compare the rating of the product and sellers.

## Product Functionality

TO DO:

1. Display the landing page with a search bar and at the bottom have information about how the website works. Before the user is allowed to interact they will prompt the user for creating an account or if they have already created and account then the user will not be prompted and instead will allow them to interact with the landing page.
2. When the user enters the name of a product, the website shall display the instances of the product along with the name of the website where it was found.
3. The user will have the option to filter for name of the online store, product rating and all relevant information about the product or service.
4. The user can also sort the products for the same information as the filter.
5. Each product will have a checkbox to allow the user to manually select which products they would like to compare.
6. A selection of at least two is required to make a comparison.
7. When the user has selected the products they would like to compare then they will be able to click on a compare button which will have a list of all the details of the product along with all of the relevant picture for that specified product.
8. The user can then choose to add that product to a “wish list” or directly go to the link to purchase the item.
9. That is when a new tab will open up to the website so that they can purchase the item.

## Users and Characteristics

TO DO:

1. The user which will most likely use this is item is a customer who is already familiar to online shopping even if they have not used any product price comparison software before.

## Operating Environment

## Design and Implementation Constraints

## User Documentation

In the website landing page, a link to how to use the website works will be provided. After clicking on the link, the user will be shown a step-by-step guide with some hints along the way. A guide showing how to compare each item, how to filter, how to sort and how to create an account.

## Assumptions and Dependencies

A component that we plan to use is Honey after the user has selected the product then Honey will offer them coupons for that specific product. This implies that a user may already have the Honey browser extension on their computer. If not, then a prompt should appear to let the user know that this comparison software works best with the Honey browser extension. The customer is also assumed to be familiar with at least the basics of using a website and that they have prior knowledge to online shopping.

# Specific Requirements

## External Interface Requirements

### User Interfaces

The first user interface is a landing page which shall have a search bar at the top of the webpage, saved products underneath the search bar, a link to the guide at the bottom (Help Button), a link to create an account. The account setup page will have a bar to allow the user to enter their email and it will have them create a password and a submit button. The guide UI will just have static images that contain examples about how to compare items. The main UI that the user will interact with appears after the user has entered the name of the product to be compared this will have the search bar at the top along with products listed below in squares that contain images of the product pulled from the website, and the price of the item underneath the picture.

### Hardware Interfaces

<Describe the logical and physical characteristics of each interface between the software product and the hardware components of the system. This may include the supported device types, the nature of the data and control interactions between the software and the hardware. You are not required to specify what protocols you will be using to communicate with the hardware, but it will be usually included in this part as well.

TO DO: Please provide a short description of the different hardware interfaces. If you will be using some special libraries to communicate with your software mention them here. In case you have more than one hardware interface divide this section into subsections.>

### Software Interfaces

The operating system will be using and be compatible with Windows 10 for now. And the current version of Honey will be used alongside the product comparison software.

### Communications Interfaces

<Describe the requirements associated with any communications functions required by this product, including e-mail, web browser, network server communications protocols, electronic forms, and so on. Define any pertinent message formatting. Identify any communication standards that will be used, such as FTP or HTTP. Specify any communication security or encryption issues, data transfer rates, and synchronization mechanisms.

TO DO: Do not go into too much detail, but provide 1-2 paragraphs were you will outline the major communication standards. For example, if you decide to use encryption there is no need to specify the exact encryption standards, but rather, specify the fact that the data will be encrypted and name what standards you consider using. >

## Functional Requirements

*< Functional requirements capture the intended behavior of the system. This behavior may be expressed as services, tasks or functions the system is required to perform. This section is the direct continuation of section 2.2 where you have specified the general functional requirements. Here, you should list in detail the different product functions with specific explanations regarding every function.*

*TO DO: Break the functional requirements to several functional areas and divide this section into subsections accordingly. Provide a detailed list of all product operations related to these functional areas.>*

## Behavior Requirements

### Use Case View

<A use case defines a goal-oriented set of interactions between external actors and the system under consideration.

TO DO: Provide a use case diagram which shows the entire system and all possible actors. Do not include detailed use case descriptions (these will be needed when you will be working on the Test Plan), but make sure to include a short description of what every use-case is, who are the actors in your diagram.>

# Other Non-functional Requirements

## Performance Requirements

<If there are performance requirements for the product under various circumstances, state them here and explain their rationale, to help the developers understand the intent and make suitable design choices. Specify the timing relationships for real time systems. Make such requirements as specific as possible. You may need to state performance requirements for individual functional requirements or features.

TODO: Provide relevant performance requirements based on the information you collected from the client. For example you can say “1. Any transaction will not take more than 10 seconds, etc…>

* Searches should take no more than 20 seconds to complete (it really shouldn’t take this long, but I don’t know how much the internet will slow things down)
* The system should react to user input in less than 100ms, not counting internet latency

## Safety and Security Requirements

TODO:

* The most delicate type of information that’s being used for this software is an email for the user to create an account with. Therefore, there is a chance the name of an email may be leaked.
* All email addresses and passwords shall be hashed (SHA512 maybe?)
* All communication between the user and the website shall be encrypted (if hosted on github or gitlab, they might already have it set up)

## Software Quality Attributes

<Specify any additional quality characteristics for the product that will be important to either the customers or the developers. Some to consider are: adaptability, availability, correctness, flexibility, interoperability, maintainability, portability, reliability, reusability, robustness, testability, and usability. Write these to be specific, quantitative, and verifiable when possible. At the least, clarify the relative preferences for various attributes, such as ease of use over ease of learning.

TODO: Use subsections (e.g., 4.3.1 Reliability, 4.3.2 Portability, etc…) provide requirements related to the different software quality attributes. Base the information you include in these subsections on the material you have learned in the class. Make sure, that you do not just write “This software shall be maintainable…” Indicate how you plan to achieve it, etc.>

# Other Requirements

Appendix A – Data Dictionary

*<Data dictionary is used to track all the different variables, states and functional requirements that you described in your document. Make sure to include the complete list of all constants, state variables (and their possible states), inputs and outputs in a table. In the table, include the description of these items as well as all related operations and requirements.>*

Appendix B - Group Log

<Please include here all the minutes from your group meetings, your group activities, and any other relevant information that will assist the Teaching Assistant to determine the effort put forth to produce this document>