uSearch

Software Requirement Specification

Course: 2XB3

Lab Section: L02

Members: Shesan, Bill, Nishanth, DJ

Last Revised: April 3, 2019

Contents

1 Domain

uSearch is a product searching application that is meant to allow customers to make better decisions when shopping and make the process fast and efficient. Often, we find ourselves shopping for things at a store and wonder if this is a quality product or if there is a similar but better alternative. This is what uSearch is looking to solve. The app will use the amazon product network dataset that includes all the core information this app will function from such as the products themselves, the ratings, the reviews and the relation between the products. The stakeholders/users of this product could be anyone that has access to a mobile device. Since there are no payment options or any mature content in this application, even children can use this app. The expected outcome of this product is efficient and satisfactory shopping as well as a clean selling process. Users will be quickly presented with critical information such as reviews, ratings, and similar better alternatives if available. They can expect to save a lot of time and most importantly save a lot of money.

2 Functional Requirements

The product/app gives the user the opportunity to search for products. Once searched, it will look for a match and if such product exists it will then extract information of the products such as it's reviews, ratings and also suggest similar better alternatives if applicable.

2.1 Main/External functions

- Allow user to search for product by their asin.
- Once searched, display information related to the searched product.
- Then, display a group of reviews of the searched product.
- Then, display a group of suggested products and their information.

2.2 Internal functions

- Searching functionality to search the products.
- Sorting functionality to sort the products.
- Graphing functionality to connect products.
- Reading functionality to extract useful information from the dataset.
- GUI functionality to display the the application.

3 Non-Functional Requirements

Features accounted for outside of the main program or functionality to enrich the quality and performance of the overall application.

3.1 Reliability and Accuracy of the Results

The reliability and accuracy of the product will primarily depend on the Amazon data set. The program applies its searching and sorting algorithms on the data set to find the

best products, and these algorithms will be thoroughly tested to ensure their accuracy. The program relies on the 'related items' data of each product listed, and the accuracy of the results depends on how closely related these items are relative to the product. Additionally, the product ratings play a big role in the accuracy as a product that is incorrectly rated will appear high/lower in the rankings.

3.2 Performance

To ensure peak performance, the program will be using optimized sorting, searching, and graphing algorithms. The best algorithms for this product will be decided on after thorough research and testing.

3.3 Portability and Accessibility

The application is designed primarily for mobile usage. This allows for easy and fast access to the application increasing it's accessibility. Because of the mobile focus design, it also increases the portability of the application.

3.4 Availability

Because the application uses local data, there is no need for internet access in order to use this app. This significantly increases the availability of the app as you can use it anywhere as long as you have a mobile device.

4 Requirements on the development & maintenance

The purpose of this software design exercise is to write a Python program that follows the given formal specification. The given specification covers a problem similar to A1 - the allocation of first year engineering students into their respective second year programs.

4.1 Quality control procedures

Unit testing will be used to specificly test individual functions and methods. Additional testing will be made to test the interaction between the files/modules.

4.2 Priorities

Priorities will be the searching and sorting. This will provide a solid foundation of the program. Similar suggestions are beneficial features that should be implemented afterwards.

4.3 Likely Changes to maintenance

New modules/files will be added and additional maintenance/testing will be required for the new files. New bugs will also have to tested and fixed, so more testing will be added or the previous ones will be modified.