SOFTWARE REQUIREMENTS SPECIFICATION

Capstone 4ZP6
Fashion Trends Analytics

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1 Customer's Needs

1.1 Customer and Stakeholders

It is not easy shopping for clothes nowadays, due to the sheer range of options available based on manufacturer, retailer, style, colour, etc. In addition to the ever-changing trends in fashion. For a fashionista, this is not a problem. But for a regular consumer, this can get very overwhelming. What would help these consumers is a tool that does the research, and present to the user a narrowed-down list of options that represent the most popular styles available. (Bonus) Further, a site which displays the trendy styles and takes the user to where they can be purchased would make the experience much more streamlined and convenient for the user who wants to stay trendy without doing all the work.

2 Resources

2.1 Tools Needed

This project does not require a lot of different resources to complete. There are not a lot of hardware tools that we would need in order to make this work. The main resources required for this project include laptops with the software required and labour hours to see this project through. For software, the project will need a web server, namely the Amazon free tier that is available to us as university students. The project needs a workspace for our group members to work at in order to communicate efficiently. Another big resource that is needed for the succession of this project would be a list of websites that we will be crawling through. This would help narrow down where we will be searching instead of the general vast web.

3 Functional Requirements

3.1 System Features

One of the key feature of the system will be web crawling. It is the method used to crawl any data from websites. For this particular the data crawled is images of clothing wear. Another important feature is to have a very simple and interactive user interface. A good interface is designed by using some of the principles described by Don Norman in his famous book The Design of Everyday Things. Some of the principles applied will be visibility and consistency etc.

Visibility principle helps visualize different items to the users. How visible different options are available, is it too hard to read due to poor contrast. Consistency is another feature required which will help set the tone of the system. It creates a central theme to the website by having similar type of heading on each page, similar use of font, similar color tone etc.

Some other feature needed to fulfill the needs are organizing, analyzing and reporting the data found through crawling different websites. This feature is at the core of the system as this is the end result which the user will be seeing. The data found must be organized, analyzed and displayed in a way that user finds it useful but easy to understand. It should be simple and seamless.

INPUT: input to the system would be fashion websites of big companies in the industry.
OUTPUT: output of the system is some sort of organized report of the current clothing trend found by analyzing the report. Report must be presented in a way that the user finds it comprehensible.
INTERFACE: interface of the system is the website itself

4 Non-Functional Requirements

4.1 Performance Requirements

4.1.1 Fault Tolerance Requirements

Fault tolerance is the feature of a system where in the time of a failure, the system still operate normally. Fault tolerance is required for situations when the system is unable to find or access the fashion website that it is looking for. During these situations the system will not crash but rather use the data found from other fashion website since web crawling is not relying on 1 website but rather multiple websites. Now, only in the most extreme case where all the websites being accessed are not available or not able to connect to them, then the system will give an error message to the user of some sort. This particular case is the most extreme as it is highly unlikely to have some of the major fashion websites all to be not responding. Another fault tolerance required is for the database. In the case that the database crashes or is down, the data cannot be accessed that has been stored in it. There is no way to retrieve the data that is on the database at the moment. The system has to do the web crawling again in order to get back the data again. We believe the chances of database crashing is very low and we have taken that into consideration when deciding to not need to add more things. Its a risk we are willing to take due to the low probability of occurring and constraints in time/resources

4.2 Algorithm Complexity

The algorithms to be used and implemented would be to utilize any existing algorithm and modify to our need for this particular project. We might modify it so the complexity of the algorithm is better than the existing one.

5 System Feasibility

5.1 Economic

This project's feasibility is separated into three sections, namely economic, technical, and legal feasibility. To determine the economic feasibility of this project, usually a cost-benefit analysis of each asset is used to outline the most economically viable route. In this case, the only hardware needed are the laptops that the members of the group already have. In terms of software, the group plans on utilizing software that is publicly available and free. In case the project requires the purchase of any assets, a cost-benefit analysis will be conducted to accommodate for it. Thus, this project is economically feasible.

5.2 Technical

For technical feasibility, the tools mentioned above are currently the only resources needed. The project might also utilize some of the UNIX machines from McMaster University (moore, mills, euler, etc.) which would require the group to learn the technical aspects to use the software effectively. The members of the project group will learn all aspects of the hardware and software used to bring the project to fruition. Alternative tools might exist, however the project is currently using only free tools available to McMaster students. If more tools are required, the group will be prepared to accommodate for it.

5.3 Legal

In terms of legal feasibility, the project should not run into any problems since all data accessed and collected will be publicly available, using methods widely accepted in the industry.

6 References

[1] Don Norman. 2013. *The Design of Everyday Things.* Basic books, New York.