

Customer Review Analysis of Products

CA3 Report

by

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Student Declaration

This is to declare that this report has been written by us. No part of the report is copied from other sources. All information included from other sources have been duly acknowledged. I/We aver that if any part of the report is found copied. We are shall take full responsibility for it.

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BONAFIDE CERTIFICATE

Certified that this project report Customer Review Analysis of Products is bonafide work of “Arbind Kumar Prasad, Shivam Tiwari, Suprabhat Kumar Ravi and Md A S Tariquz Zaman Laskar” who carried out the project under my supervision.

Signature of the Supervisor

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Academic Designation

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1. **Background and objectives of the project assigned**

- I. **Background:** As the Internet is blooming day by day and the trend of online shopping is increasing tremendously and giving their reviews on certain products. The feature to give a review was first started by Amazon in late 1990s to analyse the response of the user. Today in 2020s all the major brands are expanding their business towards online.

- II. **Motivation:** All products now-a-days is sold online from a biscuit to expensive golds. It gives comfort for the user to shop from without the hesitation of travelling and explore many products which may not be possible in physical stores.

- III. **Concrete goals and objectives:** But as we know that with every new thing a new challenge comes so now a vast amount of duplicate and fake products is revolving around the internet and sometimes the user lose their money buying these fake products. So, it becomes important to refer to the reviews, but an average user don't have enough time to read reviews. So, we are developing a **Review Analysis System based on the Customer Reviews** so that the user can get overall idea of the product before buying it and make the correct decision.

2. Description of Project:

The program is based on 5 modules: -

Module-1. Searching the available products in the database:

This module searches all the available product which are present in the database so that the user can select one of them for the review analysis.

Module-2. Calculating the Sentiment:

Calculating the sentiment of each review of the product which is select in the first module. Here each review is analysed based on the words present in it and a number is given to them between -1 to 1 where -1 means worst and 1 means best.

Module-3. Finding the top negative and positive reviews:

This module finds the top positive and the top negative review by analysing the sentiment of each review i.e. the review having the greatest number is top positive review and the review having lowest number is top negative review.

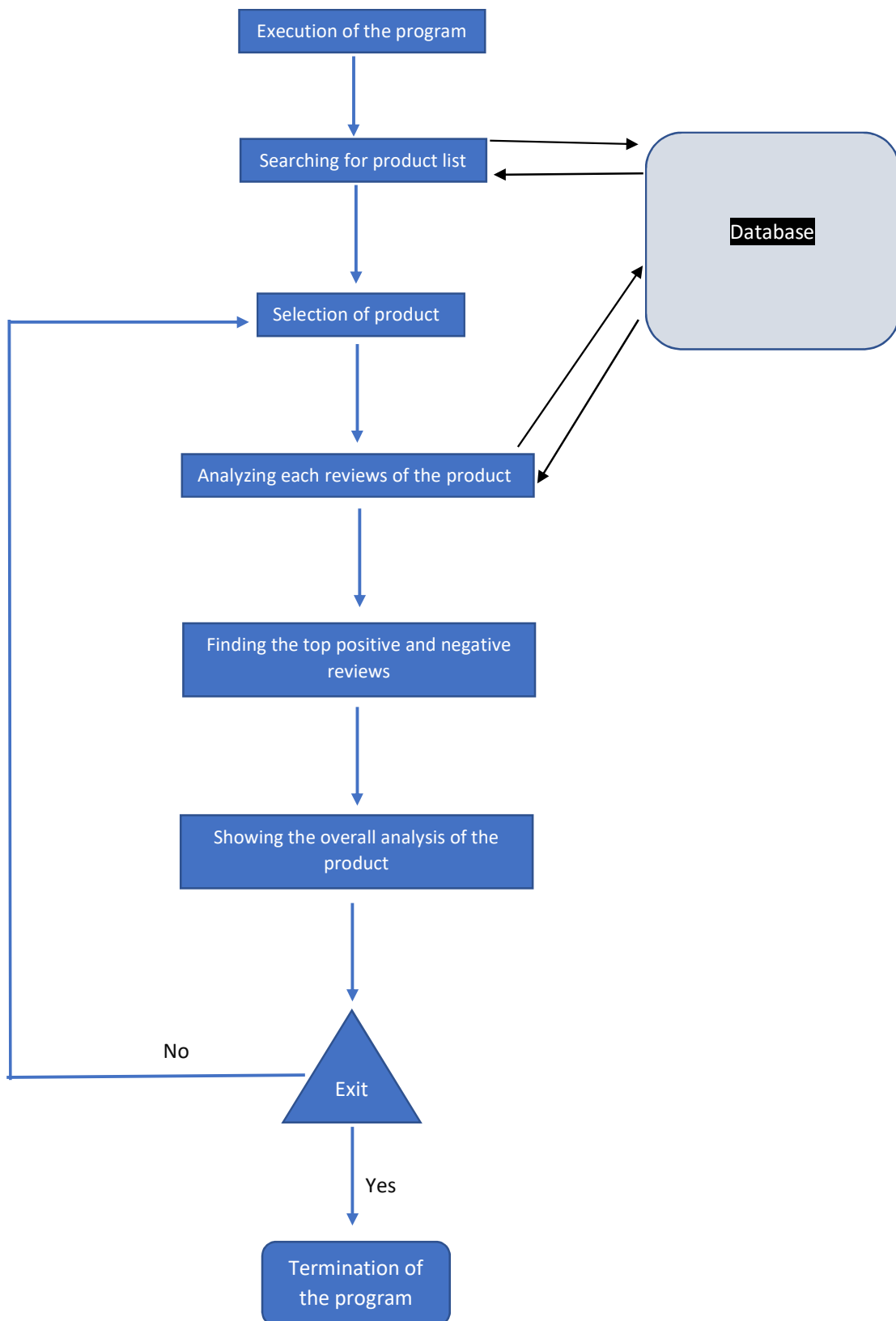
Module-4. Overall sentiment:

This module finds the average sentiment of all the reviews and the overall rating of the product based on the ratings given to the product while reviewing it.

Module-5. Final Analysis of the product:

This module shows the top positive and negative review and the overall verdict of the system on the product So that the customer will be able to make any decision based on analysis.

Pictorial Representation



3. Work Division:

1. Arbind Kumar Prasad:

- The Graphical User Interface Part of the project
- Management of the database
- Creation of the module 2, 3 and 4
- The pictorial representation of the program

2. Shivam Tiwari:

- Creation of the output on the shell
- Making of project Report
- Creation of module 4 and 5
- Managing the database

3. Suprabhat Kumar Ravi:

- Creation of the module 1 and 2
- Making of the project report
- Creation of the database
- Managing the overall appearance of the program

4. AS Tarik Z Laskar:

- Creation of the database
- Managing the overall appearance of the program
- Creation of the database
- Creation of the module 4 and 5

4. Working of the Project:

On launching the application, the Interface of the program is shown below

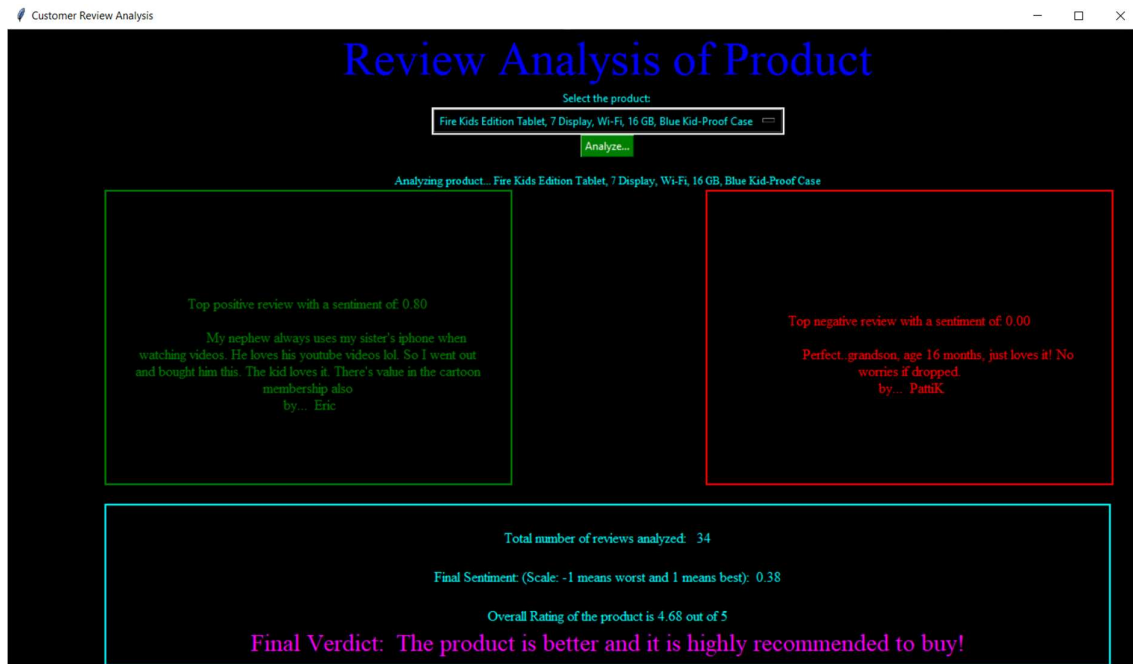


This is the homepage of the GUI and in the dropdown menu the selection of the product is done as shown below



From the dropdown menu the user must select one of the available products from the menu

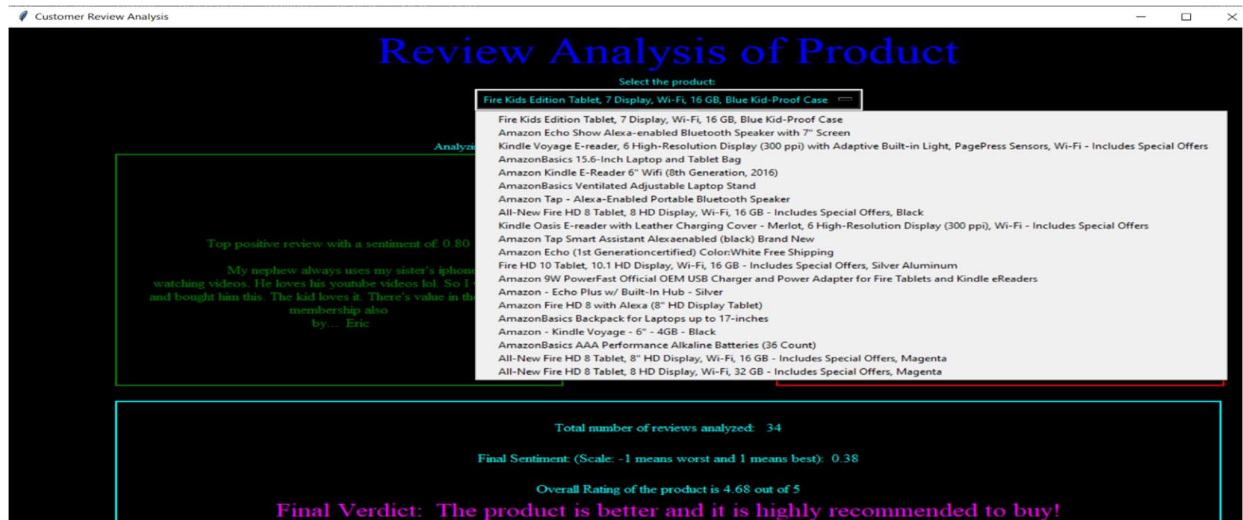
After selecting clicking on the analyse button brings up the following screen



Here we can see the output of the analysis done via the program.

- 1) The Green Box: It show up the top positive review of all the reviews given to the product with its sentiment number.
- 2) The Red Box: It shows the top negative review given to the products of all the reviews with its sentiment number.
- 3) The Cyan Box: It show up the total number of the reviews analysed, the final sentiment, overall rating and the final verdict of the product.

The user can again select a product and analyse without reopening the program



5. Technologies and Frameworks Used:

- 1) **Python Programming Language:** In this program python is used as a base language for all the functions with some additional libraries and frameworks.
- 2) **CSV library:** Here CSV library is used to read the data stored in the CSV (Comma Separated Values) Files which is here acting as the database for the program.
- 3) **Tkinter Library:** It is a Python library which is used to design a Graphical User Interface for an Application. We are using it to design our program. It comes bundled with the python installation file, so the user doesn't have to explicitly download the library.
- 4) **TextBlob Library:** It is a python Library which is used to analyse the sentiment of a statement using the Natural Language Processing Algorithm. It is not an inbuilt python library, so the user must install this library by typing the command in the command prompt as:

`#pip install textblob`

6. SWOT Analysis:

1. **Strength:** The strength of the product is that is helpful for the buyer in many ways from viewing the products to making the decision of the product because he can analyse the product with the help of just some clicks and without going through a whole lot of reviews on various sites and reading each of them is a lot of burden and it is next to impossible to make a decision as we get confused as we read more reviews. So, this product can help the user.

2. **Weakness:** The weakness of this product is that it considers the overall response as it doesn't analyse the review feature by feature.

For example: For a person wanted to buy a phone with good battery life and he searched for the product analysis and made the decision to buy it because of the good reviews. But it maybe possible that the person reviewed the product doesn't care about the battery life and given the review based on the other features like camera and screen quality. So, in this condition the product is not usable.

3. **Opportunity:** It is a great opportunity for the product as the share of online market place is increasing day by day and big players are competing to provide cheaper product so it is possible that they may compromise with the quality so it is important to take a look on the quality by analysing and it is the best way to analyse a product.

4. **Threats:** As the reviews are so important for decision making so it is possible that the manufacturing brands may be giving fake reviews for the product so that the product will seem good but isn't.

As we know that brands are sensitive about their products so they may put pressure on the developers to rate the product nicely which will result in false reviews.

It is also possible that if the data breach happens then it will compromise the user security and result in thread to the users physically or virtually.