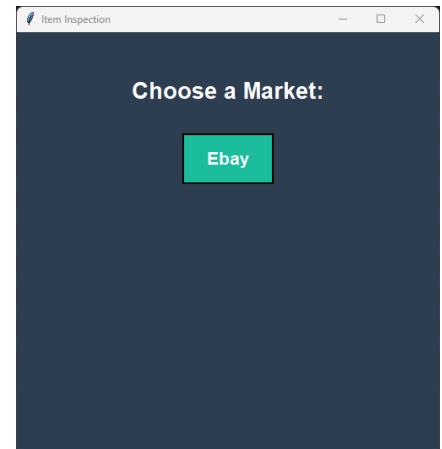


eBay System Application Report

Overview on what the application offers:

First Window:

When you first open the App, you will be greeted with this window. The purpose of this small window is as for a start-up and for other websites that were going to be added, since eBay is only there so you can click on it.



eBay Window:

Heads-up: Use 'glasses' in search for accurate search (reason in **Code Instructions**)

After clicking it you will be greeted with this huge window with multiple options which consist of the following:

- 1- **Search window:** where you can search for any item that can be available on eBay search it and click search, notice that the application stops working, well no it didn't due to loading the code in the background it takes a while to set up the new data in.
- 2- **The right (>) and left (<) arrows:** Clearly, they are used to be able to navigate between items right and left and will cycle through all the stuff that have been ejected
- 3- **The link button:** Where you click it and it redirects you to the item on eBay.
- 4- **The inspect button:** It opens a new window where you will inspect the selected items stuff clearly.
- 5- **Graph buttons:** Which opens a new window for each type of graph.

All the items will be mentioned with details.



Inspection Window:

When opening it, it will take a while to load which is normal since it loads extra data to gather, follow **code instructions** below for details on how to make it faster. In the inspection window you will be greeted with multiple stuff:

- Item name
- Price
- The item's rating
- The seller's rating
- A photo of the item

For the buttons you will have the following:



- **Show Item graph:** Which will be disabled if no item rating is found and it will show you a pie graph for the item's rating
- **Show seller graph:** Which will be disabled if no seller rating is found and it will show you a pie graph for the seller's rating
- **Edit Photo:** which is a button that will open a window for editing the photo.

The screenshot shows the "Ebay Inspection" window with the title "Item Inspection".

Item Details:

- Image: A pair of Cartier Signature eyeglasses in a red leather case.
- Name: CARTIER SIGNATURE -C-DECOR LUNETTES EYEGLASSES FRAMES GOLD FINISH EYEGLASSES
- Price: \$556.88

Ratings:

- Five star rating: not available
- Four star rating: not available
- Three star rating: not available
- Two star rating: not available
- One star rating: not available

Seller Ratings:

- Accurate description: 4.9
- Shipping cost: 4.8
- Shipping speed: 5.0
- Customer service: 5.0

Buttons:

- Show Item Graph
- Show Seller Graph
- Edit Photo

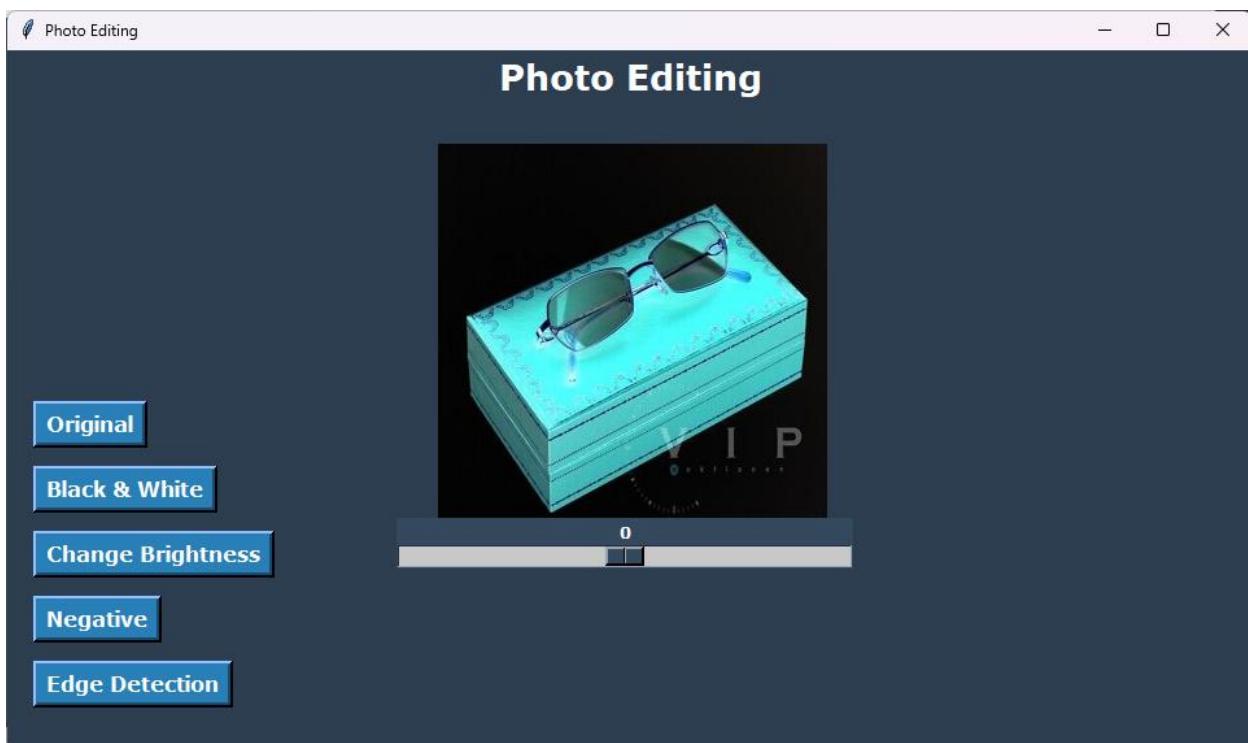
Photo Edit Window:

In the **photo edit window**, you will be greeted with a picture in the middle and some methods where you can edit it:

- **Original:** Reverts to the original Photo
- **Black & White:** Turns the photo black & white more specifically a grey image.
- **Change Brightness:** You can use the scroll beside it to choose the number of the photo's brightness and click on the **Change Brightness** button to change it whether to lighter or darker.
- **Negative:** Which turns the Photo Negative.
- **Edge Detection:** Which turns the photo Edge Detection style.

Note: If you noticed when changing the Photo's style that it will start to look weird that's because you are clicking on multiple styles without reverting to the original photo, so when it edits the photo, it edits on the one you see in front of you, which can be fun when mixing filters.

Solution: Change the photo to the original before trying to apply a new filter.



Graphs Windows (in the eBay Window):

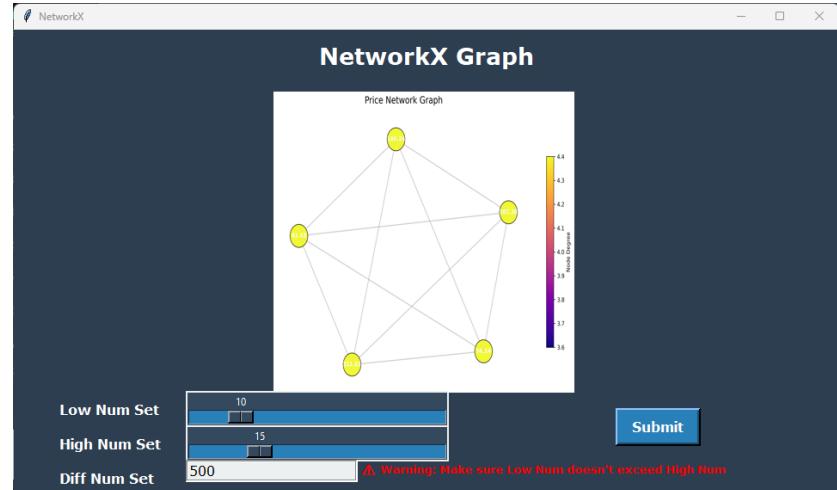
Note: When loading some of the following windows it will take a while to open due to loading data follow **Code Instructions** to fasten the process.

NetworkX:

When opening networkX you will be able to select the **Low number of items** and the **High number of items** because if you run the items with the graph showing all of them it will be messy and hard to analyze.

Choose the **Diff Num Set** and the graph will connect the items chosen if the difference between their values doesn't exceed the selected value.

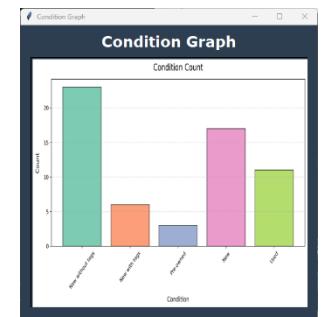
When done with your choosing Press **submit** and make sure you apply all the selections, not few of them.



On the Right will appear the degree where the items will be colored with their degree value.

Condition Graph:

This graph doesn't have any instructions it will show you the Condition of the items and their count.



Amount of sellers graph:

This will show a Graph of the Sellers available and how many of that item did they sell.

For sellers that only sold one item will be placed in the **Others**.



Price Compare Graph:

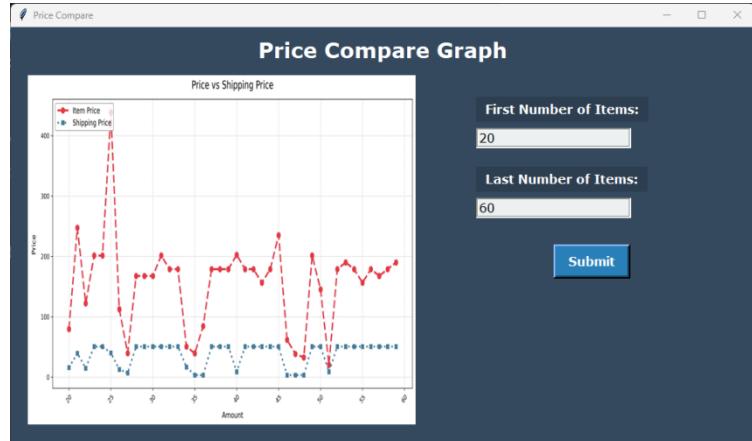
Which it compares between the item's price and the Shipping Price.

But due to the large amount of items it can get messy, so I added the option to limit the items

Simply in the **First Number of Items** write the starting number of the item you want same goes with the **Last Number of Items**.

After setting your numbers press **Submit** and it will edit the graph like you want.

Warning: Don't enter a number with the **negative** or things will break, but you can **exceed** the number of available items even by placing a thousand it won't break, and make sure that the **First Number** doesn't exceed the **Last Number** as well.



Price/Average Compare Graph:

Same instructions as the previous window and same warnings.

This graph compares between the item's price and the average value of all the extracted items to know if the item exceeded the average or no.

HeatMap Graph:

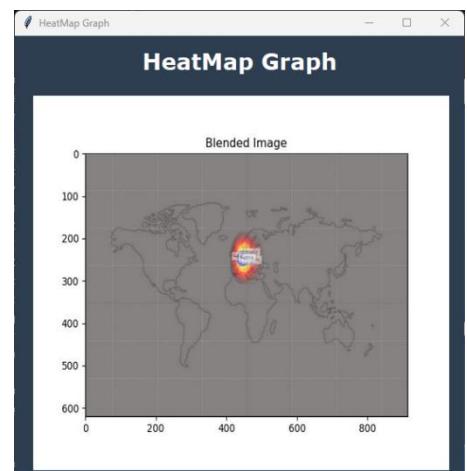
This Graph shows where each item is being delivered from, where it will show a picture of the world and placed on it the picture of a heatmap of where the items are done.

Upon opening this window things will take a long time about **2 minutes** For the code to load, you can speed up the loading process as mentioned in the **Code Instructions**.

Yes, it works for any item you search for.

⚠ Note Make Sure you download this image and place it in your folder for it to work properly and name it "world.jpg" :

<https://media.istockphoto.com/id/936410448/vector/black-outlined-world-map.jpg?s=612x612&w=0&k=20&c=4NC6zyuo9Bcz6W9MBsUHbTTj5f4vP1JRpyKJL7mdEvY=>



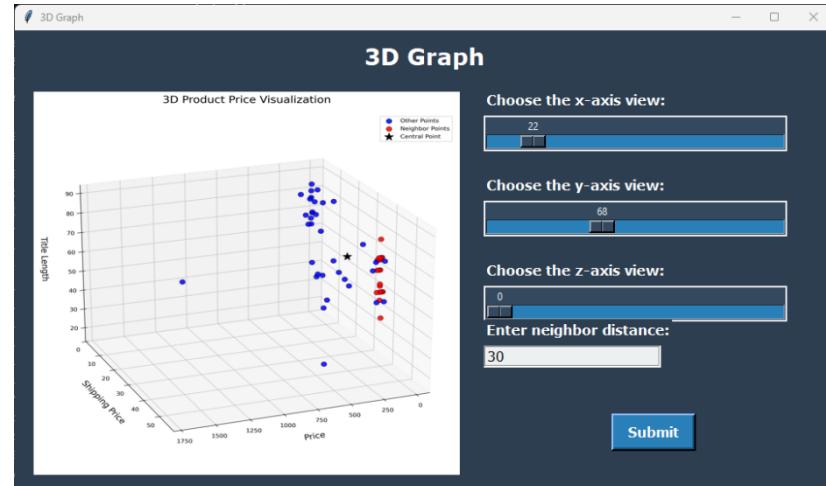
3D Graph:

In this graph you will be able to compare between 3 items: **Price, Shipping Price, Title Length.**

This is important to see if the longer title length leads to more expensive items or no.

The Graph also measures the centroid and based on the distance that the user chooses it marks the neighbor points.

As can be seen, You can adjust your **view angle** to be able to see from any prestrictive of the Graph, adjust the **axis** and type down the prefered **distance** and click **Submit** and the graph will be edited.



This is the end of the project and the items included, thanks for reviewing the application.

Please follow up on the **Code Instructions** to know how to open the application for usage and for any important notes to follow up.

Code Instructions:

Heads-UP: The Following project is all made by me in every line, along side the GUI and Graphs as well, but if AI work can be detected in the GUI and Graphs if noticed, that's because I requested from the AI Upon finishing the project to edit the design of the windows since I am not a good designer, but for the core code itself, it was made completely by me and I am aware of every line placed and why it was placed, so AI didn't change any core code, just the design core that have been changed. If requested I can upload the unedited version of the GUI project as well. (here are 2 photos to demonstrate how the AI changed the desgin only)



Now for the coding instructions,

Launching the Application:

In Order to get the app to work you will have to run every cell to get the Functions available since the project was made in a ipynb file. Here Some demo stuff to start with before running the main cell (GUI cell).

If you want to, you can follow up on what every cell returns which is fine it will return the same stuff that the GUI will return.

Demo Cell Run:

[Cell 1] Type the Item you want to search for.

[Cell 6] (selenium) Type '0' -> 'enter' -> 2 -> 'enter'

This is responsible for the search and depending on what you choose first will be the number of the item you want to scrap, the second number choose 1 to search for the item's rating and choose 2 for the seller's rating

[Cell 8] (networkX) Type '10' -> 'enter' -> '15' -> 'enter' -> '500' -> 'enter'

Typing the first number which sets the starting index, the second number for the ending index, the third number for the Value difference between the items.

[Cell 13] (3D Graph) Type '30' -> 'enter' -> '30' -> 'enter' -> '0' -> 'enter' -> ' enter -> '30' -> 'enter'

The first number is for the x-axis view, second for the y-axis view, third for the z-axis view, the fourth number is for the distanceof the neighbor.

[Cell 14] (Photo edit) Type any number between (1-6) anything is fine

[Cell 16] (First compare Graph) Type '0' -> 'enter' -> '60' -> 'enter'

The first number is for the starting index, the second index for the last index.

[Cell 17] (Second compare Graph) Type '0' -> 'enter' -> '60' -> 'enter'

The first number is for the starting index, the second index for the last index.

Any cells that weren't mentioned doesn't need an input from the user so just run it and wait for it to show the output.

Lastly run the GUI cell and you are good to go.

Notes:

- Make Sure that the wifi is connected and stable for the code to run well
- **Please** Work with ‘glasses’ when searching for the items, some items out there won’t be accurate when fetching it’s data (for some reason) EX: searching for ‘toys’ will bring up a correct title for the link, but wrong price or wrong photo.
- Throughtout the code you will find **Comments** for possible errors or notes.
- Make sure to have selenium set up correctly with the correct chromedriver
- In the GUI if any error goes for a function not defined return to it in the cells and make sure to run the cell
- Cells 2,3,4 will take a long time to load around 1:30 minutes each, so leave them load normally
- If heatmap doesn’t work make sure that the image from the link above is download in the folder and called ‘world.jpg’ **all letters small**
- If you don’t see the **z-axis title** in the **3D Graph**, just rotate the graph and it will come to view
- If an error occurs in [Cell 14] then go to the GUI code and the function should work normally
- **MOST IMPORTANT:** By default the GUI is depending in it’s graphs on the Data that was just loaded from Cells 2,3,4 so by default it’s function calling is disabled to prevent long loading times, enable them to be able to fetch accurate data about what you search, but be aware that it will take a very long time to load those datas.

Activate those functions by Uncommenting them in the GUI cell (last cell), you will find them marked by a long arrow

That's the end of the report, Thanks for reviewing the application, have a nice day

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