CIS129
Final Project

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Problem

When listing items for sale on online, second-hand sales platforms eg. (Depop, eBay, Mercari, and Poshmark), pricing items, and doing quick research on an item can be time-consuming and tedious.
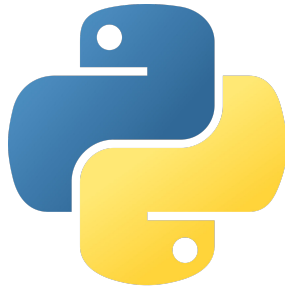
Solution & Design Approach

A Python script could make API calls to each of the selling services, and return back pricing information about an inputted item. The script would return the average sale price, range of prices currently listen, number of listed items, and quantity sold in the last month for each site and all sites combined.

Relevance & Applicability

This simple item searching tool would make real sellers more efficient and accurate at pricing items, increasing revenue and profits. As someone who lists dozens of items a week, particularly second-hand clothing and shoes, finding the right price for an item quicker would help me improve my sales and business.

Existing Solutions

SellRaze - SellRaze is an IOS/Google Play app that uses AI to identify items from pictures. It gives a price estimate on it's worth as well as other listings for sale.

eBay Analytics - eBay has an inbuilt research tool that provides average price, number of sellers, sold price range, and more for a searched item.

Existing Solutions Cont.

Pros:
- **Quick/Easy**
- **Picture Searching**
- **AI Integration**

- **Quick/Easy**
- **Accurate Pricing**
- **Sorting/Filtering**

Cons:
- **Inaccurate Pricing**
- **Identification Errors**
- **Not Free**

- **No Identification**
- **Only for eBay**
- **Not well Known**

Future of This Problem

This idea could be greatly influenced by the advent of AI. In the future when LLM models are more accurate at sourcing accurate information, it may be beneficial to feed user input into a model instead of scraping various sites manually with API calls.

Sample Input/Output (UI)

Please input the name of the item:
Nike Airforce 1

Average Sale Price on eBay: $65.37
Average Sale Price on Depop: $43.22
Average Sale Price on Mercari: $75.64
Average Sale Price on Poshmark: $58.93
Average Sale Price Overall: $60.79

Price Range on eBay: ($12 - 355)
Price Range on Depop: ($8 - 220)
Price Range on Mercari: ($7 - 85)
Price Range on Poshmark: ($9 - 185)
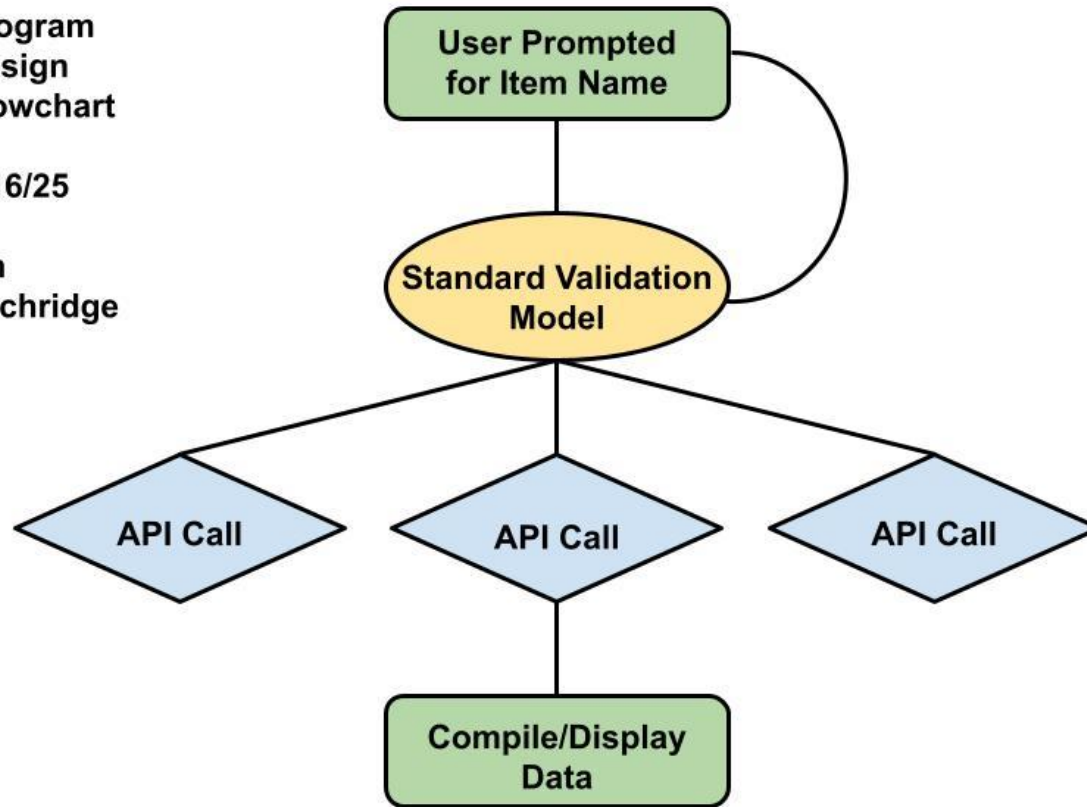Price Range Overall: ($9 - 211.25)

Sample Input/Output (UI) Cont.

```
----------------------------------------------------------
# Sold on eBay (Past Month): 3,908
# Sold on Depop (Past Month): 875
# Sold on Mercari (Past Month): 657
# Sold on Poshmark (Past Month): 223
# Sold on All Sites (Past Month): 5,663
----------------------------------------------------------

# Listed on eBay: 34,096
# Listed on Depop: 9,784
# Listed on Mercari: 2,965
# Listed on Poshmark: 1,807
# Sold on All Sites (Past Month): 48,652

----------------------------------------------------------
```

Program
Design
Flowchart

5/16/25

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User Prompted
for Item Name

Standard Validation
Model

API Call

API Call

API Call

Compile/Display
Data

Pseudocode

Start
Print "Please input an item"
Input Item

If Item != valid form
Then
Enter Simple Validation Model
Else
Continue

Pass Input into API Calls to Site #1

Pseudocode Cont.

Return Information from Site #1
Add Information to Dictionary

Repeat for Sites 2-4

Print All Key Value Pairs + adl. Information
End

Open Questions

Is there room to make money creating a script like I designed?
Would people be willing to pay for this tool?

Could AI eventually replace a need for this tool? How long
before AI replaces every similar webscraper service entirely?

Research Materials

https://developer.ebay.com/api-docs/sell/analytics/static/overview.html

https://www.sellraze.com/

https://developer.ebay.com/api-docs/static/gs_understand-the-ebay-apis.html

https://brightdata.com/blog/how-tos/web-scraping-with-python

https://www.scraperapi.com/blog/ebay-price-monitoring/

* No websites were directly cited, these were just used for learning and researching the topic broadly.