BigDataFinal: How Accessible is cruelty free makeup?

Overview:

This project investigates the accessibility of cruelty-free makeup on top cosmetic and beauty websites and compares the brands on these websites against cruelty-free product databases. By comparing the cruelty-free products from verified cosmetic brands with the total number of brands listed on cruelty-free websites, this project aims to evaluate the accuracy of cruelty-free databases. In order to conduct this research, web scraping was required to collect data from databases such as PETA and Logical Harmony. This data was then cross-referenced with information from popular cosmetic and beauty websites.

The analysis focuses on creating visual representations of this data, including bar graphs and pie charts, to effectively present the findings. These visualisations allow for a comprehensive comparison between the number of cruelty-free brands and the total brand count on each website. Additionally, the study highlights discrepancies between the databases and the collected website data, providing insights into the reliability of the information.

Findings from this research highlight the beauty industry's commitment to animal testing. The study also discusses the limitations of web scraping and potential sources of error, aiming to provide recommendations for improving the accuracy of cruelty-free databases.

Building upon this research, the project's final design aims to create a unique cosmetic product that visually displays and compares data related to cruelty-free brands. By using colour and logos, the final product provides a clear representation of which beauty brands are making an effort to sell cruelty-free makeup. This integration of cosmetics and data visualisation aims to raise awareness about cruelty-free options and empower consumers to make more informed, ethical choices.

Throughout the project, documentation will showcase the research process, data collection and analysis methods, visual representations of the findings, and reflections on the implications for the beauty industry and animal welfare.

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Folder Structure
1. Project - this has all my Jupyter Notebooks and CSV files in. If anything in this folder, is not listed in this README, then they are experiments in the course.
2. Big Data: How Accessible is cruelty free makeup?.pdf - my portfolio
3. README.pdf

Jupyter Notebook - Important Notebooks

- Project: This folder contains all my jupyter notebooks and csv files of the code I used for this project. The most important notebooks include:
  - logicalHarmony.ipynb   ---- data scraped on all the brands from Logical Harmony
  - BeautyBay.ipynb   ---- data scraped from Beauty Bay
  - sephora.ipynb   ---- data scraped from Sephora
  - non_cruelty_free.ipynb   ---- a test to find out which data is non-cruelty-free
  - ulta.ipynb
  Inside the folder DataSets there are two additional and important notebooks:
  - final_Graphs.ipynb   ---- all the final graphs created to gather all my data together -- can also be seen in my portfolio
  - PETA.ipynb   ---- data scraped on all the brands from PETAs dataset

Important CSV Files
- I created many CSV files to separate and keep track of data I scraped and I would need to load in certain files later on. Here are the important CSV files:
  - all_brands_beautybay.csv   ---- goes through every brand on Beauty Bay's website and says true or false if they're cruelty free
  - Beauty_Bay.csv   ---- data from Logical Harmony listing if product is cruelty-free, vegan etc.
  - brands_cultbeauty.csv   ---- list of all brands on Cult Beauty
  - sephora_brands.csv   ---- data from Logical Harmony listing if product is cruelty-free, vegan etc.
  - all_brands_beautybay.csv   ---- list of all brands on Beauty Bay
  - all_brands_comparison.csv   ---- comparing all brands on ulta to see if they are cruelty free
  - all_brands_ulta.csv   ---- list of all brands on Ulta
  - brands.csv   ---- all brands on Logical Harmony that are cruelty free
  - cruelty_free_beautybay.csv   ---- list of cruelty-free brands from Logical Harmony
  - cruelty_free_cultbeauty.csv   ---- list of cruelty-free brands from Logical Harmony
  - cruelty_free_sephora.csv   ---- list of cruelty-free brands from Logical Harmony
  - cruelty_free_ulta.csv   ---- list of cruelty-free brands from Logical Harmony
  - peta.csv   ---- all verified brands on PETA

References:
https://www.youtube.com/watch?v=e4Jb8VbBdgs

https://www.youtube.com/watch?v=T-itcgP7IDo

https://www.youtube.com/watch?v=RMfMqK4Y3qk&t=2672s

https://www.kaggle.com/datasets/mhapich/crueltyfree-brands