

Developing a Graphical User Interface to Organize ECommerce Product Attributes

Throughout the year, retailers offer various “deals” on products to entice customers. As deals have become a new norm within the commerce industry, searching for the best deals has become more tedious. Existing forum communities share deals across numerous products, but these are entirely found and ranked on community input. Last year, my project successfully utilized the eBay API to develop a backend Python program to extract product attributes, characteristics of commodities. In continuation, the purpose of this year's project is to develop a graphical user interface (GUI) to organize and display product attributes to a user. By automatically running the backend program periodically, various product attributes will be collected from the eBay API. A database will be used to store these attributes for use in other programs. Then, by developing a Python-based GUI, data can be neatly displayed while appropriately recognizing any user inputs. Furthermore, to display historical pricing data, it will be plotted as a function over time. To create the various functions of a user interface, user input, plotting data, and cross-program communication with a database, various Python libraries will be utilized. Specifically: Tkinter will be used for the GUI, Matplotlib and Numpy for plotting data, and PyMySQL for database communication. Effectiveness will be measured using qualitative measurements determined whether specific criteria, such as user input or plotting data, is met. However, as real-time data is unavailable from the eBay Sandbox APIs, simulated products and price changes would determine functionality. For example, whether user input is correctly received and accurate outputs, such as historical pricing data, are displayed. Said testing method will be conducted over a period of about two weeks of various price alterations. The main implication is to provide deals to a greater audience without the hassle of searching for them and potentially saving the average consumer money.

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