Data Mining

Antiope Project

To extract knowledge from Amazon reviews

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Application Highlights

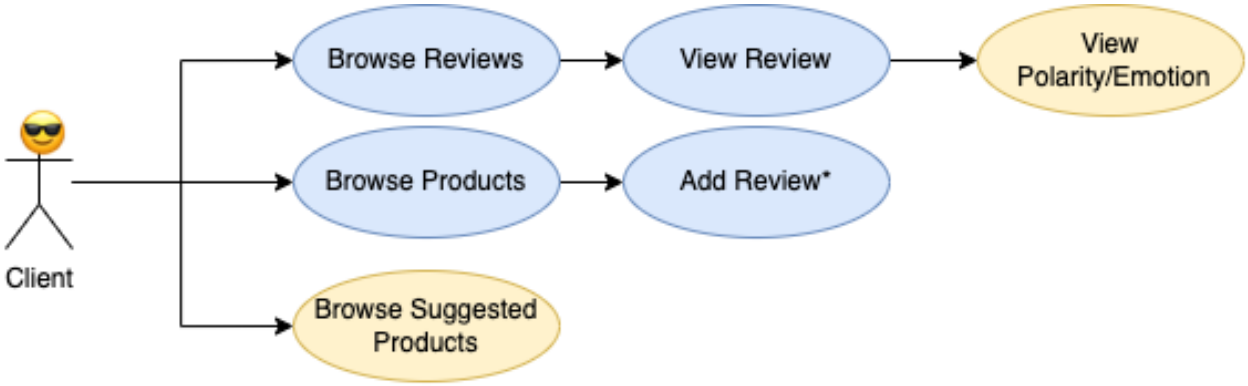
Antiope character in Wonder Woman 2017

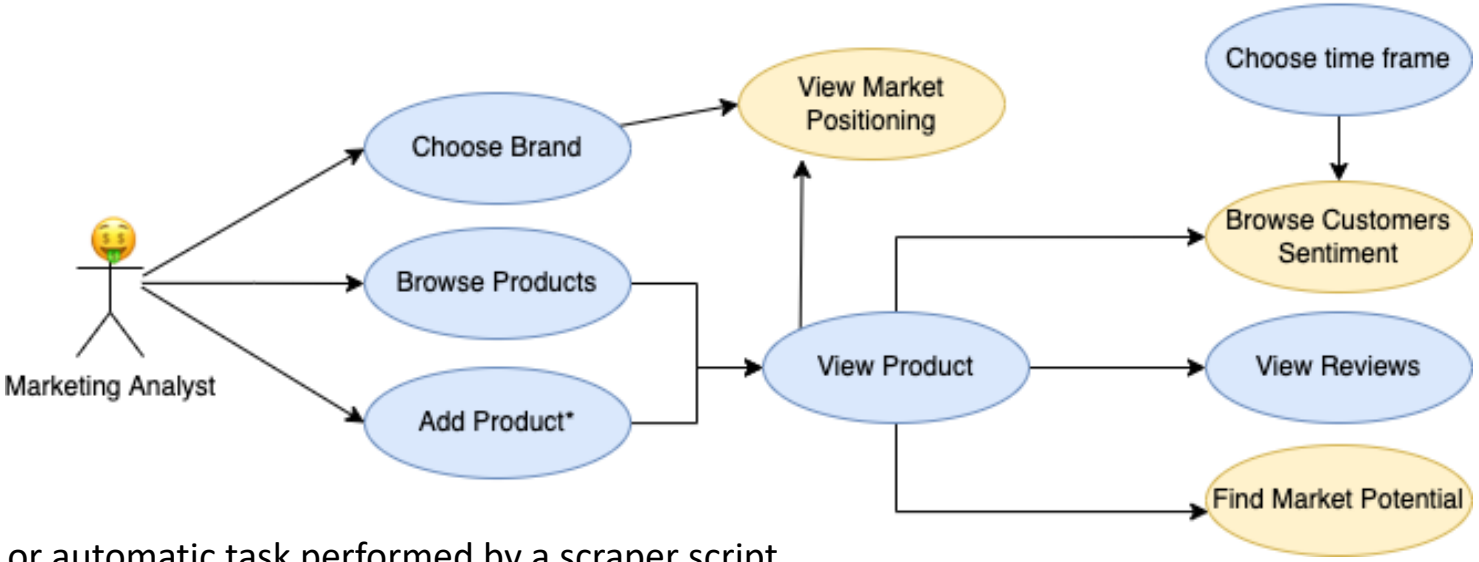
Antiope is a powerful OLAP assistant, queen of the amazons has studied each product and client of the big tech company.

*Antiope use AI to **cluster users** with their linguistic register and buying habits, and suggest new products to the proper target.*
*She's able to **make predictions** about **the success** of a product in the market which is very appreciated from its merchants.*
*Antiope **reveal** to the marketer the real **market segmentation** taking into account the reviews, the price, the category/brand.*

And much more..

Actors and main supported functionalities





*Manual or automatic task performed by a scraper script

Dataset Description

Source: University of California San Diego

Description: This dataset includes **reviews** (ratings, text, helpfulness votes), product **metadata** (descriptions, category information, price, brand, color, size, and image features), and **links** (also viewed/also bought graphs).

29 categories
8,171,199 products
233.1 million reviews in the range May 1996 - Oct 2018.
~50GB of raw data
http://deepyeti.ucsd.edu/jianmo/amazon/index.html

Some consideration

Considering the size of the dataset, and of the statistical sample analyzed in the project, we assume that a **review always corresponds to a purchase.**

So we have that:

- Stars tell us wether a review is positive or negative.
- It is possible to build a network of purchases of all the users.
- We can verify how much the products recommended by amazon are actually purchased.

Techniques Used

Text Mining:
To extract review polarity and user language registry

Clustering:
To find cluster in the space of price, reviews/sentiment, category/brand

Frequent Pattern:
To discover products which are usually bought together