**Jumia Book Recommendation System**

**Business Understanding**

**What is a Recommendation System?**

A Recommendation System is a type of artificial intelligence that provides personalized suggestions to customers. Previously, people would often rely on recommendations from friends to make purchasing decisions. However, with the rise of recommendation systems, companies like Google and Youtube can use data such as search history, watch history, and purchase history to suggest products or content that the customer may be interested in.

**Reasons for a Recommendation System?**

By using a recommendation system, companies can enhance customer loyalty and trust by suggesting products and services that align with the customer's preferences. These systems are now so sophisticated that they can even provide recommendations to new customers who visit a site for the first time. They can suggest trending or highly rated products as well as items that are likely to generate the most profit for the company.

**Types Of Recommendation System**

A recommendation system is usually built using 3 techniques which are content-based filtering, collaborative filtering, and a combination of both.

**1. Content-Based Filtering**

The algorithm recommends a product or items that have similar characteristics to the ones that the user has already shown an interest in.. In simple words, In this algorithm, we try to find items that look alike.

**2.** **Collaborative-based Filtering**

Collaborative based filtering recommender systems are based on past interactions of users and target items. In simple words here, we try to search for the look-alike customers and offer products based on what his or her lookalike has chosen.

**Problem Statement**

As a rapidly growing online retailer, Jumia has a vast collection of books. Most self-published authors sell 250 books or less, regardless of how many different books they write. Traditionally published books sell around 3,000 copies on average, with only 250 of those sales in the first year. It's rare that books sell over 100,000 copies and even rarer to sell more than a million (How Many Books Do You Need To Publish To Make Money? - Letter Review, 2022).

An attributing factor to the poor sales of potentially good books in the public’s eye is that there are too many books that major recommenders can read which can also be fueled by people sticking to specific authors rather than exploring due to the fear of reading a potentially different genre than what their tastes are accustomed to.

To address this issue, Jumia can implement an A.I model that uses a collaborative filtering technique. By doing so, they will not only recommend books based on the customers’ ratings but also suggest books that are similar to the ones that the customer has shown an interest in.

**General Objective:**

The general objective is to enable Jumia to effectively provide its customers with book recommendations that are tailored to the users.

**Specific Objectives:**

* To develop a model based collaborative filtering system to provide personalized recommendations to customers.
* To improve customer satisfaction and drive sales.
* To give the writers an easier way to reach target customers.
* To analyze a customer's behavior on the site which provides more reason to market certain products.
* To develop data driven partnerships with new publishers and writers based on sales data.
* To avoid wasting resources in compiling data because the recommender can make educated guesses.

**Success Criteria**

The success criteria we will follow depends on the predictive accuracy of the recommendations. This means we will rate how close the estimated ratings are to genuine use ratings, which is a measure used for evaluating non-binary ratings (e.g. 1-10 scale). Since selling books is crucial for a platform that is in business, this is the best metric we decided to use.

The two metrics that we will use are Mean Squared Error (M.S.E) and Root Mean Squared Error (R.M.S.E) due to the fact the rating scale is the same throughout.

**References:**

How Many Books Do You Need To Publish To Make Money? - Letter Review (2022). Retrieved from: https://letterreview.com/how-many-books-to-publish-to-make-money/#:~:text=Most%20self%2Dpublished%20authors%20sell,sell%20more%20than%20a%20million.