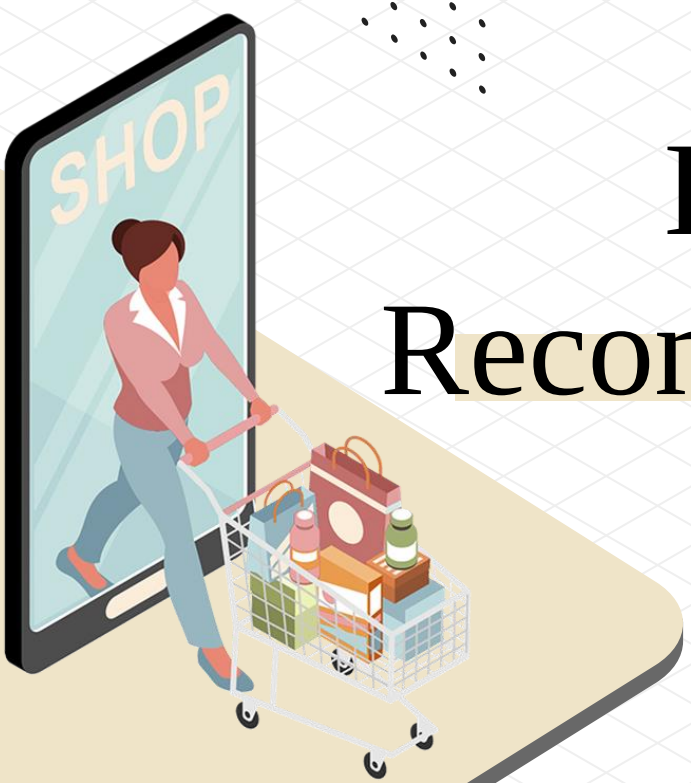

Ecommerce Recommender System

Group 3
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CRISP-DM Roadmap

This project was carried out using the CRISP-dm methodology

01 **Business Understanding**

02 **Data Understanding**

03 **Data Preparation**

04 **Modelling**

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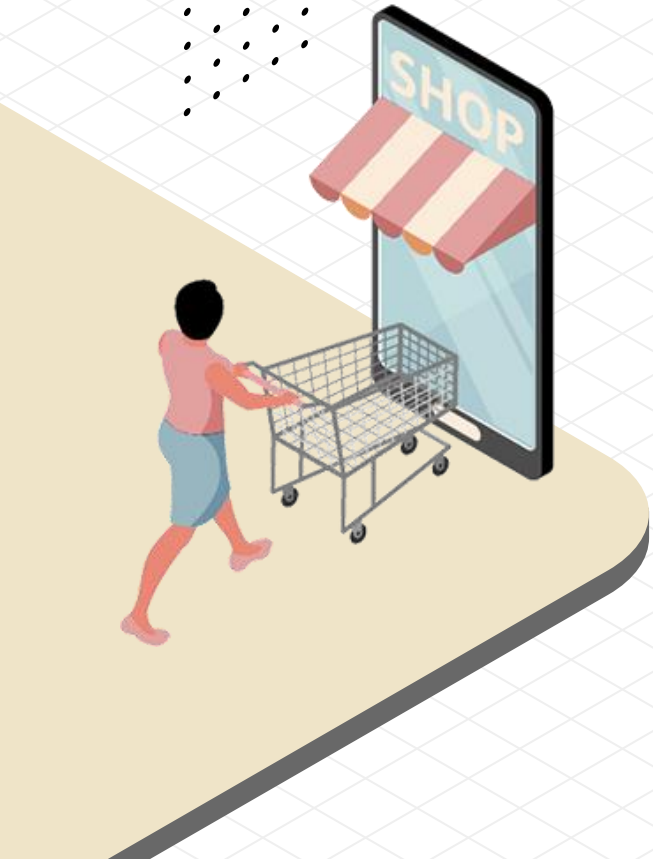
06 **Deployment**



Business Understanding

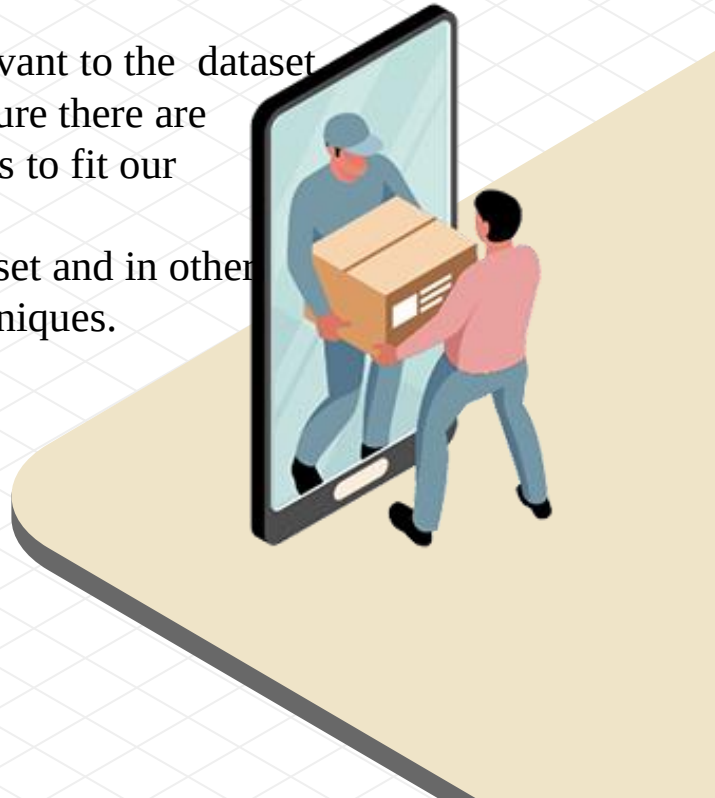
The project aims to develop a recommender that provides personalized product recommendations to online shoppers. With the vast array of choices on platforms like Amazon and Jumia, consumers often find it overwhelming to make quick decisions. This recommender will simplify the shopping experience by analyzing user preferences and suggesting the best products based on their specifications. The goal is to enhance customer satisfaction, reduce decision-making time, and increase sales for businesses by offering tailored recommendations that meet the users' needs efficiently. This solution addresses the common issue of choice overload in online shopping.

Data Understanding

We sourced for data by web scraping using scrapy through Flipkart "https://www.flipkart.com/" to details about the products they do sell. Scrapy was used to do the scrapping. The data we scrapped contained about 12041 rows and 12 columns. We then looked for an additional dataset of mobile phones from the same website and it contained 3114 rows and 8 columns. We then combined these two datasets and used them in our project.

Data Preparation

We identified specific columns out of 15 that were relevant to the dataset
Formatting included merging the two datasets making sure there are no conflicts between the columns, renaming the columns to fit our preferences.
Cleaning involved removing missing values in the dataset and in other cases filling using back filling and forward filling techniques.

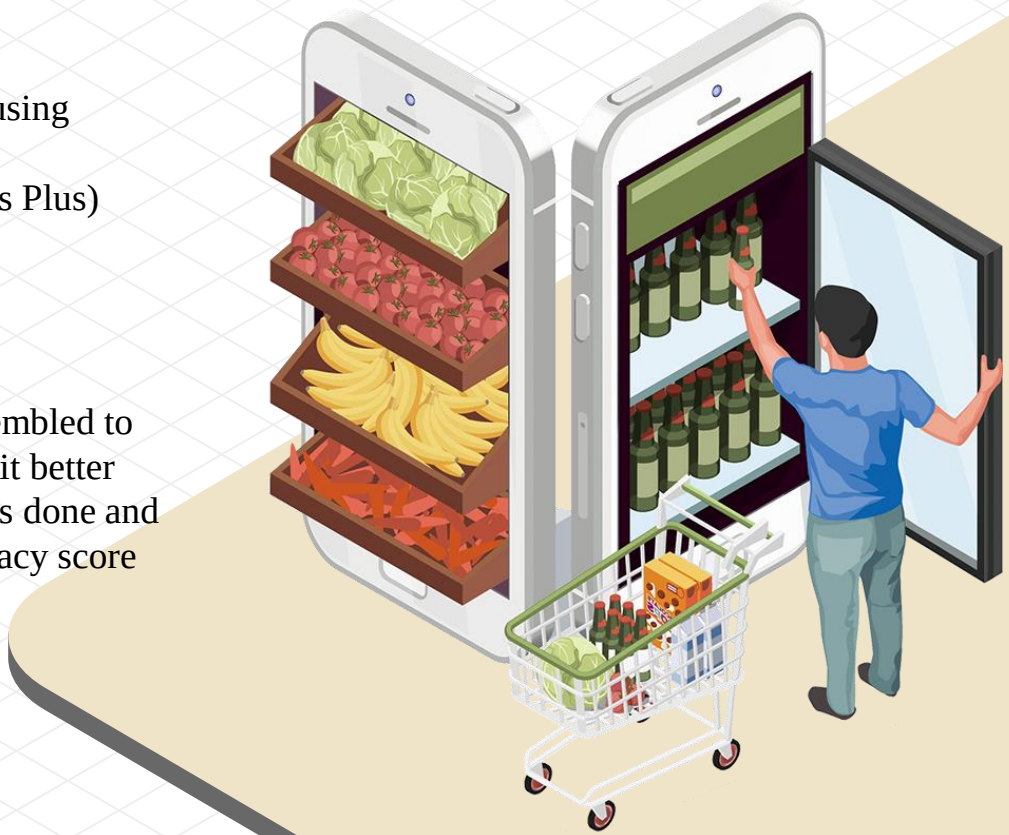


Modelling

In this section, we built classification models using

1. SVDpp (Singular Value Decomposition Plus Plus)
2. SVD(Singular Value Decomposition)
3. KNNWithMeans
4. Baseline Model / KNNBasic

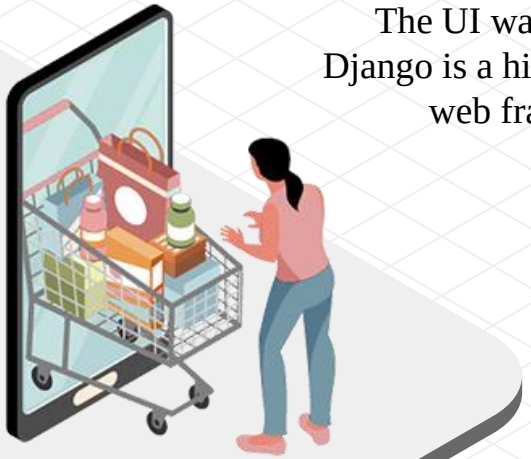
The best performing ones were tuned and ensembled to produce one model however this did not exhibit better performance. Further scaling of the dataset was done and cross validation included to improve the accuracy score



UI and Deployment

UI

The UI was built using Django is a high-level Python web framework



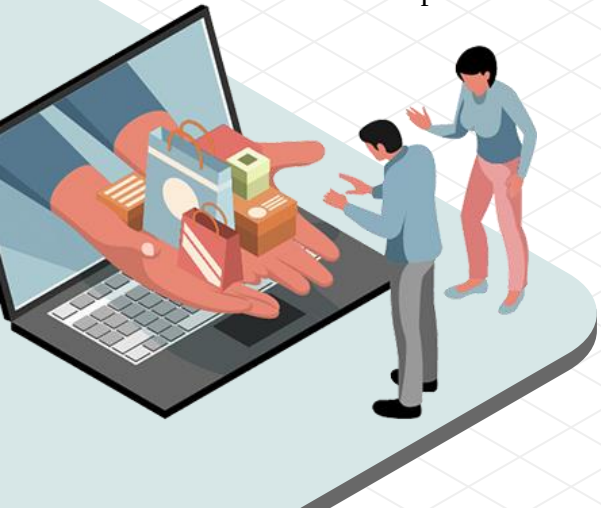
Deployment

The Deployment was done using Vercel

Recommendations

User-Friendly Interface

Designing the ecommerce recommender system with a user-friendly interface that is intuitive and easy to navigate, ensuring a seamless user experience.



Comprehensive Product Coverage

Ensuring that the ecommerce recommender system covers a wide range of products, both popular and off-the-beaten-products, to cater to diverse customer preferences.

Real-Time Data Integration

Integrating real-time data sources, such as new coming products to offer up- to-date and relevant recommendations to users.

Conclusions

1

Products Diversity

By showcasing lesser- known products, the recommender can encourage users to explore new products, diversifying ecommerce and distributing user specifications more evenly.

2

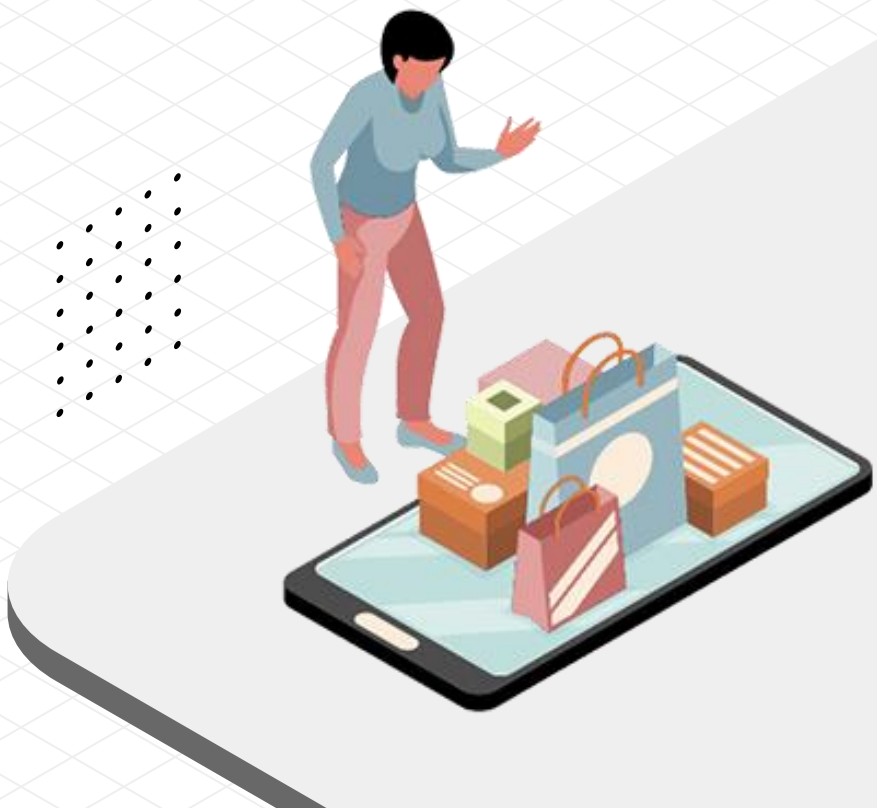
Continuous Improvement

By analyzing user feedback and product purchase patterns, the system continually learns and improves its recommendations, enhancing the overall purchase experience for users

3

Personalized Experiences

The ecommerce recommender system offers tailored recommendations, enabling users to discover products and experiences that align with their interests and specifications.



Thanks!

Do you have any questions?