INFORMATION RETRIEVAL

PROJECT PROPOSAL

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Problem Statement:

In today's World, product recommendations are responsible for up to 31 percent of e-commerce revenues.

Product recommendation engines analyse data about shoppers to learn exactly what products and offerings interest them. Based on search behaviour and product preferences, they serve up contextually relevant offers and product options that appeal to individual shoppers — and help drive sales.

Why is the problem important -

1. Users will get the related item in the same place.
2. Will increase the sales of the company.
3. Will help users get to know products which he previously didn't know about.
4. To increase the profit of the company, to increase the sales and to increase revenue and it will give users the required thing they are forgetting..

Related Work:

- There are many big tech giant companies like amazon,flipkart did similar work but we are adding some new features .

How different is your idea from theirs?

Unique Idea - The recommended product will be in the specific range related to the product that the user bought.

What techniques/algorithms will you use/develop to solve the problem?

- Content based filtering

Evaluation metric - The products recommended to the user are how much relevant to the original product which the user buys. It will be in consideration of user like or dislike.

LITERATURE REVIEW

Everyone uses e-commerce websites on a heavy basis, which leads to an increase in the diversity of consumer demand, becoming a challenge for a retail store to provide the right products according to customer preferences.
Recommendation systems have become an integral part of web applications. The data to be displayed to the user can be overwhelming because e-commerce websites have a large variety of product inventory available. As a result, the user may need help searching for the product they want. [2]

The recommendation system reduces the load on the database as they provide a personal recommendation depending on their browsing patterns and previous purchase history to every user instead of displaying the whole inventory.
It fulfils customers' needs and expectations and maintains loyal customers while attracting new customers. With more visits to the website, more data about the user and the products can be collected, which in turn provides a chance to know the areas for product improvements.

The document "Recommender systems: A comprehensive survey" by Marcos Aurélio Domingues (2012) provides a comprehensive review of the main objective of these systems to predict the user's fascination and recommend the outcome items slightly similar to the user's interest. The retailers working on an online platform for their business use this strong machine learning recommendation system to improve their drive sales.

These recommendation systems use a filtering mechanism and are usually based on two different filtering techniques: Collaborative filtering and Content-based filtering.
Content-based filtering is based on the content, i.e., item-item relationship. Collaborative filtering is based on user behaviour; depending on the user behaviour, we make further recommendations. A recommendation system filters the data using many algorithms to recommend the most suitable items to users. [5]

Citations/References

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4. https://www.researchgate.net/profile/Debashis-Das-17/publication/313787463_A_Survey_on_Recommendation_System/links/5d7de0474585155f1e4de908/A-Survey-on-Recommendation-System.pdf

CONTRIBUTION

- Kartik Gupta , Ritika Nagar,Akshat Tilak read research papers and write literature reviews .
- Tarun Kumar Gupta , Shubham Sethi ,Rachit Gupta wrote problem statements, unique ideas, and related work,evaluation metric.