Recommendation Systems

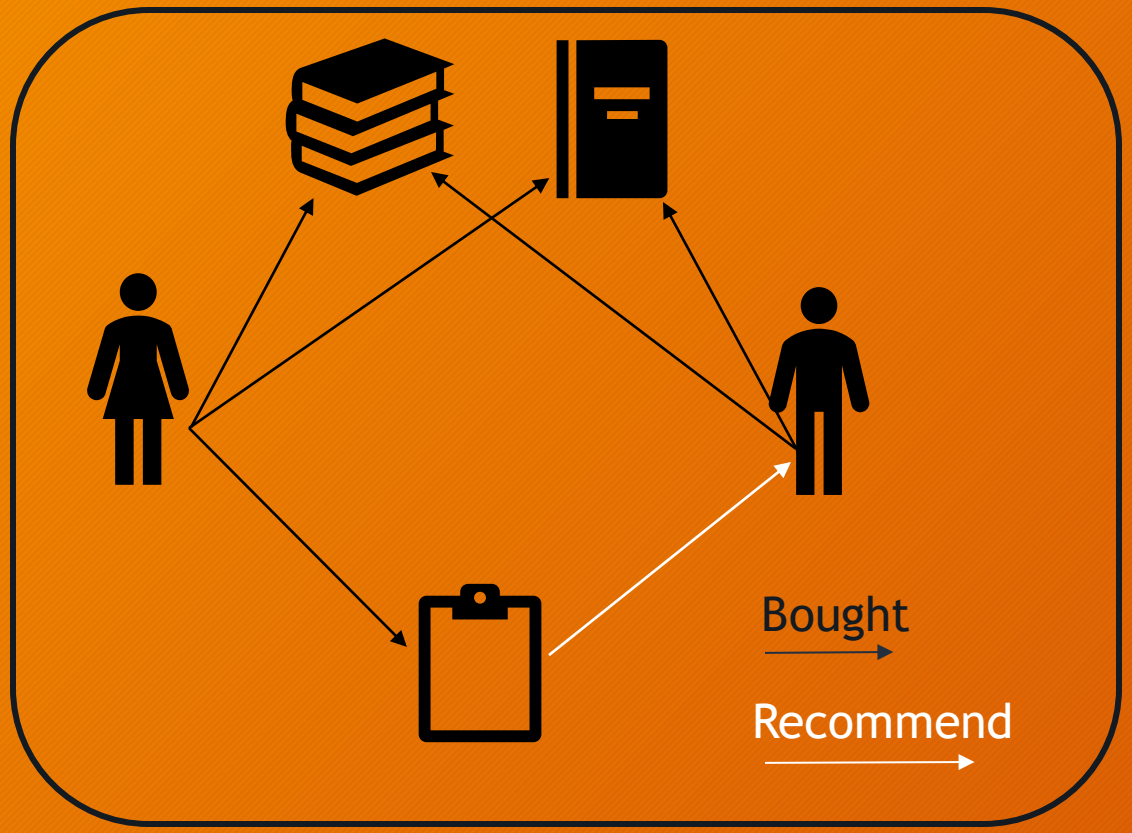
Recommendation System for an E-commerce Platform

People say that every person is unique. WRONG!!

If you want to win a beauty pageant, then yes go ahead. There are a limited number of personalities in this world.
And people with same personality have same kind of preferences.

Using this theory, we can recommend a product to the user which has been used by another user who shares some personality.

Working in simple terms



2 users have a similar purchase history. Due to which, our model puts them under one category. Now when one user buys a new product, it will be recommended to that another user as well.

Pros

Customization makes a user more satisfied

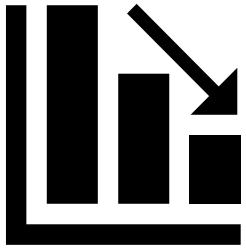
Enhances a user's buying speed.

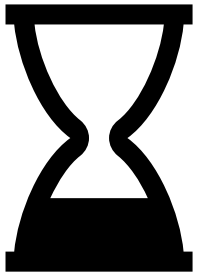
Increase in overall sales

Cons

But as they say, nothing's PERFECT, this recommendation approach has some downsides too:-

- Since users will get products they like in the very first instance, they won't bother exploring the rest of our products, hence reducing average time spent by a user on our application.
- Products that have not been bought by anyone won't get recommended.
- If the system's algorithm is not very efficient and it suggests completely opposite products, it can ruin a user's experience which can lead to user attrition.





A better architecture

- The approach mentioned in previous decks is called User-User Collaborative filtering.
- Why don't we rather use a hybrid recommendation system, which takes into consideration both users and products.
- In this approach, we have 2 recommending tabs:-
  - Similar Products
  - Products you may like

Similar Products

- Firstly, each item has some similar items based on its category, brand, color, specification, price etc.
- Take top 5 recommendations based on similarity.

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- Secondly, The item that you just searched might have been bought or searched by other users.
- Based on these users' search & purchase history, take out top 5 items belonging to the same category of item you searched.

Products you may like

- The same approach that we have been talking about till now.
- Now, this tab will have products that have been bought or searched by similar users. Users that are just like you.
- But it won't be any random product, a product that belongs to same category under which your searched product falls.

Benefits of new approach

- Products that are similar but have not been rated by any user will also get included.
- Since this approach considers both users and products that they are searching, it will be more efficient at providing recommendations.