**Hybrid Recommendation Systems**

Personalization vs Hybrid models might look the same but they are different. A system is said to be personalized of the content it shows is modified based on some personal variables.

***“****Recommendation is one of the tools for personalization, but****personalization goes beyond recommendation.”***

When you are searching for a location on Google Maps, it shows your location first. It is not recommendation but personalization. These can be your past purchases on an online store, or your age, or where you live or simply what device you are using. What is there is logic so that what a user gets differs from what another user gets.

On the other hand you do recommendation is when we filter a collection of things based on historical behavior of a user (typically likes/dislikes or behavioral history). Recommendation is a form of personalization and we could say that a recommendation engine is a “**personalized search engine**”, since default search engines are information filtering systems where all users get exactly the same answer from the same input.

**Similarities**

There is much similarity between Personalization and Recommendation.  Classical rules for personalization, such as your location or what is inside your online basket, can all be leveraged in a recommender system as well. We talk about contextual variables, and it is fairly easy to implement context-aware recommender systems. Recommendation specializes in employing historical data that is linked to user’s preferences and tastes. The ideal setting is explicit feedback data, such as star ratings or thumbs-up/thumbs-down. The most common one is implicit feedback, such as video watch history or product clicks. In both cases this data allows to define a “***taste profile***” for each user, which can then be used to filter or order items based on your predicted interests (products, videos, article).

**Difference**

When a website uses your predicted taste profile to rank sponsored products based on how much they expect to gain from you, and not based on how much you would like them, they are trading your user experience for their profits. The advertising ecosystem is the largest example of such misalignment between the users and business incentives. Many advertisers claim the targeted system they sell generates a “***win-win***” for both the users and business. Alternative definitions of “***personalization***” make sure to exclude anything made to optimize business profits instead of user interest, although some would still consider this as recommendation.

Now how does personalization go beyond recommendation? Facebook was the first application to provide personalized feed at this scale. The content you see in social networks is entirely generated by your connections activities. In its basic form, social feeds are therefore personalized content, but not recommendations.

**Personalized Recommendation**

Personalized recommendations refer to the practice of suggesting products, services, or information to users based on their previous behaviors, preferences, or other relevant data. The aim is to provide individuals with options that are more aligned with their specific needs and interests, thereby increasing the likelihood of a positive response.

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**Working**

1. **Data Collection:** The process starts with gathering data about the user. This could be explicit data like user-provided information or implicit data like browsing history, purchase history, and more.
2. **Data Analysis:** Once data is collected, algorithms and analytics tools process it to identify patterns, trends, and user preferences.
3. **Prediction:** Based on the analyzed data, predictive models forecast what products or services a user might prefer next.
4. **Delivery:** The final recommendations are then presented to the user through various channels, be it email, on a website, or through an app.