**PERSONALITY-AWARE PRODUCT RECOMMENDATION SYSTEM USING METAPATH DISCOVERY AND USER INTEREST MINING**

**ABSTRACT:-**

A recommendation system is an integral part of any modern online shopping or social network platform. The product recommendation system as a typical example of the legacy recommendation systems suffers from two major drawbacks: recommendation redundancy and unpredictability concerning new items (cold start). These limitations take place because the legacy recommendation systems rely only on the user’s previous buying behavior to recommend new items. Incorporating the user’s social features, such as personality traits and topical interest, might help alleviate the cold start and remove recommendation redundancy. Therefore, in this article, we propose Meta-Interest, a personality-aware product recommendation system based on user interest mining and metapath discovery. Meta-Interest predicts the user’s interest and the items associated with these interests, even if the user’s history does not contain these items or similar ones. This is done by analyzing the user’s topical interests and, eventually, recommending the items associated with the user’s interest. The proposed system is personality-aware from two aspects; it incorporates the user’s personality traits to predict his/her topics of interest and to match the user’s personality facets with the associated items. The proposed system was compared against recent recommendation methods, such as deep-learning-based recommendation system and session-based recommendation systems. Experimental results show that the proposed method can increase the precision and recall of the recommendation system, especially in cold-start settings.

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| **EXSISTING SYSTEM** | **PROPOSED SYSTEM** |
| * The product recommendation system as a typical example of the legacy recommendation systems suffers from two major drawbacks: recommendation redundancy and unpredictability concerning new items (cold start). * With the widespread of personal mobile devices and the ubiquitous access to the internet, the global number of digital buyers is expected to reach 2.14 billion people within the next few years, which accounts for one-fourth of the world population. | * The proposed system is personality-aware from two aspects; it incorporates the user’s personality traits to predict his/her topics of interest and to match the user’s personality facets with the associated items. * The proposed system was compared against recent recommendation methods, such as deep-learning-based recommendation system and session-based recommendation systems. * Experimental results show that the proposed method can increase the precision and recall of the recommendation system. |
| **EXISTING ALGORITHM**  Collaborative Filtering (CF) | **PROPOSED ALGORITHM:-**  Interest Mining |
| **ALGORITHM DEFINITION:-**  In sequential auction, the seller holds consecutive auctions for selling goods. These are suitable for the following scenarios: (i) availability of the goods varies over time, which means the goods may not be available in some of the time instances; (ii) the buyers arrive at the market at different times, which requires the seller to wait for some period of time before the number of buyers exceeds a threshold to guarantee a certain profit. Nevertheless, one of the main drawbacks of these auctions is the lack of a dominant strategy that can accommodate heterogeneous demands of buyers when customers face multiple sequential auctions. | **ALGORITHM DEFINITION:-**  The main advantage of our approach is that the proposed system makes use of the user’s interests along with the user’s personality information to optimize the accuracy of system recommendations and alleviate the cold-start effects. By analyzing the user’s social network posted data, we can infer his/her topical interests. The task can be achieved by applying automatic topic extraction techniques, such as latent Dirichlet allocation (LDA) [27] or frequency-inverse category frequency (TFICF) [28]. However, such techniques are supposed to be applied to long articles, and they do not yield good results if applied on the user’s short sparse noisy posts, such as tweets [29]. Therefore, to overcome this problem, we have enriched each post from the user’s data using semantic annotators, which could help to reduce the noise and alleviate ambiguity of the post and increase the topic detection accuracy, as shown in the proposed framework |
| **DRAWBACKS:-**   * The product recommendation system as a typical * Recommendation redundancy and unpredictability concerning new items (cold start). * Incorporating the user’s social features, | **ADVANTAGES:-**   * recommendation systems * Predictability concerning new items (cold start). * Remove recommendation redundancy. |

**MINIMUMSYSTEM REQUIREMENTS**

**HARDWARE REQUIREMENTS**

* PROCESSOR : DUAL CORE 2 DUO.
* RAM : 2GB DD RAM
* HARD DISK : 250 GB

**SOFTWARE REQUIREMENTS**

* FRONT END : J2EE (JSP, SERVLET)
* BACK END : MY SQL 5.5
* OPERATING SYSTEM : WINDOWS 7
* IDE : ECLIPSE

**System Architecture:**

