IMPLEMENTASI ALGORITMA NEW HEURISTIC SIMILARITY MODEL (NHSM) PADA WEB BASED RECOMMENDER SYSTEM

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ABSTRAK

Dalam *website e-commerce* banyak produk atau jasa yang ditawarkan kepada *user* dan cukup membuat *user* kebingungan untuk memilih produk atau jasa apa yang akan mereka gunakan. Tetapi seiring berkembangnya pengetahuan dan teknologi, maka ditemukan suatu cara untuk membantu *user* mempersempit *information overloads* ini, yaitu dengan menggunakan *recommender system*. Tujuan penelitian adalah mengimplementasikan algoritma *New Heuristic Similarity Model* (NHSM) pada *web based recommender system* berbasis *memory based collaborative filtering* dan mengukur keakuratan prediksi menggunakan *Mean Absolute Error*. Metode pengujian menggunakan empat jenis skenario yaitu skenario perhitungan *prediction* score, perhitungan *similarity,* pengujian *sparse dataset* dan *dense* dataset. Keempat skenario tersebut diuji dengan menggunakan tiga *dataset* yaitu MovieLens, Jester Joke dan Yahoo Movie. Hasil penelitian menunjukkan bahwa algoritma NHSM dapat diterapkan pada *web based recommender system* dan keakuratan prediksi semakin baik jika *dataset* terisi *rating* penuh (*dense dataset*) serta hasil *similarity* mendekati satu.

Kata Kunci: *Recommender System*, *New Heuristic Similarity Model* (NHSM), *Memory Based Collaborative Filtering, Mean Absolute Error*.

IMPLEMENTATION OF NEW HEURISTIC SIMILARITY MODEL (NHSM) ALGORITHM ON WEB BASED RECOMMENDER SYSTEM

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ABSTRACT

There are many products or services offered to users in the e-commerce website. Those create users' confusion to choose what products or services they will use. Along with science and technology development, then found a way to help users to narrow down the information overloads by using a recommender system. The research objectives are to implement New Heuristic Similarity Model(NHSM) algorithm in web-based recommender system on memory-based collaborative filtering and measuring prediction accuracy using Mean Absolute Error. The testing method uses four scenarios: calculation of prediction score, calculation of similarity, sparse datasets testing and dense datasets testing. The fourth scenario was tested by using three datasets which are MovieLens, Jester Joke and Yahoo Movie. The results showed that NHSM algorithm can be applied to a web-based recommender system. Prediction accuracy will be better if datasets are filled with full rating (dense dataset) and its value of similarity approaching 1.

Keywords: *Recommender System*, *New Heuristic Similarity Model* (NHSM)*, Memory Based Collaborative Filtering, Mean Absolute Error*.