INTISARI

SISTEM REKOMENDASI PADA *E-COMMERCE* BERBASIS GRAF MENGGUNAKAN ALGORITMA *K-NEAREST NEIGHBOR*

Oleh

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Semakin banyaknya informasi produk yang ada di internet menghadirkan tantangan baik pembeli maupun pebisnis online dalam lingkungan *e-commerce*. Pembeli sering mengalami kesulitan saat mencari produk di internet karena banyaknya produk yang dijual di internet. Selain itu, pebisnis online sering mengalami kesulitan karena memiliki data mengenai produk, pembeli, dan transaksi yang sangat banyak, sehingga menyebabkan pebisinis online mengalami kesulitan untuk mempromosikan produk yang tepat pada target pembeli tertentu.

Sistem rekomendasi dikembangkan untuk mengatasi permasalahan tersebut dengan berbagai metode seperti *collaborative filtering*, *content-based*, dan *hybrid*. Metode *collaborative filtering* menggunakan data *rating* pembeli, *content based* menggunakan konten produk seperti judul atau deskripsi, dan *hybrid* menggunakan keduanya sebagai dasar rekomendasi. Dengan menggunakan basis data graf, maka model sistem rekomendasi dapat dirancang dengan berbagai metode pendekatan sekaligus.

Pada penelitian ini, algoritma *K-Nearest Neighbor* digunakan untuk menentukan top-n rekomendasi produk untuk setiap pembeli. Hasil dari penelitian ini metode *content based* mengungguli metode lain karena data yang digunakan *sparse*, yaitu kondisi dimana jumlah *rating* yang diberikan pembeli relatif sedikit terhadap banyaknya produk yang tersedia pada *e-commerce*.

Kata kunci: Sistem Rekomendasi, graf, *K-Nearest Neighbor*, *Collaborative Filtering*, *Content based*, *Hybird*

ABSTRACT

GRAPH-BASED RECOMMMENDATION SYSTEM ON E-COMMERCE USING NEAREST NEIGHBOR ALGORITHM

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The growing number of product information available on the internet brings challenges to both customer and online businesses in the e-commerce environment. Customer often have difficulty when looking for products on the internet because of the number of products sold on the internet. In addition, online businessman often experience difficulties because they has much data about products, customers and transactions, thus causing online Businessman have difficulty to promote the right product to a particular customer target.

A recommendation system was developed to address those problem with various methods such as collaborative filtering, content-based, and hybrid. Collaborative filtering method uses customer's rating data, content based using product content such as title or description, and hybrid using both as the basis of the recommendation. Using a graph database, the recommendation system model can be designed with a variety of approach methods at once.

In this research, the K-Nearest Neighbor algorithm is used to determine the top-n product recommendations for each buyer. The result of this research method content based outperforms other methods because the sparse data, that is the condition where the number of rating given by the customers is relatively little compared the number of products available in e-commerce.

Keywords: Recomendation System, graph, K-Nearest Neighbor, Collaborative Filtering, Content based, Hybird