

Nuke Sephiana. 2023. *Sistem Rekomendasi Buku Perpustakaan Menggunakan Metode Content based filtering di SMK Ihyaul Ulum Dukun Gresik*. Skripsi, Program Studi Pendidikan Informatika, Fakultas Ilmu Pendidikan. Universitas Trunojoyo Madura. Pembimbing: Laili Cahyani, S.Kom., M.Kom.

ABSTRAK

Era digital saat ini, perpustakaan terus dikembangkan agar dapat beradaptasi dengan kebutuhan siswa. Siswa dapat dengan mudah melakukan pencarian buku pada layanan perpustakaan digital. Akan tetapi, banyaknya buku terkadang menyulitkan siswa untuk mencari buku sesuai yang diinginkan. Cara mengatasi masalah tersebut dapat dilakukan dengan menggunakan sistem rekomendasi. Sistem rekomendasi adalah sistem yang digunakan untuk memberikan saran kepada pengguna. Tujuan penelitian ini yaitu mengembangkan sistem rekomendasi buku perpustakaan menggunakan *content based filtering* di SMK Ihyaul Ulum Dukun Gresik. Metode *content based filtering* memberikan rekomendasi berdasarkan preferensi pengguna sesuai dengan deskripsi *item*. Algoritma yang digunakan yaitu *Term Frequency Inverse Document Frequency* (TF-IDF) dan *cosine similarity*. Metode dalam penelitian ini adalah *Research and Development* dengan model *waterfall*. Tahap pengujian peneliti menggunakan pengujian *black box* dan *confusion matrix*. Hasil pengujian *black box* diperoleh dari validasi ahli sistem, ahli *website*, dan uji pengguna dengan mendapatkan kualifikasi “Sangat Layak”. Sedangkan pengujian performa algoritma, peneliti mengambil 40 data uji untuk mengukur seberapa baik akurasi dari rekomendasi yang diberikan. Percobaan dilakukan menggunakan *threshold* 5 dan *threshold* 10 dengan perhitungan *accuracy*, *recall*, *precision*, dan *f-score*. Hasil pengujian diketahui bahwa hasil pencarian yang optimal diperoleh dari *threshold* 5 dengan nilai *accuracy* 98,9%, *recall* 58,3%, *precision* 89%, dan *f-score* 68,5%.

Kata kunci: sistem rekomendasi, buku, *content based filtering*, TF-IDF, *cosine similarity*

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ABSTRACT

In the current digital era, the library continues to be developed so that it can adapt to the needs of students. Students can easily search books on digital library services. However, the number of books sometimes makes it difficult for students to find the book they want. How to overcome these problems can be done by using a recommendation system. A recommendation system is a system used to provide suggestions to users. The purpose of this research is to develop a library book recommendation system using content based filtering at SMK Ihyaul Ulum Dukun Gresik. The content based filtering method provides recommendations based on user preferences according to the item description. The algorithm used is Term Frequency Inverse Document Frequency (TF-IDF) and Cosine similarity. The method in this study is Research and Development with the waterfall model. The testing phase of the researcher used black box and Confusion Matrix testing. The black box test results were obtained from the validation of system experts, website experts, and user tests by obtaining a "Very Eligible" qualification. While testing the performance of the algorithm, researchers took 40 test data to measure how well the accuracy of the recommendations provided. The experiment was carried out using a threshold of 5 and a threshold of 10 with accuracy, recall, precision and f-score calculations. The test results show that the optimal search results are obtained from threshold 5 with accuracy values of 98.9%, recall of 58.3%, precision of 89%, and f-score of 68.5%.

Keywords: *recommendation system, books, content based filtering, TF-IDF, cosine similarity*