

ABSTRAK

Pesatnya pertumbuhan pengguna internet di Indonesia mendorong PT Telkom Indonesia melalui layanan IndiHome untuk menawarkan beragam paket internet dengan variasi kecepatan, harga, dan jenis layanan yang kompleks. Kondisi ini menyebabkan calon pelanggan mengalami kesulitan dalam menentukan paket yang paling sesuai dengan kebutuhan dan kemampuan finansial mereka. Penelitian ini bertujuan mengembangkan sistem rekomendasi paket internet IndiHome berbasis web yang mampu memberikan rekomendasi secara personal dan relevan kepada pengguna. Metode yang digunakan adalah *Weighted Hybrid Filtering* yang mengintegrasikan *Content Based Filtering (CBF)* dan *Collaborative Filtering (CF)*. *CBF* memanfaatkan representasi teks paket yang diintegrasikan dengan data riwayat pelanggan yang diperoleh melalui kuesioner terhadap 104 responden sebagai basis profil pengguna, diproses menggunakan *TF-IDF* dan *Cosine Similarity*, dikombinasikan dengan budget score untuk mengukur kesesuaian harga, sedangkan *CF* menggunakan *Pearson Correlation Coefficient (PCC)* untuk mengidentifikasi pengguna dengan preferensi serupa berdasarkan data rating. Komposisi bobot optimal ditentukan melalui tiga skenario pengujian. Hasil pengujian menunjukkan bahwa komposisi bobot $CBF:CF = 0,2:0,8$ menghasilkan performa terbaik dengan nilai *MAE* sebesar 0,7820 dan *RMSE* sebesar 0,9083. Evaluasi kinerja menggunakan metrik *Precision@5* terhadap 10 responden menghasilkan nilai rata-rata sebesar 0,7 atau 70%, sedangkan evaluasi usabilitas menggunakan *System Usability Scale (SUS)* memperoleh skor rata-rata 57,5 yang tergolong kategori "OK". Hasil ini menunjukkan bahwa sistem yang dikembangkan telah memenuhi standar minimum dan mampu menghasilkan rekomendasi yang relevan, meskipun aspek usabilitas masih memerlukan peningkatan pada pengembangan selanjutnya.

Kata kunci : Sistem Rekomendasi, Hybrid Filtering, Content-Based Filtering, Collaborative Filtering, IndiHome

ABSTRACT

The rapid growth of internet users in Indonesia has encouraged PT Telkom Indonesia through its IndiHome service to offer a wide range of internet packages with varying speeds, prices, and service types, resulting in increased complexity for prospective customers. This complexity makes it difficult for customers to determine the package that best suits their needs and financial capabilities. This study aims to develop a web-based recommendation system for IndiHome internet packages that is capable of providing personalized and relevant recommendations to users. The method employed is Weighted Hybrid Filtering, which integrates Content-Based Filtering (CBF) and Collaborative Filtering (CF). CBF utilizes text representations of packages integrated with customer historical data obtained through a questionnaire involving 104 respondents as the basis for user profiling, processed using TF-IDF and Cosine Similarity, combined with a budget score to measure price suitability, while CF employs the Pearson Correlation Coefficient (PCC) to identify users with similar preferences based on rating data. The optimal weight composition was determined through three testing scenarios. The results demonstrate that a weight composition of $CBF:CF = 0.2:0.8$ yields the best performance, with MAE and RMSE values of 0.7820 and 0.9083, respectively. Performance evaluation using the Precision@5 metric across 10 respondents produced an average value of 0.7 or 70%, while usability evaluation using the System Usability Scale (SUS) obtained an average score of 57.5, categorized as "OK". These results indicate that the developed system has met minimum standards and is capable of generating relevant recommendations, although usability aspects still require further improvement in subsequent development.

Keywords: Recommendation System, Hybrid Filtering, Content-Based Filtering, Collaborative Filtering, IndiHome