

**PEMBANGUNAN SISTEM REKOMENDASI PADA SMARTENGTEST
DENGAN PEMANFAATAN ASSOCIATION RULES MENGGUNAKAN
ALGORITMA APRIORI DAN FP-GROWTH**

SKRIPSI

Diajukan sebagai syarat untuk memperoleh gelar Sarjana Komputer
Program Studi Ilmu Komputer

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ABSTRAK

Berdasarkan data English Proficiency Index (EPI) yang dirilis oleh EF (*Education First*), diketahui bahwa nilai rata-rata kemampuan berbahasa Inggris orang Indonesia pada tahun 2023 masih berada di bawah rata-rata global dengan nilai 473, sehingga menunjukkan bahwa banyak orang Indonesia mengalami kesulitan dalam mempelajari bahasa Inggris. Oleh karena itu, penelitian ini bertujuan untuk mengembangkan sistem rekomendasi yang dapat merekomendasikan pelajaran yang perlu diambil untuk meningkatkan kemampuan bahasa Inggris. Sistem rekomendasi ini menggunakan pendekatan *machine learning* dengan metode *association rules* dan *heuristic mapping* untuk membangun rekomendasi berdasarkan tingkat kesulitan yang dihadapi oleh siswa. Hasil penelitian menunjukkan bahwa rekomendasi yang diberikan oleh sistem memiliki skor validasi dari ahli sebesar 79.44%, yang menunjukkan efektivitas dan akurasi dari sistem rekomendasi yang dikembangkan.

Kata kunci: *machine learning, association rules, sistem rekomendasi, bahasa inggris, appriori, fp-growth*

**DEVELOPMENT OF RECOMMENDATION SYSTEM IN
SMARTENGTEST UTILIZING ASSOCIATION RULES WITH APRIORI
AND FP-GROWTH ALGORITHMS**

By

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ABSTRACT

Based on the English Proficiency Index (EPI) data released by EF (Education First), it is known that the average English proficiency score of Indonesians in 2023 is still below the global average with a score of 473, thus showing that many Indonesians have difficulty in learning English. Therefore, this research aims to develop a recommendation system that can recommend lessons that need to be taken to improve English language skills. This recommendation system uses a machine learning approach with association rules and heuristic mapping methods to build recommendations based on the level of difficulty faced by students. The results show that the recommendations provided by the system have an expert validation score of 79.44%, which indicates the effectiveness and accuracy of the recommendation system developed.

Keywords: *machine learning, association rules, recommendation system, english, apriori, fp-growth*

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