ABSTRAK

Yoana Sonia Wijaya (01081210001)
PENGEMBANGAN SISTEM REKOMENDASI UNTUK PENUKARAN POIN DENGAN METODE *CONTENT-BASED FILTERING* DAN TF-IDF PADA APLIKASI PADU E-TRASH

(xviii+ 167 halaman: 237 gambar, 37 tabel, 6 lampiran)

Pada era digital 5.0, teknologi terus berkembang dengan pesat sehingga penggunaan media digital menjadi semakin krusial. Hal serupa juga berlaku dalam konteks pengelolaan sampah di Indonesia. Pentingnya konsep pengolahan sampah secara digital, termasuk pemanfaatan sistem informasi diharapkan dapat meningkatkan daya tarik masyarakat Kelurahan Kelapa Dua Tangerang, melalui sistem penukaran poin dengan fitur rekomendasi, dengan tujuan untuk mencapai *zero waste lifestyle*. Poin dalam sistem ini didapatkan dari pengumpulan sampah botol plastik yang diserahkan oleh warga, sehingga mendorong partisipasi aktif dalam mendaur ulang sampah.

Sistem informasi untuk penukaran poin Padu E-Trash dikembangkan menggunakan metodologi *Agile Development* dengan *framework Scrum*. Notasi UML yang digunakan meliputi *use case diagram, class diagram, activity diagram,* dan *table relationship diagram* untuk pemodelan sistem, serta sistem dikembangkan menggunakan bahasa pemrograman PHP. Fitur sistem rekomendasi produk yang terdapat pada sistem dikembangkan dengan menggunakan metode *Content-Based Filtering* (C-BF) dan algoritma *Term Frequency-Inverse Document Frequency* (TF-IDF).

Hasil dari tugas akhir ini yang berupa sistem penukaran poin dengan fitur sistem rekomendasi produk, diharapkan dapat membantu admin dalam pengelolaan data serta membantu pengguna dengan memberikan rekomendasi produk berdasarkan profil dan kebutuhan pengguna. Sistem diuji menggunakan metode *black-box testing*.

Kata kunci: Sistem Rekomendasi, *Content-Based Filtering, Term Frequency-Inverse Document Frequency*, PHP.
Referensi: 30 (2015-2024)

ABSTRACT

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DEVELOPMENT OF A RECOMMENDATION SYSTEM FOR POINT EXCHANGE USING CONTENT-BASED FILTERING AND TF-IDF METHODS IN THE PADU E-TRASH APPLICATION

(xviii+ 167 pages: 237 figures, 37 tables, 6 appendices)

In the digital 5.0 era, technology continues to develop rapidly, making the use of digital media increasingly crucial. The same applies in the context of waste management in Indonesia. The importance of the concept of digital waste management, including the use of information systems, is expected to increase the attractiveness of the Kelapa Dua Village community, through a point redemption system with recommendation features, with the aim of achieving a zero-waste lifestyle. Points in this system are obtained from collecting plastic bottle waste submitted by residents, thereby encouraging active participation in recycling waste.

The information system for redeeming Padu E-Trash points was developed using the Agile Development methodology with the Scrum framework. UML notations used include use case diagram, class diagram, activity diagram, and table relationship diagram for system modeling, and the system is developed using PHP programming language. The product recommendation system features contained in the system were developed using the Content-Based Filtering (C-BF) method and the Term Frequency-Inverse Document Frequency (TF-IDF) algorithm.

The results of this final project in the form of a point exchange system with product recommendation system features, are expected to help the admin in data management and help users by providing product recommendations based on user profiles and needs. The system was tested using the black-box testing method.

Keywords: Recommendation System, Content-Based Filtering, Term Frequency-Inverse Document Frequency, PHP.
References: 30 (2015-2024)