INTISARI

Mahasiswa memerlukan rekomendasi untuk memutuskan mata kuliah yang akan diambilnya pada awal semester ini. Para Saat ini, di Departemen Teknik Elektro dan Teknologi Informasi (DTETI) belum diterapkan sistem rekomendasi pengambilan mata kuliah. Mahasiswa masih mendapatkan rekomendasi pengambilan mata kuliah dari dosen pembimbing akademik (DPA), kakak angkatan maupun buku panduan akademik.

Pada penelitian ini, dikembangkan sistem rekomendasi dengan menggunakan algoritme *collaborative filtering* dimana sistem tersebut akan menampilkan rekomendasi kepada pengguna aktif berdasarkan nilai kesamaan terhadap pengguna lain dalam populasi yang sama. Tiga Algoritme *collaborative filtering* digunakan dan dibandingkan kinerjanya, yaitu: *item-based collaborative filtering, user-based collaborative filtering, dan Modified collaborative filtering*. Selanjutnya dilakukan proses pengujian menggunakan pengujian algoritme, dan *acceptance testing.*

Hasil dari penelitian berupa perangkat lunak sistem rekomendasi pengambilan mata kulian berbasis *web* dengan menggunakan *platform* PHP, Python, HTML, dan MySQL. Hasil pengujian menunjukkan bahwa *Modified collaborative filtering* merupakan algoritme yang paling sesuai untuk diterapkan pada sistem rekomendasi pengambilan mata kuliah karena rekomendasi yang diberikan kepada pengguna sesuai dengan prodi pengguna. Sedangkan, hasil pengujian *acceptance-testing* didapati bahwa calon pengguna dapat menerima sistem rekomendasi yang telah dikembangkan.

Kata kunci: Sistem rekomendasi, *item-based collaborative filtering*, *user-based collaborative filtering, modified collaborative filtering* dan pengembangan *web*.

ABSTRACT

Students need recommendation on the next course at the beginning of the semester. In Departemen Teknik Elektro dan Teknologi Informasi *(DTETI) has not been implemented a recommender system for making decision on the next course. Student gets a recommendation on the next course by asking to* dosen pembimbing akademik (DPA)*, senior student, or curriculum guidebook.*

In this research, the system was developed using collaborative filtering algorithm, where the system offers reference of the next course to active user based on similarity to other users in the similar population. Three algorithms of collaborative filtering were used and compare, that is item-based collaborative filtering, user-based collaborative filtering, and modified collaborative filtering. Algorithms testing and acceptance testing were applied to evaluate the system.

The results of this research is software recommender system for making decision on next courses based on web development using platforms of PHP, Python programming language and MySql. Modified collaborative filtering was found as most appropriate method for this recommender system because suitable with curriculum in DTETI. Finally, user acceptance test showed that user could proved the recommender system.

Keyword: recommender system, item-based collaborative filtering, user-based collaborative filtering, modified collaborative filtering, and web development.