ABSTRAK

Banyaknya *video game* yang berbeda-beda, membuat *user* kesulitan dalam menentukan *video game* selanjutnya yang akan mereka mainkan. Sistem rekomendasi akan membantu karena dapat menemukan hal-hal yang disukai pengguna lewat riwayat kesukaan mereka. Penelitian ini menggunakan tipe rekomendasi *Item-based Collaborative Filtering*, tipe rekomendasi ini mencari *similarity*/kesamaan *item* dengan *item* lainnya. Sistem akan memberikan 10 rekomendasi *video game* dan kepada setiap *user* dan mencari nilai MAE (*Mean Absolute Error*) dari 2 metode prediksi *Weighted Average of Deviation* dan *Weighted Sum*.

Terdapat beberapa tahapan yang dilakukan pada penelitian ini. Yang pertama adalah pengambilan data *rating video game* dari *kaggle.com*. Kemudian melakukan perhitungan *similarity* dengan menggunakan metode *Pearson Based Correlation Based Similarity*, selanjutnya dilakukan prediksi *rating* menggunakan metode *Weighted Average of Deviation* dan metode *Weighted Sum*. Hasil prediksi *rating* akan digunakan untuk memberikan rekomendasi kepada setiap *user* yang sesuai. Akurasi dicari dengan menghitung *Mean Absolute Error* (MAE).

Dari pengujian yang dilakukan, dapat disimpulkan bahwa metode *Weighted Average of Deviation* memiliki nilai MAE sebesar 6,53655450011337, yang jauh lebih kecil dibandingkan dengan metode *Weighted Sum* yang memiliki nilai MAE sebesar 48,59665520110280. Hal ini berarti *Weighted Average of Deviation* jauh lebih baik dalam mencari prediksi *rating* dan memberikan rekomendasi.

Kata kunci: *Video Game*, Sistem Rekomendasi, *Item-based Collaborative Filtering*, *Pearson Correlation Based Similarity*, *Weighted Average of Deviation*, *Weighted Sum*, *Mean Absolute Error*

ABSTRACT

With the numbers of different video games, users will have difficulty in deciding of what video game they will play next. Recommender system will help because it can find items that the users will potentially like through their ratings' history. This research will use Item-based Collaborative Filtering as the recommendation type, this type finds similarity between items. The system will give 10 video games recommendation to each users and calculate the MAE (Mean Absolute Error) value of both prediction methods Weighted Average of Deviation and Weighted Sum.

There are a several steps carried out in this research. First, is getting the video game ratings data from kaggle.com. Then perform similarity calculation using the Pearson Correlation Based Similarity, next calculate rating predictions using Weighted Average of Deviation method and Weighted Sum method. The result of rating predictions will be used to give recommendations to each corresponding users. Accuracy is sought by calculating Mean Absolute Error (MAE).

From the tests performed, it can be concluded that Weighted Average of Deviation method has smaller MAE value of 6,53655450011337 than Weighted Sum method value which is 48,59665520110280, meaning that Weighted Average of Deviation is much better in finding rating predictions and giving recommendations.

Keyword: Video Game, Recommender System, Item-based Collaborative Filtering, Pearson Correlation Based Similarity, Weighted Average of Deviation, Weighted Sum, Mean Absolute Error