Abstract — The Covid-19 pandemic has triggered advancements in education through digital devices, which now allow education to be carried out anywhere without being limited to a place. This has revolutionized the world of education. Choosing the correct course, meanwhile, becomes difficult as the number of users and courses rises. Therefore, an online course recommender system is needed. One of the recommender system paradigms is collaborative filtering. Collaborative filtering uses two different sorts of approaches, i.e., memory-based collaborative filtering and model-based collaborative filtering. In memory-based CF recommendations are built with a neighborhood method that focuses on the relationship between items called item-based and the relationship between users called user-based. While model-based CF recommendations are built based on user ratings. Matrix factorization is proven to be a model-based technique that is able to provide good performance for recommender systems and is able to overcome the problem of high-dimensional data compared to other collaborative filtering techniques. Therefore, we built a recommender system in the online course domain using a singular value decomposition (SVD), which is one of many matrix factorization techniques. To evaluate the effectiveness of testing the SVD model, we apply the root mean square error (RMSE) evaluation metric. The evaluation results show that the SVD model outperforms the base model, as evidenced by the t-test results with a sample size of ten experiments.

Keywords— *Recommender System, Online Course, Matrix Factorization, Singular Value Decomposition*