

## **Penerapan Metode Collaborative Filtering untuk Personalized Learning Content pada Learning Management System (LMS)**

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### **Abstract**

The delivery of appropriate learning content can be one of the factors that can increase satisfaction, motivation, and interest of learners in learning sessions. But on the other hand, due to a large amount of learning content available on LMS and the difficulty of determining learning content that suits the needs and interests of each learner, it often causes some learning content to be overlooked by learners. Therefore, this paper aims to design a personalized learning content system in LMS (Learning Management System) for learners. The main objective of this study is to provide learning content suggestions or recommendations for learners, based on the course module they previously accessed by applying Collaborative Filtering methods. This method is used by utilizing data sets in the form of implicit feedback, obtained from the activities of learners when interacting with LMS. The UAT results show that the personalization system has been well received by as many as 82.67% of learners based on three aspects, those are interface, user, and system interaction aspects. Moreover, the Mean Absolute Error calculation shows that this system has the best accuracy rate at a 10% sparsity level with the lowest MAE average value of 0.4514.

**Keywords:** collaborative filtering, implicit feedback, LMS, MAE, personalization, UAT

