OPTIMIZING VALORANT GAME PURCHASES AND SKIN SELECTION USING ADAPTIVE NEURO FUZZY INFERENCES SYSTEM (ANFIS)

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ABSTRACT

Online games, especially First Person Shooter (FPS) games like Valorant, have experienced rapid growth and become a popular form of entertainment. In this game, players can purchase weapon skins using Valorant points (VP) to enhance visual aspects. However, the skin selection process often presents challenges because players must consider various factors, such as budget constraints, rarity, and subjective visual effects. This study aims to develop a Valorant skin selection recommendation system based on the Adaptive Neuro-Fuzzy Inference System method. The ANFIS method was chosen because of its ability to process uncertain and ambiguous data through the integration of fuzzy logic and artificial neural networks. The variables used in this study include price, rarity, and visual effects, which are processed through stages of normalization, subtractive clustering, membership function formation, rule base formation, and model training using the Hybrid Learning method. The test results show that the developed model is capable of producing a Root Mean Square Error (RMSE) value of 0.0717 and R^2 *value of 0.8840 on the test data, indicating a low level of prediction error. Thus, the system built is able to provide accurate and relevant skin recommendations according to user preferences, thus supporting more optimal purchasing decision-making.*

Keywords: *Recommendation System, ANFIS, Valorant, RMSE, Subtractive Clustering.*