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Exploring Gaming-Learning Interaction in MMOG Using Data Mining Methods

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Abstract : The purpose of the research is to explore some of the ways in which gameplay data can be analyzed to yield results that feedback into the learning ecosystem. Back-end data for all users as they played an MMOG, The Radix Endeavor, was collected, and this study reports the analyses on a specific genetics quest by using the data mining techniques, including the decision tree method. In the study, different reasons for quest failure between participants who eventually succeeded and who never succeeded were revealed. Regarding the in-game tools use, trait examiner was a key tool in the quest completion process. Subsequently, the results of decision tree showed that a lack of trait examiner usage can be made up with additional Punnett square uses, displaying multiple pathways to success in this quest. The methods of analysis used in this study and the resulting usage patterns indicate some useful ways that gameplay data can provide insights in two main areas. The first is for game designers to know how players are interacting with and learning from their game. The second is for players themselves as well as their teachers to get information on how they are progressing through the game, and to provide help they may need based on strategies and misconceptions identified in the data.

Keywords : MMOG, decision tree, genetics, gaming-learning interaction
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