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International Journal of Computer Games Technology
Volume 2008 (2008), Article ID 906931, 9 pages
doi:10.1155/2008/906931

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Research Article

Visualization of Online-Game Players Based on Their Action Behaviors

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Received 1 February 2008; Revised 8 May 2008; Accepted 11 June 2008

Academic Editor: Jouni Smed

Abstract

We propose a visualization approach for analyzing players' action behaviors. The proposed approach consists of two visualization techniques: classical multidimensional scaling (CMDS) and KeyGraph. CMDS is for discovering clusters of players who behave similarly. KeyGraph is for interpreting action behaviors of players in a cluster of interest. In order to reduce the dimension of matrices used in computation of the CMDS input, we exploit a time-series reduction technique recently proposed by us. Our visualization approach is evaluated using log of an online game where three-player types according to Bartle's taxonomy are found, that is, achievers, explorers, and socializers.