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PLAYER PROFILING AND ANALYSIS OF ABUSIVE BEHAVIOUR IN SOCIAL GAMES

Abstract

Online multiplayer games create new social platforms, with their own etiquette, social rules of conduct and ways of expression. What counts as aggressive and abusing behavior may change depending on the platform, but most online gaming companies need to deal with aggressive and abusive players explicitly. Artificial intelligence and machine learning techniques are not only useful for creating plausible behaviors for interactive game elements, but also for the analysis of the players to provide a better gaming environment.

In this thesis, we investigate the verbal and non-verbal data generated in an online social gaming platform and propose novel algorithms for automatic classification of abusive players and player complaints. We use features that describe both parties of the complaint (namely, the accuser and the suspect), as well as interaction features of the game itself. This methodology is sufficiently generic, and it can be applied to similar gaming platforms, thus describing a useful tool for game companies.

We also introduce the COPA Database of 100.000 unique users and 800.000 individual games, which includes multiparty chat records in Turkish, in addition to player profiles, social interactions, and annotated complaint data. The proposed supervised methodologies for complaint classification are tested on this database, and we advance the state-of-the-art in this challenging problem. In addition, we have studied the multiparty chat data collected within the COPA dataset. In particular, we developed a methodology for affect analysis to enrich the interpretation of the data. Finally, we developed a system for authorship recognition based on chat records to identify duplicate user accounts and returning abusive users by analyzing the chat data.

PUBLICATIONS

Journals

1. Balci, K., A.A. Salah, "Automatic classification of player complaints in social games," IEEE Transactions on Computational Intelligence and AI in Games, yayında. (SCIE)
2. Balci, K., A.A. Salah, "Automatic analysis and identification of verbal aggression and abusive behaviors for online social games," Computers in Human Behavior, vol.53, pp.517-526, 2015. (SSCI).

Conferences

1. Kuzu, R.S., K. Balci, A.A. Salah, "Authorship Recognition in a Multiparty Chat Scenario," Int. Workshop on Biometrics and Forensics, Limassol, March 2016
2. Aydın Oktay, E., K. Balci, A.A. Salah, "Automatic assessment of dimensional affective content in Turkish multi-party chat messages," Int. Workshop on Emotion Representations and Modelling for Companion Systems (ERM4CT), Seattle, November 2015.
3. Balci, K., A.A. Salah, "Player profiling and offender classification from player complaints in online social games", Workshop on Design and Evaluation of Sociability in Online Games at CHI, Paris, 2013.

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