A serious game for teaching conflict resolution to children

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Abstract. To learn how to manage conflict situations is essential for a healthier society. In this paper, we present a serious game scenario that aims at reinforcing this pro-social behaviour in children by using emotional agents as NPCs.

Key words: Conflict, Virtual agents, Serious Game

1 Introduction

Conflict is pervasive in our society and is often related to critical aspects of our human nature. However, despite conflicts being associated with negative feelings and destructive behaviours, conflict situations may lead to positive outcomes, as they offer opportunities for growth and improvement [4]. Yet conflict, when not managed adequately, can have some negative and dramatic consequences in our society. For that reason, being able to cope with conflict situations and handle different kind of conflict scenarios is something that one should learn how to master and this pro-social behaviour should be fostered since early stages in life.

Educational interventions in schools have taken different forms (eg. peer mediation programs or drama workshops) and have proven to have a positive impact on students behaviour. However, these classroom settings are static and promote in-class learning and most of the times are not adapted to one individuals specific needs. To address this issue and to go beyond impersonal learning, games have been object of research as a tool to immerse people in a powerful environment that allows users to learn new skills, knowledge and attitudes [3].

In this paper, we propose an educational game - *My Dream Theatre* that intends to prepare children to manage conflict more effectively and independently. *My Dream Theatre* prototype is integrated within the SIREN[1] project, which aims to develop an adaptive serious game for teaching conflict resolution to children.

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[1] http://sirenproject.eu/

2   Emergent Conflicts out of Emotional Agents

Social conflict is a dyadic process which encapsulates perception, emotions, behaviours of both parties and consequences as a result of such interaction [1]. In this research, we aim at addressing this phenomena by creating groups of agents, that engage in natural situations of conflict, in the environment of an educative game for children.

My Dream Theatre is an educational game that aims at teaching 9 to 11-year-old children, some conflict resolution skills. The game setting is a school theatre club directed by the user. The user has to select an adequate cast for each performance. Each cast member (non-player character - NPC) has a set of characteristics, such as preferences for roles, a level of proficiency, interests and personality. As the user assigns roles to each one of the characters, conflict situations may emerge due to the agents' conflicting goals and their choice of actions to handle the situation. When conflict arises, the user intervention is required to balance the agent's proficiency and cooperativeness (which may have to be mediated by the user) and assure a good performance in the end.

Conflict in real life is highly dependent on emotional responses reflected on one's actions. Hence, we integrated a model of emotions in this prototype – FAtiMAs agent model [2], which steams from OCC cognitive theory of emotions and is the base of the agents decision making process. We consider that such emotional processes in the agents' minds is essential to capture the essence of the real conflicts found in the description of real world situations. The escalation process will therefore be an effect of each character appraisal of the situation and it evolves as a result of the interplay between the agents.

This initial prototype intends to address some elements of the deep structure of conflict, as for example, one's emotions and others' points of view, which are important variables to understand how one should cope in a certain situation. By having an environment that suits the users needs and experiences, we expect to promote transferable knowledge to real life situations.

References

1. C. H. Coombs and G. S. Avrunin. *The Structure of Conflict.* Psychology Press, 1988.
2. J. Dias and A. Paiva. Feeling and Reasoning: A Computational Model for Emotional Characters. In *EPIA*, pages 127–140, 2005.
3. D. Lieberman. What can we learn from playing interactive games? *Playing video games: Motives, responses, and consequences*, pages 379–397, 2006.
4. C. Tessier, H. J. Müller, H. Fiorino, and L. Chaudron. *Agent's Conflicts: New issues*, pages 2–20. Springer, 2001.