The increasing amount of Artificial Intelligence (AI) added to Virtual Environments (VE) during the last few years has generated great research works in the intersection between AI and VE areas. This is the so-called Intelligent Virtual Environments (IVE) area. Frequently this intersection takes place through the addition of intelligent agents (IA) to virtual environments. These agents are also known as virtual agents (VA).

Nowadays, VEs are becoming a widely-used technology as the price of the hardware necessary to run them decreases. Current video games show 3D environments unimaginable some years ago. Many recently developed virtual environments recreate real spaces with an impressive degree of realism. In such contexts, however, a lack of information for the user is frequently perceived which makes him lose his interest in these environments. Despite of the visual realism VEs show, the user is usually disappointed by the lack of intelligent behaviours in it. The use of AI techniques is viewed by the VE creators as a tool to qualitatively improve their creations.

On the other hand, many groups of researchers from AI are coming to recognise VE as a powerful testbed for their technologies. There are a great number of results from AI which can be applied to solve problems in VEs. Techniques taken from areas such as planning, natural language understanding, natural language generation, digital storytelling, narrative construction, emotional intelligence, robotics, artificial life, fuzzy logic, evolutionary algorithms, etc. can help to solve many current problems in VEs.

In this sense, the IVEVA workshop is intended to promote the exchange of ideas between AI researchers and VE researchers and practitioners. It should also be noted that this is the second edition of this workshop. The first edition was carried out in the MICAI conference, and its success encouraged us to organize this new edition in the same framework. We think the high quality of the accepted papers guarantees the success of the event.

Some papers concentrate on the modelling of virtual environments and characters. In this sense, Bille et al. present a new approach for designing VR applications at a conceptual level and in terms of concepts from the application domain by using domain ontologies. Germán-Soto et al. describe an approach to model the interaction among artificial life agents in terms of goal-states, rules of behaviour based on agents' goal and actions, initial knowledge and communication instructions

Other papers deal with the design of virtual creatures and groups of creatures. For example Rudomín et al. describe a system where behaviour of characters and groups of characters are determined by assigning attributes to groups and individuals hierarchically, combined with behaviour maps that allow the user or the program to specify conditions that modify the behaviour of the characters. Delgado-Mata investigates how emotions affect behaviour and finds that emotion can be used to regulate two competing and vital behaviours: the group and individual behaviour, thus demonstrating that emotion is a functional organiser of group behaviour.

Several papers propose novel techniques and technologies for the design of virtual storytelling systems. In this sense Ibáñez & Aylett describe the design and implementation of a storytelling system which allows a virtual guide to tell stories from her own perspective. The system is demonstrated by applying it to show a virtual family home. Louchart et al. discuss the interactional structure and articulations of a speech system. They also describe the different speech acts and their categorisation while demonstrating the pertinence of its content to the specific theme of bulling. Larios et al. introduce an object-oriented expandable API to create interactive storytelling systems. The API provides many of the low-level functionality requirements of an interactive storytelling system.

Finally some papers propose the suitable use of particular resources to improve the functioning of the worlds. For example Pérez et al. discuss the use of Grid technology to boost an architecture of autonomous agents, which simulates the behaviour of flocking mammals that communicate emotions through pheromones. The capabilities of the Grid make it possible to run simulations with thousands of virtual animals. García-Ruiz & Bustos-Mendoza present ongoing research on interaction in virtual environments by using a hardware-based voice recognition system.

We think these stimulating works are an excellent representation of the kind of research being carried out nowadays towards the improvement of virtual environments,. We wish they are highly suggestive for the people attending the workshop. We believe that the exchange of ideas between AI and VE disciplines will lead to many exciting and fruitful discussions during the IVEVA workshop, which draws its liveliness from a spirit of open mindedness and the willingness to learn from and share with other disciplines.

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