

**Homo ludens - designing tomorrow's games**

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In an electronic and cybernetic world, when one is faced with the task of devising different kinds of interaction among participants, it is worth reflecting that, out of the many and various activities which people engage in, there is one kind of activity which has been cultivated, practised and performed for thousands of years by all members of society. This is the playing of games.

Although there is often little sound evidence about their origins, it is certain that games in their very wide and varied modalities have always been present in widely differing eras and cultures.

Board games, for example, have been played for thousands of years. Their origins might well be found in some of the activities carried out by primitive men, such as magical rites or military movements. It seems clear that they imitated, symbolically, men's activities: hunt, race, battle, siege and territorial conquest. Some of these activities are still reflected in the latest versions of modern board games.

On the other hand, games involving playing cards incorporate the lore of cards in the east and the west and have been related to magic, gaming, divination and the religious world.

Games have always, it seems, been felt to be vitally important as a means of enabling interaction and communication between human beings, and as a pedagogical, instructive and social tool. They play a crucial part in children's development, with - as the old saying goes - "the purpose of preparing the future man and citizen".

However, team games are supposed by some to be a product of modern ages. Interestingly, though, this plural participation of actors in team games is not one of the main features of modern computer games.

Indeed, quite the contrary. Some of the most critical views on the subject assert that what modern computer games encourage is not communication, but separateness between human beings, as the individual child, the teenager or the adult begins to spend more and more time in front of a computer, without saying a word, trying to beat a monster, an alien or a humanoid character or trying to beat him- or herself in some sort of solitary game. While this trend is seen as beneficial by some, in that it encourages individuality, many critics complain that computer games are actually a tool to keep people apart from each other, instead of fulfilling an important function of games, which is to bring people together, make them more social, and try to pull down physical, cultural and language barriers.

It is quite obvious that some of the games played on computers, such as chess, which are based on ancient games, serve the purpose of opposing man and machine and are a challenge for human intelligence, both for players and for programmers. We all felt something of this challenge when witnessing the last contest between Kasparov and Deep Blue.

However, more positive structures for computer games are under way. Designed and devised by people who realise that computers today are a means of encouraging synergy: a means of linking rather than separating people; of helping people to join together and combine their efforts rather than taking divergent paths.





The project AMUSEMENT, as a member of the i3 community, bears in mind that the two pillars in computing for the new century to come, in the i3 landscape, are to connect communities with the most intelligent information interfaces. And one of the main objectives of AMUSEMENT is to connect people separated by distance in order to enable them to share their leisure time in an inhabited space, in a virtual world.

In this virtual world, the violent, solitary kind of game will not be considered as a good way of promoting interaction. On the contrary, we rather want to explore the well-known social games, those that you usually play at home with a few of your friends, and implement them in a virtual world. Our purpose is to apply the new computer tools to this playful scenario, to this inhabited space as a means of interrelating and connecting with other people through the machine - not just connecting you to the machine.

Imagine a world - a virtual world - in which you can play cards with your old friends or with new acquaintances, hundreds or thousands of kilometres away, but having the sensation that you have your partner at hand, that you can 'feel' his or her eyes on you, that all of you in the group are 'sitting' at the same table...

Imagine that you can also choose the electronic representation you would like to adopt in that virtual environment. And that electronic representation, the avatar, will have a physical appearance, which the player - whether a child, a man or a woman - can choose personally from a variety of specified appearances: human or non-human, male or female, realistic or cartoon-like, according to his or her preferences. Wouldn't it be funny to adopt the physical appearance of a cartoon character, like Roger Rabbit, and behave in an unpredictable way? Wouldn't be a great fun to use one of these avatars and adopt a different personality so as to make your

playmate get confused? Maybe this is one of the main attractions of virtual multi-user environments: they allow the player or user to pretend to be someone different and, if so desired, to behave in such a way that can mislead an opponent or a playmate.

Although physical appearance can be very important in any kind of interaction with people, it is not the most outstanding or crucial factor - at least, not for our purposes. It is more interesting to present avatars that can express interaction with other users by equipping them with the ability to show emotions and to exhibit consistent behaviour. Therefore, it is of great importance to adopt an internal model which can also be provided with some features that allow for the evolution of avatars.

But will avatars be completely autonomous, or will they rather be controlled by the user to reflect at any moment the user's moods, attitudes, degree of awareness towards other participants? Will it be more challenging and funny for the player to interact by means of an avatar that can evolve, react and decide by itself in certain situations, or would he or she prefer to steer the game and let his or her representation behave like a puppet, giving no clues at all, either facial or verbal? In which type of games is this autonomy of avatars more essential? Success or failure in the board game 'Monopoly', for instance, does not depend on facial signs or facial control. In certain card games, however, such as poker or bridge, the reading of the players' faces is a crucial aspect, and the ability to keep 'a poker face' is a desirable - even essential - talent in a player.

To balance the two extremes of autonomy and user dependency is one of the aims we want to achieve in AMUSEMENT. The internal representation of the user will be designed to allow the avatar to behave with different degrees of autonomy. The user will partially delegate some functions, leaving the avatar to take some decisions on which action to perform and how to perform it. These decisions will be based on the internal model, a social-psychological model, which will be enriched with the possibility of providing the avatar with new traits like the one called 'ability for simulation', especially interesting in some card games, in which one of the main assets is to deceive the opponent or to simulate a situation that can make him believe something that it is not true. Another important point to consider would be the possibility of generating our own individual representation, making it evolve following evolutionary models that could take into account the environment and the physical appearance of our playmates' avatars.

AMUSEMENT will also study some other features or 'special effects' that we consider very important for the games we are developing. Icons, sounds, lights, colours, music and other audiovisual effects can enhance the representation and communication ability of the participant. For children and for grown-ups some of the symbols used by cartoons are very easy to understand. Therefore, strong emphasis will be put on the use of symbolic language taking into account that symbols can be an interlingual and intercultural means of communication.

And - very importantly for a multi-language community such as ours in Europe - one of our key objectives is to explore the feasibility of multi-lingual players' being able to play the kind of games in which participants traditionally communicate verbally, by replacing verbal messages with nonverbal and symbolic signs - by replacing the words with 'special effects'.

And these 'special effects' will hold good whatever language you speak. So even if you and your playmates all come from different countries and each of you speaks a different language, you can all communicate with each other by making use of these different 'special effects' channels in this virtual environment.

Perhaps this shows us one way forward for computing in multilingual Europe and in the rest of the world, suffering under a linguistic

monopoly with the dominance of English-based operating systems.

But if we take this path it is important to recognise that gestures, symbols, icons, drawings and colours may have a different cultural meaning in different communities. For instance, mourning is represented by black clothes in our culture whereas Japanese people use white colour in the same situation. So the need for agreement on the use of a universal symbolic language for these games is important.

'Symbolic' is an important word here, also when dealing with the representation of people as avatars. To be more 'believable', avatars do not necessarily require more 'realism'. Rather, they need to be given the potential to access every communication channel that is available in interaction processes in real life (speech, gestures, sounds, onomatopoeias, reflex movements, eye gaze, stance, etc.) as well as the new imaginative communication channels that can be used in an artificial created world, where the laws of physics and

logic do not apply. The use of multiple communication channels will be one of the goals to achieve in AMUSEMENT, and to allow avatars to make use of some of these 'special effects' in order to enrich their own possibilities of expression will certainly inject more emotion into this virtual communication.

So, although realism is today considered a must and a lot of effort is devoted to the design of advanced computer graphics algorithms that allow three- dimensional human-like figures to behave in a natural way, we want to examine other possibilities, as our hypothesis is that expressiveness in avatars and believable interaction can be achieved by combining simple audio-visual clues (just compare Toy Story with the 'taking a line for a walk' approach of the best graphic animators). As long as these are the right clues. As Picasso said, you have to understand perfectly every muscle on a bull before you can draw him in six lines.

AMUSEMENT is an attempt to produce a new form of a connected, collaborative and interactive world, in which games are in fact an excuse, a test-bed, and results will be applied not only to playful activities but also to other possible fields such as professional, multi-cultural collaboration, as a means of encouraging people in mutual interaction. In short, multi-user games are the beginning of a promising journey which will take place in a virtual thematic scenario that will enable people to enhance their possibilities of communication with each other, for leisure - and perhaps more serious - purposes.



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