Gordana Dodig-Crnkovic and Thomas Larsson

Game Ethics - Homo Ludens as a Computer Game Designer and Consumer

Abstract:

Play and games are among the basic means of expression in intelligent communication, influenced by the relevant cultural environment. Games have found a natural expression in the contemporary computer era in which communications are increasingly mediated by computing technology. The widespread use of e-games results in conceptual and policy vacuums that must be examined and understood. Humans involved in designing, administering, selling, playing etc. computer games encounter new situations in which good and bad, right and wrong, are not defined by the experience of previous generations. This article gives an account of the historical necessity of games, the development of e-games, their pros- and cons, threats and promises, focusing on the ethical awareness and attitudes of game developers.

Agenda

Authors:

Dr. Gordana Dodig-Crnkovic:

- Organization and contact address: Mälardalen University, Department of Computer Science and Electronics, IDE, PO Box 883, S-722 18 Västerås, Sweden
- Telephone, email and personal homepage: ☎ + 46 - 21 15 17 25, ✉ gordana.dodig-crnkovic@mdh.se, 💻 http://www.idt.mdh.se/~gdc

Thomas Larsson

- Organization and contact address: Mälardalen University, Department of Computer Science and Electronics, IDE, PO Box 883, S-722 18 Västerås, Sweden
- Telephone, email and personal homepage: ☎ + 46 - 21 10 15 14, ✉ thomas.larsson@mdh.se, 💻 http://www.idt.mdh.se/personal/tla

Computer Aided Homo/Femina Ludens

In his book *Homo Ludens*, or Man as Player, Johan Huizinga (2000) discusses the importance of the play-element in culture and society. For Huizinga, play takes place in a specific conceptual space, the Magic Circle, in which various actions acquire their meanings, sanctioned by the game, meanings that may be unacceptable outside the play context.

However, it is not easy to draw a clear borderline between the Magic Circle of a game (virtual) and other symbolic expressive ways used as a manifestation of the world "as is" (real). The distinction is subtle – a game is always embedded in reality and interpreted both inside and outside its conceptual space. Play can also be seen as the activity of emulating life in a safe context e.g. when children play at fighting or parodying adults.

Play is not only a human activity – animals also play. In both cases, play is used for learning patterns of behaviour and for communication. Play and games, rule-based forms of play, seem to be an indispensable mode of intelligent behavior. The most fundamental relations between humans, such as love, kinship, and social ranking as superior/ subordinate are intimately connected with ritual play. Celebrations are frequently accompanied by play and often also by games – play is a characteristic part of marriage rites and many other religious and secular ceremonies.

The ways we play vary with civilizations; they are influenced by the cultural environment. In the computer era, in which communications are more and more mediated by computing technology, games have found a natural expression. Computer games are nowadays used in education, entertainment, advertising, and many more fields - often combined with computer simulation. As a consequence, the study of computer games steadily increases in importance.

Reality, Representation, Simulation - An Eternal Golden Braid

In this area computer scientists focus mainly on the technology of e-games production, while other researchers are endeavouring to obtain an understanding of workings of e-games, the players, and the interactions between them. The two dominating theoretical approaches in the study of e-games are ludology and narratology.

The term ludology originates from non-electronic games, but became associated with e-games when used by Gonzalo Frasca (2003). Major issues are illuminated through the opposition between *narrative* and *simulation*.

Within the narrative tradition, an interesting literary analysis relevant for understanding gaming and its relation to "real life" is given in *The Glass Bead Game,* a novel by Herman Hesse (2002). The novel contains an analysis of the ideal of a universal language and a knowledge system with a synthesis of philosophy, logic, aesthetics, mathematics and sciences with arts and music, implemented in the form of a game. The book is about humanity's continuous search for enlightenment and for union of intellectual reflection (externalist stance, narrative) and agenthood (internalist, ludic).

In considering the ethics of games, we must take into account several meanings of the term "game". Our basic ideas about what is important, what matters, what is valuable or good in games are dependent on our understanding of what a game is and what it might be. If we conceive of a game as being at the heart of our conceptualization of the world, then our ethical analysis will need to take into account both the ontological and epistemological functions of games. The epistemological significance of games can be analysed in the interactive learning process. Computer games in particular are powerful tools able to change our ideas about the world and our agency in it.

Game Ethics

Research into the Effects of E-games as a Persuasive Technology and a Learning Tool

The capacity of interactive media to change people's attitudes and behavior has been addressed by Fogg in his study of computers as persuasive technology (Fogg, 2002). Web sites, mobile phones, video games, and virtual reality applications, for example, can be designed to serve as interactive tools affecting users' attitudes, behavior, motivation, and worldview. Fogg points out that computers can be more persistent than humans, offer greater anonymity, manage huge volumes of data, use many modalities to exert influence, easily adapt to increased demands, and can be used where humans may not be welcome. Hence, consumers need to be

aware of this new type of manipulation, in which computers are used in refined and cunning ways, perhaps with a hidden agenda. As an illustration, consider the computer game "America's Army", which was designed for recreating "the US Army for the benefit of young civilians" (Zyda, 2003).

Among the positive effects of games, besides the pleasure and fun they may bring to players, we can mention their usefulness in health care and as educational tools. For example, there are specially designed games used in habilitation and rehabilitation (Griffiths, 2003). Games can improve the teaching of eye-hand coordination and visual spatial ability, help in fostering creativity, encourage exploratory and non-linear thinking, make children feel comfortable with computers and technology in general, and develop literacy, logical thinking, problem-solving, communication, and collaborative skills.

The reason why e-games provide such a powerful learning environment is because of the active participation inherent in games, particularly through focused attention, repetition, and reinforcement. As suggested by social learning theory, these are key factors in learning, and they can be powerful enough to even affect the players' actions in the real world outside the games (Bandura, 1997). Learning is also enhanced by games giving rise to intrinsic motivation through e.g. triggering fantasy, control and challenge (Cordova and Lepper, 1996). A desire to beat the game might engage children to such a degree that they are activated to learn, searching for solutions, both within and outside the game.

In today's highly complex games, players might be e.g. encouraged to actively investigate historical events by replaying known history. They can experience new social roles by building and exploring virtual communities and societies (as in Sim City). Some of these games require the testing of hypotheses, analyses, and interpretations. Attempts to bring this type of game into the class-room have been made with some interesting results (Squire 2004).

Constructivist learning theory views knowledge as constructed by people, in a common context based upon the interpretation of experience and previous knowledge, and it can be easily applied to e-game-induced learning. James Paul Gee discusses as many as 36 learning principles present in various e-games. These include the principles of active critical learning, the regime of competence, achievement, amplification of input, and multi-modality. (Gee, 2003).

He argues that designers of "good games" build on superior (interactive, dialogical, ludic) learning methods in comparison with traditional pedagogy based on mechanical narrative, monotonic drilling, repetitiveness and rigidity.

The potentially negative effects of e-games include reduced physical fitness (Vandewater et al., 2004), risk of addiction and reduced prosocial behaviour, and lowered academic performance (Gentile, 2004). Perhaps the most troublesome aspect of e-games is that those involving a considerable degree of violence appear to be extremely popular and prevalent. Research studies indicate several undesirable effects of violent video games, such as aggravated antisocial behaviour, desensitization, increasingly violent attitudes and behaviour and delinquency (Funk et al, 2003 and 2004; Anderson, 2004).

Although the study of the effects of violent video games is a relatively new field, the number of research publications available has now become large enough to permit the application of meta-analytic methods. The first meta-study (Anderson, et al., 2001), later updated to include studies from a total of 45 published works (Anderson, 2004), shows that exposure to violence in e-games is significantly linked to increases in aggressive behaviour, cardiovascular arousal, aggressive cognition, and aggressive affect.

A summary of the research findings from both experimental and cross-sectional correlational studies strongly suggest that the potentially harmful effects of violent video games must be taken seriously. Complementary longitudinal studies are however needed to make the picture of the problem more complete. For further information, see the available reviews of the research literature (Carnagey and Anderson, 2003, Dill and Dill, 1998).

The Game Designer – Magister Ludi

As the existing research into the effects of e-games indicates, both positive and negative consequences arise as a result of the growing popularity and spreading of computer games. In the light of existing ethical theories such as utilitarianism, virtue and duty ethics, and the ethics of human rights, it is possible to assess their pros and cons and thereby give us a basis for the further development of gaming culture including the design, production, distribution and consumption of games. The utilitarian analysis may give an insight into the overall structure of the gaming phenomena and its significance for different social groups. As an example we

can mention that an already established correlation between violent TV and aggressive behaviour of some viewers may be expected to be even more pronounced in the case of interactive e-games, as besides all other factors already present in a TV media, playing games includes interactivity, and hence reinforcement learning, which can be expected to lead to increasing violent behaviour.

In contrast to utilitarian arguments that center on balancing positive and negative effects, duty ethics emphasizes the importance of the subject's motives or intentions. For instance, by merely focusing on sales and profit, game developers fall into the trap of treating the players as mere means (to an end), thereby violating the categorical imperative to treat humanity "as an end in itself, and never simply as a means."

Virtue ethics can be applied to game developers and consumers, the latter ones being far more numerous. Therefore, we will concentrate on the player's traits of character developed or enhanced by the game playing. Erasmus of Rotterdam (1994) in *The Praise of Folly* depicts Folly (offspring of Inebriation and Ignorance, closely coupled to superficial entertainment) whose close companions are Hedone (pleasure), Philautia (self-love), Misoponia (laziness), Anoia (thoughtlessness), Tryphe (wantonness), Komos (intemperance) Lethe (oblivion), Kolakia (flattery), and Eegretos Hypnos (dead sleep). Many of the vices Erasmus associates with Folly are commonly attributed to excessive game playing by e-game critics.

Thinking in terms of human rights, we can mention that the UN Convention on the Rights of the Child requires us (including the game developers) "to protect the child from all forms of physical or mental violence", (http://www.unicef.org/crc/fulltext.htm). The human rights of children in that sense might be infringed when children are exposed to video game violence.

In brief, as a game designer, you are Magister Ludi of The Glass Bead Game, you decide the available set of possibilities and meanings within a game. This includes the atmosphere, interaction, actions and feedback. A game defines a broad spectrum of actions ranging from "bad" to "good". By modeling the relation of an act to its consequences, the designer signals social approval or disproval (Brey, 1999). In this way, a sound ethical reflection model may, (or may not), be built into the game, affecting the consumer's ideas and dispositions.

However, rather than elaborating on e-game ethics, game designers often rely on free speech legislation to defend their right not to take into account ethical considerations. In principle, freedom of speech may seem undeniable but at the same time, it must be admitted that game designers do not work for themselves only. Their products reach millions of young people. According to public debate and research about video games, the major current issues seem to be their widespread use of violence and the degradation of women. This, together with the more or less uncontrollable spread of the games through downloading, copying, selling to minors, etc., constitutes an ethical problem. When age restriction is ruled out, the game designers need to reflect on the societal consequences of their product to an even higher degree.

What, then, does it mean to be an ethically aware game developer? First of all, one ought to acknowledge the interactive learning effectiveness of e-games, and try to avoid their possible detrimental effects, making sure that ethically sound games are created. To do this, there are many learning factors and principles involved in today's sophisticated games of which the developer needs to be aware. It is also important that developers weigh the purpose and story of games that "require" the depicting of e.g. violence, against the potential harmful societal effect this might have according to research findings. Furthermore, education in ethics is needed, and professional ethical guidelines should be developed to serve as helpful tools in a game designer's daily work.

Conclusions

Computer games are here to stay. The question is not whether their existence is legitimate, but how the best use can be made of them, taking into account all their potential positive qualities and minimizing as far as possible their negative side-effects.

Responsible game developers need to be aware of research findings concerning the effects of the medium they utilize. Given the positive and negative consequences indicated by studies of gaming, developers need to make knowledgeable decisions concerning the content, purpose and goals of their work. Naturally, this involves different degrees of ethical reflection for different types of games.

One way of improving game design is to broaden the scope of the underlying design documentation.

It should include a discussion of the target group, ethical implications, pedagogical aspects (what will the players learn, how and why), potential or expected positive and negative effects on players and their environment.

Finally, the education system must be the key to achieving the goal of an ethical improvement of game culture. The moral standards of today's secular society are in the first place set and attained within the education system. In particular, game developers are in need of education in ethics within their professional training (Dodig-Crnkovic, 2004).

In addition to game developers, all other involved parties need to understand the ethical issues involved. Parents, educators, and legislators alike should be able to make well-motivated choices based on research findings, expected societal consequences, and accepted cultural value standards. In the long run this will support the development of a more ethically sound game culture.

References

Anderson, C. A. and Bushman B. J.: Effects of Violent Video Games on Aggressive Behavior, Aggressive Cognition, Aggressive Affect, Physiological Arousal, and Prosocial Behavior: A Meta-Analytic Review of the Scientific Literature. Psychological Science 12(5), 353-359, 2001.

Anderson, C. A.: An update on the effects of playing violent video games. Journal of Adolescence, 27, 113–122, 2004.

Bandura, A.: Self-Efficacy: The exercise of control, New York:Freeman, 1997.

Brey, P. The ethics of representation and action in virtual reality Ethics and Information Technology 1(1), 5-14. ISSN 1388-1957. 1999.

Carnagey N. L. and Anderson C. A.: Violent Video Game Exposure: A Literature Review, Minerva Psichiatrica, 2003.

Cordova, D. I. and Lepper, M. R.: Intrinsic motivation and the process of learning: Beneficial effects of contextualization, personalization, and choice. Journal of Educational Psychology, 88, 715-730,1996.

Dodig-Crnkovic G.: On the Importance of Teaching Professional Ethics to Computer Science Students, E-CAP 2004 Conference, Pavia, Italy. To be published in: L. Magnani, Computing and Philosophy, Associated International Academic Publishers, Pavia, 2006.

Dill K. E. and Dill J. C.: Video game violence: A review of the empirical literature. Aggression and Violent Behavior, 3(4), 407-428, 1998.

Erasmus Of Rotterdam: Praise of Folly, Penguin Books, March 1994.

Fogg B. J.: Persuasive Technology: Using Computers to Change What We Think and Do. Morgan Kaufmann, San Francisco, 2002.

Frasca, G.: Ludologists love stories, too: notes from a debate that never took place. Paper presented at the Level Up - Digital Games Research Conference, eds. Copier & Raessens, Utrecht University & Digra, Utrecht, 2003.

Funk J.B. et al.: Violence exposure in real-life, video games, television, movies, and the internet: is there desensitization? Journal of Adolescence 27, 23-39, 2004.

Funk J.B., Buchman D., Jenks J., and Bechtoldt H.: Playing violent video games, desensitization, and moral evaluation in children. Applied Developmental Psychology, 24, 413-436, 2003.

Gee J. P.: What video games have to teach us about learning and literacy. 2003.

Gentile D. A., et al.: The effects of violent video game habits on adolescent hostility, aggressive behaviors, and school performance. Journal of Adolescence 27, 5-22, 2004.

Griffiths, M.: The Therapeutic Use of Video Games in Childhood and Adolescence. Clinical Child Psychology and Psychiatry, 8(4), 547–554, 2003.

Grossman, D. and DeGaetano G.: Stop Teaching Our Kids to Kill. Random House, 1999.

Hesse H.: The Glass Bead Game: (Magister Ludi) A Novel, Picador, 2002(1943).

Huizinga J.: Homo Ludens: A Study of the Play-element in Culture, London: Routledge, 2000 (1949).

Squire K. D.: Replaying History: Learning World History through playing Civilization III, Phd thesis, School of Education, Indiana University, Bloomington, IN, May 2004.

Vandewater E. A., Shim Mi-suk and Caplovitz A. G.: Linking obesity and activity level with children's television and video game use. Journal of Adolescence, 27, 71-85, 2004.

Zyda M., Hiles J., Mayberry A., Wardysnki C., Capps M., Osborn B., Shilling R., Robaszewski M. and Davis M., Entertainment R&D for Defense, IEEE Computer Graphics and Applications, pp. 28-36, 2003.