

# Study plan

Version: 9 March 2004

Project working title:

## **FRAMING THE LUDIC COMMONS** – COOPERATION AND CONFLICT IN MULTIPLAYER GAMES

**Jonas Heide Smith**

[www.itu.dk/people/smith](http://www.itu.dk/people/smith) | [smith@itu.dk](mailto:smith@itu.dk)

MA, PhD candidate

The IT University of Copenhagen

Department of Digital Aesthetics and Communication

Supervisor: Anker Helms Jørgensen

Project duration: 1-9-2003 – 31-8-2006

### **Introduction**

---

Multiplayer games, not least due to pervasive internet connectivity are becoming increasingly popular. Although merely a subcategory of the larger set, so-called massively multiplayer games are estimated to have millions of concurrent users worldwide at any time (Bartle, 2003). This development represents huge financial possibilities and large technological challenges.

Multiplayer games, however, clearly also provide significant subject matter for the social scientist.

For instance, it has been widely reported how players form meaningful – even emotional – ties to other players (e.g. Koster, 1998). Equally well-studied are phenomena such as identity play (Turkle, 1997), personality types of players (Yee, 2001), discrepancies between apparent game goals and actual player behaviour (Jakobsson & Taylor, 2003), the formation and negotiation of norms, the politics of game design (Blomberg, Eneman, & Klang, 2003; Taylor, 2003) and the process and challenges of designing online games (Bartle, 2003; Eladhari & Lindley, 2003; Mulligan & Patrovsky, 2003). Recently, much attention has been devoted to the legal rights of avatars (Castronova, 2003b; Hunter & Lastowka, 2003; Lastowka & Hunter, Forthcoming), the dynamics of in-game economies (Castronova, 2001; Castronova, 2003a), and the extension of online worlds into real life brought about by systematic sales of game objects and characters for real world money.

One aspect, however, remains poorly illuminated; that of player behaviour and its relationship to the decisions made by game designers. We do not have a systematic account of how design features affect the social life of a multiplayer game environment. A consequence of this is that we have a quite limited understanding of why some games, more than others, seem troubled by conflict and heated debate as to appropriate in-game behaviour.

To see what exactly is missing from the picture we should journey back in time to 1986 and visit Lucasarts' graphical MUD (multi-user-dungeon) Habitat. In this game-oriented yet apparently mild-mannered virtual world the designers learned a

number of important lessons the hard way. Looking back at the process, the designers reflect:

**“[The] potential for murder, assault and other mayhem in Habitat was, to put it mildly, controversial. The controversy was further fuelled by the potential for lesser crimes. For instance, one Avatar could steal something from another Avatar simply by snatching the object out its owner's hands and running off with it.” (Morningstar & Farmer, 2003 672).**

In other words, the Habitat players did not agree on all things, and their disagreements often led to conflict. Adding to this, the designers had to fight cheaters who would go to great lengths to improve their situation by making changes to the client software. Handing out advice to budding world builders they distil their experience of this aspect to: “You can’t trust *anyone*” (Morningstar & Farmer, 2003 672).

Successors have faced similar issues. Famously, LambdaMOO (a MUD set up for research purposes) was the scene of a traumatic and much-debated (if quite virtual) case of rape. One user assumed control of several avatars having them perform unpleasant things to themselves (Dibbell, 1999). This led to ambitious attempts to restructure the rules and legislative system of LambdaMOO (Sammut, 1999).

Similarly, Anna DuVal Smith, attracted by the claim of MicroMUSE to be “non-violent, noncompetitive and collaborative” reports that “*Within weeks I observed social conflict in this allegedly tranquil community to rival any I had seen or studied in real life as a social scientist and practitioner of mainstream western dispute resolution techniques.*” (A. D. Smith, 1999 134)

These MUDs may be said to be on the edge of standard game definitions. More obviously ludic was Ultima Online, the first commercially successful modern graphical MUD. The technical issues were legion, but notably a truly large issue for the paying customers was that of player-killing. Business magazine GameSpot notes that “*At one point, player-vs.-player conflict was widely considered to be the biggest problem in online role-playing games*” (GameSpot, 2000) and it has been reported how “*the world turned truly murderous. New players were dispensed with almost immediately after logging on...*” (King & Borland, 2003). Thus, while no academic account exists, popular references to the issue are numerous (see also Giovetti, unknown; Schock, 1998).

The trouble tied to rampant player-killing has led latter MMORPG designers to launch virtual worlds based on remarkably less optimistic assumptions about player behaviour (GameSpot, 2000). Thus, the FAQ of Mythic’s Dark Age of Camelot (2001+) states that

**“An unfortunate situation has arisen in several currently-available online games where some game players go out of their way to ruin the gaming experience for other players by killing them repeatedly, “stealing” their monster kills, and generally making an nuisance of themselves. Camelot has several built-in methods for discouraging this behavior.”**

- <http://www.darkageofcamelot.com/about/faq.php>

Gamers do not display pervasively constructive behaviour. Must we conclude, then, that multiplayer games inspire lawlessness and deviant behaviour to a remarkable extent? Hardly. As sociologist Peter Kollock has phrased it: “*For a student of social order, what needs to be explained is not the amount of conflict but the great amount of sharing and cooperation that does occur in online communities.*” (Kollock, 1999: 220). While conflict makes for good headlines, controversy may overshadow the amount of altruistic behaviour exhibited by online gamers. Players will often help newbies and generally share their knowledge on game forums. Perhaps more remarkably, some players will spend resources on constructing game modifications, walkthroughs and strategy guides which they will often post online. Those who post on their private websites are in fact in many cases *paying* to provide information for the benefit of others.

What we see then is that gamers are engaged in both altruistic and selfish behaviour. In this regard they are not different from users of other types of social software. Nor does this, of course, set them apart from people interacting in real-world groups. In short, although games differ from other activities on a number of levels they also seem similar in the way that they afford conflicts of interests that (if not dealt with) may seriously reduce the value of the games as social spaces.

Thus, the issue that is far from sufficiently examined is that of cooperative and non-cooperative behaviour in multiplayer games. In particular, we lack a systematic account of how these behaviour types relate to issues of game design. How, for instance does a game designer go about supporting a certain behaviour type (e.g. players forming groups, players assisting newcomers)?

Fortunately, the issue of how structure or design influences behaviour (the issue of *structure and agency*) has been the subject of academic inquiry within a wide range of disciplines. To a large extent, modern sociological theory (and indeed much classical sociology) has directed itself to bridging the gap between explanation types that emphasise structure *or* agency. The explicit emphasis in sociological theory then is often on how social structures are upheld or constructed by individual agents who, on the other hand, are capable of modifying the structure under certain circumstances<sup>1</sup>.

Whereas the project builds on the understanding that the relationship between structure and agency is *often* best understood as dynamic, game designers, much more than say real-world legislators, control the rules and physics of their environment. Thus, in a very concrete sense the structure of a game environment (the part of it which is under designer control, at least) is very much a matter of “law”, a “natural” feature of the game upon which the players have no influence (Lessig, 1999; see also Taylor, 2003).

Thus, the approach taken by this project is more similar to the perspective of political theory looking to balance individual freedom, the common interest and a degree of social order. Such thinking has often been concerned with the social and

---

<sup>1</sup> An exception is the subfield of *science and technology studies*, which (often without explicitly invoking the structure and agency debate) may be said to critically highlight the ‘effects’ of various technologies (Winner, 1986). The technologies in question are part of ‘structure’ as understood in this project.

ethical consequences of various society “designs”. For instance original arguments for a three-branch political system were based on a vision of the effects (ethical and social) of such a system (Dunleavy & O’Leary, 1987 14).

An influential addition to this theoretical framework is work within social psychology which examines the way in which the *framing* of a social situation forms expectations, establishes norms and thus influences behaviour. Much of this work builds on Erving Goffman’s analysis of how people act according to perceived social norms (Goffman, 1986).

### Project outline

---

As noted, many theories and disciplines are concerned with the relationship between structure and agency. While emphases vary between disciplines, most would agree that structural change also leads to behavioural change, although the effect may be less than predictable. The following are examples of how a change in structure leads to a change in behaviour:

Imagine abolishing the police. Since one job of a police force is to communicate that an attack on the common interest (as defined by legislation) will have unfavourable personal consequences for the norm-breaker such an abolishment is likely to have social consequences (if we believe that the threat of punishment has any preventive effect). Thus, by altering the structure within which individuals act, we in fact shape large-scale behaviour.

Or we could eliminate taxation. People would technically be capable of contributing to common goods without the threat of punishment but those in favour of some form of taxation are by consequence stating their belief that this structural element has an effect on behaviour.

Furthermore, we all experience how the ‘definition of a situation’ affects ourselves and others. In fact, knowing that someone is at a job interview, a class-room or a night club is a very powerful predictor of that person’s range of likely behaviour.

Thus, while behaviour is influenced by what we could call *incentive structures* it is also, obviously, influenced by variables that fall outside the scope of an analysis based on simplistic ‘rational choice’ assumptions.

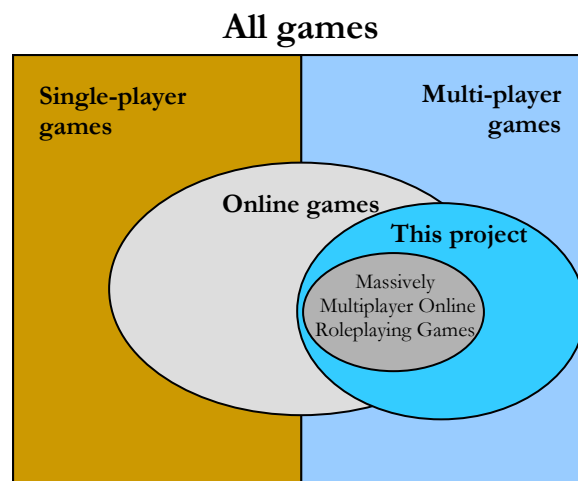
The implication of these perspectives is that designers of multiplayer games cannot avoid being social engineers. Not understanding the relationship between structure and agency does not make game design a neutral activity and since multiplayer game designers control every detail of their virtual worlds, any choice they make, however minor, is bound to have consequences.

Thus, understanding the way structure or design influences action is of obvious interest to designers of multiplayer games. On a general level these designers are faced with the challenge traditionally tackled by political theory: To create a world in which individual freedom is balanced with collective interest. To this endeavour, game designers need only add the requirement of fun.

**This project, by drawing mainly upon political science and social psychology, attempts to provide an understanding of how multiplayer game design shapes player behaviour.**

The subclass of games in which such tools may be useful contains games (or game-related situations) that share issues of trust (see illustration below). Games, that is, in which players in order to form community or to enjoy the pleasure of the actual game to some degree need to trust one another. Drawing upon political theory such situations may be described as social dilemmas. To some extent they also correspond to the more general term *non-zero-sum games*, used by economic game theory (situations where one person's gain is not necessarily another person's loss).

Notably, this does not only include persistent game worlds (or MMORPGS) but also many game portals and player-matching interfaces. For instance, while an actual game may not afford disruptive conflict, pre-game matching screens (interfaces through which players decide who to play against, which settings to use etc.) may hold the potential (and threat) of cheating severely reducing the enjoyment of the whole experience. This has been the case for the real-time-strategy game *Age of Kings* (Microsoft, 1999). Since single games ran for a substantial amount of time and since many player were conscious of their score, the risk of being the victim of cheating (on various levels) made starting up a game quite time-consuming (J. H. Smith, 2004).



Since the players themselves are subjects of in-game social engineering on various scales, they too may benefit from an awareness of the ways in which their avatars (and by extension, themselves) are subject to politics, ideology, and design in its broadest sense.

On a more general level the project, by systematically examining the potentials of various social scientific explanation types, seeks to contribute substantially to the ongoing endeavour of understanding multiplayer games as *social spaces*. By examining to which extent games are arenas for conflicting interests, the project will position games within the larger context of computer-supported communities enabling game researchers and designers to draw upon work related to such spaces.

## Previous work on the topic

---

Few attempts have been made to apply full-scale traditional theoretical frameworks to multiplayer game interaction. Or, in cases where general theories are in fact

## STUDY PLAN

---

invoked it is often less than obvious how they in fact contribute to an understanding of the results in question. The larger problem, however, is that most individual contributions to the understanding of player behaviour do not consider themselves part of a larger project and do not (always) seem to be aware of previous work on the issue. Furthermore, with notable exceptions (e.g. Pargman, 2000), they do not display awareness that the issues at hand have in fact received centuries of attention from political theory and related disciplines.

Nevertheless, many individual studies provide an important foundation for this project.

Daniel Pargman's study of life in SvenskMUD (Pargman, 2000) provides a detailed account of the practicalities of how MUD designers shape social interaction. Although it doesn't speak directly to the issue of player behaviour and motivation, the study provides an important contribution to understanding the relationship between the technical and the social side of game worlds.

From the field of computer-supported cooperative work Muramatsu and Ackerman have compared a game MUD to work-oriented systems arguing that "conflict and cooperation were the dominant social activities..." in the MUD studied (Muramatsu & Ackerman, 1998 87). The study provides many insightful analogies between MUDs and non-entertainment multi-user software.

With a specific game focus Lin et. al. (2003), looking at popular Taiwanese online games, have studied clan formation in the light of game structure. The same authors have studied the economies of player tips, discussing limitations of a rational choice framework (Sun, Lin, & Tin, 2003). Similarly, Elina Koivisto has studied concrete design strategies for supporting community in MMORPGs (Koivisto, 2003). Along the same lines, J. H. Smith (2002) examined the potentials of explaining online cooperation and conflict through the lens of game theory.

With an eye for grief play, Matthew Williams has studied the response of Cyberworlds to systematic in-game vandalism (2004). The study gives tools for understanding non-cooperative behaviour and suggests ways to counter such tendencies.

Adding to this, designers themselves have (of course) developed quite sophisticated concepts of how design features relate to conflict and community building (e.g. Bartle, 2003 223-245).

Looking more generally at online communities from perspectives inspired by collective action, sociologists Marc A. Smith and Peter Kollock's anthology *Communities in Cyberspace* (M. A. Smith & Kollock, 1999) contains contributions which direct the perspective of collective action (in a broad sense) to online communities.

Thus, although many acknowledge the importance of the issue, the sub-field appears too young to have a common outlook. Since the individual studies can be combined to form a very detailed description of actual player behaviour patterns in multiplayer games it is an aim of this project to connect this knowledge within a theoretical framework.

## Approach

---

The main approach of the project is to integrate theories and theoretical insights from a variety of disciplines in order to direct their light at games. This theoretical synthesis and bridge building takes place alongside a continuing effort to stay abreast of major titles and design trends in the field of large-scale multiplayer games. Adding to the theoretical work, an empirical study of games as social situations is undertaken.

The project seeks to fulfil its goals by taking the following more specific approach (see also attached milestone plan for tasks not directly research related):

**First semester:** Fundamental literature is found and categorized. A special interest group on online world sociology is formed in order to share ideas and provide a foundation for possible cooperation. Also, economic game theory is applied to multiplayer games (leading to an article to be submitted to a peer-reviewed journal).

**Second semester:** The previous use of political and economic theory in the study of IT user behaviour is reviewed. Exact theoretical perspectives to be employed are settled upon. An analysis of games as social software focusing on games and social dilemmas is performed (leading to an article to be submitted to a peer-reviewed journal).

**Third semester:** In order to understand how players in fact conceive of large game worlds (and thus be able to explain their actions in the light of situationist theory) a qualitative interview study is carried out. The concepts and metaphors employed by players are expected to give important information as to the motivation behind player behaviour.

**Fourth semester:** Data from the qualitative study is analysed and reported in article form. Furthermore, a comparative analysis is made between empirical findings from game environments and the challenges described by designers of other types of social software (e.g. Grudin, 1995).

**Fifth semester:** Is spent abroad, visiting a research institution with a strong presence in the field of sociological game studies or social informatics more generally. The result of the comparative analysis is presented in article form.

**Sixth semester:** The theoretical groundwork is critically examined in the light of empirical findings and an integrative and grounded theory of the relationship between design and behaviour is proposed in the dissertation. This theory is phrased in terms that lend themselves directly or indirectly to practical application by game designers.

## Theoretical perspective

---

As mentioned, theories concerned with the relationship between structure and agency are not a rare breed. It is not often, however, that one sees an integration of

(economically inspired) theories of the state, linguistic theories of cognition, and social psychological notions of self although on many levels they address the exact same issues. Rarer even is the research that relates political philosophy to games in a non-metaphorical manner, although with pervasive talk of online worlds as nations and societies one could argue that such an application is anything but far-fetched.

The main theoretical perspectives applied here are:

### **Economic game theory**

Phrasing situations of social conflicts as ‘games’, economic game theorists have meticulously investigated the relationship between rules and playing strategies among rational players (Davis, 1997; Myerson, 1991; Neumann & Morgenstern, 1953; J. D. Williams, 1986). From its origins in economics, game theory has spread to political science (e.g. Gates & Humes, 1997) to evolutionary biology (e.g. J. M. Smith, 1982) and has been used to extent biological issues into the realm of the social (e.g. Axelrod, 1984). In this project, game theory is employed in its capacity to systematically address issues concerning the relationship between incentive structures, rules and behaviour among rational (or mainly rational) agents.

### **Theories of collective action**

A substantial body of work classified under political science or sociology addresses the ways in which group behaviour is shaped by the clash of collective and individual interests. Seminal among these studies is Mancur Olson’s *The Logic of Collective Action* (1971). Olson argued that to understand group behaviour one had to look at individual incentives; collective action does not automatically emerge out of common interest. Such thinking has been background material for important discussion such as that sparked by Garrett Hardin’s famous *Science* article *The Tragedy of the Commons* (1968). Hardin introduced the notion of a commons (as hinted to in the title of this project) as a common resource that would be destroyed if individual rationality were given free reigns. Important later contributions include the empirical work of political scientist Elinor Ostrom who has systematically studied actual solutions to ‘commons problems’ (e.g. Ostrom, 1990).

When approached theoretically such issues are often referred to as ‘social dilemmas’ and have been studied extensively (see review in Kollock, 1998). This group of theories could also be said to include classical political philosophy of the ‘contract theory’ school which sought to understand and justify the existence of a state (Hobbes, 1651/1997; Locke, 1690/1952; Rousseau, 1762).

More generally, work within ‘collective action’ can be said to often rest on non-mathematical applications of game theory as outlined above.

### **Situationism**

‘Situationism’ is a label sometimes attached to social psychological analyses drawing inspiration from Ervin Goffman’s notion of the ‘social situation’ (Goffman, 1986). The perspective stresses that a person’s expectations and interpretation of a situation shapes action. Thus, while someone may consider himself or herself stable and consistent, the way a situation is framed in fact co-

determines how normally socialized individuals will behave. A person's expectations, then, independently of how they correspond to an external reality become real in their consequences.

Such thinking helps stress that one cannot (as a game theorist might) look only at external payoff structures. Only to the extent that a person's interpretation of a situation (and his or her personal utility function) corresponds to the 'objective' conditions of a game will the technical analysis be helpful.

Goffman himself is not specific about the exact nature of the psychological mechanism which makes individuals follow perceived norms. Others of a more constructivist bend, however, have argued that the situation *changes* or *shapes* the agent. Thus, in the case of a financial transfer the economist may assume that an agent (being rational) chooses the most sensible course of action. A constructivist, on the other hand, may consider if it is not the situation itself which is inscribed upon the (highly malleable) agent who, in this case, would internalize (or have internalized) the logic of capitalism. Now, from a design point of view the mechanism may not be important – in our hypothetical financial transfer the resulting behaviour may well be the same whether the agent is rational or internalizes a system of economic rationality. To achieve a theoretical understanding of player behaviour, however, this project will of course consider the status of the basic theoretical frameworks.

Situationism provides inspiration for techniques that designers may employ to alter player understanding of the games. For instance, designers may need to change the communicative style of a websites, advertisements, system messages etc. in order to inspire a revised (e.g. less conflict-oriented) understanding of the game.

### **Cognitive semantics**

Inspired by linguistics more than social psychology, work on cognitive semantics highlights the way in which metaphor and linguistic categories reveal structures of the human mind. Furthermore, basic linguistic structures here is seen as shaping our conceptions of the world and in consequence our actions (Lakoff, 1987; Lakoff & Johnson, 1980). Cognitive semantics, then, provides links to the wider field of cognitive science which has systematically studied many of the many non-rational (but more or less universal) human responses to various 'problems' (such as measures of probability etc.).

Such analyses tie in elegantly with Goffman's less systematic idea of the social situation and invites empirical analyses as player descriptions of games and gaming become important keys to understanding in-game social behaviour.

### **Expected research outcome**

---

First and foremost the project seeks to improve our understanding of players (as opposed to games themselves or the culture in which games exist). The expected outcome is an account of how game design influences social behaviour, drawing upon a wide number of theoretical perspectives originating mainly in the social sciences.

Concretely, the project will describe and further develop a series of design features that influence social behaviour. For instance, the use and effect of in-game

reputation management systems will be analyzed and explained in the light of the theoretical perspective. Also, this element will draw upon work on cooperation-enhancing features of successful real-world communities (e.g. participant influence on rules) translating these experiences into game design terms.

Moreover, the project will provide empirical data on contemporary large-scale games as 'social situations'. In order to understand player actions the project will examine player concepts and expectations providing insight into what elements of the game may need to be changed to create a more trustful environment. For instance, players may describe the game world using very aggressive terms (battle, competition etc.) and their understanding of the game world may have to be targeted to encourage more cooperative behaviour.

Furthermore, the project will provide a framework for understanding the elements that set games apart from other multi-user environments. Obviously games are more immediately competitive than, say, a social MUD but it also seems clear that both system types sometimes face unfavourable social interaction and in many cases seek to address such problems. Such a framework should enable game designers and developers of other types of multi-user systems to communicate and share knowledge on how to deal with social issues. This idea is far from novel as is evident from the introduction to *Computer Supported Cooperative Work: The Journal of Collaborative Computing* (1-2, 1998):

**Even those with the most exclusive concentration on technologies supporting work cannot fail to recognise how the technologies and techniques developed for collaborative fantasy worlds can be applied directly to systems supporting everyday work. Whether they're in the Corporate Boardroom or the Forest of Eternal Gloom, people are people and interact in much the same way – and the technologies they depend on are much the same. (Dourish, 1998 6).**

However, while the importance of the issue is acknowledged, models and precise typologies based on theory have yet to be proposed.

### Publication channels

---

The research findings will be submitted to high-quality peer-reviewed journals such as *Game-studies.org* ([www.gamestudies.org](http://www.gamestudies.org)) and journals within social informatics or computer-supported cooperative work, e.g. *The Information Society* ([www.indiana.edu/~tisi](http://www.indiana.edu/~tisi)) and *Computer Supported Cooperative Work - The Journal of Collaborative Computing* ([www.kluweronline.com/issn/0925-9724](http://www.kluweronline.com/issn/0925-9724)).

Furthermore, I will present my work on major game-related conferences.

Meanwhile, ideas and results will be communicated to the public through popular channels such as news media.

This study plan is subject to change. The newest version will be available from [www.itu.dk/people/smith/pages/project.html](http://www.itu.dk/people/smith/pages/project.html).

Comments and suggestions are very welcome: [smith@itu.dk](mailto:smith@itu.dk)

## References

---

- Axelrod, R. (1984). **The Evolution of Co-operation**. London: Penguin Books.
- Bartle, R. (2003). **Designing Virtual Worlds**. Indianapolis: New Riders.
- Blomberg, S., Eneman, M., & Klang, M. (2003). **Political Ideologies in Computer Games**. Paper presented at the Level Up, Utrecht.
- Castronova, E. (2001). **Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier**. Unpublished manuscript.
- Castronova, E. (2003a). On Virtual Economies. **Game Studies**, 3(2).
- Castronova, E. (2003b). **The Right to Play**. Paper presented at the State of Play, New York.
- Davis, M. D. (1997). **Game Theory - A Nontechnical Introduction**. New York: Dover Publications.
- Dibbell, J. (1999). **My Tiny Life**. London: Fourth Estate.
- Dourish, P. (1998). Introduction: The State of Play. **Computer Supported Cooperative Work: The Journal of Collaborative Computing**, 7(1-2), 1-7.
- Dunleavy, P., & O'Leary, B. (1987). **Theories of the State - The Politics of Liberal Democracy**. London: MACMILLAN.
- Eladhari, M., & Lindley, C. A. (2003). **Player character design facilitating emotional depth in MMORPGs**. Paper presented at the Level Up, Utrecht.
- GameSpot. (2000). **15 most influential games of all time: Ultima Online**. Retrieved 14th of February, 2004, from [http://www.gamespot.com/gamespot/features/pc/most\\_influential/p5.html](http://www.gamespot.com/gamespot/features/pc/most_influential/p5.html)
- Gates, S., & Humes, B. D. (1997). **Games, Information, and Politics**. Michigan: The University of Michigan Press.
- Giovetti, A. (unknown). **Ultima Online: Kill the Player Killers?** Retrieved 14th of February, 2004, from <http://www.thecomputershow.com/computershow/news/uoplayerkillers.htm>
- Goffman, E. (1986). **Frame Analysis: An Essay on the Organization of Experience**: Northeastern University Press.
- Hardin, G. (1968). The Tragedy of the Commons. **Science**, 162, 1243-1248.
- Hobbes, T. (1651/1997). **Leviathan – Or the Matter, Forme and Power of a Commonwealth Ecclesiasticall and Civil**. New York: Touchstone.
- Hunter, D., & Lastowka, F. G. (2003, July-August 2003). To Kill an Avatar. **Legal Affairs**.
- Jakobsson, M., & Taylor, T. L. (2003). The Sopranos Meets EverQuest: Social Networking in Massively Multiplayer Online Games. **FineArt Forum**, 17(8).

## STUDY PLAN

---

- King, B., & Borland, J. (2003). **Losing the Game - Part II**. Retrieved 14th of February, 2004, from <http://www.gamespy.com/dreamers/day2/index.shtml>
- Koivisto, E. M. I. (2003). **Supporting Communities in Massively Multiplayer Online Role-Playing Games by Game Design**. Paper presented at the Level Up - Digital Games Research Conference, Utrecht.
- Kollock, P. (1998). Social Dilemmas: The Anatomy of Cooperation. **Annual Review of Sociology**, 24, 183-214.
- Kollock, P. (1999). The economies of online cooperation – Gifts and public goods in cyberspace. In P. Kollock & M. Smith (Eds.), **Communities in Cyberspace**. New York: Routledge.
- Koster, R. (1998). **A Story About A Tree**. Retrieved 17th of February, 2004, from <http://www.legendmud.org/raph/gaming/essay1.html>
- Lakoff, G. (1987). **Women, Fire, and Dangerous Things - What Categories Reveal about the Mind**. London: The University of Chicago Press.
- Lakoff, G., & Johnson, M. (1980). **Metaphors We Live By**. London: The University of Chicago Press.
- Lastowka, F. G., & Hunter, D. (Forthcoming). **The Laws of the Virtual Worlds**. Unpublished manuscript.
- Lessig, L. (1999). **Code and Other Laws of Cyberspace**. New York: Basic Books.
- Lin, H., Sun, C.-T., & Tinn, H.-H. (2003). **Exploring clan culture: social enclaves and cooperation in online gaming**. Paper presented at the Level Up, Utrecht.
- Locke, J. (1690/1952). **The Second Treatise of Government**. Indianapolis: Bobbs-Merrill Educational Publishing.
- Morningstar, C., & Farmer, F. R. (2003). The Lessons of Lucasfilm's Habitat. In N. Wardrip-Fruin & N. Montfort (Eds.), **The New Media Reader**. Cambridge: The MIT Press.
- Mulligan, J., & Patrovsky, B. (2003). **Developing Online Games: An Insider's Guide**. Indianapolis: New Riders.
- Muramatsu, J., & Ackerman, M. S. (1998). Computing, Social Activity, and Entertainment: A Field Study of a Game MUD. **Computer Supported Cooperative Work: The Journal of Collaborative Computing**, 7(1-2), 87-122.
- Myerson, R. B. (1991). **Game Theory**. London: Harvard University Press.
- Neumann, J. v., & Morgenstern, O. (1953). **Theory of Games and Economic Behaviour**. Princeton: Princeton University Press.
- Olson, M. (1971). **The Logic of Collective Action - Public Goods and the Theory of Groups**. London: Harvard University Press.

## STUDY PLAN

---

- Ostrom, E. (1990). **Governing the Commons – The Evolution of Institutions for Collective Action**. New York: Cambridge University Press.
- Pargman, D. (2000). **Code Begets Community – On Social and Technical Aspects of Managing a Virtual Community**. PhD dissertation, Linköping Universitet, Linköping.
- Rousseau, J.-J. (1762). **The Social Contract - Or Principles of Political Right**. Retrieved 16th of February, 2004, from <http://www.constitution.org/jjr/socon.htm>
- Sammut, H. (1999). **Paradise Lost - Again!** Retrieved 14th of February, 2004, from <http://www.alert.com.mt/page.asp?p=197&l=1&i=153>
- Schock, C. (1998). **Ultima Online Review**. Retrieved 14th of February, 2004, from <http://www.intelligamer.com/rpg/uo/uoupd.asp>
- Smith, A. D. (1999). Problems of conflict management in virtual communities. In M. A. Smith & P. Kollock (Eds.), **Communities in Cyberspace**. London: Routledge.
- Smith, J. H. (2002). **The Architectures of Trust - Supporting Cooperation in the Computer-Supported Community**. MA Thesis, University of Copenhagen, Copenhagen.
- Smith, J. H. (2004). The games economists play - implications of economic game theory for the study of computer games. **Under review**.
- Smith, J. M. (1982). **Evolution and the Theory of Games**. Cambridge: Cambridge University Press.
- Smith, M. A., & Kollock, P. (1999). **Communities in Cyberspace**. London: Routledge.
- Sun, C.-T., Lin, H., & Tin, H.-H. (2003). **Game tips as gifts: social interactions and rational calculations in computer games**. Paper presented at the Level Up, Utrecht.
- Taylor, T. L. (2003). Intentional Bodies: Virtual Environments and the Designers Who Shape Them. **International Journal of Engineering Education**, 19(1).
- Turkle, S. (1997). **Life on the Screen – Identity in the Age of the Internet**. London: Phoenix.
- Williams, J. D. (1986). **The Compleat Strategyst - Being a Primer on the Theory of Games of Strategy**. New York: Dover Publications.
- Williams, M. (2004). Understanding King Punisher and His Order: Vandalism in an Online Community - Motives, Meanings and Possible Solutions. **Internet Journal of Criminology**.
- Winner, L. (1986). Do Artifacts Have Politics? In **The whale and the reactor: a search for limits in an age of high technology**. Chicago: University of Chicago Press.
- Yee, N. (2001). **The Norrathian Scrolls: A Study of EverQuest**. Retrieved 14th of February, 2004, from <http://www.nickyee.com/eqt/home.html>