

Cheating by Video Game Participants

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Abstract

In this paper, I explore the concept of cheating in the medium of the video game. Why do people do it? How does online cheating differ from offline? The existence of cheat codes seems to imply that cheating is rampant and even encouraged - or perhaps it's just that the codes are poorly named. I also look at criminal activity in games, and at some ways to reduce cheating activities in online games.

Introduction

The word 'cheat' carries with it ancient societal passions. There is deception associated with the word, a lie, but more than that. There is a deliberation about cheating that makes it a worse lie than most, and there is an implication of doing someone harm in order to benefit oneself. Biblical cheats have died for their sin, and card cheats in the old West suffered a similar fate. Technology has changed the manner in which people can cheat, and has created many new ways to do it. So-called computer crime, identity theft, phishing, and other modern ways of cheating are enabled by the prevalent use of digital technology in many areas of society. Of course, the activities listed above are actually crimes; yet non-criminal cheating takes place too. Plagiarism is now very easy because of search engines and the Internet (easier to detect, too!). People misrepresent their identity on the Web with greater frequency, sometimes in self-defense.

Cheating at games has traditionally been held in low regard because people that you play with are often friends. Taking advantage of a friend's trust for personal, albeit trivial, gain is pegged at a very low ethical standard. It's not clear whether cheating your friends for financial gain is better or worse on the scale of things. Whatever the case, the advent of computer games has changed the landscape of cheating as well. There are new ways to 'cheat' in video games, new classes of cheating, and entirely new moral and legal problems caused by the creation of the virtual reality play spaces in which many games take place.

The Magic Circle

How do you know when you are playing a game, and when you are doing something real? A game is certainly a system (a collection of interactive elements, connected to each other by context that form a complex and consistent whole; a gestalt). When one is playing a game, the system is engaged and forms a world with its own rules and goals. The boundary has been

Proceedings of CGSA 2006 Symposium

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referred to variably and poetically as the game's *frame* (Sniderman, 1999) or as the *magic circle* (Huizinga, 1955).

When playing, the rules are different than when not, and almost everyone can tell which is which. Even animals can do this sometimes. Observe two dogs playing together: they do things while playing that they would never do or permit otherwise. Aggressive behaviors are understood to have a different meaning in a game's context. Knowing this, it must be said that it may not be possible to enumerate all of the rules of any real game. Some rules are understood, while there may in fact be misunderstandings between two players about the nature of those unspoken rules. This confusion can appear as cheating, or at least as poor sportsmanship, and can be the source of much animosity. This is one area in which a computer as a mediator can be a great advantage. So, to use the example of Sniderman (1999) let's look at tic tac toe: there is no rule that states how long a player can take to make a move.

There is such a rule in *Tetris*, but it is stated implicitly in the play of the game. In both instances, the computer is seen as an impartial arbiter of the play, taking the side of no player and not influenced by either in any way. The computer may not always be right, but it is always fair in these cases. The discussion that follows here is not meant to be definitive, but should answer some questions surrounding issues of cheating in video games. It will just as often just raise issues for discussion without solving the problem. One aspect of the ensuing material is that every effort has been made to keep it from becoming purely semantic.

It's far too easy to get caught up in definitions, and not always useful. Having said that we need at least a working definition of cheating. I think the best definition is that of Johann Huizinga (1955) "... the cheat ... pretends to be playing the game, and, on the face of it, still acknowledges the magic circle..." So there is a fraud, a lie, at the heart of cheating. The lie concerns the fact that they are playing the game, and so it usually involves breaking one of the rules that defines the game play while hiding that fact.

What is the motivation for cheating? Many would say that it is to give the cheater an edge so they have a better chance to win than other players. As we will see, this may not be so. I think we can agree that a cheater cheats in order to have a better chance of achieving their goals, whatever they are. This can mean winning, but it could also mean disrupting play or inflicting pain on others, or making a financial or status gain. We will try to examine cheating, play options, criminal activity, and legitimate misunderstandings.

Cheating At Games

Cheating at games is generally frowned upon. I think that it's because it gives clear disadvantage to those who refuse to do it. Cheating is an implicit, if not explicit, violation of the rules of the game. To take unfair advantage of friends, who have traditionally been friendly game opponents, is the violation of trust, and is immoral (I don't propose to define that, but most people think it's bad; the definition is often circular, though).

Simplistically, the problem is that if one or more players cheat, then they are not all playing the same game. The various games may well all have the same end condition, however, and so it is easier for those playing some games to get to the end than it is for others. Both the

fact that one player wins, and the fact that they are playing together, is an illusion. Sometimes players play different games intentionally - the idea of a handicap lets one player start out with an advantage so as to make the game more entertaining for players of unequal skill. However, a handicap is agreed upon at the outset. Cheaters rarely announce their intentions.

Cheating At Computer Games

Computer games are not always solitary activity, even when networks are not used. Many groups of players gather to play *Dance*, *Dance Revolution*, or *Star Wars: Battlefront*, or *Mario Kart* in multi-player mode. The players are in the same room, watching the same screen. They often have audiences, who enthusiastically cheer them on. Yes, it's harder to cheat when there are lots of people about.

I would say that cheating at a single-player game, alone, in the privacy of your home, is a very minor sin, if it's one at all. Some think of it as alternative play, or a local modification of the rules. In some cases it is simply a way to move on. Personally, there is a race in *The Simpson's Hit and Run* that I can never win, and I use codes to let me simply get past it. So-called cheating by a group is an even more minor sin, since it now amounts to an agreed upon relaxation of rules, and is common enough a practice in many games. Wild cards in gin, are an example. The use of a computer to moderate play solves some problems, and permits new ones. Computers are not thought to be competitors to people, and do not gloat, suffer, or have ambition. They can be thought of by all parties as honest brokers and arbiters of the rules. On the other hand, sometimes the involvement of a computer permits novel ways to cheat, like modifying programs and data files. Also, players of computer games feel unobserved and unmonitored, and may feel freer to attempt unconventional play. There are several well-known ways that players 'cheat' in traditional video games.

Cheat Codes

Many players understand that so-called cheat codes are actually an artifact of the game development process. They are used as a means to arrive at the point in a program where an error exists, quickly and efficiently. Game testers are employed to exercise the software so as to ensure that problems don't exist in the final release. After all, there are not usually software updates to a video game, especially those that execute on game consoles like the Playstation or the Gamecube. So, a tester plays a game for hours every day, weeks on end, and locates problems. It's important to be able to reproduce a problem quickly, so developers build in special codes for the testers to use to arrive at the same place in the game rapidly - immortality, for example, is a useful property to get to a level 9 weapons locker, as is the ability to specify an irresistible weapon.

These 'cheat codes' were originally left in the game as a development artifact, and became public knowledge over the years. The developers, being very commercial creatures, realized quickly that players liked to have these codes around, and so they simply leave them active in release versions of the software these days. Nowadays one can find complete lists of these codes on the Internet free for the taking. I don't know for certain, but I suspect that developers give them to the game press for distribution. Cheat codes give a player very specific advantages that are unearned insofar as game play is concerned. Is this cheating? I would say

not, but I'd also say that it did not matter. It's like cheating at solitaire - it is done for a specific purpose, and harms nobody else. In fact, the players that I know, frequently think of it as creating alternative game rules, making the game more interesting. If you start the game with a level 12 wand, then the game is different.

Taking Advantage of Bugs

Video games are software products, subject to the same problems as other software. They are also quite complex, and this leads to the problems (bugs) not always being found, in spite of exhaustive testing regimens. If the bugs are discovered, then they can be taken advantage of, and because software updates for console games are almost unheard of, bugs tend to remain for a long time. Publicizing known bugs in video games these days is not difficult. Players share such information, and the game press does too. Developers are less likely to be forthcoming about flaws in their software. As an example, the IGN web site (IGN.com, 2005) lists bugs in many games, including a problem in a recent game - *Fable* - that permits the player to significantly increase the damage to an opponent caused by their weapon. Some players feel that this is not cheating, because they have to search for a long time to find a bug they can use, or their knowledge is gained from many hours of play.

Canceling/Exiting/Escaping

All players sometimes fail at game tasks, and that can cost points. That is to say, not only does a player not collect points for a failed mission, but often actually collects penalties. The game keeps track of the number of times a player dies, injures their own team members, and generally goofs up. Some games allow the player to add these scores to their total.

For those games that do not offer that choice there is another option. Players wishing to avoid penalties simply shut their console off before the score gets saved. They have to do this using the power switch or by unplugging it, and then starting up again from the last saved position, but for some it is worth it to avoid taking a hit on their score.

Inappropriate Knowledge

All video games teach players things. Unless the game is intended to be educational, though, the things a game teaches concern aspects of gameplay, such as where to find weapons, how to defeat certain creatures, how to navigate the hairpin turn at 60 MPH, and so on. The intent is that players gain the knowledge of the simulated world by experience, and use that knowledge to gain more experience. As the player goes up through the levels, they get more difficult, and negotiating them requires more knowledge.

Inappropriate knowledge in this context is unearned knowledge. It is information about the game that the player acquired from other players or web sites rather than from play experience. Of course, playing with other more experienced players is a way to accelerate the learning process, but simply using what they know to level-up more quickly is seen by some as wrong. An example of this from the Internet is one of many sites that contains bugs, maps, and cheats for hundreds of games (CNET Networks Entertainment). In this case, there is a list of places on every level of *The Simpsons Hit and Run* where bonus cars can be found:

Hint: Bonus Cars

Level 1 Rocket car: Outside Quimby's mansion

Level 2 Monorail: On monorail track near Itchy and Scratchy balloons

Level 3 Night boat: On the boat where you find Bart (stashed in a crate)

And so on for all seven game levels.

Maps

Maps are a special case of inappropriate knowledge. A map is created by all players in the course of playing adventure games or first person shooters. It really gives away a lot of the detail needed to defeat a level (advance to the next) since maps usually show the locations of perils, treasure, and other rewards. Some players draw maps as they play, which is not a bad idea. Some share maps with other players. Using someone else's map can be thought of as cheating, although it can also be seen as spoiling the game. Knowing what comes next takes away some of the fun. Examples of maps for levels of *The Simpsons Hit and Run* can also be found at CNET Networks Entertainment.

Cheating At Online Games

There are two aspects of online games that increase the possibilities and the severity of cheating behaviors. First is that, while the game is one that involves many players, the behavior of each is not scrutinized by the others. What happens on the player's computer and in their play area is not known to the other players; they simply see the avatars acting in the virtual space. A chess analogy would be that players are using the telephone to play, and one player has Boris Spassky and Deep Blue in the room with them, and has the ability to secretly modify the clock. It's a nefarious version of the Chinese Room - the cheater seems to be a very good player. The second aspect of online games that leads to cheating is that there are vast numbers of players that are simultaneously active in the game. Not only is there a feeling of anonymity, but there are many people of varying skill levels. It is now possible to take advantage of other players for profit and there is a wide selection to choose from. Cheaters often target beginners and weaker players.

Possible (but not necessarily) Cheats

There are some activities that may or may not be cheating depending on the agreement that was signed when the player contracted to play.

Speed Leveling

This involves running through a game level at an impossibly high speed, collecting all objects and power-ups. It can sometimes be accomplished by legal means. Some games allow macros, where single keys can invoke a complex sequence of actions. Repeatedly moving a step ahead, facing the walls and looking for doors, then doing it again and again can result in a very fast and legal mapping of a level.

A less honest way to move quickly through a game level is with the specific assistance of another player from a much higher level. Some of these players have been through level 10 hundreds of times, and can get you through in minutes. Usually they do this for cash, sometimes for in-game items.

How does this harm other players? By creating a character with many objects and advanced level skills. Even though the player lacks the skill to control the avatar properly, its power will be such that it will cost more than it should to defeat it.

Duplications (Duping)

Duping involves the creation of duplicate items in the game world. Gold and weapons are common targets of duping, but anything can be a target (any object that can be held, anyway). Duping a gold coin 10 times can give you 1000 gold coins, so it is a profitable enterprise. Hacks can be used as well as other software, but the easy way to dupe things is to use an operational approach. For example, one can save a character on an Xbox or Gamecube memory, and by judiciously copying the character, removing the memory card, replacing it and recopying, one can either recreate the character with twice as many objects, or hide the objects, restore the character from memory, and then pick the objects up again. Presto, two of everything. This harms other players by reducing their relative share of the universe, and by creating a character (the cheater's) that is harder to defeat and may cost the players resources.

Griefing

Griefing is not really cheating. In real 3D society it would be considered antisocial behavior and would be criminal at the extremes, but in a game it is normally just in bad taste. Consider the case of the player in *The Sims* who would entice other players to his home and then arrange that they end up in his empty swimming pool. They could not escape, and the character would die of thirst or hunger. One wonders why this is fun, but it seems to break no specific rule. Some griefers wait for the appearance of new players, and then kill them. This is easy for a player with experience, and is frustrating for the new player. This crime, like most griefing, seems to fall under the heading of spoilsport.

Some game providers enforce rules against griefing by policing the game and applying penalties to situations they deem to fit their definition of the crime. This is arbitrary, and relies on other players reporting the griefers (rather than dealing with it themselves) and in there being a form of natural justice that all would recognize. Unfortunately, some vendors include behavior that they simply disapprove of as griefing, which allows them to punish it.

Taking Advantage of the System

A hack is a cheap and dirty, and sometimes unauthorized modification to a program to make it do what you want. Since C++ code (for example) produces machine code to be executed, it is possible to insert instructions into a compiled program that branch into another program written by someone else. Because online games use a program on the player's PC, it's possible to modify this to do more than just pass along the player's commands. Here are two examples of hacks that can be purchased on the Internet:

1. <http://vgstrategies.about.com/od/xboxcheatscodesp/a/PSOx-boxDuping.htm>
2. <http://www.cesspit.net/drupal/node/491>

Speed Hacking

Becoming invulnerable in some games is quite difficult. Second best is to be able to completely evade the enemy's weapons. Skilled real players can move very quickly in random directions, always getting a bit closer to their goal. Less skilled players are sometimes willing to cheat by using software to modify the game vendor's local software and make their avatar move much faster than normal. Such hacks work for multiplayer online games, and are normally game specific. A variation on this is the teleport hack, which allows a player to move anywhere on the level instantly. This is easily detectable by many game servers, since such rapid motion is not possible. Thus, the tele-hack was invented, whereby teleportation takes place in a set of shorter but still instantaneous jumps.

Aim Hacking

Most shooters, combat games, and multiplayer war games have the player gain points by shooting at (and hitting) NPCs, her players, and vehicles. Aiming in these cases is crucial. An arrow to the heart will kill the opposition, whereas a bolt through the arm may just make them angry. An aim hack is a program that runs on the player's computer with the object of imbuing the player with perfect aim. It typically connects to both the player and the game servers and aims perfectly at the nearest in-game enemy character whenever the player fires a weapon. All the player does, then, is hit the space bar repeatedly, and rarely misses a shot. In fact, some of these hacks are configured to fire at all enemies until they are all dead or all ammo is gone.

Interference with Players

Online games use a common playing field - the Internet. This field has well-known properties, and is actually used for things other than game play. It is a relatively simple matter for a player to take advantage of properties of the network, rather than properties of the game, for their own advantage.

The most common use of the net to give an advantage is to keep better players out of the game while you are there, and to slow down the net access of your current opponents. A practical way to do this is to send a large number of packets to an opponent's computer while they are playing. Each packet requires network bandwidth and computer resources for processing, thus slowing down their response. The method uses a second computer and Internet connection on the part of the attacker, but can slow down the other player's net response by many times. In fact, if the player's response gets very slow then the game server may even log them off. Another way to interfere with a player is to attempt to log in as them. After some number of failed attempts, most game servers will disable the account until verifiable contact is made with the owner. This can be used to keep your skilled enemies off the net while you are playing. Much experience can be gained in their absence.

BOTs

Bot is short for Robot, and refers in this case to a computer program that can play the game, or a role in the game, automatically and with skill. They are always illegal in computer online games because they allow a player to achieve high levels with little skill, and at the expense of other players that do not use bots. It's like hiring someone to play poker for you and taking the credit. Bots are most often used to start new characters. They can be hard to defeat in combat and don't get bored, so they can get through a level pretty effectively. Some players get a new character, start a bot to play it, and then go to bed. By morning they have a level ten warrior. Bots are sometimes detectable by the service provider, and are often apparent to other players. They are always despised.

Cheating And Criminal Activity

To a computer scientist, the law is a strange thing. It is true that CS professionals understand rules, and can create a formal statement of a rule that will compete with anyone else's for precision and accuracy. On the other hand, the thought that a human being will determine the outcome of a situation according to their interpretation of that rule and effectively decide the result is curious to us. I think that, like mathematicians, computer scientists presume that there is an absolute, objective truth that can't be arbitrated. I must therefore make it quite clear that I am not trained in the law, and my comments here should be treated with a degree of, well, skepticism. Nonetheless, criminal activity appears to involve damage to or loss of property, or physical harm to a person. The victimless crime does exist (possession of drugs, one might say, or prostitution) but is not typical in the legal codes of North America. We will not consider torts here, as tort law is quite complex and insufficient precedent exists in the cases I will discuss. A tort is essentially a responsibility under the law not involving a criminal act or a breach of contract. It is a civil, rather than criminal violation of rules, involving either a willful act or a negligent one; a different level of cheating, one would presume, than stealing your wallet. Could I steal your wallet in an online game? It turns out that I could.

According to the Yahoo auctions web site, a 'level 9' knife for an online game (that is, not a real knife) was sold for over \$1000 in actual money (Chen, Chen, & Korba, 2004). Many virtual worlds contain items that can be traded in the real world for cash, and some even have a currency that can be traded for real currency. So, if player A has a level 9 knife, and player B beats him up and takes it (within the game that is) is that a mugging? Was Player A robbed? Something worth real money was taken from him by force, after all. This very problem is being dealt with by Japanese authorities right now (Gibson, 2005).

Discussion

In the context of the information presented above, there are new issues to be discussed. Two questions come to mind: 'Which of the forms of cheating that have been described need to be prevented?' and, 'How do we prevent them?' There will be a great deal of disagreement over both issues, but an attempt must be made to start the discussion, or to carry it to the next level. Based on the information presented here, many would conclude that behaviors that do not injure another party, their property, or their status in the game (or other games), are not cheating, however, they result in playing a different game than the one that designers had in mind. In the

video game context, cheating can be redefined to mean a violation of the rules of the game that all players have agreed to by one or more players (in collaboration), unbeknownst to the remaining players (victims). Cheating in video games can also be defined as the interference with legitimate play of other players for the advantage of the interferer. It must involve some harm to the victims, even if there is only a relative loss of points. Griefing, therefore, is not technically cheating. Most griefers do not modify the game's rules to achieve their goals - they use those rules to cause pain or frustration to other players. A griefer has modified the objective of the game for themselves, and their objective includes causing other players or their avatars to suffer.

Conclusions

Violating stated rules of a video game is hard to do because they are enforced by the technology. Video game cheating more often involves violating unstated rules, taking advantage of system flaws, and using the system in unintended ways to personal advantage.

Activity that allows a player to advance past their level of competence is not necessarily cheating if the information they use to get there was obtained without theft or fraud. It is, however, not very smart in game terms. The desire to move ahead in a game generates behaviors in others that will enable them to do so. This can be thought of as commerce, in much the same sense that scalping or pimping is commerce, and possibly without the associated moral judgment. It's a natural function demand and supply.

There are many more ways to cheat in online games than in console games. This is due to the fact that there are many players to take advantage of and the technology requires that, while the game world resides on a distant server, a lot of the activity is offloaded to the player's computer. This means that it is possible to subvert these communications and interface systems using digital means.

Acknowledgements

Thanks to the Social Sciences and Humanities Research Council of Canada for funding parts of this work and making this article possible.

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