FEROSS

Cheating in Video Games

By Feross Aboukhadijeh • May 5, 2011 • 27,992 views • Tagged with essay, games

I recently received an out-of-the-blue email from the owner of GameHacking.org (http://gamehacking.org/). He said that he enjoyed an article I wrote (http://www.stanford.edu/group/ccr/blog/2009/04/cheating_and_hacking_in_video.html) about hacking video games for Christine Alfano (http://www.stanford.edu/~steener/) 's "Rhetoric of Gaming class" at Stanford.

His email made me realize that I never posted the final version of that research paper here on my blog. My writing style has changed a lot since 2009 when I wrote this paper. I like to think I'm less verbose now. Still, it's a pretty cool paper and definitely a fun read — especially if you're a gamer.

Without further ado, here it is:

Cheating in Video Games

by Feross Aboukhadijeh (June 2, 2009)

Abstract

The last decade has seen a dramatic rise in the number and popularity of video games. This rise in interest has not been without its negative side effects, however. There are many thousands of players who are not content with playing the game as designed by the game developers.

These players — hackers and cheaters — seek to manipulate the game experience for their benefit. Repercussions of this behavior include ruined game experiences for other players, theft of virtual currency, and intimidation of other players. Cheaters are often looked down upon in the gaming community as "spoil sports" and troublemakers because they dare to push the limits of the video games they play.

However, despite the obvious negative effects of cheating, this paper will argue that creative innovation of game action that was not intended by the producers is actually positive for the game experience. These so-called cheaters are actually innovating in new ways, creating an entirely new form of creative expression.

Cheating in Video Games

God-like immortality. Infinite ammunition. Really large heads.

What do all these things have in common? They are all features that can be accessed — or "unlocked" — by using cheat codes (http://en.wikipedia.org/wiki/Cheat_codes#Cheat_codes), cheat devices (http://en.wikipedia.org/wiki/Cheat_cartridge), or software hacks (http://en.wikipedia.org/wiki/Hack_(computer_security)) in video games. Most players wouldn't consider using a cheat code in a single player game to be cheating, but what about using a

hardware add-on like a Game Genie (http://en.wikipedia.org/wiki/Game_Genie) to make a game easier to beat?

Or what about hacking the game files in a MMOG (http://en.wikipedia.org/wiki/MMOG) (massively multiplayer online game) to make your attacks stronger against other players? Or what about just playing the game in a unique way that the game developer did not intend? How far is too far and where should the line be drawn? What is the significance of stretching the boundaries of games, as gamers often do? When does the experience stop being a game?

The answers to these questions are not clear, and the discussion is often muddled by the misunderstood history of cheating in video games [ref (http://www.gamezone.com/news/06_25_04_12_30PM.htm)]. Almost every type of video game – online and offline, single player and multiplayer – has cheaters. Although most game companies don't consider cheating to be within the realm of legitimate gaming, cheating does have many of the characteristics of a video game.

For example, it has well-defined rules or goals – it usually involves obtaining items of value or increasing one's in-game rank – but, like a good game, the methods by which to accomplish these goals are up to the cheater to decide. In this paper, I will examine the place of cheating in video gaming and argue that cheating can and should be seen as an important, and indeed *essential*, part of video game culture.

Definitions and Interpretations

Cheating in video games is a topic that is frequently debated on gamer message boards and in the academic community. The game world is a designed to be a closed structure: "the game mechanics define the interaction processes" says Professor Tonguc Sezen, a digital media analyst. However, gamers frequently break the predefined rules and "cheat." But what actually *is* cheating in a video game context?

Every player, it seems, has her own definition of what specifically constitutes cheating in a particular video game. The conflicting opinions about the definition of cheating are a source of confusion for many players, contributing to the ethical ambiguities surrounding video game cheating. The differences between online and offline games also figures into our analysis of cheating, since offline cheating does not affect the game experience of other players.

Online cheating, on the other hand, affects real people who have invested their time, money, and emotional energy into developing their online avatars. This difference is very important.

Three Different Perspectives

Mia Consalvo, author of *Cheating: Gaining Advantage in Videogames (http://www.amazon.com/gp/product/0262033658/ref=as_li_ss_tl?ie=UTF8&tag=feross-20&linkCode=as2&camp=217145&creative=399349&creativeASIN=0262033658)* , the seminal work on video game cheating, cites three main perspectives that players take with regard to cheating:

- "Purist" Perspective: Purists see any outside help to complete a video game as cheating. Anything other than a solo effort is an ethical compromise for purists. Strategy guides, cheat codes, walkthroughs, hacking – all are off-limits to purists who want to experience the game in its entirety without outside aid.

- "Code is Law" Perspective: This group of players sees walkthroughs and strategy guides as acceptable game aids since they don't involve modifying any of the game code. They believe that the game should not be modified from what the developers intended players to experience, so cheat codes and hacking are not allowed.

- "You can only cheat another player" Perspective: This group believes that cheating "only exists in relation to another player." In other words, it is not the act of using cheat codes or hacking which is unethical, but rather the act of stealing from or deceiving other players in the game world. Thus, the purpose and intent of the cheating are important for these players [ref (http://www.amazon.com/gp/product/0262033658/ref=as_li_ss_tl?ie=UTF8&tag=feross-20&linkCode=as2&camp=217145&creative=399349&creativeASIN=0262033658)].

Griefing

It is interesting to note that no gamer in Consalvo's survey said that they supported cheating, but real world game experience prove otherwise. There is a growing phenomenon of "griefing" that does exist within game culture.

> *Griefing is defined as 'play styles where the player ... purposefully engages in activities to disrupt the gaming experience of other players', the motivation for which stems from a desire 'to demonstrate power and superiority over weaker participants'* [ref (http://con.sagepub.com/content/13/4/355.abstract)].

Griefing should most certainly be considered cheating even under the most lenient definitions because of the purely negative effect it has on the game experience for the targeted players.

Cheating in video games is defined as "Any behavior that a player may use to get an unfair advantage or achieve a target that he is not supposed to ..." [pdf (http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.99.8270&rep=rep1&type=pdf)]. As we have seen, for some players, "unfair behavior" requires manually hacking the game files to maliciously harm another player. For other players, even reading strategy guides and getting tips from friends can be considered gaining an unfair advantage in the game experience. The range of opinions is extremely broad.

Rules

Other definitions of video game cheating take into account the importance of rules to the gaming experience. Consalvo argues that successful gameplay is dependent on rules. If these predetermined game rules are broken, she argues, then "the whole play world collapses. The game is over."

Another video game researcher, Julian Kücklich, also recognized the connection between rules and cheats when he argued that cheats "give the player an advantage that the rules of the game do not allow for ..." [pdf (http://web.mit.edu/comm-forum/mit5/papers/sezen_isikoglu.pdf)]. In this definition, the key act that makes a player's behavior cross the line and become *cheating* is the act of breaking the pre-determined *game rules* that all players agree upon before starting to play. Oftentimes, the game developers create these rules to promote a certain style of play within the game and shape the player experience. However, there are still other types of video game cheating which don't fit under either definition.

Social Customs

In some cases, players can be accused of cheating for violating the social customs and implicit rules of a game world, even if they don't actually break any rules or gain an unfair advantage.

This can happen when players make creative, original game decisions that the developers do not anticipate.

Despite the quibbling about what constitutes video game cheating by academics, the game industry, and players on message boards, there still does not exist a universal definition of video game cheating accepted by most people. Yet, most players in a game community can easily recognize cheating when they see it.

Like Porn?

Perhaps the best definition of cheating provided by the academic and research community thus far is Consalvo's pithy and humorous definition: "Cheating is like porn – hard to define but we know when we see it" [ref (http://www.gamezone.com/interviews/item/gz_interview_is_it_wrong_to_cheat_assistant_professor_mia_consalvo_explores_the_world_of_g]. Her definition reminds us that what constitutes cheating is often highly dependent on the gaming community's social customs and implicit rules. Offending behavior stands out to players in a game community because it usually flies in the face of the accepted game customs and implicit social rules.

Why Cheat?

Not all cheaters are the same. It's impossible to fit all cheaters – or gamers, for that matter – into a single stereotype or definition. The variety and differences among today's gamer population is simply too great to allow such a blanket categorization. Everyone cheats for different reasons.

Cheat Codes & Cheat Devices

Some players cheat to make games easier during solo play by using cheat codes that generate extra lives, allow players to skip levels, or grant God mode (http://en.wikipedia.org/wiki/God_mode) (invulnerability). Other players use cheating devices like the Game Genie (http://en.wikipedia.org/wiki/Game_Genie) or GameShark (http://en.wikipedia.org/wiki/GameShark) to manipulate the game code in ways that the original developers did not intend – often to generate extra lives, unlock secrets, or "activate unreleased levels, weapons, or items that may not have been available normally, and some even have codes to access debug menus used by programmers" [ref (http://en.wikipedia.org/wiki/Cheat_cartridge)].

Cheat codes and cheat devices are common examples of "harmless cheats" or cheats that only affect the cheater's copy of the game – often used by gamers to modify their game experience.

Cheat to Beat

Still other players cheat so that they can complete a video game in its entirety. They use strategy guides and walkthroughs that are produced professionally by companies like Prima Games (http://www.primagames.com/) and Brady Games (http://www.bradygames.com/) or unprofessionally by fans on websites like GameFAQs.com (http://www.gamefaqs.com/) .

Far from ruining the experience for players, these strategy guides and walkthroughs are often a fanatical player's best friend, offering in-depth strategies, detailed character statistics, and high resolution maps of game levels. For players who get stuck during the process of playing a game, cheats that alter the difficulty of the game or allow them to skip a difficult level in the game certainly don't ruin the game experience, but rather, enhance it by allowing the player to complete the game when they otherwise would have given up and moved on to something else.

Hacking for Fun

Still other players cheat for the technical challenge of hacking the game and discovering holes in the game programming. For these players, there is nothing more exciting than the challenge of defeating the latest anti-cheating mechanisms built into a game. These gamers, of whom I am one, view hacking as a metagame – a game within a game – and a legitimate form of play and a normal expression of social behavior in the gaming world.

However, certain hackers take their cheating too far and ruin the game experience for other players. This typically occurs online in the form of aimbots (http://en.wikipedia.org/wiki/Aimbots) (software that assists the player in aiming), twinking (http://en.wikipedia.org/wiki/Twinking) (passing on powerful items to players who would not typically have such items), and the illicit sale of in-game currency.

Hacking for Hacking's Sake

Certainly, harmful hacking that targets other players should be discouraged, but what about *hacking for hacking's sake*? A research study conducted by Talmadge Wright on creative player actions in the popular first-person shooter Counter-Strike had some interesting conclusions about the nature of gaming. After playing for 70 hours on 50 different servers, the researchers came to the conclusion that play, broadly defined, is not just "playing the game," but "playing with the rules of the game."

In fact, they argued that playing with a game's technical features marks the development of creative responses to the rules created by the developer. This has significant implications on our definition of gaming. Increasingly, we find examples in modern games where creative innovation of game action that was not intended by the producers is possible in the game and actively exploited by users for competitive and creative advantage.

Games that Require Cheating

The phenomenon of cheating in video games is not new. Some of the earliest games, like *Contra* (http://en.wikipedia.org/wiki/Contra_(video_game)) for the NES (http://en.wikipedia.org/wiki/NES), actually *required* cheating to beat, because the game was so difficult. The game designers recognized this, and programmed cheat codes into the game to assist players with the difficult task of making it through the entire game.

Cheat codes are unique because unlike other methods of cheating they are knowingly created and inserted into games by the developers themselves. Developers use these cheat codes to playtest (http://en.wikipedia.org/wiki/Playtest) certain aspects of games more easily, but often "forget" to take the cheat codes out of the final game, much to the delight of video game fans.

Konami Code

One cheat code in particular, famously known as the Konami Code (http://en.wikipedia.org/wiki/Konami_Code), is the most widely recognized cheat code in the gaming world and has even made its way into popular culture. When entered on the title or pause screen of the game *Contra*, the Konami Code would instantly give players 30 extra lives.

The popularity of *Contra* combined with the widespread usage of this cheat code (because of the game's difficulty) embedded the button sequence *Up, Up, Down, Down, Left, Right, Left, Right, B, A* into the minds of many gamers. This specific cheat code sequence is still used in many modern Konami games as homage to the cheat code that made video game cheating famous.

The developer responsible for the Konami Code, Kazuhisa Hashimoto, was interviewed about his role in popularizing cheat codes during his work on the 1985 arcade game *Gradius*, where

the Konami Code first appeared. Hashimoto said:

> *The arcade version of Gradius is really difficult, right? I never played it that much, and there was no way I could finish the game, so I inserted the so-called Konami code.*

Creative Cheating as a Tool of Self-Expression

Cheating has a natural place in gaming culture and has had an exalted function in the history of gaming. The ethos of the gamer predisposes him to cheating.

> *The gamer is by nature – and indeed by nurture – a subversive creature. He hunts for shortcuts and trapdoors. He looks for ways to bend the rules. It has been this way for as long as mischievous designers have written software for rebellious kids. Which is to say: forever. [ref (http://www.slate.com/id/2171993/)]*

Cheating has been ingrained in gaming culture since the very beginning – gamers themselves are natural cheaters and hackers, and this type of mentality is cultivated by video games that require exploration, puzzle solving, and critical thinking to solve unique and unusual problems.

Will Wright

Will Wright, creator of SimCity (http://en.wikipedia.org/wiki/SimCity) , The Sims (http://en.wikipedia.org/wiki/The_Sims_(series)) , and Spore (http://en.wikipedia.org/wiki/Spore_(2008_video_game)) – more than any other game producer in the industry today – recognizes that cheating and hacking can be positive outlets for creativity and self-expression.

Wright recently visited Stanford University on May 22, 2009, to discuss Human-Computer Interaction (http://hci.stanford.edu/) and the design process of Spore. During his presentation, Wright discussed the importance of user-generated content to the Spore universe – a universe populated by over 100 million unique, user-generated creatures.

Wright designed Spore with the intention of giving players a larger range of expressiveness than any previous game. With a set of highly sophisticated design tools in the Spore Creature Creator, players are capable of creating highly original creatures and sharing them with a worldwide audience.

The Spore Creature Creator

Yet even within this environment of sophisticated design tools and nearly limitless design freedom, players still found ways to cheat the system to create *even more* original, unique creatures. Will Wright described his surprise at Spore users' artistic "exploits":

> *We knew they'd be making things like creatures, but they also did things like robots that we didn't expect at all. In fact, we decided early on that we weren't going to put robot parts in the game because we didn't think they would look very good. The players didn't seem to care. They used existing parts to make robots, when our artists couldn't even do that … A lot of the things were very artistic and interesting. They found a lot of exploits. They found a way to make disconnected bones and parts work together in a single skeleton by making limbs invisible. So they were actually finding exploits in our system and sharing those exploits with each other.*

In this example, Wright is describing the obsessive tendency for video game fans to spend time discovering every last secret, exploit, and cheat in a given game. This special class of game fans – which I will dub "uber fans" – is especially valuable for a game where users create all of the content.

An airplane, a cave man, WALL-E, and a creature with disconnected bones:

These are examples of Spore creatures created by zealous fans. Some fans actually petitioned EA Games to not remove the bug which allowed transparent body parts because they didn't want to lose their creatures.

"Uber Fans"

Uber fans are valuable because they are the most creative content producers and the most vocal promoters of a game within their peer groups. Uber fans are highly motivated, spending time finding game exploits, writing cheat software, and pushing the game to its creative limits – and beyond.

As Wright put it:

> Looking at what players do in my games, more and more they want to be expressive. [Game developers] need to give them larger and larger areas within the game to do weird, surprising, shocking, [and] funny things – especially things they can share with other people.

This creative behavior is the player's way of getting more ownership over the gaming experience, of stepping outside the limits set by the game developer, of turning the game into a tool of self-expression. Developers should provide positive outlets for player creativity to assist players in expressing their creative desires. Tools like level editors, character skins, and cheat codes enhance the player's creativity and help to make the player feel like she is playing with a *toy* rather than a *game*.

The Bartle Test of Gamer Psychology

According to the Bartle Test of Gamer Psychology (http://www.gamerdna.com/quizzes/bartle-test-of-gamer-psychology), a significant chunk of the gaming population is looking for a free form gaming experience from their games, which might explain the prevalence of cheating, especially in rigidly structured and rule-driven games.
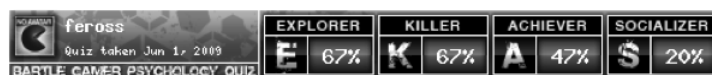
The Bartle Test, a 30-question test based on the research of Richard Bartle, classifies players of MMOGs into one of four distinct player types: Explorer, Killer, Achiever, and Socializer, each with their own distinct tendencies, likes, and dislikes.

Since the test was launched in 1996, over 570,000 players have taken the test and to discover their classification. According to Bartle, Explorers – more than any of the other player types – enjoy gaming activities that might lead them to be classified as cheaters by the gaming community.

Explorers = Cheaters?

Explorers like to dig around and explore the details of a game, searching for game glitches and hidden surprises left by developers, known as "easter eggs (http://en.wikipedia.org/wiki/Easter_egg_(media)#Software-based)." In especially restrictive games, Explorers like to see if they can "get the game to do something its programmers probably didn't intend for it to do".

Explorers are looking for free exploration and creative play from their game experience. If developers don't provide positive creative outlets and opportunities for free exploration within their games – and sometimes even if they do – uber fans will still manage to express their latent creativity, often through cheats, exploits, and hacks.

Anti-cheat efforts

Some gaming companies like Valve (http://www.valvesoftware.com/), creator of Counter-Strike (http://en.wikipedia.org/wiki/Counter-Strike), Half-Life (http://en.wikipedia.org/wiki/Half-Life_(video_game)), and Portal (http://en.wikipedia.org/wiki/Portal_(video_game)), spend millions of dollars each year to combating cheating – resources that would certainly be better spent developing new games.

Since When Were Rules Fun?

Anti-cheat advocates argue that game rules are put in place for a reason – namely, they make the game fun. They argue that cheaters who break these rules ultimately ruin the experience for other players; this makes cheating and hacking – despite their disputed status as unique forms of "gaming" – unethical.

Certainly this viewpoint does have merit. Cheating at other players' expenses is unfair for players who pay $50 for a video game in the hopes of a balanced, fair game experience. Critics of video game cheating sometimes argue that video games *could not exist* without explicit rules, structure, and storyline to frame the gameplay and give it purpose.
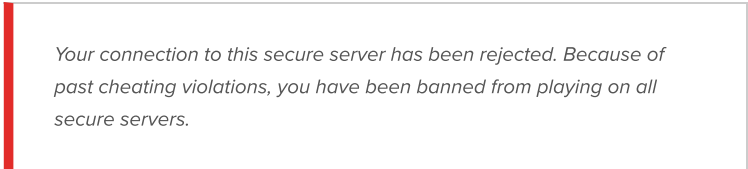
However, this definition of video games is much too shallow and fails to take into account the recent trend towards open-ended and sandbox gameplay – games largely without rules or objectives. Games like Electroplankton (http://en.wikipedia.org/wiki/Electroplankton), SimCity, and Little Big Planet (http://en.wikipedia.org/wiki/Little_Big_Planet) are examples of emergent games that stretch the traditional definition of video games by proving players with gameplay free of rules, missions, or clearly defined goals. Are these not games?

Valve Anti-Cheat

Most online gaming companies – Valve included – have a no tolerance policy towards cheating, which they view as undesirable, disruptive, and harmful to the online gaming experience. In 2002, Valve developed a system called VAC (http://en.wikipedia.org/wiki/Valve_Anti-Cheat) (Valve Anti-Cheat) to stop the cheating which was running rampant on Counter-Strike servers.

Today, most Counter-Strike gamers who play on VAC-protected servers are essentially guaranteed a cheater-free gaming experience. From my own investigation, I discovered that over 90% of Counter-Strike servers are protected by VAC, so most players are assured a cheater-free experience.

Valve's automated cheat detection system will catch anyone using aimbots (http://en.wikipedia.org/wiki/Aimbots), nospread (https://www.youtube.com/watch?v=ACGy_EudMog), norecoil (https://www.youtube.com/watch?v=756CjFuLXKg), wallhacks (https://www.youtube.com/watch?v=jR6Nq4sj7BA), speedhacks (https://www.youtube.com/watch?v=ubvG0xFyh1s), and an array of other unauthorized cheat aids [ref (http://web.archive.org/web/20070701045109/http://wiki.counter-hack.net/CategoryCSCheatingHist)]. Cheaters will receive a permanent ban and will be greeted with the following error (https://support.steampowered.com/kb_article.php?p_faqid=589) when connecting to a server:

> *Your connection to this secure server has been rejected. Because of past cheating violations, you have been banned from playing on all secure servers.*

Valve claims that this hard-liner policy is an incredible deterrent to would-be cheaters and that their policy has helped to successfully stamp out cheating from their online games. However, one cannot help but wonder if banning large percentages of customers is the wrong approach to dealing with the cheating problem.

"Hacker Havens"

Could there perhaps be a better way to harness the creative energy of cheaters and put it to good use? It turns out that whether it was an intentional act or not, Valve's decision to explicitly create cheat-free servers also had the unintended consequences of creating cheater-only servers. This actually had the positive effect of creating "hacker havens" – servers where hackers are free to play against other hackers on a level playing field, without the fear of being banned.

Concluding Thoughts

Cheaters are often looked down upon in the gaming community as "spoil sports" and troublemakers because they dare to push the limits of the video games they play. But, it is essential to recognize that cheating is an integral part of the gamer psyche.

> *As game producer, Gordon Walton points out (with regard to The Sims Online): 'If you leave a cheat long enough, it becomes part of the culture of the game' ... In other words, far from contributing to the 'corruption' of games, cheats are part of the definition of the game genre. (Kucklich)*

Games should not be limited by the game developer's creativity but instead by the creativity of each individual player. Research in this area is still ongoing, and the definition of gaming is still up for debate. Yet, I hope that one day in the not-too-distant-future cheaters might be looked up to as the most creative gamers of us all.

Line Rider - Jagged Peak Adventure

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