

Master thesis

PARTICIPATORY GAMING CULTURE:

INDIE GAME DESIGN AS DIALOGUE BETWEEN PLAYER & CREATOR

Martijn van Best
student ID: 3175421
martijnvanbest@gmail.com

New Media Studies
Faculty of Humanities
UTRECHT UNIVERSITY

Course code: 200700088 THE-Scriptie / MA NMDC

Supervisor: Erna Kotkamp
Second reader: René Glas

DATE: March 28th, 2011

To Mieke

Abstract

In this thesis I argue that dichotomies between independent game design and mainstream design based on team size, commercial appeal or creative audacity are non-constructive. Instead, I consider the potential for a personal connection between player and designer a trademark of the indie scene. I investigate to what extent indie game designers are able to establish a personal dialogue with their audience *through their game*, instead of regular channels like blogs and Twitter.

I argue that such a dialogue is established by means of *abusive game design*, a concept developed by Douglas Wilson and Miguel Sicart of the University of Copenhagen. Players who wish to master (partially) abusive games, need to learn about the designer's intentions rather than the game system. This would allow for a dialogue between player and creator. This dialogue is part of a *participatory culture* in which existing conventions are questioned and modified, and then fed back to the mainstream.

However, in a case study of indie title *Super Crate Box* (2010), it appears that in order to provide a worthwhile playing experience, indie designers need to strike a careful balance between their wish for a personal 'mark' and conventional, user friendly design that masks their presence.

Tags: participatory culture, indie game design, abusive game design, mainstream, convention-breaking

“An abusive game designer is like a virus – one which avoids killing the host in order to better propagate throughout the population.”

Douglas Wilson & Miguel Sicart, in “Now It’s Personal: On Abusive Game Design” (2010)

Acknowledgements

I thank my supervisor Erna Kotkamp for her advice, criticism, helpful references to academic articles and the occasional political debate. I extend my gratitude to René Glas, who provided me with helpful suggestions and criticism for completing this thesis.

A special, warm 'thank you' to the people at Dutch Game Garden: Jan-Pieter van Seventer, Viktor Wijnen, Sjors Houkes, Joshua de Jong and Zuraida Buter. For hiring me as an intern at their office in 2010 and introducing me to the Dutch game industry.

I thank indie developers Jan Willem Nijman and Rami Ismail of studio Vlambeer for (unwittingly) inspiring me to write this thesis.

A great amount of classic rock artists on Spotify kept me going these past months. They managed to fire me up enough each day to continue finishing this thesis. Many thanks to Queen, Kansas, Asia and others.

I also wish to thank my fellow students. Mainly through the medium of Twitter, they provided me with advice, helpful links, support and distraction.

During my years of study, I could always count on the love and support of two people: my parents Marij and William van Best. I'd like to use this little space to thank them for always being there for me. Without them, I would not be where I am now. I also thank my sister Carline for her love and advice.

Many thanks to Mieke for her love, advice and patience, and motivating me to complete this thesis. I wouldn't have been the same if it weren't for her.

Table of Contents

1.0 - Introduction	7
1.1 - Changes in the industry	7
1.1.1 New independence.....	7
1.1.2 Marketability of indie games.....	8
1.1.3 Personal connection: a trademark of indie?.....	10
1.1.4 Research question & methodology.....	11
1.1.5 About Super Crate Box.....	13
2.0 - Game design and participatory culture.....	15
2.1 - What is participatory culture?.....	15
2.1.1 Defining participatory culture.....	15
2.1.2 Underlying paradigm of participatory culture.....	16
2.1.3 Importance of participatory culture.....	17
2.1.4 Extended cultural industries and lead users.....	18
2.2 - Games and participatory culture.....	21
2.2.1 Different degrees of participation: interpretation.....	21
2.2.2 Different degrees of participation: reconfiguration & construction..	22
3.0 - Abusive game design as participatory culture.....	24
3.1 - Exploring abusive game design.....	24
3.1.1 A dialectic relationship between player and designer.....	24
3.1.2 Forms of abusive game design.....	25
3.2 - Super Crate Box as abusive game.....	26
3.2.1 Unfair Design.....	26
3.2.2 Aesthetic Abuse.....	28
3.2.3 Physical Abuse.....	29
3.2.4 Lying to the Player.....	29
3.2.5 Social Abuse.....	30
4.0 - Conclusion.....	31
5.0 - References.....	33
5.1 Scientific articles, books, blog posts and news articles.....	33
5.2 Developers' blogs and indie forums.....	35
5.3 Ludography.....	36
5.4 Images.....	37

1.0 - Introduction

1.1 - Changes in the industry

1.1.1 New independence

Independent video game developers have been on the rise in recent years. Titles like *Super Meat Boy* (2010), *VVVVVV* (2010), *flOw* (2007) and *Braid* (2008) were created by teams consisting of only a handful of people yet they garnered plenty of critical and in some cases financial success. This is an interesting development, since for a long time it seemed as if games created in the proverbial attic or basement, described in such seminal works as *Joystick Nation* (Hertz, 1997) and *Trigger Happy* (Poole, 2000), were gone for good. The dawn of the first Playstation and the “era of expensive team-based 3D game production” had seemingly killed off the lone coder, reminisces game journalist Keith Stuart in a web article for British newspaper *The Guardian*. In his piece he compares the current generation of independent designers with those from the 1980's, such as the Bitmap Brothers and Sensible Software. The difference with the 80's, according to Stuart, lies in the current abundance of “...cheap powerful computers, freely available open source software and various online distribution channels...” that make it possible for designers to create games more easily, cheaper and with a higher chance of marketability. (Stuart, 2010)

Although not every independently produced game is profitable, at least some of the 'new indies' seem to be commercially or critically successful. In an industry dominated by heavily marketed titles that are supposed to bring in millions in revenue, digital distribution platforms provide a channel for small projects to be relatively easily and cheaply put on the market and -in some cases- garner a decent enough profit to secure the prolonged development activities of the designer(s). *Braid* by Jonathan Blow made 825.000 dollars on Xbox Live in its first week. (Sridharan, 2008) Minimalist puzzle platformer *Limbo* (2010) by Danish studio Playdead sold 300.000 copies costing 15 dollars each in its first month of release. (Sheffield, 2010) The *Humble Indie Bundle* (2010), containing five acclaimed independent titles that had been on the market for some time, made 1.273.613 dollars, of which 392.953 dollars went to charity. Its successor, the *Humble Indie Bundle 2*, raised more than 1,8 million dollars. (Wolfire Games, 2010)

Although numbers like these are dwarfed by profit margins of successful retail titles like Treyarch's 2010 title *Call of Duty: Black Ops*, which generated 360 million dollar revenue on day one, (Graft, 2010) it must be remembered that indie titles differ from big publishers' titles in several important ways: they generally take less time to make (counting man-hours, at least), rely less on graphical prowess and visual or cinematic realism, are created by smaller teams and skip the retail process thanks to digital distribution. All this cuts down on costs, even though distributing titles over download channels is not free as the proprietor takes a license fee and a chunk of the sales.¹

¹ Indie developers pay Microsoft a 99 dollar license fee for an XNA tool kit, in order to develop for Xbox Live Arcade or Windows Mobile. The use of this tool kit is not mandatory since open source tools can also be used. However, Microsoft takes around 30 to 70 percent of sales for games, depending on their participation in the project. Developing PSN games for Sony's Playstation 3 can require as little as 1200 for a debug PS3 (instead of a complete developer kit). The graphics engine PhyreEngine is available free of charge for PSN developers. Thatgamecompany is an indie game developer-turned-second party-developer for Sony Computer Entertainment which has used PhyreEngine on several occasions. See the reference list at the end of this thesis for source material regarding these facts.

1.1.2 Marketability of indie games

The success of contemporary indie games is caused in no small part by the availability of digital download channels such as XBLA on Microsoft's Xbox 360, WiiWare on Nintendo Wii and PSN on Sony's Playstation 3. (Irwin, 2008) PC-channels such as Valve Software's Steam and app stores on mobile platforms like Apple's iPhone also harbour a large collection of indie titles. In an interview by author Jesper Juul with Disney game developer Warren Spector in *A Casual Revolution* (2010), Spector states that development is getting "broader and deeper" because of cheap or free tools that are available: "If you are a person with a dream and a game that you burn to make, the opportunities to make it and sell it are there." He goes on to name *Portal* and *fIOW*² as titles that are changing the mainstream industry by taking chances that Spector, as developer for a big corporation "can't afford to take" (Juul, 2010: 205-206).

Many indies claim that love for the medium itself or providing the game industry with criticism is their driving force, which compels them to take risks in graphic design or game play mechanics. (EDGE, 2010) At other times they take established or nostalgic game play elements and turn them around to create something new. A good example is *Super Meat Boy* by two-man company Team Meat, where familiar platform-based game play is put in a metaphorical pressure cooker resulting in levels super-dense with traps, pitfalls and booby traps. A very forgiving system of unlockable rewards, unlimited lives and continues keeps *Super Meat Boy* from becoming a frustrating romp. *fIOW* by thatgamecompany has the player controlling a microscopic life form and uses a very minimalist user interface, as to interrupt the experience as little as possible. "Life could be simple", is its appropriate tagline. In *VVVVVV* by Terry Cavanagh, players can't jump to avoid obstacles, but have to change their gravity so their character may either walk on floors or ceilings. The retro Commodore 64-style graphics seem to challenge the convention of increasing visual or cinematic realism seen in many mainstream titles. *Braid*, which counts as the quintessential indie game to some, (Vadukul, 2009) employs a visual style reminiscent of impressionist painting. It has a mature presentation and a distinctly non-clear cut approach to its plot and puzzles.

Indie is a very elastic term, capable of being stretched in many different ways. The accurate use of the term is the topic of hot debate and seems to focus on the amount of creative audaciousness of a designer versus "playing it safe" for commercial reasons. While Markus Persson, creator of runaway hit *MineCraft* (2009) thinks indie stands for "an inherent will [...] to be experimental and original", fueled by a desire to make good games rather than make money (Parker, 2011), IGN-reporter Michael Thomsen says the word indie is little more than artistic posturing. According to him, the term is wrong because it puts an artificial, socially constructed barrier between independently funded projects and mainstream titles. (Thomsen, 2011) In order to bridge the perceived gap between mainstream commercial success and independent design, developer Alistair Doulin invented the term "mindie": an indie designer who's "making deep and meaningful games" that generate a profit without selling out the original vision of the creator. (Doulin, 2010)

2 Although the final version of *Portal* was designed by Valve Corporation (which is not an indie developer), the original concept was made by students at the DigiPen Institute of Technology at Redmond, Washington, USA. This concept was called *Narbacular Drop*. The students responsible for the concept were later hired by Valve, ultimately resulting in the game *Portal*. For more information, see the article "GC 06: Valve's Doug Lombardi Talks Half-Life 2 Happenings" by Billy Berghammer included in the reference list. Similarly, the original *fIOW* game was designed by students from the University of Southern California's Interactive Media Division. Several students later formed thatgamecompany and made a Playstation 3 version of their game. See designer Jenova Chen's website www.jenovachen.com for more details.

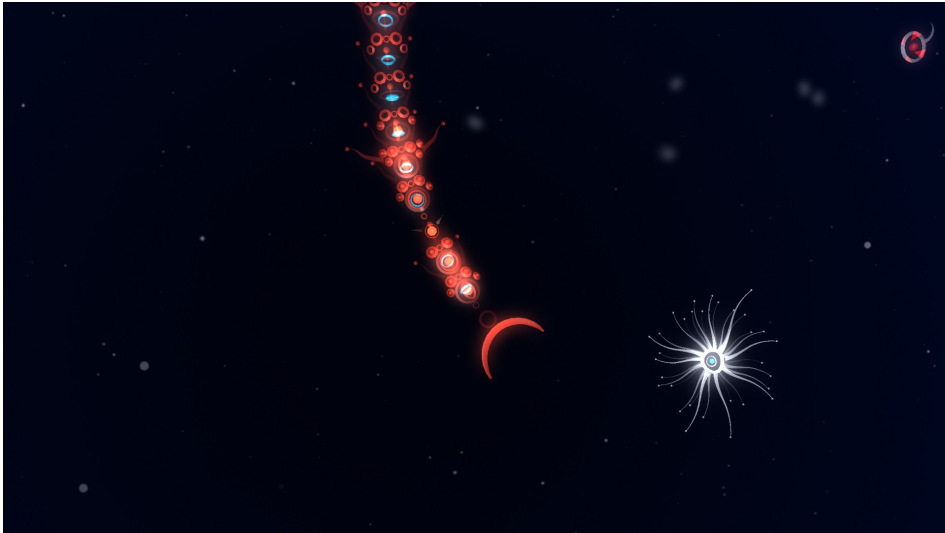


Image 1: *fIow*, 2007
By thatgamecompany



Image 2: *Braid*, 2008
By Jonathan Blow



Image 3: *VVVVVV*, 2010
By Terry Cavanagh

1.1.3 Personal connection: a trademark of indie?

In light of these recent discussions, it is safe to say a difference is perceived between indie design and mainstream game production. I argue that maintaining such a dichotomy based just on commercial success versus creative audacity is non-constructive in analysing game design. Instead, I argue that a certain level of personal connection between player and designer is a defining characteristic of indie game design. Many indies speak directly to their audience either through their blog or Twitter channel, which is different from mainstream development where there is usually a PR department carefully orchestrating the contact between developers and the players of their games. Examples of indie blogs are braid-game.com/news by Jonathan Blow, doolwind.com by Alistair Doulin and the blog of Jane McGonigal at blog.avantgame.com.

As designer Daniel Cook writes on his own personal blog *Lost Garden*: “If a game is built by a large team and published by a mainstream publisher, you cannot know who is responsible for the game.” This, according to him, makes it hard for fans of certain games to know who is “worthy of appreciation”. (Cook, 2010) The size of the development team, the amount of money made, investor's support or some elusive 'indie spirit' do not define what is indie and what not. Rather these characteristics pave the way for a higher visibility of individual creators. This realisation provided the main topic for this thesis. If a designer becomes more visible, it might be possible for him or her to engage in a personal dialogue with the player. The blogs mentioned above show this kind of effort by designers to engage with the gaming community at large. For this thesis however, instead of focussing on online discussions, blog posts or conference talks as might be expected, I will look at the dialectic process between designer and player *through a game itself*. What I mean by a dialogue through game design is perhaps best explained by the following, personal anecdote.

In April 2010, I cooperated in the organisation of an exhibition of new and original game design by developers from the Netherlands. One of the most popular games on the show floor was *Super Crate Box* (2010), a student game which at that time was not yet officially released. Looking at another person playing, I saw a small pixelated character fire hilariously oversized weaponry at an unending swarm of simplistic looking enemies, little more than skulls with feet. The designer had obviously chosen to make the game resemble classic arcade games from the mid-1980's: each level had just one screen, the graphics were 2D and all characters, objects and backgrounds consisted of sprites. Thinking I had figured out the basic premise of the game, I started playing myself, killing wave after wave of enemies with whatever weapon one of the item boxes littered across the level provided me with. It was only after a minute of gameplay or so, that one of the onlookers who had been playing before made a remark: “You're supposed to collect the crates, you know.” I looked at the score display, which showed a laughably low score, since I had hardly picked up any crates after I had acquired a particularly powerful revolver. It then dawned on me that the designer had fooled me. The game was not about killing enemies, it was about collecting weapon crates.

Drawing from my former experience with games, I simply assumed I understood the game before I even played it. Apparently, I was so used to medium conventions that I didn't even expect anything new. On top of that, it happened in front of onlookers, making my blind obedience to conventions all the more glaring. The designer of *Super Crate Box* made me question my own herd mentality by designing a game that forced me to think about what *he* was trying to convey, instead of relying on tried and true game play formulas. I needed to understand *him* instead of the system, thus creating a need to engage in a dialogue through game design. Since then, “indie” to me is what happens when a designer establishes a personal dialogue with

players. The extent to which this is possible while still maintaining an enjoyable -and potentially profitable- playing experience, is the next question.

1.1.4 Research question & methodology

I wish to investigate to what extent indie game designers are able to establish a personal dialogue with their audience *through* their game. That is the main question of my thesis. I argue that indie game designers occupy a place somewhere between regular end-users and media corporations because of their approach to game design as a personal, creative action to be shared with others. This kind of design, I argue, is typical to indies but does not necessarily mean a complete refusal of commercial appeal. To make that point, two sub-questions need to be addressed. The first one is how to explain the perceived -and ultimately false- dichotomy between indie game design and mainstream game design. The second is the manner by which designers break medium conventions in order to achieve a dialogue.

To avoid the dichotomy between mainstream and indie, I will frame indie game design as a *participatory culture*. Participatory culture is often used in academia to describe social practices in digital media use. Generally speaking, participatory culture covers artistic, civic and political engagement and fan culture. A key element in contemporary participatory cultures is that consumers to a certain extent have the ability to become producers themselves, supposedly leading to an increased media-awareness and media literacy. (Buckingham, 2007) Although literature on participatory culture is mostly about end-users and their relation to media and cultural products, (Jenkins, 2009) I wish to extend the concept of participatory culture to include indie game designers. To do so, I will first provide a brief description of what I consider to be participatory culture, including its underlying paradigms and the importance attributed to it in academic writings. As will be explained further on in chapter 2, it is important to acknowledge that participatory cultures of any kind are not diametrically opposed to mainstream consumer culture, but rather are a part of it: extending and modding existing practices and sometimes becoming part of the very mainstream they sought to criticise. Mirko Tobias Schäfer explains in his research dissertation “Bastard Culture” that participatory culture may better be understood as an extension of cultural industries; where users, professional producers, corporations, technology and software design all shape their relationship with one another. In *Democratizing Innovation*, MIT-based professor of Management and Innovation Eric von Hippel introduces the term “lead users” to define people in a participatory culture who are most prolific when it comes to creating and sharing content. (Von Hippel, 2005)

For this thesis I will frame indie game designers as lead users. This way, it is possible to explain their role as entrepreneurial, sometimes unconventional creative force in the games industry, engaged in a dialogue with their audience, the industry and each other. According to game scholar Joost Raessens, building or reshaping media is an important part of contemporary participatory culture. (Raessens, 2005: 373-388) Therefore, as will be explained later, indie game design may be considered a form of lead user-participation. This kind of participation opens up the black box that is game design (or any software design) where systems are considered a *fait accompli* and the designer has become invisible to his or her audience.

How indie designers become visible enough to engage in a dialogue with players is analysed in chapter 3. I use the concept of *abusive game design* to explain the way designers break medium conventions in order to establish a dialogue between them and players. Abusive game design is a concept coined by Douglas Wilson and Miguel Sicart in their recent paper “Now It’s Personal: On Abusive Game Design”. The term stands for a manner of design that makes games intentionally very hard to play, visually confusing,

socially awkward or even psychically painful. (Wilson & Sicart, 2010: 41-44) According to Wilson and Sicart, designing games to be intentionally user-*unfriendly* allows for a much more personal relationship between player and designer, because players need to understand the designers' motives rather than being led by a system that allows for 'seamless play' and 'balance' that keep the designer out of view. (Ibid., 44-45) Abusive designers use this to try and force players out of their expectations, as happened to me during my first try at *Super Crate Box*. As a retort, players of abusive games need to outsmart and understand the designer and his or her intentions instead of the game system. Wilson and Sicart argue that this kind of dialectic process is most often seen in indie game design. I argue then, that abusive game design is a form of participatory culture that is used by some indies as their unique way of engaging in a dialogue with players, instead of masking their presence as *auteurs*.

However, using the aforementioned *Super Crate Box* as case study, we will see that indie game design does not necessarily take a completely abusive approach to game design conventions. I look at the levels of abuse identified by Wilson and Sicart (psysical abuse, unfair design, lying to the player, aesthetic abuse and social abuse) and analyse to what extent *Super Crate Box*' creators chose to be abusive. As it turns out, complete abusiveness would stand in the way of conventional notions of user-friendliness too much. Wilson and Sicart themselves say that even though indie developers are "known for designing games with punishing challenges," they often still adhere to "contemporary accessibility ideals" found in mainstream design. (Ibid., 41) While laudable from a mainstream design perspective, this partly hampers a true dialogue between player and designer and thus a true participatory culture. The dialogue is still partly between player and system, instead of player and designer. As will be analysed in the case study, this is probably because a complete dialogue would rob the designer of his/her ability to supply immersive experiences while asking continuous engagement from the player. The resulting tension between participatory culture and regular producer-consumer relationships to me lie at the heart of the indie versus mainstream debate. Indie designers for all their supposed creative and artistic audacity, are tied to the same marketable notions of good game design as mainstream developers. In this sense, most indies are most definitely an extension of cultural industries rather than a completely oppositional force. This realisation compels us to ask to what extent abusive game design is to the benefit of designers in that it allows for a dialogue between them and players.

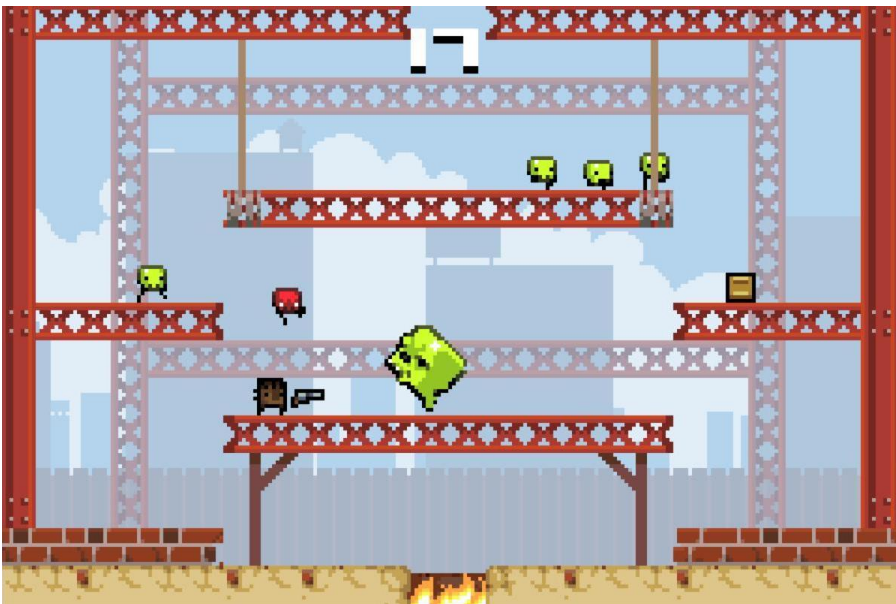
For the case study, I have played *Super Crate Box* extensively. This method of direct game analysis is "the best", according to game scholar Espen Aarseth. (Aarseth, 2003: 3) He argues that simply studying code or watching others play provides insufficient data to really provide informed game scholarship: "If we have not experienced the game personally, we are liable to commit severe misunderstandings, even if we study the mechanics and try our best to guess at their workings". (Ibid.) I agree with this position. Aarseth does acknowledge that research involving extensive personal playthrough might benefit when *combined* with reports from others and interviews with the creators of a game. However, I have chosen to limit myself to playing the game myself, sometimes in a shared environment with others. This allowed for feedback on my efforts to perform well in reaching a high score. It should be noted that I have talked with Jan Willem Nijman and Rami Ismail, the two main designers of *Super Crate Box*, on a number of occasions about this game. Although this has given me some extra insight into the makings of the game, it was merely coincidental that I had the opportunity to talk to them.

1.1.5 About *Super Crate Box*

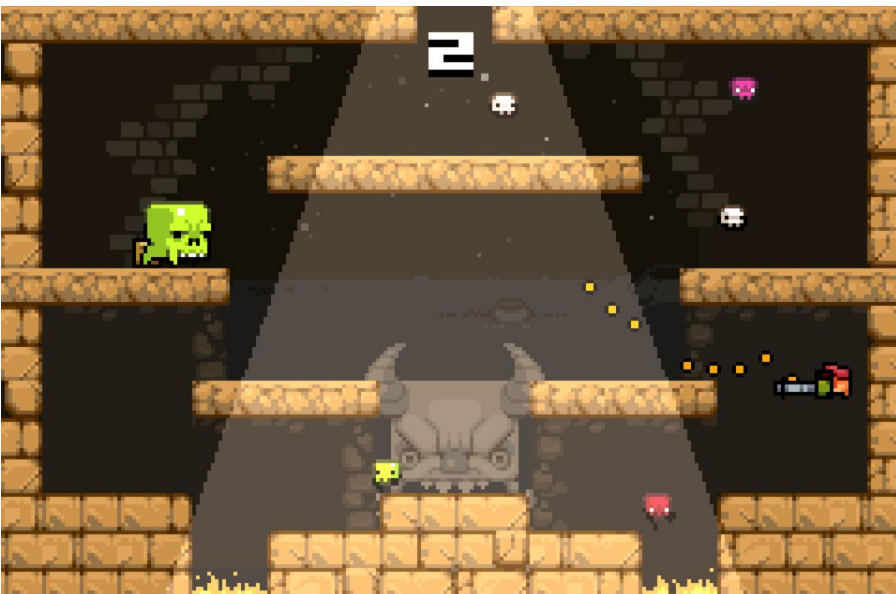
The reasons why *Super Crate Box* was chosen as the research topic for this thesis are 1) the elements of abusive game design that I noticed during my playthroughs and 2) the particular visibility of the designers, Jan Willem Nijman & Rami Ismail from Dutch studio Vlambeer. They are a prime example of indie game creators who are willing to engage in dialogues with their players. Vlambeer actively encourages their audience to participate. For example, upon the release of the game, the studio organised a papercraft contest involving characters from the game. They showed the results on display in their office. Fanart that people send in gets shared through the studio's blog vlambeer.com or their Twitter account [@vlambeer](https://twitter.com/vlambeer). Frequent blog updates and replies to players' questions keeps the audience informed on things that are going on behind the scenes of development. Even though I consider all this to be part of a participatory culture, it is important to remember that I analyse the dialogue the designers have with their players *through the game Super Crate Box itself*, to see to what extent their dialogue is maintained through abusive game design. We will see that *Super Crate Box* abuses players enough to provide a fresh design perspective and showcase the creativity and audacity of its designers, yet remains true to conventional practices enough to keep at least some mainstream appeal.

The game was released as freeware on PC and Mac in 2010. (supercratebox.com) It was created in Game Maker, a well known platform for low entry level game development. Game play in *Super Crate Box* is limited to one screen, reminiscent of old arcade titles like *Donkey Kong* (1981), *Mario Bros.* (1983) and *Bubble Bobble* (1986). The graphics and sound represent a typical 2D arcade game from the mid-1980's, but not quite: the game has more colours, sounds and animations than the technical limitations of that era would allow for. The player's main character must battle an unending stream of walking and flying skulls while collecting randomly appearing crates that contain weapons. These weapons all handle very differently from one another, and some of them aren't even all that useful. The catch of the game is that it's not the amount of enemies killed that defines the score, but the amount of weapon crates collected. The player therefore constantly has to choose between killing enemies (if left unchecked, they fall in a pit at the bottom of the screen, only to reappear, red and faster-moving, at the top) and collecting crates. Collecting a new crate right in front of a group of enemies is risky, especially if the new weapon turns out to be actually worse than the one currently in possession. At the same time, holding on to a very useful weapon like the revolver doesn't advance the score (as explained in my anecdote), since no new crates are collected.

The game play thus revolves around the dilemma between collecting or attacking in countless moments of split-second decisions. Players can unlock a variety of new weapons, characters and modes of play as they increase their high score. There's also an online leaderboard to compare scores. *Super Crate Box* received critical acclaim from prominent sources such as Edge Magazine and gaming websites IGN and Gamasutra (Control, 2011) and a nomination in the 'excellence in design' category for the 2011 Independent Games Festival. (IGF, 2011)



Images 4-5-6:
The three different stages
of *Super Crate Box*, 2010
By Vlambeer



2.0 - Game design and participatory culture

2.1 - What is participatory culture?

2.1.1 Defining participatory culture

Before framing indie game design as a participatory culture, it is necessary to first look at the term participatory culture itself. The phrase was coined by media scholar Henry Jenkins. According to Jenkins, participatory culture is “a culture with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one’s creations, and some type of informal mentorship whereby what is known by the most experienced is passed along to novices”. (Jenkins, 2006: 3) Although participatory culture is in no way limited to digital media since Jenkins first analysed it in relation to television and Star Trek fandom. (Jenkins, 1992), it has become a fashionable term to describe the user driven content of new media culture. According to Lister et al., digital media promise to empower users by offering a wider variety of choice and giving people “... a more powerful sense of user engagement with media texts, a more independent relation to sources of knowledge, individualised media use, and greater user choice.” (Lister et al., 2003: 20) This is reflected in language too: audiences of digital media are 'users' instead of 'viewers' or 'readers'. (Lister et al., ibid.) This terminology hints at an active role for people in their interactions with digital media. For example, social networks like Facebook and Twitter allow users to share video's, online articles and news with one another at any moment rather than being solely dependent on broadcasting and publishing schedules of media corporations. Free or cheap software like Windows Movie Maker, iMovie and Garage Band allow users to edit and share their own video clips or music. Content management systems like Blogger or Wordpress make it possible for virtually anybody to start a weblog and write about a plethora of niche subjects. Then there are the thousands of web forums and news groups where users engage in debate with each other.

In *Confronting the Challenges of Participatory Culture*, Jenkins argues that some tasks may be easier with some technologies than with others, and thus the introduction of a new technology will inspire certain uses. (Jenkins, 2009: 8) The rise to prominence of indie game developers might partly be considered the result of the increased availability of free or cheap development kits. *Super Crate Box* by Dutch studio Vlambeer was created in Game Maker, as was lone designer Daniel Remar's *Hero Core* (2010). Game Maker requires no programming experience at all. (It does provide the option to write code however, and serious developers like the ones named above tend to do so) Multimedia Fusion is another package that doesn't require programming skills to create games. Indie titles like *The Spirit Engine 2* (2008), *Knytt Stories* (2007) and abusive game *I Wanna Be the Guy* (2007) were made in this environment. Thanks to free or cheap software like Game Maker, Multimedia Fusion and a fair amount of other tools, players of computer games can become aspiring game developers from the time they are school children. See for example Kafai, 2007 & Resnick & Silverman, 2005. The tools mentioned above may be used both by 'professional' indies and amateur users, thereby blurring the line between them. This is important to remember when framing games as a participatory culture, because it presupposes a vanishing division between audience and creator. This realisation would allowing for a dialogue between the two parties in this participatory culture.

2.1.2 Underlying paradigm of participatory culture

The ability of users to participate and self-create using computer software is a 'paradigm shift' caused by the rise of the internet as a true open source platform, argues entrepreneur and open source activist Tim O'Reilly in "The Open Source Paradigm Shift". Internet standards and technology are communication technology and "any system designed around communications protocols is intrinsically designed for participation". (O'Reilly, 2005: 474) This has allowed for the commoditisation of software, network-enabled collaboration and software customizability on a scale unheard of before. (Ibid: 463)

Marianne van den Boomen and Mirko Tobias Schäfer also note that open source became a notable concept with the internet becoming mainstream in the nineties, which allowed for both an increase in production and distribution of open source-based products. However, in "Will the Revolution Be Open-Sourced? How Open Source Travels through Society" they show how the discourse on open source software spilled from the programmer's domain to all walks of society, its meaning being used and transformed to fit various discourses by hackers, activists, politicians, companies and finally taken for granted by the general public. They argue that the diffusion into society of the open source paradigm is better not thought of as caused by the "inherent, objective characteristics of the invention itself" nor by the "power relations in society and the subsequent acts of resistance, acceptance or ignorance by different interest-groups during the diffusion process." (Van den Boomen & Schäfer, 2005: 8) They describe a multitude of factors working in an actor network of people, things, concepts, inscription devices, texts and money, which all create an environment for the invention to eventually become stable and indispensable. "Finally, the invention may become mainstream and accepted as a 'black box', i.e., a phenomenon or thing taken for granted, a closed device with no calls for it to be opened or contested." (Ibid.) According to Van den Boomen and Schäfer, *open source* became eventually associated with democratic values, collaborative production processes, freely accessible resources and community-building.

This sounds remarkably like Jenkins' description of participatory culture. Mirko Tobias Schäfer states in his PhD thesis "Bastard Culture: User Participation and the Extension of Cultural Industries" that in popular discourse, internet developments made users 'explicitly active participants' in the realm of cultural production. They were "...granted new possibilities for cultural production that were previously inaccessible to consumers of industrially produced goods and mass media: media content could be produced by amateurs, published and distributed on a global scale at negligible cost."³ (Schäfer, 2008: 17) It's ironic that the concept through which consumers would be empowered to better understand media has apparently become something of a black box itself. As we will see, a concept like abusive game design helps us to open up those black boxes and -at least to a certain extent- let the creator of a game become manifest. As we will see later on, this approach exposes cracks in the dichotomies of indie versus mainstream or corporate versus participatory. This prevents us from making the mistake of viewing either open source and participatory culture as a thing taken for granted.

3 A comparison might be made with Mark Deuze's use of the term *bricolage*, which is "the highly personalized, continuous and more or less autonomous assembly, disassembly and re-assembly of mediated reality." According to Deuze, "instead of relying on journalists, public relations managers, politicians and other professional storytellers to make sense of our world, we seem to become quite comfortable in telling and distributing our own versions of those stories." See "Participation, Remediation, Bricolage: Considering Principal Components of a Digital Culture" by Deuze, 2006.

2.1.3 Importance of participatory culture

In a sense, the word *participation* in recent years has replaced *interactivity* as a defining characteristic of digital media. In *The Language of New Media*, Lev Manovich argues the word *interactivity* is “too broad to be truly useful” and calls it a tautology, since as soon as an object is represented in a computer, he says, it has already become interactive because people can then manipulate it through a human-computer interface. “Therefore”, Manovich states, “to call computer media interactive is meaningless -- it simply means stating the most basic fact about computers.” (Manovich, 2001: 55) Espen Aarseth proposes the use of the term “*participation, play, or even use*” (my emphasis) to describe digital media practices, since *interactivity* “is a purely ideological term, projecting an unfocused fantasy rather than a concept of any analytical substance.” (Aarseth, 1997: 48-51) Dutch game theoretician Joost Raessens acknowledges the use of the word *participation* not just because of the specificity of computer games (and, one might add, that of all digital media) but because of the media culture that has formed around them. (Raessens, 2005: 380)

In several publications, Henry Jenkins stresses the need for equal access to digital media tools exactly because of the growing importance of participation in society:

“A growing body of scholarship suggests potential benefits of these emergent forms of participatory culture, including opportunities for peer-to-peer learning, a changed attitude towards intellectual property, the diversification of cultural expression, the development of skills valued in the modern workplace, and a more empowered conception of citizenship.” (Jenkins, 2007)

Jenkins goes so far as to say that participatory cultures form a hidden curriculum in which young people learn critical thinking-skills and an active and reflective stance toward media and production. The amount of participation would determine which kids will 'succeed' and which ones will be 'left behind'. (Ibid.) The supposed empowering qualities of engaging in a participatory culture have been further explored in academic material dealing with media literacy, especially among children. In “Digital Renaissance or Digital Divide” Bill Ivey, former chairman of the American National Endowment for the Arts, and Steven J. Tepper, sociologist at Vanderbilt University, express their worry about an increasing participation gap between people who have “the education, skills, financial resources, and time required to navigate the sea of cultural choice” (made possible by digital media) and those who are less well off, both in a financial and social sense. This last group would continue to rely on “the cultural fare offered to them by consolidated media and entertainment conglomerates” and experience difficulty in taking advantage of the digital revolution that makes user participation so easy. Those that are left behind, would be “trapped on the wrong side of the cultural divide”. (Ivey & Tepper, 2006)

British professor of education David Buckingham and his colleague Andrew Burn argue that schools have a part to play in fostering equal participation among students. (Buckingham & Burn, 2007: 329) According to these authors, media literacy is achieved by writing creatively in a medium (i.e. producing), because they see literacy not just as a critical process but also as a creative one. They argue for participatory cultures where children are encouraged to engage in new content creation. Buckingham et al. describe one of their experiments at a school in Manchester in which children were taught to create their own game using a low-entry level creation tool. The childrens' understanding of games was utilised and grew during the process, with the students drawing from their own ideas, known conventions of the medium, guided instruction and classroom discussion. (Ibid.)

Research indeed seems to point to a huge disparity between users actively contributing and users simply consuming online content, underscoring the worries of the authors above. Jakob Nielsen writes that in online communities, only 1 percent of people are actually heavy contributors, accounting for 90 percent of user-generated content. The vast majority of digital media users consists of people who 'lurk' in the background, contributing virtually nothing to this pool of user-generated content. (Nielsen, 2006) According to a report by video advertising and analytics platform TubeMogul, only little more than 17 percent of videos watched on YouTube in 2010 consist of user-generated content. The rest comes from official YouTube partners (44.7 percent), is pirated footage (33.3 percent) or advertisements (4.9 percent) Almost 42 percent of material contains ads. (TubeMogul, 2011)

Similar reports, often carried out by market research companies or advertising agencies, show a similar picture: in a 2007 report for Forrester Research Inc., Charlene Li notes that only 13 percent of the adult online population in the United States falls in the 'creator' category. Their activities consist of publishing weblogs, maintaining a website or uploading videos. (Li, 2007: 4) A Dutch study in online activities of youth paints a similar picture of online participation. Only 9 percent of Dutch youths is a 'producer' of online content. (Kennisnet, 2009)

As Jenkins admits in *Confronting the Challenges of Participatory Culture*, "... many will only dabble, some will dig deeper and still others will master the skills that are most valued within the community." (Jenkins, 2009: 6) The view of participatory culture as liberating users from the constraints of dominant media production must indeed be critically scrutinised. Not only do the degrees of engagement differ from person to person, as the research above shows. Media corporations' dominance and ways to capitalise on participatory culture also didn't suddenly disappear.

2.1.4 Extended cultural industries and lead users

Mirko Tobias Schäfer points out that in scholarly commentary (and elsewhere) authors accept 'somewhat hasty' that digital media are fulfilling some utopian promise. In "Bastard Culture: User Participation and the Extension of Cultural Industries" he argues that participatory culture is "...not achieved simply by employing new technologies and should not be reduced to its symptoms, i.e. users taking part in the processes of production and distribution." (Ibid., 25) Schäfer creates an analytical framework that reveals the complexity and dynamic interconnections that underlie the relationship between users of digital media, corporate interests and the tools that make participation possible. Schäfer distinguishes between *explicit* and *implicit* participation. Explicit participation is the kind understood by Jenkins, which deals with intrinsically motivated actions by users. Implicit participation however, relies on the role of software design in "channeling user activities on corporate platforms." (Ibid., 74) A good example might be the Facebook 'like' button, which urges internet users to positively rate online content and share this with their friends. The most important realisation in Schäfers' thesis for me is that the view of consumers having been emancipated to the level of producers, becoming "heroes of the Information Age" (Ibid., 20) is an oversimplification and mostly constitutes wishful thinking. According to Schäfer, enthusiasm about user participation often foregoes a critical examination of its actual scope of influence, the instruments that corporations utilise to encapsulate participatory cultures in new business models and corporate and governmental attempts to confine and direct user activities:

“Although the new media practice challenges some established business models, it does not necessarily make the industries exploiting those models disappear. In the cultural industries, traditional companies can not only adapt and attempt to change business models accordingly or develop new ways of earning revenues, but it is also visible that new enterprises emerge and gain control over cultural production and intellectual property very much similar to the monopolistic media corporations of the 20th century.” (Ibid, 17)

The term culture industry is derived from the influential manifesto *Dialektik der Aufklärung* (Dialectic of Enlightenment) by Teodor Adorno and Max Horkheimer of the Frankfurt School. Although Schäfer dismisses their Marxist notion that audiences are intentionally deceived by capitalist overlords, he uses the concept of culture industries to point out the “continuing presence of disproportionate power relations in media production.” (Schäfer, 2008: 17 -footnote 9)

It cannot be denied that indeed, only a few corporations control the market of 'cultural goods'. Although digital media practices are often described as liberating consumers from traditional media heavyweights like television networks, it's interesting to see that most of these practices are made possible by (near) monopolists. According to Tim Wu, 83 percent of internet search queries is made in Google. He also notes that in the arena of social networks, Facebook reigns supreme. In the same way does Ebay dominate online auctions and is internet dialling almost synonymous with the brand name Skype. (Wu, 2010) In the market for dedicated game consoles, Sony, Microsoft and Nintendo dominate the market. They require all would-be developers to pay a license fee. The PC has traditionally been an open platform to develop and publish for, but digital download channels like Steam offer a streamlined environment for many of the latest games, thereby moulding at least a piece of the market to the wishes of its proprietor Valve Corporation. The Apple OS has always been closed source with only some open source components. Apple's system of downloadable apps provides a way for the company to act as gatekeeper for content designed to operate on its proprietary systems. Looking at it this way, to call these corporations industries of culture -Marxist perspective or not- might not be such a stretch after all. The presence of participatory cultures must therefore be understood in terms of their relation to dominant market forces. In “Game Reconstruction workshop: Demolishing and Evolving PC Games and Gamer Culture”, Anne-Marie Schleiner gives an example I like to use here. She recalls how video games originally were modifications of 'serious' programs. (Schleiner, 2005: 407) In the days of early home computers by Atari and Apple, users hacked programs in order to create clones of popular games like *Pac-Man* (1980). When the nineties dawned, some game manufacturers began releasing the source code for their games, thereby inviting users to create new levels and designs themselves. Even later, polished level-editors or mod packs became almost standard practice. Commercial applications followed suit: *Counter-Strike*, a military shooter game which is a modification of *Half-Life*, was acquired by *Half-Life*'s creator Valve software and released commercially. It essentially popularised the realistic military shooter, according to Schleiner. (Ibid., 410-411)

Half-Life and its sequel *Half-Life 2* remain popular titles for modding practices: An indie company called Isotx started an entire franchise called *Iron Grip*, (consisting of four games so far) whose first title *Iron Grip: The Oppression* (2007), was originally based on a total conversion of *Half-Life 2*. The group professionalised and their headquarters is now based in the Netherlands. They are hardly the only example. (Del Percio, 2009) A good example of participatory culture among indies themselves is the forum at The Independent Gaming Source (TIGSource) website. The TIG forum community started the *Action 52 Owns* project in April, 2010. Initiated by forum member Arthur Lee (using the nickname “mr. podunkian”) this is a

collaborative event in which indie game developers each pick a game from the notoriously bad game collection *Action 52* for the 8-bit Nintendo Entertainment System and remake each one of them into a “good” game. The original commercial but non-licensed cartridge by now-defunct company Active Enterprises contained 52 games that were mostly shoddily programmed and hastily put together. The total package, originally released in 1991, cost 199 US Dollars or “only 4 Dollars per game” as the advertisement said. The project by the TIG-forum members started out as a two week game jam in April 2010. Due to lack of available development time among developers, the project is still underway. The final result is supposed to be a package of 52 playable remakes for Windows PC's. (TIGForums, 2010)

These modders and hackers in gaming culture belong to a kind of creative vanguard. This kind of minority in a participatory culture has a big impact. First of all, the content they create can be shared, commented on and distributed by other users. Secondly, according to Eric von Hippel in his book *Democratizing Innovation*, people who actively create or modify are the most likely to engage in product innovation, even more so than regular corporations. (Von Hippel, 2005: 22) The most innovative of these users are likely to become professional producers themselves. He calls these people “lead users” and they may be found in a wide range of fields, both globally and locally. These lead users differentiate themselves from regular users because they appear to be “at the leading edge” of important market trends and they “anticipate relatively high benefits from obtaining a solution to their needs, and so may innovate”. (Ibid.) Von Hippel shows how “most user-developed products and product modifications (and the most commercially attractive ones) are developed by users with 'lead user' characteristics”. In my view, indie game developers can be considered lead users as well. In the examples mentioned above, we see indie developers in their role as lead users: adding to, modding and re-creating existing ideas and code. They are actively creating and innovating, probably thanks to being so involved in the culture and experienced in utilising software as well as knowing game design practices.

As Schäfer concludes in “Bastard Culture”, it is not helpful to view users of digital media as individual Davids battling giant, corporate Goliaths. Neither does user activity on corporate platforms entail some kind of 'pure' participatory culture. Instead, Schäfer notes that participatory culture might best be understood as an “extension of culture industry into the realm of users”, very heterogeneous and “affected by many, often contradictory interests”. (Schäfer, 2008: 291) In *Convergence Culture*, Henry Jenkins too stresses the fact that participatory cultures exist in a dialogue with market conventions: “The power of participation comes not from destroying commercial culture but from writing over it, modding it, amending it, expanding it, adding greater diversity of perspective, and then recirculating it, feeding it back into the mainstream media” (Jenkins, 2006: 257) In some cases, as will probably be the case with the Action 52 Owns project, the result will be freeware software. At other times, like in *Counter-Strike* or *Iron Grip*, independent game design as a participatory culture might lead to products that are interesting enough to release on the market.

Therefore I agree with Schäfer that the image of an active, formerly subdued audience defying the might of corporate giants is not constructive for analysing participatory culture. Fan culture, mod culture and independent production in the realm of games, like all participatory cultures, should not be considered diametrically opposed to any notions of marketability. Neither should we dismiss any possibilities that indies, being lead users and therefore more prone to monetising their innovations, would eschew any and all conventions in game design. This is important for my argument that indie games to a degree allow for

a dialogue between creator and player, but not at the cost of making an enjoyable game. Instead participatory culture amends, mods and provides mainstream culture with alternatives and criticism.

2.2 - Games and participatory culture

2.2.1 Different degrees of participation: interpretation

Participatory cultures may revolve around any subject, media or cultural production. It is important to point out that games too, can be part of a participatory culture. Joost Raessens explores this topic in his article “Computer Games as Participatory Media Culture.” He points out why he thinks games are particularly well-suited for being the subject in a participatory culture. According to him, players are willingly involved in the process of getting to know the workings of a game. They are therefore in a position to critically deconstruct it. The concept of deconstruction is a term that takes centre stage in the work of French postmodern philosopher Jacques Derrida. It refers to a critical analysis of a text in which the traditional assumptions and ideological biases that underlie a text are brought to light. A text can be a traditional literary work, but it can also refer to movies, tv shows, plays, political messages and in this case, video games. The act of interpretation, which Raessens describes as “looking through and exposing the hidden, naturalized, ideologically presupposed rules of the medium” is, according to him, a form of participatory media culture. (Raessens, 2005: 378)

Following this viewpoint, I argue that players who want to get really good at a game need to uncover the workings of the game system, thereby gaining an active and critical insight into it. They will often find certain conventions recurring in different games. For example, in many console games the button to execute the “jump”-command (if there is one) is the one on the bottom left of a four-button layout. Using Sony's Playstation 3-controller, this would be the button labeled X. On the Xbox 360, it's the A-button. But regardless of its name, the convention is there. Similarly, the button on the bottom *right* of said four-button layout is often used to cancel certain commands. Players grow familiar with these concepts. A strong weapon or character in mainstream games is mostly slow and cumbersome. Small and nimble characters (often female ones) are less strong, but lightning fast. When these conventions are broken, like in abusive game design, gamers need to re-evaluate what they know. Trying to understand the designer becomes more important than the system, since those conventions obviously don't work any more.

Raessens draws comparisons with other media's attempts to engage their audience in critical discourse by way of abusing them. (Although he doesn't use that term) French avant-garde films from the 1960's wanted to make audiences aware of the cognitive and emotional 'tricks' (Hollywood) film makers unleashed upon them. In *LAST YEAR IN MARIENBAD* (Resnais, 1961) , director Alain Resnais abolishes the use of continuity editing in his film -where each shot follows smoothly into the next, allowing for a feeling of unity- and instead delivered a discordant array of images. *LADY IN THE LAKE*, a 1947 film by director Robert Montgomery shows the plot from the first person view of the main character. Such movies, according to Raessens, fail to deliver their message about the constructedness of film and the need for the audience to view the medium critically. According to Raessens, these film makers asked too much of an audience that was not interested in watching critically but just wanted to see a movie. They abuse, but don't engage. “The pleasure normally experienced while watching a fictional film is at best replaced by an intellectual

appreciation for Robert Montgomery's experiment.” (Ibid., 379) There is no sense of participation: a viewer can only sit and watch and has no stake in the unfolding of the narrative. In games, players by default feel like they have a stake in the unfolding, making this “the ultimate revenge of low culture computer games against high culture avant-garde films.” (Ibid., 377-378)

While all forms of media and their content possess ideological assumptions that an active, participating audience might deconstruct, author Ted Friedman believes that computer games, through their nature, are the only media that expose their ideological assumptions to a much greater extent than more traditional texts. “Unlike a book or film which one is likely to encounter only once, a computer game is usually played over and over. The moment it is no longer interesting is the moment when all its secrets have been discovered, its limitations exposed.” (Friedman, 1995) Feminist author and psychologist Sherry Turkle only partially agrees with Friedman's rather optimistic view of games revealing their underlying construction so easily. In *Life on the Screen: Identity in the Age of the Internet*, she writes that there was a time when games were so primitive, the construction was indeed visible. In the days of *Space Invaders* (1978) “getting to know a game required you to decipher its logic, understand the intent of its designer, and achieve a meeting of the minds with the program behind the game.” (Turkle, 1996: 67) However, as time passed, technological advancement made games ever more immersive by providing better looking graphics, sound, animation and storytelling. This obscured the ideological assumptions underlying these games, as have movies, books and television series done before them. “Today, the program has disappeared; one enters the screen world as Alice stepped through the looking glass.” (Ibid., 31) As games grew more complex, two types of users emerged, according to Turkle: a group that is mostly interested in the surface of the game, and a group of hobbyists, hackers and fans that are still interested in exposing the intention of the designer. Raessens acknowledges that only a minority of players will engage in such critical interpretation of games. He argues this practice “...will regularly be overshadowed by the different forms of enjoyment that users may experience while playing computer games. Not only film viewers, but also computer game players [*seem*] more superficial than Friedman and Turkle maintain, at least if we define superficiality as staying at the surface of the fiction, the story and the game, as opposed to the previous in-depth deconstruction.” (Raessens, 378)

2.2.2 Different degrees of participation: reconfiguration & construction

What continues to make games so suited for participation however, is two other forms of participation that Raessens perceives: reconfiguration and construction. Reconfiguration is an “exploration and attempt to control worlds that are unknown to the player, that is often mentioned as a specific characteristic of computer games.” It means moving around the database and fully explore its possibilities, without altering the program itself. Raessens also understands reconfiguration as selecting one of many pre-programmed possibilities in games that allow players to choose from a multitude of characters, locations, and customisation options. “It is the actualization of something that is virtually, in the sense of potentially, already available as one of the options, created by the developer of the computer game.” (Ibid., 381) Examples of games that allow for a particularly huge amount of reconfiguration are *The Sims* (2000), *Rollercoaster Tycoon* (1999) and *World of Warcraft* (2004). I argue that although reconfiguration might lead to a more critical understanding of the game system, the focus of players shifts to the creator of the game

when the design is abusive. Players used to reconfiguring systems must possibly forego their previous experience and engage in an attempt to understand the designers' intentions: it's the only way to eventually 'get' the system when conventions no longer apply.

Raessens doesn't say how many players he thinks engage in the practice of reconfiguration. He does argue that only a handful of players engage in the most radical form of participation: that is the level of *construction*. This means the addition by users of new game elements to an existing game, the modification of games or the creation of entirely new games. "You can really speak of construction when players work with game-mods or game patches, editing tools and source codes." (Ibid, 381) Raessens thinks mods, total conversions (mods in which the original game is no longer recognisable) and independently produced games allow for a continuing heterogenisation amidst the homegenising tendency of mainstream media, which tends to opt for the broadest marketing appeal. More importantly, he says most games are still modeled after the "actuality and causality of action", reminiscent of classical cinema practices. "To do justice to the complexity of human experience, this dominance should be broken through with games that are also based on the intensity of feeling and the reflexivity of thought." (Ibid., 383)

Users becoming producers experience how design choices affect a player's experience, thus the need exists for them to engage in a real or metaphorical dialogue with their players. They need to 'get' them: know how to seduce them, entice them, push them onwards and surprise them. In the same way that reconfiguring players need to 'get' the designer, especially when their comfortable knowledge about mainstream game design no longer applies in the case of abusive game design. To me, that sounds like a reflexive and emotional process as much as it is creation. For this thesis, it is important to acknowledge that through the act of interpretation, reconfiguration and construction, video games become a participatory culture. Because of that, games might be viewed through the same lens as other types of participatory cultures, with several degrees of engagement and, as Schäfer pointed out, the extension of cultural industries into the realm of users. Up to the point where users become creators themselves, blurring the line between producer and consumer and making dialogues between them possible. At the same time, a lead user takes market sensibilities into account which might stand in the way of such a dialogue. In the next chapter, this duality will be explored through the extent of abusive game design in the particular indie title *Super Crate Box*.

3.0 - Abusive game design as participatory culture

3.1 - Exploring abusive game design

3.1.1 A dialectic relationship between player and designer

In the past chapters, I have established that participatory culture in a digital environment allows for sharing, adding to, modding and (re-)creating software. This does not happen in isolation or opposition from mainstream culture, but rather reacts to it, amends and expands it, possibly leading to user generated content being fed back into the mainstream market. I have also explained that games are a realm in which critical deconstruction, reconfiguration and construction form a participatory culture among users, amateurs and independent producers alike. Within this participatory realm, indie game designers can be considered lead users, most actively creating while heeding the call of innovation earlier than others. They are most involved in the culture, most experienced in utilising certain types of software and the most well-versed in game design practices. To recall Henry Jenkins' description of participatory culture in chapter 2, there exists “some type of informal mentorship whereby what is known by the most experienced is passed along to novices.” In this chapter, I will look in what ways the creators of *Super Crate Box* teach their audience -their fellow members in this participatory culture- about game design, amending and building on the concept and possibly innovating through a dialectic process.

How such a dialectic process between designer and player takes shape is analysed by Douglas Wilson and Miguel Sicart in “Now It's Personal: On Abusive Game Design”. They argue that *abusive game design* that is intentionally unfair or awkward urges players to question what they think they know about good game design. It is not about making a game unpleasant, yet it subverts what players have come to expect from mainstream games. In doing so, abusive game designers put certain conventions inside out or invent new ones. I consider this to be a kind of innovation that Eric von Hippel talks about. Because players are no longer sheltered by “good practice” level design, they can no longer entirely trust mainstream concepts like seamless play, balance and gentle learning curves. The human hand that made the game becomes very visible and players need to ask themselves what the designer wanted and meant when creating the game. This creates a dialogue between creator and consumer. By contrast, in conventional game design, players maintain a “lusory attitude”. This is a concept by play theorist Bernard Suits that is, according to Wilson and Sicart, “...an active state of mind in which players try to uphold both the rules of a game and the particular patterns of action needed to create a satisfactory play experience.” (Wilson & Sicart, 2010: 41) Most mainstream game designers try to instill that lusory attitude in gamers, as being “advocates” for them in the game system. Wilson and Sicart write:

“By arguing that game designers are first and foremost advocates for the player, contemporary game design theory has implicitly established that games-mediated play consists of the relation between a player and a system. The designer becomes the odd one-out, pressured to efface their own presence in order to ensure that the game is optimally tailored to the player.” (Ibid.)

According to the authors, designing games to contain intentionally user-*unfriendly* elements allows for a much more personal relationship between player and designer, making play itself “personal”. The result is

that the hidden power relation between player and designer comes into view. In conventional, commercial game design the power relation between player and designer is hidden behind a system of rules, engaging narrative or pretty visuals behind which the designer is hidden. Wilson and Sicart use the term *power relation* as defined in the later work of postmodern philosopher Michel Foucault. He says that power relations are not merely about submission and dominance, but can be positive and productive when they train, shape and direct free subjects toward a goal. This would be the case in abusive game design:

“...it uses the productive capacities of play as a power relation to override the instrumental perspectives that deem the game system as central to the play experience, and instead encourages players to focus on the human designer. [...] Abusive game design is designed to break the “toolness” of conventional game systems and, instead, create instruments that support a personal relation between designer and player. The game object becomes a means for a dialogue, rather than an isolated tool for play.” (Ibid., 45)

Although in theory every designer might choose to include a form of abusive game design, it is most often seen in indie game design, argue Wilson and Sicart. However, even they often rely on “contemporary accessibility ideals” found in mainstream design. This fits with Mirko Schäfer's argument that participatory cultures do not exist in a purely oppositional relation with dominant market forces but rather are an extension of it. In the following paragraphs, I will analyse *Super Crate Box* according to the definitions of abusive game design by Wilson and Sicart. We will see that the game definitely allows for more conventional or conservative design practices than might be expected, hiding the underlying power relation between player and designer in order to keep the game fun and have players maintain at least some lusus attitude. The title therefore, seems to halt between two thoughts: abusive, yet fun to play. Frustrating, yet forgiving. Although this makes the game successful among game players, it does compel us to ask the question to what extent abusive game design is to the benefit of designers, when its goal is to create a dialogue between player and designer. After all, a game that is too abusive and questions too many conventions at once, might not be fun to play.

3.1.2 Forms of abusive game design

In their paper, Douglas Wilson and Miguel Sicart recognise five different kinds of abusive game design: physical abuse, unfair design, lying to the player, aesthetic abuse and social abuse. They give several examples of each one of them. For convenience and clarity, I'll summarise their examples briefly.

As the name implies, *physical abuse* in its most literal sense is about causing real, physical pain to players. Wilson and Sicart name *Painstation* (2001), an art project where players must have their hands on the Pain Execution Unit at all times while playing a Pong-like game. When they miss a ball, they get punished by means of an electric shock, burn or lash. Less painful, but definitely physically abusive are games that require an almost unreasonable amount of continued focus of players, thereby exhausting them. The authors of “On Abusive Game Design” name *Desert Bus*, an unreleased mini game in which players must drive a bus from Tucson, Arizona to Las Vegas, Nevada in the same amount of time as this journey would take in real life: a full eight hours.

The second kind of abuse is unfair design, where games are fiendishly hard “to the point of absurdity”. (Ibid., 42) The example given is that of the *Kaizo Mario* (“Asshole Mario”) hack of *Super Mario World*. (1990) This hack features invisible blocks, unforgiving traps and instances where players fall into a

pit *after* completing a level. The third category is that of *lying to the player*. Here, the game feeds the player false information in order to cause discomfort and confusion. In the PC game *I Wanna Be the Guy*, a sudden error message makes players think the game has frozen up. Then, the error message falls down, becoming a hazardous obstacle. Wilson and Sicart also mention the insanity mechanic in *Eternal Darkness: Sanity's Requiem* (2002) This is a rare example of (intentional) lying to the player in a commercial boxed game. In the game, characters become insane after seeing too many enemies. They start to hallucinate, resulting in eerie sounds, sights and tilted camera angles. Some of these effects however, are directed at the player: the game will pretend it is erasing a player's progress instead of saving it, while at other moments it seems as if the character accidentally fires the gun in his or her face while reloading, making the player think for a brief moment that they made a mistake and killed their character.

The forth kind of abuse is *aesthetic abuse* and assaults the senses of players: be it through distorted perspectives, nauseating camera angles and harsh, loud noises. One of the examples by Wilson and Sicart is that of the game *Tuning* (2009) by indie game developer Jonatan “cactus” Söderström, that utilises “brash colors, distorted perspectives, and other visual tricks in service of making the game challenging in an unsettling way.” (Ibid., 43) Finally, the fifth category is *socially abusive games*. These are (mostly) multiplayer games where players need to perform actions that are humiliating, shameful or manipulating interpersonal relations. *B.U.T.T.O.N.* (Brutally Unfair Tactics Totally OK Now, 2010) by the Copenhagen Game Collective of which Douglas Wilson is a part, might be considered a socially abusive game. The authors argue that abusive game design is most effective when two or more categories are combined. According to them, abusive game design requires the designer to “walk a thin line”: “The trick is to push players right up to the breaking point, but not beyond; after all, you can’t abuse your players if they stop playing your game. In this sense, an abusive game designer is like a virus – one which avoids killing the host in order to better propagate throughout the population.” (Ibid., 46) In the part below, I will investigate to what extent *Super Crate Box* abuses the player in each of the five categories, and whether a combination of abuse-modalities occurs. Not every modality of abuse needs to be analysed as thoroughly as another, since some of these are more prominent than others.

3.2 - *Super Crate Box* as abusive game

3.2.1 Unfair Design

Super Crate Box is a very difficult game. First, there are no lives or continues. Every time the player dies in his/her quest to acquire as many crates as possible, a simple “game over” screen follows, with the enemies still marching on in the play area in the background. Although it only takes one button press to try again, the score counter is reset to zero. That makes every try a separate one. *Super Crate Box* is an endurance test. There is no finish, no end goal. Just a quest to get as high a score as possible, which can be shared online.

What makes *Super Crate Box* so hard is mostly the mechanic that every time a crate is collected, the player trades the current weapon for another. Since the goal of the game is to collect as many crates as possible, players change weapons every few seconds. That would be confusing enough on its own, but some of the weapons are decidedly less useful than others. The revolver is one of the best weapons in the game: it kills small enemies in one hit, and big ones with two. With the regular pistol or dual guns, small enemies require two shots and the big ones a whopping ten. Mines are moderately useful in that they have a large blast radius, but it takes a full second before players are able to place one again. In the hectic and dense one-

screen levels of *Super Crate Box*, with an average of about five enemies on screen at any given time -assuming the player keeps actively killing them- this is an eternity. The grenade launcher seems impressive, but the designers made it so that a shell being fired in front of a group of common small enemies will fly directly over their heads. Then there's the disc gun, shooting razor-sharp discs splitting enemies in half. The catch is that the blades ricochet off the walls and are able to kill the player's character on their way back. Even the most impressive looking weapon in the game, the minigun, has a massive drawback. It has such a fierce recoil that players are likely to die from colliding with an enemy coming up behind them. Getting higher scores means unlocking new weapons. But instead of this "reward" making things easier (like in conventional game design), it actually makes the game harder because there's a higher chance of getting a useless weapon. The result of this sky-high difficulty level is that players need to find out what kind of use the designers had in mind for each weapon; in what corner of the screen a particular weapon is most useful and make the best of each weapon in any situation.

Players might figure out that grenade shells are most useful in corners where lots of enemies tend to be at the same time, or that the shells make short work of big enemies. That the dreaded disc gun is well suited for splitting an entire formation of small enemies in half. Although this has in part to do with deconstructing the game system itself, all this effort in figuring out the game is turned fruitless upon unlocking higher difficulty levels: in so called SFMT-mode the amount of enemies that spawn from the hole at the top of the screen is vastly increased. In Ambush mode, enemies may spawn from *any* location in the level, all the time. This often leads to a "game over" screen within seconds of starting a new game. This ruthless way of increasing the difficulty level provides a proverbial middle finger by the designers to players who mastered the game enough to have unlocked these extra-difficult modes.

It shows in the online hi-score list: even though a score of over 100 crates in Ambush mode for one of the levels seems impressive, it's nothing compared to the highest score in normal mode: over 2400. In Ambush mode and to a certain degree SFMT-mode, such high scores are next to impossible. And yet the game asks players why they won't try a higher difficulty level after dying on the normal difficulty. This commentary provided by the design team enhances the feeling of the designers mockingly looking over the shoulder of players. These elements allow the designers to come to the forefront and point out how sloppy the skills of gamers are nowadays, or how easy mainstream titles have become, being far removed from the days of "Nintendo Hard"⁴. Players might rise up to Vlambeer's challenge, taking on the higher difficulty levels. By doing so, they agree with Vlambeer's mission to "bring back arcade games since 1983", as their website states.⁵

Does all this make *Super Crate Box* completely abusive? No. Each weapon has at least some use. If there was one weapon that was absolutely useless in any situation, compelling the player to lose it as quickly as possible, then *Super Crate Box* would have been truly abusive. The fact that each weapon has at least some use allows for a certain amount of balance. This might be considered a conventional design practice. It makes a steady fun factor easier to maintain, at least on the lower difficulty level. Players who choose not to play the optional SFMT or Ambush modes, skip the most abusive parts of the game. The fact the game doesn't force you to play through these modes, is a concession by the designers to "good design practices" and consumer sensibilities as described by Wilson and Sicart.

⁴ Nintendo Hard is a common term for the difficulty level of 1980's games on the Nintendo Entertainment System. Games at the time are generally considered to be harder than contemporary ones.

⁵ Or 1781. Or 1848. Or 1959. the message differs each time the page is refreshed.

3.2.2 Aesthetic Abuse

At first sight, *Super Crate Box* looks like it was made in the 1980's. Blocky, pixelated graphics instead of fully textured polygons, a plain, one-screen 2D-view instead of a giant, lush 3D world to explore, as seen in many contemporary games. This aesthetic choice might alienate players too young to remember that games used to look like this, or to players who have come to expect fully 3D environments. Throughout their evolution, video games have often tried to mimic certain qualities of the medium of film, especially since the advent of 3D computer generated graphics. Geoff King et al. point this out in their 2002 article "Computer Games/Cinema/Interfaces." According to these authors, many games are either based directly on films, film franchises, or are associated with its genres and sub-genres. As King et al. write, one reason why games borrow so heavily from film is the "greater cultural prestige enjoyed by both cinema (as an institution) and film (as a medium of expression)". According to them, computer games occupy a lower space in the "hierarchy of media-taste formulations", which means that an association with the cinematic is considered a form of praise. This would explain why the term *cinematic* "...is generally assumed to equal 'better' and more distinctive gameplay, even if this is an assumption resisted by some members of the game-playing and game-designing community." (King et al., 2002: 150). In his 1992 essay "Assembling Reality: Myths of Computer Graphics", Visual Arts professor Lev Manovich explains that "in media, trade publications and research papers, the history of technological innovation and research is presented as a progression toward realism – the ability to simulate any object in such a way that its computer image is indistinguishable from a photograph." Manovich calls this "synthetic realism". (Manovich, 1992)

Super Crate Box seems to resist this trend, by letting the graphics play second fiddle to the game's exhausting mechanic of continuous crate-collecting. Following Sherry turkle's argument outlined in paragraph 2.2.1, the lack of a proverbial looking glass that players step through, would allow them to "understand the intent of its designer." In collaboration with the unfair elements of the games' design, the creators might appear from behind the system: pointing out the failings of the player' current skills, spoilt as they are by seamless play and cinematic sequences obscuring the power relation between them and the designers in contemporary games.

By choosing limited graphical prowess however, the designers also seem to appeal to the retro-trend that is persisting in the games industry. For years now, big game developers have been re-releasing their own back catalogue of retro-titles, often in collections. At other times, even *new* games cater to the retro niche. Developer Capcom released new downloadable titles in its Megaman franchise, appropriately named *Megaman 9* and *Megaman 10* in 2008 and 2010 respectively. These titles look, sound and play exactly like their old cousins from the late eighties, but their content is new. Players can even choose to turn graphical glitches and flickering on or off, depending on how much in a retro-mood they are. Another good example is the Nintendo DS-game *Retro Game Challenge* (2007), developed by indieszero Corporation (not an indie!) This game contains a story mode that revolves around playing games that are supposedly from the eighties, but since *Retro Game Challenge* was released 2007, none of the games included are very old. Even games that have modern day visuals and sounds may sometimes allude to an ago gone by: *New Super Mario Bros. Wii* (2009) reminds players of Mario-titles they might have played on the NES and Super NES consoles. While the viewpoint is 2D, the graphics are 3D. Speech and improved sound are added as well. In *Super Crate Box*, a similar method is used, maintaining the modality of aesthetic abuse only partially. The game contains more detail than a typical game from the early 1980's could ever have. First, there's a higher

amount of bright colours on screen at any time than most graphics chips at the time would be able to handle. The animation of the game's characters, weapons and objects -despite their pixelated look- is very detailed. The walking animation consists of much more frames than the two or three that were common 30 or even 25 years ago. When the player's character fires a shotgun, the empty shell can be seen falling towards the bottom of the screen. Upon picking up a new crate and getting another weapon, the 'old' weapon hurls to the bottom in the same manner. Every time a crate is collected, a new crate appears or an explosive goes off, a wisp of smoke can be seen, consisting of a detailed animation sequence. The sound design provides a good deal of detail too: from the “click, BOOM” noise of the mines to the re-cocking sound of the shotgun (to accompany the falling shell). The player character's jumping animation consists of a flipping/somersaulting motion instead of a static or two-frame animation. There are several unnamed characters that may be unlocked, and they all look decidedly different: from a crocodile, chicken, astronaut and demon to a character sporting tiny dreadlocks, which are animated too. The weapons all look, sound and behave quite differently, from the bazooka to the machine gun, mines and disc gun. In summary, *Super Crate Box*, with its graphics and sounds that only seem old-fashioned at the surface, is catering to the faux-retro niche. Its aesthetic design jumps on a bandwagon that has become a staple of video game industry and culture. Although it is hard to tell to what extent this harms a true dialogue between player and designer, it does show the interrelatedness between indie culture and mainstream design practices.

3.2.3 Physical Abuse

Like *Desert Bus* in Wilson's and Sicart's example, *Super Crate Box* is an endurance test. Although sessions will likely not take eight hours, it depends on the stamina of players how successful they'll be in racking up a high crate count. Unlike many contemporary mainstream games, *Super Crate Box* has no moments that allow players to catch their breath. Enemies keep spawning, crates keep appearing in a never-ending cycle. Even in the classic arcade titles the game is supposedly modelled after, short end-of level animations provided at least a few seconds of break time. The only respite is the pause button, but players using a controller (the preferred method of control) still need to reach for the letter 'P' on their keyboard. This requires them to release the controller with at least one hand, making accurate control impossible for the short time it takes for them to reach the keyboard. Although this shouldn't take a long time, it has been said before that success in *Super Crate Box* depends on split-second decisions and reflexes. That makes pressing 'P' a potentially risky endeavour.

Hitting the pause or start button on their controller, -which normally pauses games in conventional game design practice- brings players back to the main menu, erasing any progress in the current game. *Super Crate Box* is abusive in this department in that it doesn't give players any respite during playthrough and a wrong button press brings them back to square one. It is conventional however, in providing a pause button at all, which classic arcade games didn't even have.

3.2.4 Lying to the Player

Although the premise of *Super Crate Box* (collect crates while avoiding or killing enemies) is in itself a reversal of conventional design practices where collecting weapons or items is usually of secondary importance, the game is being straight to players on most occasions. The tutorial at the beginning immediately explains the mechanic and a counter at the top of the screen makes it easy to keep track of the amount of crates gathered. It is only in the introduction and handling of some weapons that *Super Crate Box*

becomes deceitful, although the level of irony is easily noticed and therefore can't really be called abusive. The designers could have chosen to vastly exaggerate or play down certain weapons' power in contrast to its description or sensory feedback. Like a revolver that makes a loud noise but is mostly ineffective. In most cases though, Studio Vlambeer delivers accurate information and feedback, which is standard good design practice. The only thing that hints at the presence of the designers is their use of irony. Upon unlocking the minigun, a message says that "this one has a tiny bit of recoil." In fact the gun has massive recoil. Another tricky weapon is the grenade launcher. It's powerful, but its shells fly mostly over enemies' heads, making it far less valuable than expected. The most deceitful weapon is the disc gun, which fires sharp discs that bounce off walls and can kill the player's character on the rebound. The designers apologise for the disc gun upon its unlocking, which is quite appropriate. The sound of the revolver being fired (plus the added effect of a briefly shaking screen) correctly tells players this is a powerful weapon. So in this modality, *Super Crate Box* does not really seem to abuse the player. Even though the information about newly unlocked weapons is not brought in an objective way, the info is accurate.

3.2.5 Social Abuse

This is perhaps the modality of abuse where *Super Crate Box* really shines. During the times the game has been on public display, not everybody watching the game immediately understood its goal. To an unwitting bystander, it looks as if the game revolves around a tiny character shooting massive amounts of other, tiny characters using a bewildering array of deadly weapons. This was true in my case, where I thought I procured the best weapon (the revolver, in my view) and started blasting enemies until someone remarked I should consider getting the next crate. A shameful moment, since it showed I had not understood the concept of the game. Because of its seemingly primitive design, the game initially tricks new players into thinking they have figured out the game before they even started playing yet. Nowhere could the designer be more visible, telling newcomers "so you think you know it all?"

Once a player is familiar with the concept, a new level of social abuse might be discovered. The game really plays up its violent imagery. To someone not familiar with *Super Crate Box*, it might look like a primitive looking, yet hyper-violent game. In a climate where politicians and lawmakers frequently question the amount of violence in some well known games, someone playing the game might have to answer questions as to why they like such a title. "It's not about the killing", the player will remark, "it's about collecting crates." Does that sound feasible? After all, in order to get to the crates the player needs to clear the level of hundreds of nameless enemies. Yet, killing is not the goal or purpose of the game. A splendid duality that shows how the designers seem to question violence in games in general.

When looking at the combination of abuse modalities in *Super Crate Box*, it becomes clear that although the game definitely has abusive elements, particularly in its unfair design and social abuse, there are other elements where the designers have opted for a much more mainstream approach. Like in the aesthetic department, where Vlambeer chose a faux-retro look and sound that is very much in vogue among at least a part of the gaming community. Also, the game mostly refrains from lying to the player. There are some tongue-in-cheek remarks, but that is as far as it gets. It is psychically abusive in the sense that it mimics classic arcade games, but only to a certain degree. The idea that the pause button could provide respite makes

the relentlessness of the enemy assault much easier to bear, even though players must reach for the keyboard to hit 'P' when using a controller.

What this particular case study shows is that although the creators of *Super Crate Box* manage to provide a strong dialogue with players through their game, they are at the same time tied to certain conventional notions of good or seamless game design. This ensures that any message they might try to convey runs the risk of being ignored or missed by players who simply skip the abusive parts or don't pay any attention to them. The fact that this dialogue is only partially successful, doesn't say anything about the quality or fun factor of the game. In fact it might be argued that the current fun factor of the game is achieved because studio Vlambeer managed to restrain themselves and not make *Super Crate Box* too abusive. The right amount of abuse leads to an upturning of conventions while still allowing for a satisfactory enough playing experience. This is probably the thin line that most successful indie developers manage to walk in order to gain commercial and critical success: abusive enough to enable a dialogue with players, yet sticking to conventions enough to make their game have mainstream appeal.

4.0 - Conclusion

In this thesis, I have framed independent game design as a participatory culture to circumvent the perceived dichotomy between indies and 'mainstream' developers. I have argued that although participatory cultures allow consumers of media products to become producers themselves, in reality it is only a small amount of "lead users" -a concept by Eric von Hippel- who engage in the actual altering, modding and creating of media or cultural products. These lead users are the first to innovate and in some cases make money off of their inventions. I have explained that it is indie developers' status as lead users in the participatory culture of games that allow for their skills, authority and audaciousness to alter or question certain conventions of the culture. They do this by engaging in *construction*, the most radical form of participation, according to game scholar Joost Raessens. However, using Mirko Tobias Schäfer's concept of extended cultural industries, I have argued that these actively creating participants are not so highly separated from mainstream culture or industrial practices to speak of 'true' participatory culture. Rather, they are an extension of it, "...writing over it, modding it, amending it, expanding it, adding greater diversity of perspective, and then recirculating it..." to quote media scholar Henry Jenkins in *Convergence Culture*. The fact that modding and deconstructing works so well in the medium of games is "the ultimate revenge of low culture computer games against high culture avant-garde films", as Raessens writes.

There are many ways a game designer can speak to his/her fellow participants in the culture, among which conventional online channels like blogs, Twitter or forum messages. What makes indie game design unique though, is the way these designers might speak to their fellow participants *through their design* and point out conventions and practices in game design, criticising the medium itself and allowing for a deconstruction of given values. Players can then engage in a dialogue with the creators by playing according to their new rules, thereby broadening their own understanding of what makes a game tick. Using Douglas Wilson's and Miguel Sicart's work, I have argued that the way this dialogue is established is through abusive game design. This kind of design does not consider user-friendliness to be the goal of good game design, but

tries to reveal the hand of the creator, the message he or she is trying to get across and point out what has been taken for granted.

Even so, it is unlikely that a game that would be completely abusive would be played at all. As shown in the case study of *Super Crate Box*, in order to keep a game playable and fun, certain conventions of mainstream game design need to be adhered to. That realisation compels us to ask to what extent abusive game design is to the benefit of designers. A game that allows players to completely 'see' its designer robs that same designer of creating an immersive experience. As it turns out, the power relation between player and designer must remain partly hidden in order to keep some mainstream appeal. This is the focal point where participatory culture collides with mainstream market conventions: where creative audacity meets commercial appeal. Scaling the tipping point too much to the dialectic side instead of the lusory one, may be counter to designers' wishes to create an enjoyable game. For future research, I advise to investigate how the level of abusive design has affected other games (whether indie or not) and how it influences their commitment to either upholding or breaking mainstream conventions. Also, the view that indie game design can be considered a participatory culture hopefully inspires members of the gaming community to become producers themselves, to further blur the line between those who create and those who play in a society that continues to value participation.

5.0 – References

5.1 Scientific articles, books, blog posts and news articles

- “2011 Independent Games Festival Finalists.” 2011. Independent Games Festival.
<<http://www.igf.com/o2finalists.html>>
- “faq: answers at a glance.” *App Hub*.
<<http://create.msdn.com/en-US/home/faq>>
- “Humble Indie Bundle.” 2010. *Wolfire Games*. May 4.
<<http://www.wolfire.com/humble>>
- “Interview: Jonathan Blow & Chris Hecker.” 2010. *EDGE*. December 23.
<<http://www.next-gen.biz/features/interview-jonathan-blow-chris-hecker>>
- “Lights! Camera! Action! ACTION 52 OWNS (let's do this)” 2010. TIGForums (Started by mr. podunkian, April 30)
<<http://forums.tigsource.com/index.php?topic=12439.0>>
- “Papercraft Contest Winner!” 2010. *Vlambeer.com* November 4.
<<http://www.vlambeer.com/2010/11/04/papercraft-contest-winner>>
- “TubeMogul Online Video Best Practices: Data Driven Strategies for Increasing Online Video Viewership.” 2011. *TubeMogul*. February.
- “Wéér nominatie voor *Super Crate Box*.” 2011. *Control Online*. Januari 4.
<<http://www.control-online.nl/gamesindustrie/2011/01/04/nieuws-weer-nominatie-voor-super-crate-box>>
- Adorno, Theodor W. & Max Horkheimer. 1972. “The Culture Industry: Enlightenment as Mass Deception.” In: *The Dialectics of Enlightenment*. New York: Herder and Herder. From: *Dialektik der Aufklärung* [1944]
- Aarseth, Espen. 1997. *Cybertext: Perspectives on Ergodic Literature*. Baltimore: John Hopkins University Press.
- Aarseth, Espen. 2003. “Playing Research: Methodological Approaches to Game Analysis.” Melbourne: DAC2003.
- Beemt, Antoine van den, Sanne Akkerman & Robert-Jan Simons. 2009. “Jongeren en interactieve media.” In: *Kennisnet onderzoeksreeks ICT in het onderwijs*. Zoetermeer: Kennisnet.
- Boomen, Marianne van der and Mirko Tobias Schäfer. 2005. “Will the revolution be open-sourced? How open source travels through society.” In: *How Open is the Future? Economic, Social & Cultural Scenarios Inspired by Free and Open-Source Software*. Ed: Marleen Wynants & Jan Cornelis, pp. 31-67. Brussels: VUB Brussels University Press.
- Boyer, Brandon. 2008. “Making Games For PlayStation Network - The Facts.” *Gamasutra*. March 7.
<http://www.gamasutra.com/php-bin/news_index.php?story=17707>
- Buckingham, David and Andrew Burn. 2007. “Game Literacy in Theory and Practice.” In: *Journal of Educational Multimedia and Hypermedia* 16: 323-349.
- Berghammer, Billy. 2006. “GC 06: Valve’s Doug Lombardi Talks Half-Life 2 Happenings.” *Gameinformer*. August 25.
<<http://web.archive.org/web/20071002110610/http://www.gameinformer.com/News/Story/200608/No6.0825.1923.12789.htm>>
- Cook, Daniel. 2010. “Why Indie Games Are Good for Fans”. *Lost Garden*. February 4.
<<http://www.lostgarden.com/2010/02/steambirds-why-indie-games-are-good-for.html>>
- Del Percio, John. 2009. “Vincent van Geel (Isotx, Inc.) Interview: Part 1.” *GameVisions*. 29 juli.
<<http://www.gamevisions.com/chats/vincentvangeel-isotx>>
- Deuze, Mark. 2006. “Participation, Remediation, Bricolage: Considering Principal Components of a Digital Culture.” *The Information Society* 22 (2) : 63-75.
- Doulin, Alistair. 2010. “Mindie – Bridging The Gap Between Mainstream And Indie.” *Doolwind's Game Coding Blog*. July 14. <<http://www.doolwind.com/blog/mindie-bridging-the-gap-between-mainstream-and-indie>>

- Foucault, Michel. 1982. "The Subject and Power". In: Michel Foucault: Beyond Structuralism and Hermeneutics. Ed: Hubert L. Dreyfus and Paul Rabinow, pp. 208. Chicago: University of Chicago Press.
- Friedman, Ted. 1995. "Making Sense of Software: Computer Games and Interactive Textuality." *Cybersociety: Computer-Mediated Communication and Community*. 73-89 London: Sage Publications.
- Graft, Kris. 2010. "Activision's Tipl: Call Of Duty: Black Ops Generates \$360m Day One." *Gamasutra*. November 11. <http://www.gamasutra.com/view/news/31490/Activisions_Tipl_Call_Of_Duty_Black_Ops_Generates_360m_Day_One.php>
- Herz, J.C. 1997. *Joystick Nation: How Videogames Ate Our Quarters, Won Our Hearts, and Rewired Our Minds*. New York, NY: Little Brown & Company.
- Irwin, Mary Jane. 2008. "Indie Game Developers Rise Up." *Forbes*. November 20. <http://www.forbes.com/2008/11/20/games-indie-developers-tech-ebiz-cx_mji_1120indiegames.html>
- Ivey, Bill and Steven J. Tepper. 2006. "Cultural Renaissance or Cultural Divide?" *Grantmakers in the Arts Reader* 17 (2).
- Jenkins, Henry. 1992. *Textual Poachers: Television Fans & Participatory Culture*. New York: Routledge.
- et al. 2006. "Confronting the Challenges of Participatory Culture: Media Education for the 21st Century." *New Media Literacies*. <<http://www.projectnml.org/files/working/NMLWhitePaper.pdf>>
- . 2006. *Convergence Culture: Where Old and New Media Collide*. New York, NY: New York University Press.
- . 2007. "What Wikipedia Can Teach Us About the New Media Literacies." *Confessions of an Aca-Fan: the Official Weblog of Henry Jenkins*. July 26/27. <http://www.henryjenkins.org/2007/06/what_wikipedia_can_teach_us_ab.html>
- et al. 2009. *Confronting the Challenges of Participatory Culture: Media Education for the 21st Century*. Cambridge: MIT Press.
- Juul, Jesper. 2010. *A Casual Revolution: Reinventing Video Games and Their Players*. Cambridge, MA: The MIT Press.
- Ludwig Kietzmann. 2006. "Microsoft launches XNA Creator's Club" *Joystiq*. December 11. <<http://www.joystiq.com/2006/12/11/microsoft-launches-xna-creators-club>>
- Kafai, Yasmin B. & Kylie A. Peppler. 2007. "What Videogame Making Can Teach Us About Literacy and Learning: Alternative Pathways into Participatory Culture." In: *Proceedings of DiGRA 2007 Conference*. Tokyo, 24-28 september, pp. 369-376. <<http://www.digra.org/dl/db/07311.33576.pdf>>
- King, Geoff & Tanya Krywinka. 2002. "Computer Games/Cinema/Interfaces." In: *Proceedings of Computer Games and Digital Cultures Conference*. Ed. Frans Mäyrä. Tampere: Tampere University Press. <<http://www.digra.org/dl/db/05164.41114.pdf>>
- Li, Charlene. 2007. "Social Technographics." Forrester Research Inc.
- Lister, Martin et al. 2006. *New Media: A Critical Introduction*. London/New York: Routledge, [2003].
- Manovich, Lev. 1992. "Assembling Reality: Myths of Computer Graphics." *Lev Manovich Personal Website*. <<http://www.manovich.net/TEXT/assembling.html>>
- Manovich, Lev. 2001. *The Language of New Media*. Cambridge, MA: MIT Press.
- Nielsen, Jakob. 2006. "Participation inequality: Encouraging More Users to Contribute." *Useit.com Alertbox: Current Issues in Web Usability*. October 9. <http://www.useit.com/alertbox/participation_inequality.html>
- O'Reilly, Tim. 2005. "The Open Source Paradigm Shift." In: *How Open is the Future? Economic, Social & Cultural Scenarios Inspired by Free and Open-Source Software*. Ed: Marleen Wynants & Jan Cornelis, pp. 85-110. Brussels: VUB Brussels University Press.
- Parker, Laura. 2011. "The Rise of the Indie Developer." *Gamespot*. February 14. <<http://www.gamespot.com/features/6298425>>
- Poole, Steven. 2000. *Trigger Happy: Videogames and the Entertainment Revolution*. New York, NY: Arcade Publishing.

- Raessens, Joost. 2005. "Computer Games as Participatory Media Culture." In: *Handbook of Computer Game Studies*. Ed. Joost Raessens and Jeffrey Goldstein, pp. 373-388. Cambridge, MA: The MIT Press.
- Resnick, Mitchel & Brian Silverman. 2005. "Some Reflections on Designing Construction Kits for Kids." In: *Proceedings of the 2005 Conference on Interaction Design and Children*. Boulder, CO: 8-10 June, pp. 117-122. <<http://llk.media.mit.edu/papers/IDC-2005.pdf>>
- Schäfer, Mirko Tobias. 2008. "Bastard Culture! User Participation and the Extension of Cultural Industries." PhD thesis. Utrecht University.
- Schleiner, Anne-Marie. 2005. "Game Reconstruction workshop: Demolishing and Evolving PC Games and Gamer Culture." *Handbook of Computer Game Studies*. Ed. Joost Raessens and Jeffrey Goldstein, pp. 405-414. Cambridge, MA: The MIT Press.
- Sheffield, Brandon. 2010. "GDC Europe: Limbo's Carlsen On Making Players Your Worst Enemy And Your Best Friend." *Gamasutra*. August 16. <http://www.gamasutra.com/view/news/29934/GDC_Europe_Limbos_Carlsen_On_Making_PlayersYour_Worst_Enemy_And_Your_Best_Friend.php>
- Sridharan, Vasanth. 2008. "Indie Game Developer Finds Success On Xbox 360 -- Est. \$825K Sales In First Week." *Business Insider*. August 14. <<http://www.businessinsider.com/2008/8/indie-game-developer-finds-success-on-xbox-360-est-825k-sales-in-first-week>>
- Stuart, Keith. 2010. "Back to the bedroom: how indie gaming is reviving the Britsoft spirit." *The Guardian Games Blog*. 27 January. <<http://www.guardian.co.uk/technology/gamesblog/2010/jan/26/casual-gaming-indiegames>>
- Thomsen, Michael. 2011. "Indie Delusion: The Gaming Category that Doesn't Exist: How the invasion of 'Indie' is stupefying video game audiences." *IGN UK Edition*. 25 January. <<http://uk.xboxlive.ign.com/articles/114/1145924p2.html>>
- Tunnell, Jeff. 2006. "How Much Money Can Indie Games Make, Part I." *Make it Big in Games*. March 9. <<http://makeitbigingames.com/2006/03/how-much-money-can-indie-games-make-part-i>>
- Turkle, Sherry. 1996. *Life on the Screen: Identity in the Age of the Internet*. London: Weidenfeld & Nicolson.
- Vadukul, Alex. 2009. "What Made "Braid" a Punk-Rock Video Game? A Look Back at the Innovative Title." *Rolling Stone*. September 4. <<http://www.rollingstone.com/culture/news/what-made-braid-a-punk-rock-video-game-a-look-back-at-the-innovative-title-20090904>>
- Von Hippel, Eric. 2005. *Democratizing Innovation*. Cambridge, MA: MIT Press.
- Wilson, Douglas & Miguel Sicart. 2010. "Now It's Personal: On Abusive Game Design." In: *Futureplay '10: Proceedings of the International Academic Conference on the Future of Game Design and Technology*. Ed. Bill Kapralos et al. New York: ACM New York.
- Wu, Tim. 2010. "In the Grip of the New Monopolists." *The Wall Street Journal Online*. November 13. <<http://online.wsj.com/article/SB10001424052748704635704575604993311538482.html>>

5.2 Developers' blogs and indie forums

braid-game.com/news

blog.avantgame.com

doolwind.com

jenovachen.com

lostgarden.com

significant-bits.com

thatgamecompany.com

tigsources.com

vlambeer.com

5.3 Ludography

Braid. 2008. Jonathan Blow. (Number None)

Bubble Bobble. 1986. Taito.

B.U.T.T.O.N. (Brutally Unfair Tactics Totally OK Now) 2010. Copenhagen Game Collective.

Call of Duty: Black Ops. 2010. Treyarch. (Activision)

Counter-Strike. 1999. Minh "Gooseman" Le & Jess Cliffe.

Donkey Kong. 1981. Shigeru Myamoto (Nintendo)

Eternal Darkness: Sanity's Requiem. 2002. Denis Dyack. (Silicon Knights)

fIOW. 2007. Jenova Chen. (Thatgamecompany)

Half-Life. 1998. Valve Corporation. (Electronic Arts)

Half-Life 2. 2004. Valve Corporation. (Electronic Arts)

Hero Core. 2010. Daniel Remar.

Iron Grip: The Oppression. 2007 Isotx.

I Wanna Be the Guy. 2007. Michael "Kayin" O'Reilly.

Knytt Stories. 2007. Nicklas Nygren.

Limbo. 2010. Playdead Studios.

Mario Bros. 1983. Shigeru Myamoto. (Nintendo)

Megaman 9. 2008. Keiji Inafune. (Capcom)

Megaman 10. 2010. Keiji Inafune. (Capcom)

MineCraft. 2009. Markus Persson.

New Super Mario Bros. Wii. 2009. Takashi Tezuka. (Nintendo)

Pac-Man. 1980. Tōru Iwatani. (Namco)

PainStation. 2001. Volker Morawe & Tilman Reiff.

Portal. 2007. Valve Corporation. (Concept adapted from Narbacular Drop, by students from the DigiPen Institute of Technology in Redmond, Washington, USA.)

Retro Game Challenge. 2007. indieszero. (Xseed Games)

Rollercoaster Tycoon. 1999. Chris Sawyer (Microprose).

Sims, The. 2000. Will Wright (Maxis)

Space Invaders. 1978. Taito Corporation. (Midway)

Spirit Engine 2, The. 2008. Mark Pay. (Natomic Studios)

Super Crate Box. 2010. Vlambeer.

Super Mario World. 1990. Shigeru Myamoto (Nintendo)

Super Meat Boy. 2010. Team Meat.

Tuning. 2009. Jonatan “cactus” Söderström.

VVVVVV. 2010. Terry Cavanagh.

World of Warcraft. 2004. Blizzard Entertainment.

5.4 Images

Image 1: *fIOW* screenshot by Martijn van Best

Image 2: *Braid* screenshot Ibid.

Image 3: *VVVVVV* screenshot Ibid.

Images 4, 5 and 6: *Super Crate Box* screenshots Ibid.