

Critical Gameplay

A Project and Exhibition in Partial Completion of the Requirements for
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Lindsay Grace
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Thesis Committee:

Daria Tsoupikova, MFA, Advisor

Dr. Andrew Johnson
Sabrina Raaf

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Abstract:

This document outlines the research, theory and shared scholarly pursuit for Critical Gameplay. Critical Gameplay is a design technology derived from the application of critical design on the development of electronic games. The goal of this design practice is to highlight social phenomenon through the creation of games. In particular the practice, as applied here is fundamentally involved in the investigation of gameplay mechanics as they relate to learned perspective on general operations.

Critical Gameplay is also the name of the gallery exhibition associated with this research.

Background

The practices set forth in this document are a subset of philosophical investigations first articulated in writing entitled the *Philosophies of Software and the Enculturation of the Arts*. Both writings are published in the *Handbook of Research in Computer Arts and Creative Informatics*.

The research in the *Philosophies of Software* adapts concepts introduced by Jaron Lanier, Jean Buadrillard and Nam Chomsky to claim the innate effect that software systems have on the way their users solve problems. The chapter applies these concepts to a variety of software systems and designs including human computer interaction, 3D modeling applications, and video games. The research is intended to provide a fundamental analysis of the software designers' control on users' priorities, perspective and conflict resolution.

As such, the notion of Critical Gameplay provides a deeper application of this notion of software design. Where the systems analyzed in *The Philosophies of Software* presumes that decisions which affect users are often unintended, Critical Gameplay seeks to intentionally apply system designs that direct user thought. In this way, the software system becomes a political machine capable of directing a user's understanding of their world.

In compliment, the *Enculturation of the Arts* investigates the effects of constructed systems on the ability of creative individuals to identify positions from which to construct critical

creative practices. The argument, supported by observations from new media art history, relies heavily on an interdisciplinary archeology to unearth patterns in production and cultural valuation. In short, the Enculturation of the Arts identifies existent patterns to provide digital artists with a map of unexplored production spaces.

As a pair, the two chapters meet at the philosophical design principles of Critical Cartography. Where Critical Cartography often seeks to highlight alternate perspectives from which to view the world, these chapters evaluate the cartographer (software) and the projections (Enculturation). Their critique begins with the application of what is often considered innocuous, play.

This thesis asserts a new notion of Critical Gameplay. Critical Gameplay is the application of Critical Design on the design of video game mechanics. It asserts that the way a game is played is both instructive and rich with meaning. As a production practice, the goal is merely to investigate the assumptions and values in video games, in the hope of initiating an intellectual dialogue.

In this way, the practice of Critical Gameplay is very close to the processes employed by Dunne and Raby. Dunne and Raby are an exceptionally notable pair of designers who currently teach at the Royal College of Art. By educational training, the pair combines Architecture and Industrial design with computer related design. Their seminal books, *Design Noir* and *Hertzian tales* are essential to the understanding of their critical design practice. In an interview with *World Changing*, principle Dunne claims:

“Design] could make us think and encourage us to ask more from industry! There is no need to rush into the future frantically styling up new technology and getting it to market as fast as we can . . . as a profession we could take on more social responsibility and use some of our time, resources and know-how to explore alternative ideas about everyday life to those put forward by industry” [World Changing]

As asserted, Critical Design for the Dunne and Raby team is about reflection. It is a process of research, identification and address.

Similarly styled reflections of design are also employed by Phoebe Sengers at Cornell University. Sengers is a Human Computer Interaction designer who works by reflecting on the assumptions prevalent in the design of computer systems. In its simplest definition, Sengers work attempts to divorce itself from the standards through an evaluation of the standard. To do so, she begins with a process informed by the humanities and arts and applies her research to Information Technology design.

The preponderance of Critical Design is not limited to academia, but it does thrive in such environments. The Royal College of Art’s Design Interactions department, Headed by Anthony Dunne, thoroughly investigates, trains and develops practices in critical design as it is applied to industrial products.

To return critical design's relationship to video games, the philosophical writings of Jaron Lanier and Jean Baudrillard must be referenced. In Lanier's case, the application of theories presented in *One Half Manifesto* and *Digital Manifesto* become clearly relevant. Lanier's principle interest is evaluating the relationship of computer technology to the society in which it is developed (Lanier, 2006). Lanier's concern is with the overarching social effects of computer development and its social effects. In this project, a more specific concern is created - the social effects of computer game development.

In a more theoretical application Baudrillard's highly influential assertion about the existence and superimposition of a simulated world under which rests a desert of the real resonates in the constructed virtual environments of contemporary game worlds. Yet, beyond that superficial layer, exists an even more philosophically engaging claim that along with the fiction game worlds create, comes a set of fictive prescriptions about the way the world works. If one critically assesses the modes of conflict resolution in traditional games, games seem to promote elimination or avoidance as a way to remove conflict. In the classically violent situations of a first person shooter, for example, the player is given but two choices, shoot or run. When these same problem solving models are reapplied outside the game world, it is clear they are not sufficient. The world does not offer merely eliminate and run as options. There are of course negotiations, compromises, and the myriad of non-binary responses. If Baudrillard's theories are applied to the problem resolution model constructed within the game world (either eliminate or run), it is plausible that these models are then carried into the remainder of simulations within the non-game world. As such, the game becomes an experiential classroom defining solutions to employ outside the game world. Most importantly, and most directly related to

Baudriallards claims, is the possibility that the games fiction may be superimposed on the extra-game world, as the fictions created by a postmodern society are superimposed on the already existent fictions created by its predecessors.

The Project

The Critical Gameplay Project and exhibition are an application of a set of principles I have been sharing in formal presentations at emerging video game programs at Michigan State University, Rochester Institute of Technology, and Georgia State University. The principles are fundamentally organized into three claims summarized in the concept of Games as Teachers. If games are evaluated as pedagogic instruments they support the following three principles:

- Emphasis on learning for efficacy
- Preference for understanding over recitation
- Encouraging a referential evaluation of the system.

Further reading has been developed for publication about these claims, but in the interest of succinctly describing these principles the claims are as follows.

Learning for Efficacy:

Most video game titles are educational. The learning curve experienced by those who have not played video games for years demonstrate the fundamental knowledge required to play them. This knowledge extends beyond the motor skills needed to succeed at an action game. It includes technical knowledge, historical knowledge and scientific knowledge.

Success in modern car racing games, for example, requires a player to understand the mechanics of specific automobile mechanics, the practice of maintaining a racing line, the characteristics of specific models, and a host of other high order details that require a fairly complete education in automotive racing. These requirements are substantially higher than those needed to watch auto-racing, and are often so accurate that the games will be used to train future drivers.

In essence competency based games construct a *play to stay* environment. In order for the player to continue playing, they must demonstrate competency. If they fail to drive well or stay alive, then they are removed from the game experience. In analogy, this is like being asked to leave a primary school classroom for performing poorly on a quiz. It is an exceptionally competitive space, where contemporary players are evaluated in international cohorts with clear desire for peer recognition. Failure to perform well in such game environments lessens one's ability to perform within the environment, and typically results in being removed from the space entirely.

Understanding over Recitation

A typically dilemma in educational design is the decision to evaluate a student's understanding without relying too heavily on their ability to recite material. It is recognize that in multiple intelligence theory, recitation is not an effective long-term strategy in education. With a large number of games, it is also an ineffective way to win. Instead, players must learn the rules of the game, and then apply them. In first person shooters, for

example, an effective player understands the benefits and tradeoffs of each weapon, the strategic advantages designed into the topography of the space and they may even construct their own strategies.

Referential Evaluation of the System's Design

Good game players are also highly effective at drawing from the cannon of previous games and media experience to resolve problems in their games. As early as the text adventure Zork, video games have referenced the cannon of science fiction, fantasy and related literature and media. As such, many good game players use their knowledge of these systems to solve problems in games. The writing of H.P. Lovecraft, for example informs players of the Alone in the Dark franchise, players of Role Playing Games rely on conventions defined in J.R. Tolkien's work, and games like Mario Brothers and Legend of Zelda define the rules for subsequent play environments.

Regardless of the game type, for the more accomplished game player, the game becomes a fiction to be analyzed in much the way a literature student examines a text. The player tries to understand intention referencing the cannon of previous experiences to inform their ongoing success and analysis of the game. In these cases there is a general canon which includes the long history of platform scrollers, first person shooters, simulations, and sports titles, et al. Players of Role playing games must draw on traditions from Dungeons and Dragons or Legend of Zelda, platform scrollers, might play on the traditions of the Mario Brothers franchise. The player's efficacy might even be dependent on an experience between genres, as George Orwell's Animal Farm requires an understanding of the political and ideological history of the industrial world. Notions of manna, leveling up, spell-casting are remnants of the ancient history, in video game development terms, of

table-top Dungeons and Dragons. While some of this historical experience does not assure success in a game, it often facilitates efficacy in the game world.

Such referential interpretation extends beyond the application of contextual cues, as their application is informed not only by context, but by a previously defined set of relationships and rules. It is, for example, assumed that when a player avatar walks into an object, that object is collected by the avatar. This is a design standard that extends beyond context and genre, as it is a standard mechanic in racing games, platform scrollers and first-person shooters. Yet, preserving the context it would make just as much sense to assume that when a player avatar walks into a sword, they are stabbed by the sword. Such an experience is not common in games, although under contextual cues it would make sense. In a platform scroller, for example, walking into animated fire is assumed dangerous, but walking into swords is a benefit. In each, the context remains the same, but the assumptions about the design of the system are so completely informative that the relationship of avatar to fire and avatar to sword are safely assumed.

The Games: Overview

The Critical Gameplay thesis project is comprised of the rapid design, development, exhibition and distribution of four critical games. The games

The content of the critical games works to subvert the dominant assumptions in contemporary video game experiences. Each game addresses one very specific theme, as a means of exposing a single concept.

Playing on the concepts emphasized by Patrick Welch, a recently departed friend and founder of the Chicago based Micromentalist movement; each game is designed to be a micro-work. In keeping with the Micromentalists manifesto the games will be:

- small in scale, big in aspiration
- freely distributed
- publically displayed (independent of economic /technological hurdles)

The details for each of the four games is provided on the subsequent pages.

Wait:



Wait, a simple game where the player is encouraged to refrain from acting on the world. As the player moves the world disappears, but when the player waits, the world becomes more interesting. The majesty is found in the slow, controlled effort. Players are awarded points when the little things in life reveal themselves (butterflies, flowers, etc).

The intention in wait is to return the game experience to a central theme in some artistic practices: the reward of stopping to smell the flowers. The game begins with a fade from white and a fairly empty virtual field with blowing grass and the sounds of nature. If the player does not move, elements of the world are heard and faded into view. When these items are fully in view and physically close to the player the player is rewarded points.

Points accrued are expressed by a single modulated tone every few seconds. As time progresses the world begins to fade away. The player must respond by moving to another

space in the world. If they do not move by the time the world completely fades away, then the game will end and they will view a numeric score. The score will, in true game fashion, be compared to the past performance of other players. Play can continue indefinitely if the player moves and waits appropriately.

Operating System: Windows 95, NT, XP, Vista

Controls: Standard First Person Shooter controls:

- [W]: Forward
- [A]: Left
- [S]: Back
- [D]: Right
- Mouse: Look

Joystick:

- Analog stick for look
- Buttons 10: Forward
- Button 9: Backward

Bang! You're Dead:



Bang! You're Dead: A game that requires you to kill other players at times, but by killing them the player must endure a long interruptive experience which forces the player to review the fictive history of that particular victim.

The player is provided with a standard setup for the experience of a standard first person shooter. However, the player is not required to shoot and non-player characters. If the player does choose to shoot and kill a non-player character the multiple layers of tension causing audio are removed and the player screen cuts to black. One of several photographic montages are displayed without sound. The montages are sequenced

photographs that imply a single person's life. They include images of weddings, childhood, et al. The montages average 2 minutes.

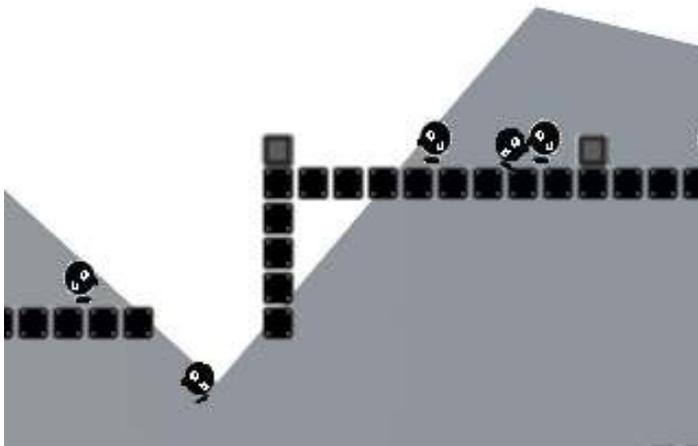
Critical Objective: Thwart non-critical, non discriminatory in-game killing. The game was designed to force players to evaluate the expense of a killing.

Operating System: Windows 95, NT, XP, Vista

Controls: Standard First Person Shooter controls:

Mouse and Keyboard	Joystick
<ul style="list-style-type: none">• [W]: Forward• [A]: Left• [S]: Back• [D]: Right• Mouse: Look• Left mouse: Fire gun	<ul style="list-style-type: none">• Analog stick for look• Buttons 10: Forward• Button 9: Backward• Button 1: Fire gun

Black and White:



Black and White:

Black and White is a game in which stereotype is challenged. Instead of being able to identify a threat by appearance, the player must examine the threat by another means, behavior. To survive the game, the player must react to non-player characters based on how they move. Two characters that look exactly the same, may act very differently.

The game is played in Black and White, and offers a series of binary pairings to provide a recursive visual cue to its theme. There are two different types of characters in the game, threats and non-threats. Threats can be destroyed by landing on them, non-threats cannot. Attempting to destroy a non threat restarts the player at the beginning of the level. The player can bait non-threats into spaces occupied threats. In so doing, non-threats will destroy threats. Some threats and non-threats may reside in the same game space,

negating the ability for non-threats to destroy all threats. The rules are intentionally gray, to emphasize the theme of the game.

The game is designed against the historical context of simplified platform games in the mid 1980s. The sprite based animations are each 2 frames to further embody the binary theme.

Critical Objective: Thwart stereotyped character avatar mechanic. The player is taught to learn about others before acting on them, instead of acting on them based on expected behavior.

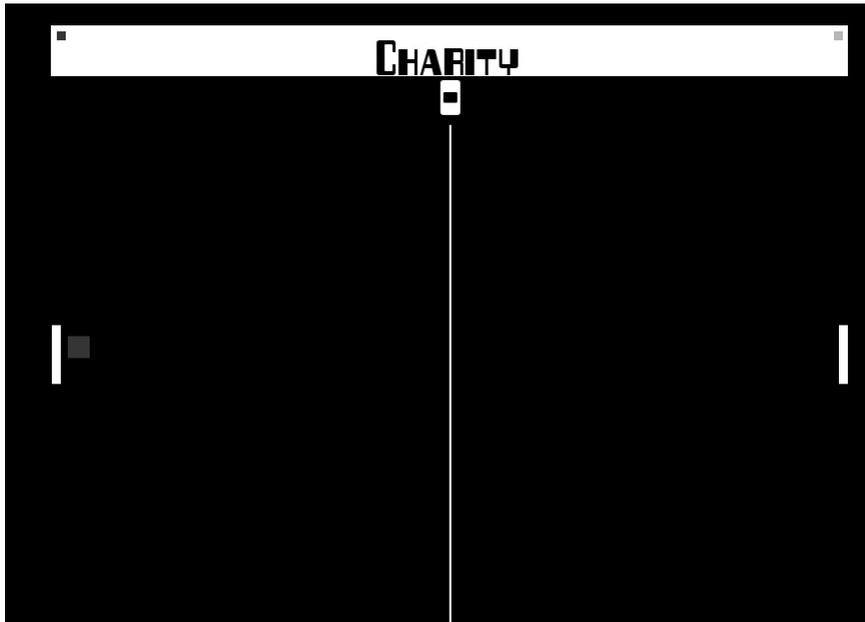
Operating System:

- Windows 95, NT, XP, Vista
- Can be played in Internet Explorer via Osakit Java Plugin

Controls:

- [right arrow]: Move right
- [left arrow]: Move Right
- [control]: Jump

Charity



Charity is a two-player cooperative game. The player must "give" the ball to the other player to continue play. Every time the player receives the ball, the paddle grows. When a player gives the ball, the ball grows, increasing play time. Play ends when either player's paddle shrinks to nothing.

The game is an alternate implementation of the classic video game Pong. Although Pong has been remade hundreds of times the design rarely departs from competitive play.

Critical Objective:

Encourage mutually beneficial, co-dependent play (charity). The players rely on each other to continue play by providing the other player with the means for participation. Like charity, the player must accept and give.

Operating System:

- Windows XP, Vista
- MAC OSX
- Linux
- Internet Explorer/Firefox/Opera/Safari (via Java plugin)

Controls:

- [right arrow]: Move right
- [left arrow]: Move Right
- [control]: Jump

Game Development Process

The majority of video games designed and released to the public are commercially oriented. They concern themselves with target audiences, competitive markets and release dates. As such the content, scale and process of these games is very much driven by market forces. This is true even of the independent game development community, which is often funded or rewarded by commercial game publishers.

The models for the design and development of major games have lead the practice of game design into a single minded process model. The process typically includes pitch, proposal, design document, prototype, beta and final release. It is a process derived from a hybridization of film production and software development.

As proven by contemporary casual game designers, games with decreased production costs, distribution costs, and simpler goals, can be designed and developed in shorter cycles. However the bulk of these games recycle game mechanics and repackage the same experiences. In the history of film, if AAA game titles are major motion pictures, casual games are the cartoon shorts that sometimes preceded them.

The games in the Critical Gameplay project convert these casual game experiences from mere entertainment to a kind of interactive public service announcement. Where major game titles contain very dense instruction about stereotype, violence, etc. these games

divide that experience into singular subsets that can be addressed intensely and critically. A bit like a scene dissection in film, each of these games extracts a common game experience for critical assessment and reinterpretation via a different game mechanic.

The goal is to apply prototyping process to the final production of games. Where many commercial products are developed under a factory system that dictates phase and order for scalability, these games are designed under a brand of digital handwork processⁱ. Each game is designed and developed for the single instance of its intention. Since the games will diverge from traditional game mechanics they will require solutions that must be “hand coded” instead of borrowing from templates.

Work in progress updates were provided to the thesis committee through the maintenance of a blog located at <http://Lessons.LGraceGames.com>.

The Exhibition

The games were presented in an exhibition space that encouraged interaction with the games. The exhibition space was located at 1100 West Cermak, Chicago, IL, 60608. The space was a casual space, where the typical hierarchically relationship between observer and worker are realigned. This is in homage to the work of the Micromentalist.

In contemporary society there is a kind of class structure to which video games (and often interactive software) are metaphorically linked. There is the dilemma of presenting new media art, and there is the hierarchy of commercial and fine arts. There is the assumption that certain mediums are exempt from participation in the comfort of the elite by the nature of their history. In short, this relationship is similar to the very conflicts Marx describes in Section One of the Communist Manifesto, where there is a clear caste between structuring the bourgeois and proletariat.

This project does not seek to move the plebian into the patrician. It instead means to assert the value of the plebian, for its simplicity and its foundational value in society. These are not meant to be big works, they are meant to be meaningful works.

The exhibition was promoted and supported through the maintenance of a website, CriticalGameplay.com. The exhibition was advertised locally in the and through national listervs, forums and resources for independent game developers, serious game developers and faculty in Video game design. The promotion and research of the design and principles

of these games included the delivery of presentations at Rochester Institute of Technology and Michigan State University. The website and exhibition were also promoted at the national 2009 Game Developers Conference in San Francisco and at minor electronic game venues in Tokyo, Japan (leaving cards).

Related Works

Outside the previously referenced non-game works of the industrial designers and philosophers there are few minor works that relate directly to the intention of this thesis. These two independent games are You Have to Burn the Rope and I Wanna Be the Guy. You Have to Burn the Rope is an internationally recognized independent game which was a finalist in the 2009 Independent Games Festival in San Francisco, Ca. The game's premise is a critique on the current status quo of game design. The game's title is its only objective, its only mission and its only resolution. Simply, the player character must navigate their player to a rope and burn. The authors goal was simply to critique the purportedly unnecessarily complexity in games.

I Wanna be the Guy, is another piece of critical gameplay design, although its author does not explicitly pursue any notions supporting critical gameplay. The game functions as a collection of obstacles that frustrate convention in games. If, for example, the player walks into a sword the player dies, instead of the former convention which translated to collecting the sword. The author's goal was to create an exceptionally difficult game, but in doing so, they created a critical gameplay experience. This is because the challenge of their games comes from their rejection of conventional gameplay mechanics. Whether or not the designer intended critique, they have created a game that is rife with critical distance.

Acknowledgement

I would like to sincerely thank the University of Illinois, Chicago faculty and staff for their continued support through the process of acquiring the knowledge and skills necessary to complete this and other projects. In particular I would like to thank Daria Tsoupikova, thesis advisor for steadfast leadership and support. In addition thesis committee members Andy Johnson and Sabrina Raaf provided thoughtful input on this project.

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As a service to other researchers and University of Illinois students that may be reading this thesis to support their own work I would like to suggest the following related projects:

Related Projects:

- The Independent Games Festival: <http://www.igf.com/>
- Carnegie Mellon's original 2005 project in which students were required to build a game a week (<http://www.etc.cmu.edu/projects/experimentalgameplay/>) and the original postmortem (<http://www.etc.cmu.edu/projects/experimentalgameplay/images/ExperimentalGameplayPostmortem.pdf>)
- The Global Game Jam: An international exploration into game design in intense, themed, small scale development. <http://globalgamejam.org/>
- Gravitation (<http://hcsoftware.sourceforge.net/gravitation/> and others from Art House Games

Online

<http://www.cs.cornell.edu/people/sengers/>

ⁱ The term handwork is used to refer to the moment in history when the Industrial revolution collided with art and design to produce the Arts and Craft movement. These works are integral part of the history of graphics design and mark logical progression of response to process changes initiated by the Gutenberg press.