

CLOWNERSTRIKE

“NO MORE CLOWNING AROUND!”

THE POWER OF PERFORMANCE AND PHYSICS AS NEXT GENERATION GAME
CONCEPTS

by

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ABSTRACT

Computer gaming machines and hardware platforms are constantly increasing in power and strength in regards to heavy number crunching and in-order processes. Physics systems and fluid dynamics are two such problems that will be easily eliminated within the next generation of gaming platforms. Game developers continually place an emphasis on these features as graphically intense machines with HD capable results. Yet, with all of this graphical power, developers are constantly feeding the same pipeline the same forms of game play, with more emphasis on the look of the game rather than the game itself. My intention is to explore alternative forms of game play in a multiplayer setting, using the strengths of future hardware as the core of the game play experience. Within this core experience, it's also important to realize the foundation of the game concept as it relates to audience interaction from an individual level to a team performance level. The overall game play structure and specific game play mechanics will be addressed in the game design documentation outside of this paper.

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Section 1

INTRODUCTION – PERSPECTIVE ON GAMES TODAY

Digital games of today are verging towards different pathways. The ideas of procedural content generation in the Demo Scene¹ and Spore¹ as well as simple rule systems defining the unique properties of the characters in The Sims² are along the more risky avenues games have yet to travel. More traditional game play mechanics rely on tried-and-true systems that continually work in a variety of different visual wrappers. Unreal Tournament and First Person Shooters are always the same system of play: point, click and eliminate. Others strive for original ideas within the framework of hard-boiled game play mechanics, such as the variety of licensed titles that spring forth from the movie universe. Out of these titles we receive a few that are puzzle-based or exploratory. A popular phenomenon in online games is the vast amount of time spent increasing a character's attributes, while exploring a continually evolving and changing world. World of Warcraft³ is a prime example of this type of role playing game. These models all have their importance within the field of interactivity and games. Such genres have influenced this project to varying degrees. However, the primary influence for this work lay heavily upon the player experience on a more immediate level. As attention spans shorten and the media's demand of our time rises, digital games should and will deprive less of our immediate time frames (with the potential to entertain when time is available).

Clownerstrike attempts to explore the merging of digital games and arena style performance. The experience is also meant to be a more immediate one, allowing the player to pick up or put down the game in a shorter amount of time. Topics such as emergence, social game play, humor, and online collaborative behavior surface from this realm. This paper is an exploration of these principles individually, as well as being the direct result of their combinative properties.

Section 2

PRIOR ART – INFLUENCES

Rules are merely the means for creating play⁴. It is precisely within the rules of the game that play can occur. Play can occur on different scales for different people with varying degrees of effectiveness. However, the rules of the game may constrict or limit the variety and type of play one may experience. Game genres oftentimes focus intensely on current sets of rules, refining them to the point of limiting any form of play considered different or new. First person shooters often rely heavily on formulaic destruction inter cut with scenes dedicated to story. Hopefully we can examine these clichés, exploit them, and use them to aid in enriching the game experience while building them on top of a more flexible framework of rules. The work of the Experimental Game Play Workshop⁵ takes a crack at the foundation of what games are from a commercial perspective; bending them around new principles to form an interesting perspective on what “could be” a fun alternative game. A primary example that fits a multiplayer model, developed at an Indie Game Jam⁵ session is the game entitled, Spider (figure 1).



Figure 1: Spider



Figure 2: Quake “Friends”

Spider embodies all of the rules that make a physics-based game fun to play. In other words, the player engages in the activity or goal of catching spiders while maintaining a continually changing web

based on physics springs. This manipulation of elements utilizes a physics engine (in this case, 2d) to keep the existing framework of rules intact, allowing flexibility when the player repeatedly engages in the experience. For example, the overarching goal of the game is to catch spiders. This goal is simple yet complex in the way the player chooses to catch them. By spinning a web, the player makes small nets to catch its prey. These interconnecting web strands form not only the trap to catch the insect, but the pathways on which the player can travel. By snipping these pathways at correct times, a single player can effectively choose to wait in the shadows and destroy the web of its opponent to steal the struggling prey. Thus the game becomes more about stealth and position rather than trapping and killing.

An art performance piece concocted in 2002 displayed an interesting look at using a commercially released multiplayer game as a stage for a performance (figure 2). Joseph Delappe's re-creation of a pilot episode of *Friends* in the *Quake 3 Arena* game environment proved to be an interesting juxtaposition. Six friends are portrayed in a happy-go-lucky, simple, and oftentimes unrealistic world, unfolding amidst death and destruction.

This piece is a social commentary on violence in commercial games, as well as the beginnings of what a virtual stage could potentially house. It is within the idea of social performance through a flexible rule structure that we come full circle to what *Clownerstrike* is at its core.

Section 3

CLOWNERSTRIKE – WHAT IS IT?

Clownerstrike is a multiplayer game played on a PC computer with at least four to eight players per team. The game was created in an existing commercial engine called Unreal that has the flexibility to be changed by implementing code from a scripting level outside of the core engine. Unreal has been used by many companies to create a variety of FPS games that are single or multiplayer in nature. One such example of the Unreal Engine is a commercially released title that is called *Unreal Tournament 2004*. Clownerstrike was built on this game's foundation, pulling both original and imitative elements out of this heavily modified, first person environment.

The game places the player in the shoes of a clown, ready to perform in a big top circus act. Each player is assigned to one of two teams at the beginning of the game. The goal is to entertain the audience in the circus tent. Each team competes to win the audience's affections by making them laugh. In return, clowns and their respective teams receive laugh points. Each round or "act" is played in 5 minutes with the winner determined at the end. The act can be played through as many times as the teams would like, resulting in a total number of acts won.

The point system for Clownerstrike is determined by four gags available to each player. These are typical clown fair, including pie throwing, building player towers, making clowns cry, and bopping clowns across the arena with a boxing glove. Items used to achieve these feats are boxing gloves, bubble blowers and banana cream pies. Each of these actions can be performed only with another clown in a specific area of the arena, some demanding more group participation than others. These individual antics are choices the players have when playing the game without the rest of their team in mind. There is a group goal for the two teams to achieve in the first act, and that's to build the tallest tower of junk in their respect arena circles (figure 3).

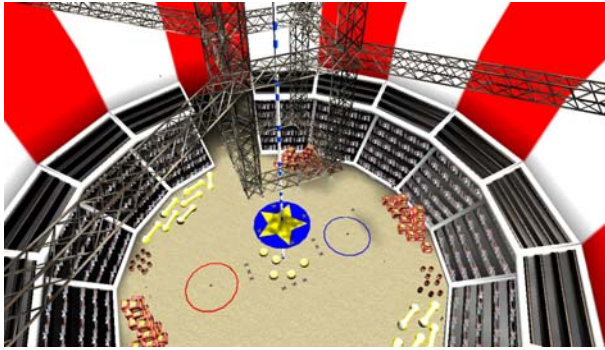


Figure 3: A view from above the arena. Shows the team circles (rings) and various objects.



Figure 4: Emergent properties form when players use each other as human cranes to build their towers.

This junk is the clutter that is placed in and around the actual circus tent. In order to stack these various objects to build taller towers, the players must work together to build and defend their teams creation. This is important because the team who builds the tallest tower at the end of the act will receive a large laugh boost and subsequent laugh point score. At this point, the game begins to bleed outside of its rigid structure of rules and into the realm of emergent play properties. The physics system implemented inside the game allows the players to create oddly behaving structures that adhere to the principles of gravity. Using one of the handheld items found within the game, players can manipulate these laws to build up towers. In some cases, it's possible to extend themselves as part of the tower structure, or even use the properties of the gravity manipulation device⁶ to achieve a taller piece of architecture (figure 4).

Group performances arise out of the individual gag called, “clown stacking,” where individual players climb on top of one another to form their own towers (figure 5).



Figure 5: Clowns forming towers out of themselves.

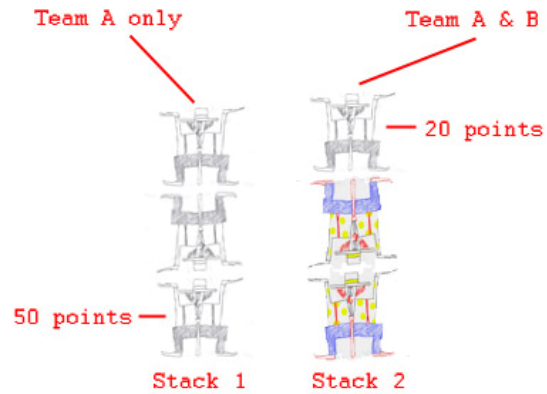


Figure 6: Diagram of point schematic for clown stacking.

This action addresses the dynamics of a group performance in front of an audience. Depending on who is participating in the action and the point value associated with those who are involved, the players begin to create a raw form of improvisation for a substantial reward. For example, players from the same team who form a tower will always give the laugh points to the person on the bottom of the pile. Clowns from different teams that form a tower will be given points to whoever is on top (figure 6). The key is to reward the player a higher point value for their position in a stack of differing clowns, as well as rewarding more points to the clown on the bottom of a stack of clowns from the same team (figure 6). This miniature form of competition and collaboration fuels an interesting bit of improv for the players and the audience. Deciding who will be rewarded points and who will have them taken away is left solely up to the teams to encourage or discourage. Through this form of play, we see the raw foundation and beginnings of improvisational⁷ slapstick comedy. Please see the next section for details on the beginnings of drama and clowning.

Section 4

CLOWNS AND CLOWNING – A BRIEF HISTORY

The history of clowns starts with the history of mimicry and mimes. To mimic or imitate is the meaning behind the Latin phrase *mimesis*⁸. The basics of clown acting stem from here, having the ability to entertain using expressive gestures with physical body movements. As generations wore on, this movement often took the form of dance incorporated with song and eventually, spoken dialogue. Since the 16th century, we have seen the archetypical characters develop into solidified parts or roles. These roles began to take form as stock characters, each with a distinct set of traits that could be expressed through physical movement. This movement, when combined with other movements from different characters formed bits of *lazzi* or *shtick*. Jumping ahead towards the latter half of 18th century, we find the English beginning to take these stock characters from their Latin counterparts, rolling them into one part. This begins the era of the modern clown, with notable differences in appearance such as white face paint with exaggerated features including the nose, mouth and eyes. The body is also distorted with larger clothing, bulging at the hips and narrowing at the legs. These distinct changes from the 16th century mask-wearing, stock characters are quite noticeable, recalling its ancient Grecian roots.

Section 5

TECHNOLOGY – THE TOOLS

Clownerstrike was put together using a commercial engine for the purpose of changing or modding⁹ the existing game, *Unreal Tournament 2004*. From its beginnings, *Unreal* has always been about the player's experience through the eyes of a futuristic, gladiatorial combatant in an arena composed of competing teams. Clownerstrike was authored specifically in the unreal engine because the editor and scripting language surrounding it are all heavily documented. Epic Games and Atari built this engine expressly so the general audience of gamers could modify or change it on a scripting level, building new and different types of the same game. Using Unreal Editor version 3.0 and the Unreal Scripting language, we were able to change not only the look of the game, but the general functionality of the goals and scoring system involved in an average user modification. These changes stemmed from core game play mechanics all the way up to the visual components. Using Alias|Wavefronts 3D application called Maya, custom characters and digital sets could be brought into the existing game engine with considerable speed and accuracy. Adobe software such as Photoshop was used to do the majority of the photorealistic texturing in the game. Other three dimensional paint tools such as Alias|Wavefronts 3D paint and Epic Games' U-paint program were utilized in the production process.

In light of the current state of technology, Clownerstrike is on the leading edge of the game design principles as they will apply to the forthcoming generation of gaming platforms. Clownerstrikes main principle behind its game play is the use of the Karma physics engine built into Unreal. Physics systems aren't used to support the crux of 3d gaming today; they're window dressing to an otherwise simple game structure. Rag doll physics and exploding barrels frequent most of these types of games. With the next generation of game platforms, the rather large overhead of memory and CPU cycles required to run these processes and physics calculations will be a thing of the past. So much in fact that the hardware being designed for the next generation of gaming consoles will be constructed

around an architecture that calculates in order processes,¹⁰ faster than today's out of order processors in most home PC's.

Section 6

AFTERMATH – THE FUTURE

Clownerstrike will continue to grow in its size and scope. Because it is inherently a next generation game idea, the community of mod developers will hopefully take into account the variety of principles outlined in this paper and begin to implement them with their existing materials. As these ideas begin to take root, hopefully the game design community will begin to grow in a way that will inform the developers and publishers of this new and varied form of game play.

With a single level as a test bed for the game mechanic, nine more levels will be implemented along with a variety of new features including clown cars, seltzer bottles, and laughing gas. A recent decision to port the game to the new Source Engine developed by Valve Software because of its phenomenal physics implementation will better account for the use of physics as a game play device. Hopefully this will be an easier distribution model over steam and a better first person experience. Clownerstrike is freely available on the internet at its production URL (<http://www.clownerstrike.com>) and at the developers URL (<http://interactive.usc.edu/members/mike>). Please feel free to download and play it. Specific game requirements are outlined on the website.

REFERENCES

1. This concept is very prominent in the Demo Scene, which is an informal art and programming contest primarily found in Western Europe. These incredibly complex programs feature 3d content packaged in an extremely small amount of space. Likewise, the idea of procedural generation of content has finally made its way into the game industry through Will Wright's newest game entitled "Spore".
 - a. http://www.gamasutra.com/features/20010216/scheib_01.htm
 - b. <http://www.devx.com/Intel/Article/20182/0/page/1>
 - c. GDC 2005, "The Future of Content" with speaker Will Wright.
2. The Sims is a god game that requires the player to guide and raise virtual people in a sandbox environment. The basic principles of each of the virtual characters you control translate into simple rules that govern their interactions between one another.
3. World of Warcraft is an example of a recent MMORPG or "Massively Multiplayer Online Role Playing Game". These games started to emerge on a massively popular scale with Ultima Online in 1997.
4. Zimmerman, E., Salen, K. The Rules of Play. MIT Press, Cambridge. 2004. pg 302.
5. Game Developers Conference (2004).
6. A child's toy that blows bubbles is used to manipulate and affect objects. See figure 4.
7. Lust, Annette. From the Greek Mimes to Marcel Marceau and Beyond. The Scarecrow Press. 2000. pg 38.
8. Lust, Annette. From the Greek Mimes to Marcel Marceau and Beyond. The Scarecrow Press. 2000. pgs 1-4, 19.
9. Modding, or modification, is the current term given to groups of people who take an existing toolset and change the way a current game plays, looks or feels. This term is highly conducive to keeping the same type of game play with the majority of the changes being visual.
10. Hecker, Chris. "How Sony and Microsoft are about to Screw Your Game Design." Proceedings from Burning Down the House: A Game Developers Rant. Game Developers Conference. (2005). This talk by Chris Hecker was aimed at the difficulties future developers will face when developing games for a hardware platform that is distinctly better at in order processes than out of order instructions. In other words, future computer chips will be better at calculating large amounts of simple numbers rather than small amounts of complex game play code.
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