Critical Gameplay: Software Studies in Computer Gameplay

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Abstract
The computer game software with which we interact on a daily basis not only entertains us, it trains us into specific patterns. Critical Gameplay is design practice which endeavors to expose and redesign the patterns to which standard gameplay subscribes. The ongoing project seeks to identify the dominant values, philosophies and problem solving models reinforced by computer games and provide prototypical alternates to those standards.

Keywords
Gameplay, software studies, critical design, software philosophy

ACM Classification Keywords
H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous. K4.0 Computers and Society: Miscellaneous

General Terms
Design, Experimentation, Human Factors

Introduction
There has been growing interest in the ways in which software interactions effect human processes. Beyond the more common evaluations of human computer

interaction and interface, researchers have begun to investigate the seemingly silent power of software's process philosophies. Simply, there is a movement away from asking questions about software effects, and instead toward software causes [7].

This emerging field of software studies has been christened by Mathew Fuller's book, by the same name [4]. Its research champion is the newly formed Software Studies Initiative at the University of California San Diego [9].

Software studies research questions go beyond an analysis of the software systems people use, and instead ask questions about the social and cultural systems that produce the work. The processes is somewhat anthropological, investigating the systems that produce software and the software interactions that have become commonplace in society. The Philosophies of Software, a chapter in the Handbook of Research on Computational Arts and Creative Informatics, outlines a specific set of these software patterns mined from observation of the most common software interactions [5].

This type of design anthropology has found voice in the research of artists and theorists who seek to produce works that make the imagined-alternate a reality. Most notably the work of Dunne and Raby [2], and the design interactions students at the Royal College of Art[8], employ a process of critical design, where industrial designs for everyday use are promulgated from philosophical observation about human relationships to the items they use [1].

The research in Critical Gameplay combines the newly developing field of software studies with the practice of critical design. This research seeks to investigate the seemingly innocuous character of entertainment software.

While the potential for game technology to improve instruction has been routinely researched, it is much rarer to make a diagnostic evaluation of the existing instruction in gameplay mechanics. The games in the Critical Gameplay project seek to examine the models of computer-human-interaction prescribed by existing games. This examination is based on the understanding that as people interact with games, they learn specific patterns in problem solving and interaction [10].

To achieve this result, the mechanics of accomplishing goals in computer games were evaluated and redesigned from an historical perspective. Each of the following sections outlines the game mechanic, its related philosophical underpinning, and the Critical Gameplay games created in response to these mechanics.

Defining Game Mechanics

For the purpose of this research, a game mechanic is any conceptual or practical means through which the game player accomplishes their goals. Just as a dice roll or laying down a card are part of the mechanism through which a board game is played, the computer game mechanic includes all uses of avatars, non-player character movements and similar elements which comprise the action of the game. It is the mechanics which offer an essential opportunity for critical evaluation. Just as social anthropology seeks to expose specific elements of culture through trained study,

Critical Gameplay serves as an anthropological practice in game design. It is an effort to expose the character of values, reasoning, and other philosophical elements comprising the way computer games are played. This exploration is novel in its willingness to be critical of assumed interactions. It is useful in its ability to inform designers of entertainment interactions.

The Games and their Mechanics

Mechanic: Stereotype

Conventionally, games require players to make quick judgments about threats and non threats. The conventional mechanic is one driven by appearance. In the simplest games, a threat may be reduced to size, shape, costume (gangster, ninja, etc), or even a color. Character interactions are fairly binary, where all players of one type do and say one set of things, all players of another type do and say other things.

Black/White is designed to frustrate this standard. In Black/White, all players look the same, making it impossible to discern threat from non threat by mere appearance. Instead, players must approach each non-player character, and diagnose threat or non-threat by their behavior. Threats act aggressively, where non-threats act unaffected. If the player tries to crush a non-threat, they must start the game over. If the player crushes a threat, they are rewarded with points. Players can also lead non-threats to threats to allow non-threats to eliminate threats.

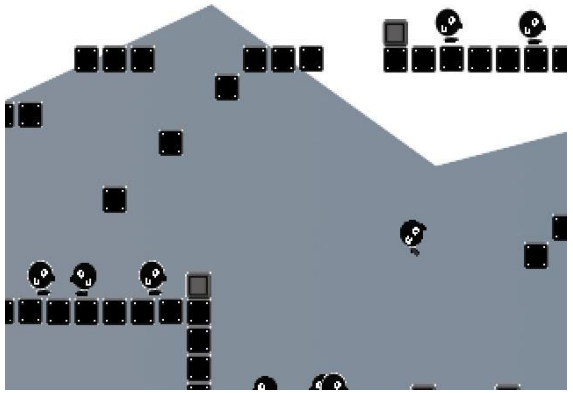

figure 1. Screenshot of Black/White game depicting player character and non-player characters (threats and non-threats)

This mechanic is not an inversion of the conventional stereotype prone mechanic, but simply an alternate way to play. Black/White is an attempt at converting the stereotyped decision making process of discerning threat from threat from appearance to behavior.

Mechanic: Collection

The act of collecting is a dominant game mechanic. Many popular computer games attribute successful play with the ability to collect some type of inventory. This inventory may be money, gold rings, food pellets, or other quantifiable resource. Yet, many non-computer generated games encourage giving. In card games for example, it is often better to give your cards away than to keep them. Those who are left with more inventory are the losers, where those who relieve themselves of the burden of such inventory win. The Critical

Gameplay research has yielded two games that work against this convention in computer games.

The first is Levity (Figure 2), a game in which collection prevents the player from meeting their goals. The game offers players the ability to collect coins in a standard 2D platform scrolling game. Yet, every time a player collects a coin, the player is weighed down by their collection. Since the ability to jump is integral to navigating the space, the player must learn to avoid collecting items to complete the level. Each item collected, lowers the height of the player's jump and reduces their movement speed. Collecting items prevents the player from successfully navigating the game space.

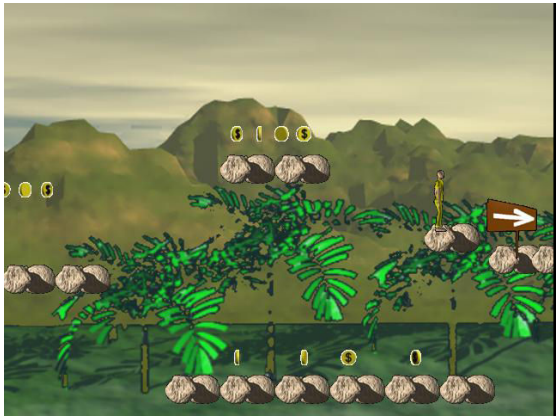

figure 2. Screenshot of Levity game with collection items.

The second game that also investigates the collection mechanic is a game called Charity (Figure 3). Charity seeks to expose the rarity of giving collected items in conventional computer games. In this version of Pong, two players must work to continually bounce a ball between each other. Where Pong might be similar to tennis, Charity is a similar to pass. However, in this version, the ball is a continuously declining asset, which grows only when shared. Just as the entertainment of pass is directly proportionally to player's enthusiasm, Charity's gameplay experience is proportionate to the player's ability to share the ball with the other player.

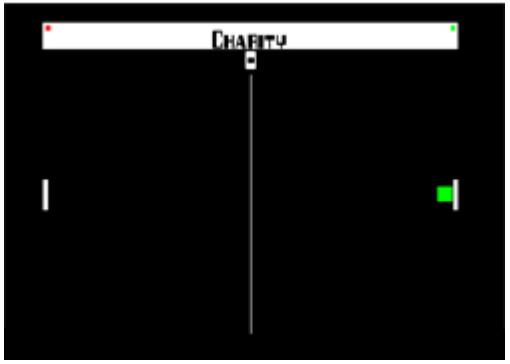

figure 3. Screenshot of Charity game.

Mechanic: Circumstance Free Violence

In many games, players are expected to eliminate non-player characters. They are also expected to believe in the fiction of those non-player characters, feeling as though the player had a life before their role in obstructing the player character. In many games, characters are given names and personalities to emphasize their back-story, while their physical behaviors and quality of animation help them toward realism. Paradoxically, the player is encouraged to remember that the non-player character is not real.

Bang! (Figure 4), seeks to offer another perspective on this experience. Instead of relieving the tension of destroying virtual life, the game seeks to elevate it, emphasizing the consequence and ambiguous fiction of the artificial life being destroyed. The game provides the typically environmental cues for a violent first person shooter game. However, when the player does kill a non-player character, they are required to review the fictive history of that character. When a non-player character is shot, their respective life-montage is displayed as a cinematographic collection of still photographs depicting a persons' life in reverse. The player can do nothing but watch as they witness the victim playing with their children, their wedding, their school dance, their 5th birthday, etc.

figure 4. Screenshot of Bang! game, prior to montage (left) and example montage image.

Mechanic: Rush to Completion

Wait (Figure 5) is one of the most popular games in the existing Critical Gameplay collection. The game is an artistic gesture in human computer interaction. The majority of games encourage players to rush through their experience, rarely offering moments to stop and enjoy the experience. The scarcity of stop and smell the flowers moments is the focus of Wait. This game thwarts that mechanic, by reversing it. Instead, if the player rushes, the world disappears from them. The game requires players to examine the world by turning the camera, but any spatial movement deteriorates the environment in which they play. The longer the player examines the game world, the more the world grows, exposing nuances and elements previously hidden. A simply grassy field is populated with a variety of flowers, then creatures. The sky begins to move again.

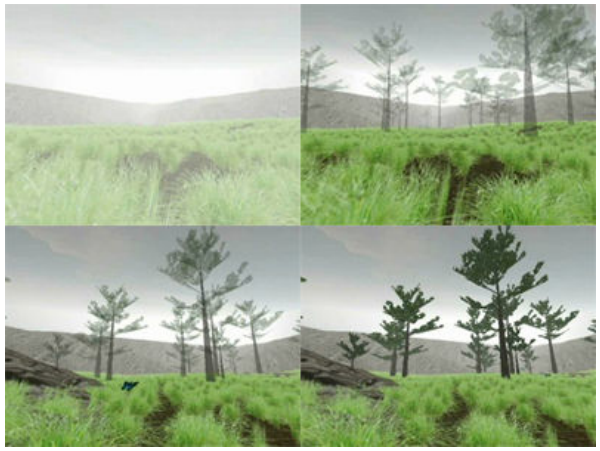

figure 5. Screenshot of Wait game: (left-right/top-bottom) a. player start; b. player waits (trees and flowers fade in); c. player moves camera, but does not move (butterfly appears); d. additional elements begin to fade in

Conclusion

Critical gamepaly does not always seek to oppose standard gameplay models, but it does work to offer alternative ways to play. It is the goal if this research to expose alternative behavioral models which have been ignored in the standard design of computer entertainment. By both evaluating and producing gameplay that exposes the formerly transparent character of software it is hoped that other researchers and theorists find motivation to critically evaluate other software interactions.

Critical Gameplay is founded on the sense that interaction design benefits from revealing the spaces that have not been traversed, as well as recognize those that remain unexplored. It is very much an exploratory exercise, predicated on the expectation that values is produced from visiting previously ignored spaces. In their travels some of the games of Critical Gameplay have been exhibited in North America [2] and South America [6].

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