Making sense of a game

A preliminary sketch for a semantic approach to games

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Making Sense of a Game: a Preliminary Sketch for a Semantic Approach to Games

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ABSTRACT

In this paper a semiotic approach to video games will be presented. Structuralist semiotic notion of text will be criticized for being unable to account for the nonlinear and unstable nature of interactive ludic objects, and Rastier's [9] paradigm will be adopted. Integrating it with recent proposals in semantic of perception [4], a sketch for a semantic and semiotic analytic methodology for computer games will be outlined. Such methodology will be field-tested on the computer game flOw [1].

Categories and Subject Descriptors

J.5 [**Arts and Humanities**]: Linguistics; K.8.0 [**Personal Computing**]: General—*games*

General Terms

design theory

Keywords

Semiotics, semantics, game, structuralism, isotopy, perception, semic analysis

1. INTRODUCTION

The presence of narrative elements in computer games seems to be only one of different factors generating player enjoyment. At the same time, there could be a semiotic and semantic common ground between playing a game and enjoying a narration: interpretation and meaning-making. As an example, it will be shown how a semiotic analysis could outline a formalization of playability, one of the most elusive concepts in game studies.

2. SEMIOTICS, TEXT AND VIDEO GAMES

Semiotics study signification systems or why *something* makes sense for a reader. This *something* has been recognized, over the course of the years, first in the concept of sign and later in the one of text, one of the key theoretical points of structuralist semiotics since 1970 [5]. It constitutes the primary object of structuralist analysis and it has been defined as a closed, cohesive, coherent and stable entity. Different types of semiotic objects fit this definition: from written texts to pictures and movies to hypertexts. In recent structuralist semiotics, it has been tried to compare computer games to hypertexts and texts, but this equivalence does not seem theoretically productive.

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2.1 Games, texts and practices

The hypothesis that will be proposed in this work is that video games are not texts as orthodox structuralist semiotics define them but rather interactive matrices [3] whose function is to produce single textual frangments. While a proper text is stable in its expression substance [7] and can be read several times without ever changing, the course of a game can vary considerably between a session and the other. Also, a proper text, such as a novel, exists even if nobody reads it: on the contrary the expression substance of a video game is actualized only when someone undertakes ludic activity.

The only way to neutralize this semiotic impasse is to consider every single game as a completely independent text, different from all the others produced by that particular video game. A single game-text constitutes a text that, although quite different from literary or cinematographic ones, is at least stable in its expression substance.

In order to outline a semiotic description of player enjoyment, this proposal will step outside traditional structuralism: the uncertain semiotic status of games can be solved considering Rastier's definition of text as "an actual empiric linguistic sequence, produced in a determined social practice and recorded on a media" [9].

3. MAKING SENSE OF A GAME: SEMANTICS AND INTERPRETATION

When a reader examine a standard non-interactive text, his practice generates an interpretative trajectory [9] establishing various relations between semantic values. Values considered by the interpretative trajectory can both be present in the text or be related to it basing on the reader's encyclopedia [2], a repertory of every previous interpretation. In Rastier's [9] paradigm, this trajectory determines a meaning of the text. Even if a text is "a sequence produced in a determined social practice", it is still necessary to account for differences between the practice of reading and that of playing, even if they can fit in the same definition. Playing requires continuous interpretation and continuous production of game-text: semantic values and relationships between elements in the game, such as relative positions and actions, vary from moment to moment and the player's interpretative trajectory must vary accordingly. In brief, when

a user is playing a game, his interpretation is based on **(1)** semantic knowledge about the practice of playing and about that game in particular *(what is the winning condition? is it possible to win or lose?)* **(2)** semantic data present in the game at the moment of the interpretation *(such as the enemies' position, direction and speed)* and **(3)** experience gained through previous interpretations *(what should be expected from this kind of game? what was the outcome of a strategy in a previous game?)*. Adapting Rastier's semiotic theories to interactive objects to formulate a very generic core model for meaning-making in computer games, these three points constitute a local and temporary interpretative trajectory. In another possible paradigm such as Peirce's pragmaticist approach [8], it could be possible to say that both the player's interpretation, his reaction to the reading of the elements in the game and the consequent generation of a fragment of game-text constitute the meaning of that temporary state of the interactive matrix.
It should be noted that the present proposal neither requires nor denies the presence of narrative elements inside the interactive matrix. If, in a particular game, they exist, then they participate to the player's interpretation-making process with routines similar to those used for the interpretation of linear narrative texts along with the other non-narrative elements. In other words, a narrative layer can interfere with the interpretative trajectory and complexify the gaming experience but it is not a fundamental requisite.

4. FLOW

FlOw[1] [1] is a simple but very successful computer game originally programmed in Macromedia Flash as part of a research thesis and recently ported to Playstation 3. The player controls a simple aquatic creature that can swim freely and prey on other creatures. Every time that the avatar eats something it grows and evolves, slowly changing its shape toward a more complex form. The space in which the avatar moves is organized in several layers arranged one on top of the others. There are no boundaries restricting the avatar's movement inside a layer, but in order to dive to a deeper level or to resurface the player has to find and eat a special prey: this is the only way to move through different layers. Sometimes, the special objects needed to change layer emit a colored beacon to help the player finding them. There are two kind of animals that can be eaten by the avatar: small ones, easy to eat and only floating in a random direction, and bigger ones enacting basic strategic behaviour - sometimes they become aggressive and chase the player, sometimes they decide to flee. The avatar can be eaten by aggressive animals: this event causes its reappearance in a more superficial layer. When the avatar reaches the deepest level, it disappears and the game begins again from the first level with another avatar of a different species.
From a semantic point of view, the key point of gameplay in flOw is movement. Semic analysis [9, 6] is performed on a text, in this case an occurence of game-text, by identifying the semes, finding clusters of semes and examining relations between clusters. It is necessary to specify that semantic values in games are more complex than those in linear texts. While signifieds in standard texts only pertain literal meaning, such as the sememe "dog" contains the semes /quadruped/ and /animal/, those in interactive texts also pertain the possible actions that a piece could execute, such as the sememe "avatar in flOw" contains the semes /plancton-like/ but also /can prey on other creatures touching them/. The taxeme //actors//, meaning "a subject taking action inside a text", contains the sememes /avatar/, /plancton/, /jellyfish/, /worms/ and /fish/. Even without carrying out, for brevity's sake, the whole semic analysis, it appears evident that the semes related to freedom of movement, such as /able to move in every direction/ and /smooth-moving/, are common in the game-text. An isotopy [5] is a recurrence of similar semes, interacting and resonating with each others, that influences the generation of an interpretative trajectory and creates a sense-effect for the reader: in this case the game generates a /boundless space/ and /unrestricted movement/ isotopy. Recent proposals in semiotics of perception [4] suggest how semantic forms, such as isotopies, not only traverse a text but also guide its perception, continously reconfiguring the practice of reading and meaning-making. Fusaroli's hypothesis seems even more convincing when applied to interactive texts, where the practice of playing does generate an actual, single game-text. In flOw's interactive matrix there are no sememe containing the seme /blocking/: this lack of boundaries not only generates the isotopy - and therefore the sense-effect - of /unrestricted movement/ but it is also reflected in the playing practice.
FlOw's gameplay stimulates a relaxed playing style by not forcing a pace or a rythm to the player, but the core mechanism for generating a sense of freedom and control seems to be deeper than level-design choices: control and playability, as sense-effects, appear to be strictly related to the presence of simple and coherent semantic isotopies regarding the possible actions that a piece can execute.
In this preliminary sketch for a semiotic model of videogames, this kind of isotopies represent a semiotic core, on top of which different games can add further strategic, figurative or narrative elements.

[1]The free version is available online at http://intihuatani.usc.edu/cloud/flowing/

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