Integrating Rhetoric to Game Design

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Abstract— This article considers that the rhetoric concept play a key role in the conveying of a message in electronic games. The article then proposes a structure that integrates concepts of game design and rhetoric, forming a framework which game designers may use to develop games with a message in mind, creating what the article calls "RhetorGames". The related research is part of a master's degree dissertation, and it includes two forms of analysis of the proposed framework: 1) the structure was identified and analyzed mapping it in identified RhetorGames, a group of popular and successful games; 2) a questionnaire was applied to experts in the game design area to evaluate the structure effectiveness. The results showed that the structure has potential and could be of great help in the field of game design, but it still needs to be tested in a practical way.

Keywords—Game Design; Rhetoric; Expression; Game Studies.

I.   INTRODUCTION

With the growth and diversification of the public that plays electronic games, this industry has focused on developing its characteristics and uses, like publicity, teaching, transmitting social and political messages, and as a socialization tool [1]. This variety of games assembled the perception that electronic games possess a great potential as a communications platform, possibly generating a new cultural and symbolic model of stimuli and ideas. However, this possibility still hasn't reached its supposed impact and games are still considered a media of less importance in society's cultural repertoire [2].

The creative process is an essential step in the development of an electronic game, therefore, it is where these new possibilities of use become viable. According to Ian Bogost [3], the field of rhetoric is one of the subjects that can be integrated to the game development process, refining them as instruments of expression. Bogost observes that electronic games can transmit useful information to the game system, and that they may also be capable of transmitting relevant content about the real world.

This paper presents part of a master's degree project. Its main goals are to analyze the elements that compose game design and integrate them to concepts of rhetoric, forming a game design structure that might result in a more effective process of expressing ideas in games. This premise explores a potential characteristic that has been drawing attention to games: its expressive capability.

The research delimitates the analyzed sample to games developed considering entertainment as the main focus. Besides, they present a commercial nature, being sold for profit and they do not obey, necessarily, any ethical, moral or social restrictions. Considering these definitions, the authors named these games as "RhetorGames". This coined term simplifies the research description.

II.   GAMES

To apply the concepts of rhetoric to the process of game design, three game design structures were analyzed: A structure of game design elements by Schuytema [4], a list of game design starting points by Rouse [5] and the MDA structure, by Hunicke, LeBlanc and Zubeck [6]. Though the systems presented by Rouse and Schuytema have their own merits, they weren't chosen. Schuytema's structure [4] contained many elements that were too specific, making it unsuitable to use as a general game design framework and Rouse's list [5] was too vague to pinpoint exactly where the rhetoric processes could be integrated with the game design. In the end, the chosen structure was the MDA, a methodology that helps to understand the process of a game design, detailing its elements and the relations between them. Electronic games are a multifaceted system, and so, a methodology that guides this creative process is an important tool. Playtesting and validating aspects of the game offers the possibility to refine the way the system elements were implemented. Going the other way, analyzing the system by its construction (through the use of the structure) offers the possibility to refine the end result. Though this iterative process may be reliable, the results of games are essentially unpredictable because of player agency.

The MDA structure (which stands for Mechanics, Dynamics and Aesthetics) analyzes the way games are conceived by the developers and consumed by the public, in a system that works in both directions (figure 1). The process deconstructs the elements that compose games and establishes its equivalents on a design point of view (figures 2 and 3).

Fig. 1. - Production and consumption of game systems. Adapted from [6].

Fig. 2. - Game composition elements. Adapted from [6].

Fig. 3. - Design equivalents of the composition elements. Adapted from [6].

Mechanics element refers to the components of the game (rule systems, objectives) on the level of data and algorithms. Dynamics element describes the real time behavior of the mechanics acting according to the player input and the system feedback. Aesthetics element triggers emotional responses when the player interacts with the game. The more sensory and abstract aspects of the game user experience characterizes the Aesthetic element.

Electronic games work better as systems than as media. The contents of a game are reflected in the way it behaves and the actions the player may interact with it. This event has a greater level of significance than independently playing the media in front of the player. When developing games, it is important to consider the designer and the player perspectives because little changes in a game design element generate chain reactions in other elements, since the system is linked as a whole (figure 4).
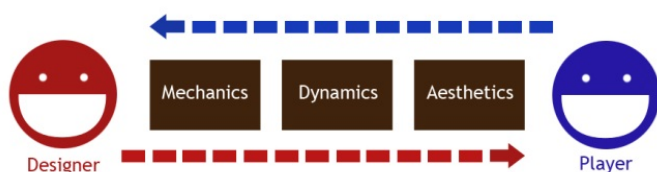

Fig. 4. - Designer and player perspectives in the process. Adapted from [6].

Each element of the MDA structure has sub-elements. They were analyzed and it was considered convenient to add more sub-elements in order to improve their level of detail. The original MDA structure already had most of the sub-elements in the Aesthetic part, but one more was added, completing the aspects it covers. Mechanics had none of the sub-elements listed here, so they are a contribution of this research to the improvement of the MDA structure.

A. Aesthetics concepts

It is difficult to define precisely what makes a game "fun", due to the subjective nature of the fun concept. When describing the Aesthetics element of a game, Hunicke, LeBlanc and

Zubeck [6] established that the objective is to avoid concepts like "fun" and "gameplay" to a more direct taxonomy, looking into the behaviors and experiences a game may elicit, these being the main ones:

- Sensation (use of the body senses to generate reactions);

- Fantasy (immersion into a game world); narrative (unfolding of events, caused by progression or actions into the game);

- Challenge (obstacles to surpass);

- Fellowship (sense of a social community within the game);

- Discovery (discover new possibilities in a game, like new mechanics or messages);

- Expression (leaving your mark in the game);

- Submission (getting involved and obeying the system of a game);

- Contextual space (audio-visual aspects of the game). This last element was added to the project using part of Ferrari's [7] framework, built to analyze rhetoric in games.

B. Dynamics concepts

The Dynamics element of a game is expressed through the relationship between the stimuli the player receives by means of Aesthetics, by the actions he executes by means of Mechanics, and the experience it results in. A few examples: a challenge created by situations like the pressure of executing a task in a given time; a sense of community created by the sharing of information between a group of players or the necessity to create a teamwork effort; the expression caused by the availability of resources for the player customize the game systems as he wants, like shopping systems and construction or acquisition of in-game items; narrative tension created by dynamics that develop a growing tension, liberation and resolution associated to a narrative plot.

C. Mechanics concepts

The Mechanics element refers to the many actions and mechanisms of control that the player is capable of performing in the context of the game. Since the authors of the original MDA structure didn't define the sub-elements of the Mechanics, the three sub-elements listed here were added by the authors of this project:

- Structural space (physical construction of the game world, considering aspects like <u>Width</u>, which relates to the expansiveness of the game world, <u>Verticality</u>, which relates to height and level of actions possible in it, and <u>Linearity</u>, which relates to the way the game guides the player through the world, through a linear path, a multilinear path that ends all in the same place, or a completely non-linear path) [7];

- Play (the objectives and intentions of a game as a rule based system, guiding the player as to what actions he may or may not be allowed to do) [8];

- Control (the actions that the game allows players to execute, being classified in <u>Operational Actions</u>, the actions that players can actively take to interact with the system, and <u>Resultant Actions,</u> which happen through responses of the game system to the operational actions, making it possible for the player to create strategies and manipulate the system by fore-seeing its actions) [9].

In short, the concept of mechanic acknowledges a system comprised of a space, the rules that conform to this space and what the player agent can do within the confines of the system.

Concluding, the MDA structure supports an iterative approach to game design, enabling the developers to predict how changes in one element may alter each aspect of the process and influence the end result.

III. RHETORIC

Rhetoric can be defined as the means possible, in each area or field, of argumentation that may elicit persuasion [10]. For Plantin [11], it is every system that strategically uses a focus or chain of structured ideas, transmitting a planned meaning, intended for a specific question.

Even though it may cover many types of communication, rhetoric's bases are still grounded on their verbal and textual traditions. With the growth of cinema, television and publicity, the field of rhetoric started to include imagery, applying its concept not only in text and oratory, but also in audio and visual transmissions [12]. In the field of electronic games, Bogost [3] coined the term Persuasive Games to call the games that contain what he calls procedural rhetoric, which acts based on the processes, procedures and actions that game systems allow.

The workings of rhetoric are based on three main levels of perception regarding an argument [10] [13] [14]:

- Ethos (personal character of the speaker and value of his argument – may be identified not only as a per-

son, but as an organization, a presence with which the public can identify);

- Pathos (refers to the public that receives the argument and the way it reacts to it, based mainly on the emotions felt);

- <u>Logos</u> (characterized by the use of reason, through the enunciation of facts and propositions that make up a meaning, demonstrating if the argument is correct or not).

These logical arguments may also make use of figures of speech, propositions that are related between their connections in a figurative sense. This research used the four main figures of speech [14]:

- Metaphor (establishes a relation between two concepts starting from a common point that addresses both of the concepts, forming a connected meaning);

- Synecdoche (makes a relation between the whole of a concept to its part, or the inverse, a generalization);

- Metonymy (takes the name of someone or something to a detail of another thing or person, a representation);

- Irony (opposite of the metaphor, it is an analogy by the contrast of an idea and the opposite of its meaning, through the way it is used).

IV. METHOD

After researching both fields of interest within the project, the theories can be integrated and compared, so that plausible relationships can be made. Analyzing a map that joins the two theories (figure 5), it is possible to observe a way to integrate rhetoric to the game design phases.
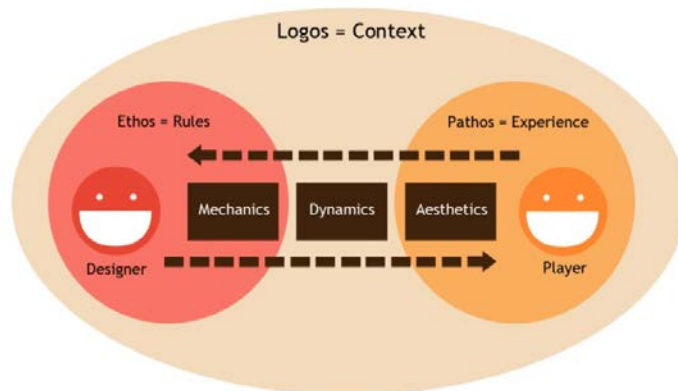

Fig. 5. - Comparative map of the two research fields.

It is necessary to compare the terms to comprehend the correlations in this new structure:

Ethos = Rules: The Ethos can be considered an authority figure; it emits a concept and represents the values of said concept. In the case of an electronic game, the rules and mechanics also constitute a system of authority, because the game is the detainer of its rules and guides the player in the system; the game also emits a concept, translated by its workings; the game represents this work by its mechanics and the stimuli that it encourages on the player.

Pathos = Experience: The Pathos is represented by the emotions perceived through the context of a message, the emotions and sensitivity involved in the process of message comprehension and the response the receiver may give to the message. The same way in a game, emotions are perceived according to the organization of elements in the game. The player feels these emotions because of his/her involvement with the experience and responds to these emotions through interaction.

Logos = Context: The Logos involves the common repertoire between the participants of the debate to check the facts, also considering the Ethos and Pathos, so that, together, they may reach the conclusion of what is real in an argument. In an electronic game, there is this common understanding between player and game because of the way the game works, a mutual agreement of what the game asks to be done and how the player can exercise his actions within the game. The player then reacts to what the game transmits and he/she may agree or disagree with the message, and form a conclusion about what the game meant to him/her.

When gathering the theory researched in both fields of study, this research developed a structure presented in figure 6.
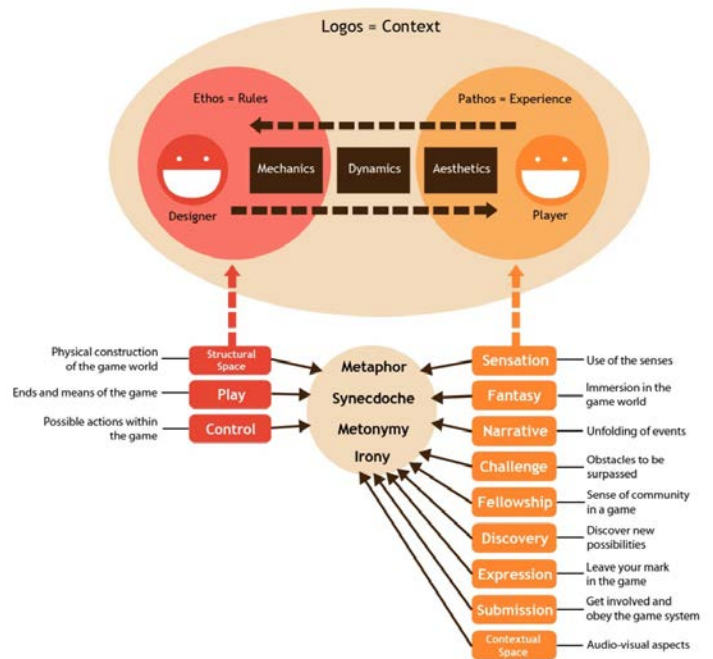

Fig. 6. - Resultant structure.

To use the structure and develop a game, the designer defines the kind of message he wants to express in the game, and may fit this message in the sub-elements of the structure, through the use of the aforementioned figures of speech.

V. RESULTS AND DISCUSSION

This research is part of a master's degree dissertation project, which intended to elaborate a game design structure that may facilitate the development of games embedded with expressive ideas that may be relevant to society. Because of the short time, the project wasn't able to develop a game with the structure and test the game to see the efficacy of what was produced. The authors then, decided to evaluate the effectiveness of the structure in two ways: RhetorGames analysis and game design experts appreciation of the elaborated structure.

A. RhetorGame Analysis

In the first way, the structure was identified and characterized in RhetorGames that already exist, so that end results similar to what this structure proposes might be observed. Four games were analyzed, according to their presence in the press and recognition as games that do express some kind of message. The research describes the background of the games, their mechanics and narrative.

The first of these games, Bioshock [15], is a First-person Shooter for Playstation 3, Xbox 360 and PC. The game made use of its Contextual Space and Control to show political undertones, making the player reflect on our dependency on

technology and how the anxiety about perfection leads to a decadent society (figure 7).

Fig. 7. -Bioshock (Source: 2K Games, 2007)

The second game, Journey [16], is a story-driven platform game made exclusively for the Playstation 3's download network. It showed philosophical undertones in the actions the player may take and the way the game presents its world, making use of the sub-elements of Fellowship and Structural Space to make the player reflect about life, the meaning of relationships and one's own personal journey (figure 8).

Fig. 8. - Journey (Source: Thatgamecompany, 2012)

The third game, Assassin's Creed II [17], is an Action-adventure game for the Playstation 3, Xbox 360 and PC. This game demonstrated educational undertones, making use of the sub-elements of Narrative and Discovery, to show the player places that actually existed in the real world and to make him acquainted with historical events (figure 9).

Fig. 9. - Assassin's Creed II (Source: Ubisoft, 2009)

The fourth and final game analyzed, Persona 3 [18], is a Role-playing game made exclusively for the Playstation 2. It demonstrated social undertones, making use of the sub-elements of Play, Expression and Submission, to make the player reflect about the importance of relationships in life, how time is spent with your life, and the necessity to construct something meaningful with it, before death comes (figure 10).
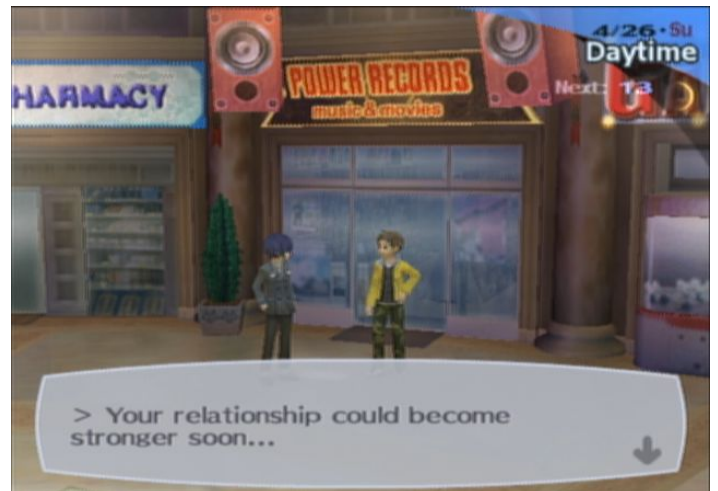

Fig. 10. - Persona 3 (Source: Atlus, 2007)

All the analyzed games are in a category known as "Triple-A", used for games that have large budgets and mass appeal. This choice was made because of their bigger reach to the general public, making it more convenient to research them as tools that express a message to the public. The analyzed games also have recognition in the specialized press as being games that convey messages and try to go beyond the aspect of fun, common to these products.

B. Questionnaire

After analyzing RhetorGames, the second way of analysis was a questionnaire applied to experts on the fields of game design and communication in order to evaluate the structure effec-

tiveness. The questionnaire was divided into six sections: Profile, where the person would give a summary of their work experience and how that experience correlates to the areas researched in the project; Concepts, where they would answer questions regarding the definitions used in the project and whether they are in agreement with the way the person thinks about these concepts; Use of Rhetoric, asking about the possibilities of using rhetoric as a means of conveying messages in games; Use of Immersion, asking about immersion breakers and their effect in the transmission of a message; Method, which asked about the games analyzed in the previous method and their ways of expression and Conclusion, where they could write their thoughts about the possible effectiveness of the project and the game design structure.

The first section, Profile, served to correctly identify the participants chosen for evaluation and verify their reliability. The questions in this section focused on the respondents under three points of view: The respondent as a researcher, the respondent as a developer and the respondent as a player.

As researchers, it was concluded that they all have great experience in game studies, being their current and most proeminent field of work. While they do have experience in other two points of view, they are, above all, academic researchers, involved in areas (such as design, art and communication) capable of evaluating the content produced in a research, specifically, in the game design field. As developers, all the respondents had participation, in one moment or another, with the development process of an electronic game, usually in the artistic or creative fields. As players, though they all had played games in their life, the answers were vague, making it difficult to measure their interest in playing games as a hobby. Even so, the interest presented by the respondents shows an effort to keep themselves associated with the area. In conclusion, this section, shows that all the respondents are apt to evaluate the material produced in this project.

The second section of the questionnaire, Concepts, aimed to identify the respondents' point of view about the terms addressed in the research. Everyone interviewed agrees about the use of expression in rhetoric, and even though there are some discrepancies about the goal of rhetoric, all the respondents agree to the notion that rhetoric is commonly used every day by the population. About the communication of messages in Mechanics or Aesthetics, the respondents generally wrote that they are equally important and possible, and that both game design elements have the same weight in a project, because of their constant interaction within a system. However, it is also possible to interpret a consensus in the answers that the Mechanics are the foundation of a game system, while the Aesthetics are what materializes a context to this system, even if the communication of this context is made with both elements acting equally.

The third section, Use of Rhetoric, dealt with the possibilities of using rhetoric in electronic games, both in Rhetor-

Games and in education/instructional/advertisement games. The respondents seemed to have more confidence in the use of rhetoric in RhetorGames, possibly because educational and instructional games usually employ more direct forms of communication, with a fixed objective, not always committed to the fun aspect of the game. One respondent, though, wrote that rhetoric might be a useful field to support the content developed for educational/instructional/advertisement games.

The fourth section, Use of Immersion, asked questions about how the breaking of immersion might affect the expression of a message in a game. Though it wasn't a concept studied in detail in this project, immersion forms a powerful parallel with rhetoric, because the player needs to be immersed and paying attention to be able to comprehend the message conveyed. Of the many possibilities of immersion breakers detailed in the questionnaire, some answers appeared more, mainly regarding the target audience and the learning curve. For a RhetorGame to express its message correctly, it needs to correspond to the repertoire and abilities of the target audience.

The fifth section of questions was called "Method", where the respondents analyzed the analysis itself of RhetorGames made in this research. The questions proposed the possibility that the message ingrained in a RhetorGame might be more concentrated in the Mechanics or the Aesthetics, facilitating the integration of a message according to where the designer wishes to put it in the game design. However, the respondents disagreed with this possibility, saying that both game design elements must be viewed equally, because of their constant interaction with the system, and as such, they form a single entity. The answers also reiterate that the main factor for conveying a message in a game is to adapt the game to a target audience, fitting it to their learning curve and repertoire.

The sixth and last section of the questionnaire, Conclusion, asked about the respondents' thought about the project, what they thought of its effectiveness and possible uses. They showed plenty of interest in the structure developed in this research and concluded that it might have the potential to be of great help in the field of game design, since there is no exact equivalent of this kind of research until now. Despite that, it is still too soon to consider the game design structure effective, because it still needs to be tested further, by actually developing a game with it, and testing the results with a target audience.

The results collected in this research allow the authors to see some possibilities about how the project can go further. As stated before, games of a "RhetorGame" nature, that do express meaningful messages outside the boundaries of the game, already exist. The nature of these games, however, was the product of chance, and their developers were creating concepts and hoping that their messages would be understood. With the results obtained in the questionnaire, it is possible to presume that the reason for the success of the RhetorGames analyzed is due to their effectively immersive systems, that

correspond to the repertoire and abilities of their specified target audiences. The further progress of this project might enable developers to have one more tool to create concepts in games, and its widespread use might even create concepts unseen in electronic games, attracting new kinds of developers and new kinds of public.

VI. CONCLUSION

During the writing of the dissertation associated with this project, it was evident that there has been many efforts taken by the development community to try to instill some kind of message and commentary on their games, though without losing their approach to fun. This project, and consequently, this article, offers one more effort to treat commercial video games as capable of conveying complex messages, aided by its interactive medium. The developed structure might go in a new direction, but it still needs to be tested in a practical way, which means that the structure should be used to develop a game from scratch and then its expressiveness should be tested. The authors are planning the development of this new research phase.

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