Games as Cinema: Improve Game Development through Cinema Studies

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Abstract

Through the years movie and game industry are compared side by side principally in terms of their budget and success. In both industries there are a lot in common: arts, technology, management and a series of other disciplines are combined to generate a movie or a game. In this article we will reveal a comparative study about the development of movies and games, what are the similarities and what are the gains that game industry can obtain with the knowledge about the film industry.

Keywords: cinema, game development process, interview with specialists

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1. Introduction

Movie and Game productions have many similarities, both are surrounded by a great number of disciplines and crew members with several responsibilities, both depends of technological knowledge but they are not classified like technology products, art contents are generated for both in an intense way, both are industries focused on entertainment purposes and both are guided by a reference document: the Game Design Document (GDD) in the Game Industry and the screenplay (or script) in the Movie industry.

Nowadays is common the collaboration between game developers and cinema producers. Although, the development process for both have great differences, in the movie industry we can note that the production phases are always the same: pre-production, production and post-production, independent of the budget and the numbers of crew members. There are great investments in the pre-production phases, where the screenplay is rewriting several times and pass by criterious analysis [Clevé 2005].

In the Game industry the production phases have a great influence of software engineer [Flynt 2004] and design process [Schuytema 2006] which generate several conflicts through the general development process of making a game [Callele et. al 2005].

By facing these facts, this work aims to conduct a study about the similarities and differences of these two industries. The research has the purpose to reveal what are the benefits that game developers can obtain in understanding the cinema process of development.

2. Related Work

In the work presented by Machado et al. [2010] we observed that the game production process needs several improvements related to its design and development phases to reach better results that study was made in collaboration of thirty-four game developers working in game companies and universities. Due to the paper results and posterior analysis, we observed a great number of comparisons and citations related movie and game industry in the literature [Schuytema 2006; Potanim 2010], however many of these comparisons are made only in an overview way.

Due to the fact that movie industry reach mature in its production process [Stam 2000] our purpose with this work is to conduct an investigation to understand the production's process in game and cinema industries according our main influences related following.

Amanatiadou and Weerd [2009] studied nine game companies focused on their entire production process with the objective of creating a suitable method for game development projects. The process was modeled and compared in all the possible activities and deliverables in a game production process. According to engineering techniques the researchers developed procedure routes; a route is a similarity of process steps identified in the studied companies. Interviews with the companies' crew members helped the authors to validate the routes and the game production method created. This method, in the author's view, satisfies game projects with the characteristics of online and serious games, because these were the major genres in the researched companies. The work is in progress and is maintained in the site: http://people.cs.uu.nl/weerd/gameproduction/

In the work presented by John P. Flynt [2004], the author reveals a series of software engineering tools to offer support for game developers. In all sections the software engineering concepts are explained focusing on the game design and development. By this way, the author shows how to improve and standardize several aspects in the game project. Although the author presents an interest

approach related to the game producer scenario, the techniques covered are specifically to the production phases (where the software of the game is created) and to work correctly must assume that all the previous project decisions are comprehensible by all the game project team.

Luiz J. Souza and colleagues presents a study about alternative formats of game design, considering the problems of interpretations in the GDD by different crew members [Souza L. J. et al. 2009]. The author presents other formats to communicate the design elements of the game which can be more effective in the team member comprehensible. The formats considered were: texts, image and animation, the author described each one in a matrix revealed the positive and negative points of the studied formats. The idea of creating different formats of GDDs can hit the comprehensible of a large audience than present it in an only single format, it increase costs in the preliminary phases of the game process, but increase the comprehensible of the team about the game elements in subsequent process phases.

Cathrine Kellisson [2008] and Bastian Clevé [2005] developed works to reveal details about the entire movie (and TV) process development. Both of them reveal a great investment in the initial phases of the process - the pre-production, when a series of artifacts with great level of specifications and specializations are generated to guide the production team. Both authors also emphasize the producer's roles of activities and the importance of this production member during all the movie process. Despite the movie industry, in the Game development we cannot observe a great number of artifacts which connect the pre-production phase (where the GDD is developed) with the production stage (where the software that will run the Game is developed) [Callele et al. 2005].

Evan Hirsch et al. [2007] presented a comparison about technical details related to movie and games industry. One of the main differences related is the fact that the movies show a content, while in the games users interact with the content. By this analysis the authors revealed that one of the principal difficulties in a game project is translating the 'gameplay' with words. According to the authors, finding a document like a movie script in the game industry continue to be a hard work, because it is very difficult to read these documents and have a solid idea about the scale and type of content that a game crew must create.

With the analysis of these works we can note that the current scenario of the game development has a great influence of software development methodologies and design process, but games are not only software or design. We can also observe that is common the game development process receive influence of cinema concepts, but related to the production itself we cannot see the same investment than the related in the works about cinema productions. In many cases, the game industry pass to game design direct to the development [Machado et al. 2010; Callele et al. 2005], it let the developers with a great lack of information, which not happened in the cinema process [Honthoner 2006].

By these appointments we positioned our research focus on a comparison study about movie and game production to understand the gains that developers can obtain by assimilating elements of the cinema process.

3. Methodology

In this study we want to answer the following research question: *what games can learn with the film productions to improve their own process?*

To help us to find this answer we use the research methods described in the next sub-sections.

3.1. Literature search

We researched studies related to software development for games, design methods and principles for games and cinema production. The main objectives to conduct these studies were to use the concepts to guide our work in establishing comparisons with the collected data and to develop questions for our investigations in the interviews [Strauss and Corbin 1998]. The main conclusions regarding this study were presented in the previous section (Related Works).

3.2 Semi-structured interviews

We interviewed five specialists in the field of cinema, animation and game projects. With the interviews our goal was to obtain information about particularities that occur in the process of filmmakers which can be applied in the game development process.

3.2.1 Subjects

The subjects were formed by two filmmakers with more than ten years of experience, two animator's producers that are in collaboration since 2005 and a game manager with five years of experience in the field of web and mobile games.

3.2.2 Interview with specialists

We opted for the interview with specialists because it is a specific way to apply semi-structured interviews, which allow the specialist to improvise his vision and opinions avoiding irrelevant topics and to have a particularity to be focused on the knowledge of the interviewed than the interviewed itself [Meuser and Nagel 2002].

4. Results

In the next sub sections we present the main results of our study. The literature search results will be omitted because it was previous presented in the related works section.

4.1 Interviews with specialists: Results

To analyze the interviews we used the open codification to create the concepts and categories [Strauss and Corbin 1990a; Strauss and Corbin 1998b] of the cinema and games production process. We divide in the next subsections the considerations retrieved under our three classes of specialists. In italic are the categories, each one brings the concepts related to the experience of the specialists about the category in focus.

4.1.1 Cinema specialists

Screenplay - According to filmmakers, the screenplay is the principal guide of the production process, but there are cases of films produced without screenplay, although it is very rare. They also mentioned that is a standardized document with different formats, they explain about the Master Scene format, which specify many aspects like scene headings, dialogue blocks, narrative descriptions and the verbal tense to be used.

Screenplay Reviews - The filmmakers mentioned that the screenplay pass by several reviews, principally in the pre-production, these reviews are made with help of specialized professionals (another scriptwriters our professors of cinema related areas).

Pre-Production - The filmmakers refer to the pre-production as an intense phase where the screenplay passes several treatments (reviews) to make sense for the production crew. They highlighted that high investment in the pre-production phase always make the production more effective and economically viable. They also mentioned that the process of production can start even before pre-production phase, because the development of the film argument occurs before a series of events treated in pre-production. The presentation of an argument to a filmmaker is called *pitching* [Bergan 2006].

Artifacts - In addition to the screenplay, the artifacts considered by filmmakers were the Storyboard and Scene Floor Plan. The importance of storyboard for specialists is that it shows how a scene is when the screenplay say what the scene is. The importance of the scene floor plan is to specify to the crew how to organize the movie set and equipments (camera, lights, etc.).

4.1.2 Animation specialists

Screenplay - The animators presented a very similar opinion about the screenplay, they related that the time available of production and the concept of an animation are factors that imply in many screenplay changes even after the pre-production phase.

Pre-Production - In the animation process, the pre-production is as important as a traditional film production. They were emphatic in how important this phase is for an animator because the great number of activities developed. In their words, spending little time in a pre-production animation is a considerable mistake.

Artifacts - In addition to the screenplay and the storyboard, the animators mentioned the importance of animatics. It helps them to test and adjust a great amount of technical and artistic details before the production itself.

In the management field, they mentioned the Bible's Animation, a document with the purpose to reveal the identity of an animation and for promotional intentions, very used in TV series.

4.1.3 Production Manager (PM) specialist

GDD - According to the experiences shared by the PM specialist, the Game Design Documents were developed without any standard and the crew created a way t o develop the document based in their specific knowledgement, the contents was the game concepts, the art works and framework details.

GDD Reviews - The PM mentioned that the GDD reviews occurred in production time. These reviews were made by the game designer responsible for the document in consideration about comments and suggestions of crew members and stakeholders.

Pre - Production - in the game process described by the PM specialist, the pre-production phase means twenty to thirty percent of all the project's efforts and in this phase it is developed the GDD and some concept arts about the game characters, scenarios and screens.

Artifacts - other artifacts mentioned were concept arts and test documents for game balance and game usability evaluation.

5. Conclusions and Future Works

Our main objective with this study was the identification of gains that the game industry can obtain by reusing knowledge about cinema process and production techniques in movie industry. By analysing the main results of the study with specialists our principal conclusions and suggestions of future works are presented below.

Pre-Production - in comparison with the cinema pre-production phase, the game pre-production is very poor in terms of investment and artifacts productions. From the interview analyses and the literature review [Amanatiadou and Weerd 2009; Kellison 2008; Potanin 2010] we observed that the game pre-production in many cases represents less than thrirty percent of the game project investments and the generation of artifacts which can guide the production

phase are very little.

Script Breakdown - Both in cinema and animation productions, the *script breakdown* is one of the project's main steps. The objective is analysing the script and reducing elements for considerations of each department enrolled in the production. It helps the producer and the director to develop a production schedule, a creative view and a production design of the script elements.
In the game process we can encounter a similar effort described in [Flynt 2004], but it is still far from what occurs in the cinema process. For this task an understanding of breakdown techniques used in the movie industry must be studied and translated to the game industry according to professional needs.

Artifacts - In the cinema process we observed there are a great number of artifacts offering support to the script ideas. Both in movies and animation productions, a series of techniques are in use to help filmmakers and animators to understand the main concepts. Most of these artifacts are produced in the pre-production stage and surrounded the project with agreat variety of information. In the game process, we also observed there are others artifacts which offer support to the GDD, but many are in use in academic field and many are in use in an optional way, but without any standard and following one of the numerous game process developed every day.

Standards - The cinema process and its elements work with many standards, one of them is the Master Scenes format witch helps writers in the task of creating a well formed Script, there are common language for camera uses, edition process and so on. These standards were part of any type of production [Bergan 2006], from independent films to blockbusters movies which makes the process more comprehensive by production teams. In the game process, we see that even in the GDD, there are not a defined standard for its creation [Schuytema 2006]. We suggest an effort in the study of game production standards to help the creation of a common language of game development similar what occurs in the film industry.

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