Chapter 51
Immersion, Narrative, and Replayability as the Motivational and Attractiveness Factors in Serious Games

Pollyana Notargiacomo Mustaro
Universidade Presbiteriana Mackenzie, Brazil

Raphael Leal Mendonça
Universidade Presbiteriana Mackenzie, Brazil

ABSTRACT

Serious games, electronic games whose purpose is work educational elements, often do not reach this goal because by being included the content and teaching strategies, the fun's dimension and motivation to interact are reduced. In this sense, this chapter presents a proposal for the use of immersion, narrative, and replayability as devices to make serious games more attractive to the student in general. These three elements are explored theoretically and then analyzed and aligned with proposals for instructional design and learning theories. As a result, a development proposal for Serious Game Development Document (SGDD) and a rubric for evaluation of use are presented. With this, it is expected to contribute and assist not only with development, but also with in the analysis of serious games.

INTRODUCTION

The context of education nowadays requires an understanding and articulation between different elements establish a new social view when combined. In this, it can be highlighted the network society (Castells, 1996), which brought about the establishment and growth of deterritorialized social ties, and the generation Homo Zappiens (Veen & Vrakking, 2006). This generation grows handling technological resources, which enabled the manipulation of information flows and the work with discontinued information, participation in communities (virtual and real) and resolution of problems through the use of strategies acquired during game play-related activities.

DOI: 10.4018/978-1-4666-0149-9.ch051

Copyright © 2012, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.

In this sense, the use of serious games in learning processes can contribute to the discovery of problem-solving strategies and other relevant metacognitive skills. To contribute with this discussion, one possibility is to work with elements that can make the game more attractive, so as to arouse an intrinsic motivation (Ryan & Deci, 2000) in the player-learner, which is essential to make learning an activity meaningful (Ausubel, 1963).

The attractiveness (Malone & Lepper, 1987) is a relevant factor in relation to the serious games, since a common criticism of this kind of educational resource is that these are not fun (Van Eck, 2006), since it just focused on the question of content involved in the learning process and not in the elements of the game itself. Given this scenario, this proposal is guided in the analysis and combination of three elements of games that can empower and give a momentum for meaningful learning in serious games: immersion (Dansky, 2006; Sodowski & Stanney, 2006), narrative (Ryan, 2006) and the replay value (Kücklich & Fellow, 2004).

With this proposal, the chapter will seek to not only reflect on the development of serious games, but as well present a computational tool, and a rubric, that allows the analysis of this educational resource, as a finished product or as developing it when encapsulates the framework built. Also, the chapter will discuss the concepts of the elements presented above and highlight the main variables that can improve the development or even analysis of serious games.

BACKGROUND

Prensky (2007) notes that the net/video game generation is characterized by interactivity with games and other technological devices. This characteristic makes these people seek to take an active stance. Beck & Wade (2004) point out that this interaction with games has presented reflections on the way to learn and perform professional activities of this generation. In this sense, one of the proposals that can be adopted in educational processes is the use of serious games.

Bergeron (2006) characterizes serious games as an interactive computer application that encloses challenging goals in a fun structure where elements are worked to knowledge building, development of competences or attitudes that capacitate students to manage and act in real-world situations. Abt (1987, book originally published in 1970), considered the first author to work with the idea of serious games, supplements this definition by highlighting that games constitute educational devices that can be used in different situations, and for students of all ages; due to the high degree of motivation, to effective communication of concepts and facts and to dramatic representation of problems. This allows players to take realistic roles, to face problems and developing strategies for decision making and to receive feedback almost instantly.

Serious games can be classified, according to Ratan & Ritterfeld (2009), based on four dimensions: educational content (academic, social change, work, health, military, and marketing), the principle of learning (performance skills, resolution of cognitive problems, social problem solving - involves collaboration and social responsibility – and acquisition of knowledge), age (below and preschool, elementary school, middle and high school and college, adult and senior) and platform (PC, gaming consoles, handhelds, mobile platforms). To these, as Breuer & Bente (2010) say, it can be still added the following instances: subject matter, learning goals, interaction mode (single player, multiplayer, massively multiplayer, co-tutoring and tutoring agents), interfaces and controls (mouse and keyboard, gamepad controlled and the Wii's balance board; and they may also include the latest embodied puppet interfaces).

Yet, beyond these elements is necessary to analyze the factors that can contribute to make a serious game motivational and engaging. In this context, it can be discussed three dimensions:

16 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:
www.igi-global.com/chapter/immersion-narrative-replayability-motivational-attractiveness/64296

Related Content

Exploring the Possibilities of Artificial Intelligence and Big Data Techniques to Enhance Gamified Financial Services
María A. Pérez-Juárez, Javier M. Aguiar-Pérez, Miguel Alonso-Felipe, Javier Del-Pozo-Velázquez, Saúl Rozada-Ranerosand Mikel Barrio-Conde (2022). *Next-Generation Applications and Implementations of Gamification Systems (pp. 187-204).*
www.irma-international.org/chapter/exploring-the-possibilities-of-artificial-intelligence-and-big-data-techniques-to-enhance-gamified-financial-services/289781

Expertise in Professional Overwatch Play
Joey R. Fanfarelli (2018). *International Journal of Gaming and Computer-Mediated Simulations (pp. 1-22).*
www.irma-international.org/article/expertise-in-professional-overwatch-play/210205

Serious Linguistic Games as Intelligent Tutoring Systems
Stephen Howelland Tony Veale (2011). *Handbook of Research on Improving Learning and Motivation through Educational Games: Multidisciplinary Approaches (pp. 726-758).*
www.irma-international.org/chapter/serious-linguistic-games-intelligent-tutoring/52519

Applied Alternative Tools and Methods in the Replacement of the Game Design Document
Pedro Henrique Roscoe Lage de Oliveira, Carlos Alberto Silva de Mirandaand Joao Victor Boechat Gomide (2023). *Research Anthology on Game Design, Development, Usage, and Social Impact (pp. 585-598).*
www.irma-international.org/chapter/applied-alternative-tools-and-methods-in-the-replacement-of-the-game-design-document/315506

The Contribution of Videogames to Anti-Social Attitudes and Behaviours amongst Youngsters
Olga Albuquerqueand Gillian Grace Moreira (2011). *Business, Technological, and Social Dimensions of Computer Games: Multidisciplinary Developments (pp. 237-251).*
www.irma-international.org/chapter/contribution-videogames-anti-social-attitudes/53932