Chapter 2
Healthcare Games and the Metaphoric Approach

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ABSTRACT

Many serious games dedicated to the health sector have been identified. Within this wide range, the authors have explored the Serious games offering an educational dimension and targeting either individuals or health-care professionals. Based on a corpus built around this orientation, the goal is to determine whether or not it is possible to find a use, targeted or not, involving metaphorical contexts among different titles. In the corpus studied, no metaphor is used for serious game targeting health-care professionals contrary to serious games targeting individuals. For this target, the game universe is mainly metaphorical. A discussion in the light of didactic and motivational arguments suggests that a metaphorical universe could be beneficial in the case where more transversal skills are targeted.

INTRODUCTION

Although the use of metaphors seems attractive, can this approach address all types of audiences when designing Serious games dedicated to the health-care professions? To study this issue, we will focus on existing titles that offer an educational dimension and are aimed at health-care professionals or individuals, among whom we include patients. With such a corpus, it is of interest to verify whether or not metaphors can be found exclusively for a given public. From the results, we will seek answers to nourish the discussion of this issue.

In this context, we will begin by defining an approach to the concept of metaphor and defining what we mean by the term "Serious game". Then, we will present the methodology used to constitute our corpus of Serious games dedicated to health-care.

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DEFINTION OF "SERIOUS GAME" AND "METAPHOR"

Definition of Serious Games

Various designations and definitions exist with regard to the term "Serious game." The oldest is probably that of Clark C. Abt, who in 1970, defined Serious games as adding an educational aspect to outdoor games, board games, role play and even computer games. In the context of this chapter, we choose however to focus on computer-based games and to exclude those played only in a non-computer environment, such as "PROTIX," (Université de Saint-Etienne (France) - CIRCO (Centre Interregional de l'Organisation Hospitalière) France) a non-computer board game similar to Monopoly, devoted to the management of patient flows in hospitals. The computer has been the preferred medium for the focus of scientific work since the rediscovery of the term in 2002 by Benjamin Sawyer. In addition, given the diversity of definitions suggested by Clark Aldrich (2009), Richard Van Eck (2006), and Michael Zyda (2005), we must establish our position. To facilitate the implementation of our analysis, our study will not cover Serious games which take place within mixed realities as defined by Paul Milgram and P. Kishino (1994). This excludes such set ups as operating theaters pedagogically outfitted with virtual patients in the form of electronic dummies (human patient simulator with pulse, blood pressure) lying on a hospital bed with real monitoring devices (respirator, drip feed systems) (Figure 1).

We have chosen to use the following definition developed by Alvarez and Djaouti (Alvarez et al, 2010) which seeks to combine several approaches:

"A computer application whose intended purpose is to coherently combine both serious aspects such as, but not limited to teaching, learning, communication, or information, with game playing aspects from video games. Such a combination, functioning according to a utilitarian scenario, which in computer terms implements a sound and graphics package, a story and appropriate rules, and is therefore distinct from simple entertainment. This distinction appears to be based on the prevalence of a utilitarian scenario whose objectives, in formal terms, overlap with those of a video game."

This definition can be summarized by the following relationship:

Utilitarian scenario + gaming scenario
=> serious game

It should be emphasized that this implementation of the utilitarian scenario in relation to game playing must be done coherently. It is not a question of simply putting them side by side. On the contrary, they must converge (Tricot, 1999) so that the user can simultaneously enjoy the gaming experience and utilitarian aspects. Otherwise, if the two scenarios are not really linked, the application will very likely present an imbalance causing one of the two scenarios to take precedence over the other (Kelner, 2000). In such a context, a Serious game would not really offer a utilitarian aspect. For example, if the purpose of a Serious game is to educate users on the dangers of driving too fast, it would be counterproductive to introduce a Driving game in which one of the challenges would be to reach relay steps within a time limit. On the contrary, in this case the game should propose rather to establish the relationship between the factors of risk and speed: in other words, the faster the user drives, the greater the risk of having an accident and thus losing the game.

For the same reasons, we have only selected games in which both scenarios have been defined at the design phase of the game. Although there are many examples of a posteriori adaptations of a video game to give it a utilitarian dimension, and such an approach can always be integrated within a scenario, we have chosen not to focus on these adapted video games in our definition of Serious games. (Figure 2)