A Review of Serious Games Characteristics: Common and Specific Aspects

Authors : B. Ben Amara, H. Mhiri Sellami

Abstract : Serious games adoption is increasing in multiple fields, including health, education, and business. In the same way, many research studied serious games (SGs) for various purposes such as classification, positive impacts, or learning outcomes. Although most of these research examine SG characteristics (SGCs) for conducting their studies, to author's best knowledge, there is no consensus about features neither in number not in the description. In this paper, we conduct a literature review to collect essential game attributes regardless of the application areas and the study objectives. Firstly, we aimed to define Common SGCs (CSGCs) that characterize the game aspect, by gathering features having the same meanings. Secondly, we tried to identify specific features related to the application area or to the study purpose as a serious aspect. The findings suggest that any type of SG can be defined by a number of CSGCs depicting the gaming side, such as adaptability and rules. In addition, we outlined a number of specific SGCs describing the 'serious' aspect, including specific needs of the domain and indented outcomes. In conclusion, our review showed that it is possible to bridge the research gap due to the lack of consensus by using CSGCs. Moreover, these features facilitate the design and development of successful serious games in any domain and provide a foundation for further research in this area.