

# Chapter 35

## Gamification and Its Application in the Social Environment: A Tool for Shaping Behaviour

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### ABSTRACT

*This study sets out to conduct a systematic review of the emergence and evolution of gamification in the social environment, its main components, and its application as a learning tool through the motivation and engagement it generates in people. The results were obtained by consulting two major scientific databases, namely, Scopus and the Web of Science, which provided 136 articles published on the social environment from 2011 through to mid-2016 using the term gamification. The results of this study reveal how over time gamification has been gaining importance in the social environment through the use of its components. The highest number of scientific publications come from the United States and Spain. In addition, the use of gaming components increases motivation and engagement. It shows how gamification uses (individual or group) rewards according to the context to achieve the proposed objectives, being successfully implemented in education, health, services, and social learning.*

### INTRODUCTION

The spread of ICTs in the social environment has involved a series of situations in which new tools are required for addressing social issues, as many people spend a lot of their time playing games on their consoles, laptops and mobile phones. Many of these gamers are digital natives with an interest in the field of learning-based games (Simões, Redondo, & Vilas, 2013) and social applications, with the aim

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being to find a learning-focused flow state that provides them with a source of motivation and engagement (Hamari & Koivisto, 2015b). According to de-Marcos et al. (2016) and Morford et al. (2014) games provide spaces for conflict resolution, using motivation and commitment. Nevertheless, there is a major difference between the design of learning-based games and the more traditional ones. Learning-based games are designed to generate learning in non-ludic environments, whereas their traditional counterparts are designed to entertain (Day-Black, Merrill, Konzelman, Williams, & Hart, 2015). The inclusion of gaming components in the social environment has therefore expanded in recent times to encourage people to become involved (Bista, Nepal, Paris, & Colineau, 2014), fostering clear objectives, and being divided into goals that are achievable in the short term, involving those participating with a sense of progress, as well as instant feedback and a link to other players (de-Marcos, Domínguez, Saenz-de-Navarrete, & Pagés, 2014).

Gamification means using gaming components in non-ludic environments (Bíró, 2014; Deterding, Dixon, Sicart, Nacke, & O'Hara, 2011; Gatautis, Vitkauskaitė, Gadeikiene, & Piligrimiene, 2016; Marache-francisco & Brangier, 2012; Simões et al., 2013; Urh, Vukovic, Jereb, & Pintar, 2015). Hamari and Koivisto, (2015b) and Kapp, (2012) define it as the use of gaming mechanics and dynamics, adding a convincing narrative for the purpose of resolving social issues. Gamification thus exploits the features inherent to games for their use in situations involving a lack of motivation and learning (Dichev, Dicheva, Angelova, & Agre, 2014). Nonetheless, ensuring that these aspects have an impact at social level through a positive knock-on effect requires the community's active involvement, promoting social influence, reciprocity and recognition (Koivisto & Hamari, 2014; Marache-Francisco & Brangier, 2012).

The research proposal here involves conducting a systematic review of the evolution of gamification and its influence on the social environment, with the aim being to boost the achievement of the proposed guidelines and the acquisition of habits in activities that are boring or difficult to do. This article will shed light on those topics with a greater weight in the state-of-the-art. Significant results are provided when finding that gamification increases player learning and participation. Within the social environment, gamification has a major impact through the use of its components, playing an important role in prompting behaviour through motivation (both intrinsic and extrinsic) and engagement. In addition, gamification has a huge potential for its components' implementation in non-ludic contexts.

## **MATERIAL AND METHODS**

The retrieval and review of the literature took place at the end of July 2016. The sample of scientific papers (see Figure 1) was obtained by following the methodological steps applied by Caponetto et al. (2014) and Rickinson and May (2009): scope, search, selection, analysis and presentation of results:

- **Scope:** a) Use of the sample strategy: Title "Gamification"; b) Latitude: Research ambit: Social (Social Sciences), the documents involved in the sampling are articles and reviews (in any language); and c) the timeframe of interest involved all articles and reviews published from 2011 through to the middle of 2016;
- **Search:** A broader spectrum and greater efficiency was achieved by consulting two databases with the highest impact on the publication of scientific articles (Web of Science and Scopus). The search was conducted in both these databases, and 264 studies were retrieved;

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