Chapter 83
Games and Social Networks

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ABSTRACT

Social media and social networks have gained an unprecedented role in connecting people, knowledge, and experiences. Game industry is using the power of social networks by creating Social Network Games, which can be even more engaging than traditional games. In this chapter, the main characteristics of Social Network Games and their potential are discussed. This potentiality can also be used for serious games (i.e. games with purposes beyond entertainment) and especially games related to learning and behavioural changes. This leads to introducing the emerging field of Serious Social Network Games and their unique characteristics that make them suitable for serious applications. Finally, the rising phenomenon of Social TV is discussed, which combines the power of TV and social media. Based on a project by the authors, preliminary findings on the most engaging techniques of Social TV Games are presented, together with initial suggestions on what constitutes good game mechanics for such games. The chapter concludes with future research directions for Social Network Games to become even more engaging and effective for purposes beyond pure entertainment.

INTRODUCTION

This chapter investigates several positive effects that potentially arise when combining games and social networks. A social network is "a set of people or groups each of which has connections of some kind to some or all of the others" (Rupnik, 2006). Social Network Games build upon these connections. Such games, often called just Social Games, can be defined - in the absence of a clear academic definition (Deterding et al., 2010) - as online games that use one's friendship ties for play purposes while accommodating the players' daily routines (Järvinen, 2011). This can be, for example, in the form of notifying friends of one's achievements, or requesting friends to join in some game activity.

In this chapter we look not only at Social Network Games, but at Social TV games as well – games that lie in the intersection between social media and TV. Social media is 'a group of Internet-based applications that build on the

ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content' (Kaplan & Haenlein, 2010). Thus, to put it in a broader context, we examine in what ways the combinations of certain aspects of social networks and social media with games and TV media can create potentially more motivating and engaging environments. We focus particularly on games with purposes that go beyond pure entertainment, such as learning.

The power of the network is the ideology behind the Web 2.0 (Anderson, 2007). The combination of key Web 2.0 aspects and game principles led to the creation of new kinds of games, among which Social (Network) Games.

According to (Anderson, 2007) the key Web 2.0 principles are: (i) individual production and user generated content, (ii) harness the power of the crowd, (iii) data on an epic scale, (iv) architecture of participation, (v) network effects and (vi) openness.

Combining the second Web 2.0 principle (*harness the power of the crowd*) with certain game mechanisms defines a type of games called games with a purpose – "multiplayer online games where players generate useful data as a by-product of play" (Law & Von Ahn, 2011, p.81). The first game of this type is the ESP game (Von Ahn & Dabbish, 2004) where two players have to independently tag an image which the game presents to them. When the players annotate the image with the same tag they are awarded points. This turned out to be a hugely successful game and helped indexing enormous amounts of images that subsequently improve information retrieval on the Internet. The game mechanism which the ESP game employs is called 'output-agreement' where players get the same input and are rewarded if they reach an agreement on the output (Law & Von Ahn, 2011). The Web 2.0 principle incorporated in the game is employing the power of the crowd to do computational jobs that are difficult for computers.

Social Network Games, which are one of the focuses in this chapter, and which we already introduced earlier, are games which incorporate the *network effect principle* of Web 2.0 in their mechanics. The network effect principle states that the value of a service increases when the number of its users increases. In Social Network Games the more people a player brings into the game, the more he/she progresses in the game. This chapter discusses in more detail the ways in which Social Network Games build on social networks and how to possibly leverage this aspect for the purposes of learning. In this discussion we put special attention on the relationship between social interaction and increased levels of communication.

An engaging environment where social interactions take place has the potential to increase the level of communication between players. Communication in a social environment, i.e. an environment where people feel a good connection to the other members, goes beyond casual exchange of friendly words (chatting) and can imply sharing of information and knowledge. Recent learning and knowledge management theories attribute a fundamental role to such social communications in processes related to learning.

Social Network Games can therefore be designed to fulfil purposes that go beyond pure entertainment and play a role in learning and, in a broader sense, in behavioural change. By utilizing social communication, Social Network Games can become an alternative to the prevailing classroom-based education for students. Also in adult learning, such as corporate training, Social Network Games can replace or supplement traditional learning forms.

The possibilities and the bottlenecks of these effects are discussed in this chapter. Social Network Games are quite young and literature, analysis and empirical research about them is scarce (Deterding et al., 2010). We present the existing information about these games in an attempt to start gaining some understanding about:

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