Clinical Briefs

Challenges of Health Games in the Social Network Environment

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Abstract

Virtual communities and their benefits have been widely exploited to support patients, caregivers, families, and healthcare providers. The complexity of the social organization evolved the concept of virtual community to social networks, exploring the establishment of ties and relations between people. These technological platforms provide a way to keep up with one's connections network, through a set of communication and interaction tools. Games, as social interactive technologies, have great potential, ensuring a supportive community and thereby reducing social isolation. Serious social health games bring forward several research challenges. This article examines the potential benefits of the triad "health–serious games–social networks" and discusses some research challenges and opportunities of the liaison of serious health games and social networks.

Introduction

HEALTH IS A KEY FACTOR in the human hierarchy of needs and affects all its roles in society. The social human nature develops an intrinsic dependency between the human being, as an individual, and the society, by the need for sharing, contact, and socialization, resulting in the creation of communities.

Recent developments in information and communication technologies have brought new opportunities for the creation of virtual communities and required the evolution of social networks. As a result, social networks have emerged to foster communication and interaction between people. In order to keep their main goal alive—to socialize—social networks have integrated games as a powerful tool for this purpose.

Games have become more than a leisure activity. Serious games go beyond the idea of entertainment and offer other kinds of experiences, including learning and training. One application of serious games that is gaining interest from industry and academics is health games. The challenge lies in adding a social component to health games to ensure a better integration into social networks, while providing the skills and abilities for players to be able to react to certain situations and symptoms. This article discusses the challenges and research opportunities in the association of serious health games and social networks.

Health in Virtual Communities

Humans are social beings, with innate condition for bonding, affects, and consequently socializing. This unique characteristic of humans strengthens the need for association and caused, from prehistoric times, the creation of communities where people live and socialize. The concept of community is used to describe a group of people sharing a common purpose or objective, organized in a social structure, who populate a certain geographical area.

The rise of communication and information technologies in the last decades has powered the creation of an information and knowledge society, covering and influencing almost every domain of human existence. Enhanced by this paradigmatic change, new forms of relationships and creation of communities have emerged. Virtual communities, described as "social aggregations that emerge from the Internet when enough people carry on public discussions long enough and with sufficient human feeling to form nets of personal relationships in cyberspace,"[1] were the answer to this revolution.

According to experts,[2] "virtual communities can be seen as mental health and social support interventions," as they often have the function and character of self-support. Moreover, literature demonstrates the importance of communities through their practices in support of certain diseases, highlighting the role that virtual communities can play for its members on solutions for health problems.[3,4] Many health communities representing many areas of health services have spread over the Internet, such as "Cancer.net: Making a world of difference in cancer care"[5] and "The Wellness Community."[6]

The Shift to Social Networks

The new forms of interaction and socialization shift the traditional concept of community to new forms of association,

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and such complexity requires redefined mechanisms and tools. The social networks have responded to this challenging human interaction net, understanding human relations in a broader sense than the community.[1,7]

From the technological perspective, the social networks are Web-based services that enable individuals to build their profiles and join a list of other users with whom they share information. As infrastructures for communication, interaction, and information sharing on the Internet, social networks provide users a set of tools such as chat, bulletin boards, forums, video sharing, and photo gallery. However, recently the convergence of social networks and games allowed a step forward in the users' immersion in the interaction and socialization of the environment.

New Tools for Socialization: Games in Social Networks

Since the late 1970s, with Multi-User Dungeons, games took advantages of the capabilities of the Internet, namely, the virtual environments where people can meet, interact, and play.[8] In the beginning of the new millennium and with the advent of social networks, social games started a revolution in the game industry, using social connections to spread all over.

Social games operate using the information of social networks, without which the overall design of the game would collapse.[9] The virtual environment of these games enforces the creation and development of players' communities. As a rule, players need to interact with each other to perform tasks and/or complete objectives and create groups and, consequently, make this environment a "space" of choice for the establishment of friendships or developing relationships.

At the same time, serious games, previously called edutainment, have become ever more important in the global education and training market. Serious games can be defined as "a mental contest, played with a computer in accordance with specific rules, that uses entertainment to further government or corporate training, education, health, public policy, and strategic communication objectives."[10] Considering the health area, there are several applications that stand out with diversified features: Therapy auxiliaries, promotion of health and fitness, and monitoring health. Currently there are many partnerships for development of projects involving companies, researchers, and professionals from various fields to share information on what impact games and game technology can have in solving problems in health,[11–16] following successful experiments as in "Re-Mission."[17]

Serious games have the potential to become one of the ways of acquiring core knowledge of the 21st century. On the other hand, healthcare consumers' social networks play a key role in their progress through healthcare journeys and are vital sources of advice, recommendations, empathy, and support. This has already been recognized on the Internet by the establishment and popularity of online healthcare consumer communities.[4] Therefore, the association of the social component in health games can allow members an easy and intuitive access to these games through social networks. Moreover, they will support addressing diseases by increasing knowledge, sharing of experiences and help with other members, and promoting sustainability and/or creation of new communities.

The Challenges

Virtual communities and social networks may turn out to be the agoras of health[18] as defined by Illich[19]: "the ability to adapt to changing environments, to growing up and to aging, to healing when damaged, to suffering, and to the peaceful expectation of death." The tools provided by these games define the way users get immersed in the environment and benefit from it. Serious social health games may have an important role in the future of these environments as interaction tools; however, they also have several challenges.

The first challenge that arises concerning generic social games is the lack of in-depth social structures.[20] Nowadays, social games are typically games played in social networks featuring multiplayer and asynchronous games mechanisms. The core game play is solitaire in nature, without the need to cooperate with others to achieve the goals. This follows human nature as argued by Costikyan: "We typically strive to achieve our own needs and desires, often at the expense of others." According to the author, "developers have learned how to use the social graph to rake in the bucks, but not how to use it to foster gameplay that is actually social."[21]

A second challenge is related to the characteristics of social networks and the virtual communities that support them. Typically, health networks are concerned with extreme forms of diseases such as cancer or human immunodeficiency virus. The success of virtual communities in these kinds of situations is mostly related to public exposure and social exclusion. The users' real identities are kept confidential, and nicknames are used inside the community interaction, although the organization of social networks is based on real identities and their exposure to other users. Thus, serious social health games should develop mechanisms in order to ensure the freedom and confidentiality of players and guarantee the social organization of the supporting social networks.

A final challenge concerns death. Considering that most of the virtual interaction in these environments is concerned with life-threatening diseases, how should death be understood and reported to the community? How can serious social health games educate, prepare, and support the community to overcome death? Despite being broadly discussed, these questions will always remain challenging. Two interesting approaches have crossed the cyberspace: The Last Post[22] and "The End."[23] The first is a post by an individual named Derek Miller after his death reporting it to his blog followers. The second is a serious game that deals with existential questions, the human condition, and its relationship to life, designed for teenagers.

Final Remarks

This article intended to briefly describe current concerns surrounding the interconnection of the triad of health, social networks, and games. Social networks are creating new connectedness in lieu of the gradual erasure of in-person bonding. Games are penetrating, in more comprehensive ways, the worlds of culture, work, and science, with the scope of "serious gaming" becoming one of the key ways of acquiring core knowledge in the 21st century. Therefore we must focus our investigation on the positive features of bringing together these three domains and perform an

exhaustive exploration of potentialities for health in using social networks and games altogether.

Two factors support interest in games for health via social networks. First, the concept of a beneficial community is emerging within the social networks on the Internet. Coincidentally, people are discovering the benefits of health games. Games added to these new communities are "tools of interaction," enabling connectedness, opening new forms of interaction, and helping to achieve individual and community goals.

Three major challenges/research opportunities were identified for the advancement of serious social health games: (1) The lack of in-depth social structures in social gaming, (2) the user's identity and the associated interaction of freedom, and (3) the impact of fatal events in the community.

Author Disclosure Statement

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