

# Chapter 1

## Innovation Gaming: An Immersive Experience Environment Enabling Co-creation

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### **ABSTRACT**

*A number of existing innovation paradigms and design approaches, such as open innovation (Chesbrough, 2003), user experience (Hassenzahl & Tractinsky, 2006), user-centred design (Von Hippel, 2005), and user-centred open innovation ecosystems (Pallot, 2009a), are all promoting distributed collaboration among organisations and user communities. However, project stakeholders are mainly trained for improving their individual skills through learning experience (i.e. practical exercises, role playing game) rather than getting a live user experience through immersive environments (e.g. Virtual Reality, Serious Games) that could unleash their creativity potential. This chapter introduces the findings of a study on serious gaming, which discusses various aspects of games and explores a number of issues related to the use of innovation games for enabling user co-creation in the context of collaborative innovation and experiential living labs.*

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## **INTRODUCTION**

Traditionally, people learn their job in mimicking their more experienced colleagues and in being confronted with various unforeseen challenging situations bringing about risky decisions. This approach often leads people to learn by making mistakes. Interestingly, serious gaming provides an invaluable approach for learning by making real mistakes that have a real impact only in the virtual world. Hence, there is absolutely no risk of any dramatic impact in the real world, meaning that users are even encouraged to do mistakes for getting an appropriate experiential learning about all possible situations. Today, due to various trends and new paradigms such as Open Innovation (Chesbrough, 2003), businesses are collaborating more and more for designing innovative products and services. However, people are trained for enhancing their individual skills and improving their productivity rather than for enhancing their collaboration skills and improving their interpersonal productivity. Other approaches promote the earlier involvement of user communities, namely: User-Centred Design (UCD) (Von Hippel, 2005), User Experience (UX) (Hassenzahl & Tractinsky, 2006) and Living Lab or User Co-Creation (UCC) (Pallot, 2009a). This is a context where on the one hand users or citizens have to experience something new while sharing feedback, meaning and understanding within the community. On the other hand, researchers collect data for better understanding emerging behaviours and usage patterns as well as embedded adoption mechanisms.

This chapter explores the way in which serious gaming could be used in the context of UCD and UCC. It also considers whether serious gaming, through the use of innovation games, could be a relevant tool to support user co-creation in a way that games could be included into a living lab service platform (Pallot et al., 2010b). The role of distributed cognition and collective intelligence, including both social intelligence and emotional intelligence in the decision making process, is

investigated through the application of serious games. And in a reverse manner to this, the application of the living lab approach for supporting UCC in creating new serious gaming tools may also be explored.

## **RELATED WORK AND THEORIES**

### **Living Labs for Engaging Users in R&D**

As demonstrated by the Web 2.0 in empowering users, new R&D approaches are emerging where users are not considered anymore as observed subjects in functional tests but rather as entities able to contribute in creating value. William Mitchell<sup>1</sup> argued that a Living Lab represents a user-centric research methodology for sensing, prototyping, validating and refining complex solutions in multiple and evolving real life contexts. He identified several impact and benefits. The noticeable impacts are: the integration of the users into the development process for ensuring highly reliable market evaluation; the reduction of technology and business risks; a Living Lab is beneficial to SME, micro-organizations and start-ups, since they can share resources without so much venture capital; large companies have access to a broader base of ideas.

Today, 212 Living Labs are members of the European Network of Living Labs (ENoLL). They are geographically located within the enlarged European Union and in other regions such as South Africa, Asia and South America. All of them have the goal to involve users at the earlier stage of the R&D process not only as observed subjects but rather as a participative force for co-creating value. A living Lab is an open research and innovation ecosystem involving user communities (application pull), solution developers (technology push), research labs, local authorities and policy makers as well as investors in real life situations. A Living Lab is currently considered as a user-centred

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