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# Serious Games: The Impact of Pervasive Gaming on Business

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# **Serious Games: The Impact of Pervasive Gaming on Business**

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In the public debate, computer games tend to have a bad name due to their perceived negative influence on young people. Worsening school performance of boys relative to girls, even massacres in schools, are attributed to this influence.

If nothing else, this debate points out that computer games cause lots of emotions in people, get them involved, and facilitate learning. The short-term and long-term impact has even been confirmed by recent neuro-imaging studies of player brains. This impact grows further with media richness and mobility in what is called pervasive gaming.

Business has begun to take advantage of these effects in many different ways. The obvious ones include new game products as well as gaming services related to existing products, e.g. for advertising or explanatory purposes. An interesting family of such products include those where mobile multimedia technologies are being combined with geographic information services, e.g. history games in city tourism, or city or company site planning.

But there are also other important application domains. The future of IT lies in networked embedded systems whose requirements are extremely difficult to analyse before these systems have been built. Game-based design is being pursued as a novel analysis strategy in applications as diverse as production process optimization, or wearable computing in firefighter guidance and protection.

Last not least, pervasive gaming can be used to alleviate the increasing shortage of well-trained personnel, or to retrain people for new business tasks. The effective design of such learning systems, embedded in the normal work process as opposed to classroom settings, is still quite a challenge from a technology, usability, and business perspective. We have found it surprisingly useful to gain initial experiences with learning environments for users with special needs, which then lead to general innovations.

The talk will present an overview of modern pervasive gaming technologies, their business applications, and remain challenges for Business Informatics research, illustrated by a number of projects we have conducted in this domain over the past few years.