

Adaptation Model for Indoor Exergames

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Abstract

In this paper we propose an approach towards adaptive long-term motivating and physically demanding exergames for indoor training. Various previous approaches have been using ergometers (especially ergometer bikes) in interactive applications (mostly virtual cycling simulations) since decades, nevertheless exertainment applications for indoor training are not applied in a broad range. In this paper we present a structured analysis of existing commercial and scientific approaches towards interactive indoor training. On this basis a concept and model for adaptive exergames was developed. Exergames based on this concept are usable with different devices and provide adaptation possibilities for the psychological as well as the physiological needs and properties of different end users. In this way the proposed concept integrates the diverse dimensions of Sport, Game and Technology.

KEYWORDS: SERIOUS GAMES, GAMES FOR HEALTH, EXERGAMES, ADAPTATION, INDOOR CYCLING