18 HapticBikeTraining Project

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In this paper, we present an ongoing project by graphic artists of the Académie de Meuron and He-Arc Ingénierie engineers: The HapBikeTraining.

CONCEPT

Nowadays, keeping a body in healthy conditions has become a life goal for some and a trend for most. Due to a lack of personal time, many individuals invest in home-training equipment such as exercise bikes, cross-trainers, treadmills or rowing machines. Unfortunately, those pieces of equipment give a repetitive experience and do not encourage users to improve their training practice. The project HapBikeTraining offers a stimulating and efficient alternative in the form of a serious game with haptic feedback set on an exercise bike with a screen. Developed with a friendly cartoon-like design, users ride a bike while their avatars evolve in beautiful and various landscapes with variable slope levels and many interactive surprises. To further improve the immersive feeling, during the journey the game adapts the pedalling resistance depending on the environment. We believe that adding fun and consistent challenges to training exercises can stimulate regular customers to improve their training routine and motivate the ones, who find usual training tedious to adopt a recurrent training regime.

SERIOUS GAME

Users ride a bike while their avatars evolve in beautiful and various landscapes

Most of today's smart exercise bikes offer immersion through first-person gameplay. These simulations try to be as realistic as possible and give the user a real cycling race experience. HapBikeTraining presents a different approach as it enables the player to make his avatar evolve in a 2D linear world with side-scroller gameplay, similar to Super Mario games. The player must ride through the map as fast as possible thanks to game mechanics such as harder uphill roads, random obstacles such as stones or fences, that will slow down his race progress. Coins and rewards are available through the level to gain some time.

VISUAL CONCEPT

Three visual arts students from the Académie de Meuron have worked on the graphic aspect of the game, their research objective is to enable the user project himself in an environment that is a reality extract and live a fun experience by linking the effort to sensations and emotions.

This game will take the user into an irrational world that will surely get him out of his daily routine.

Three different environments punctuate the journey through different levels:

The player starts the adventure by crossing a post-apocalyptic environment, accompanied by spirits he must collect, and then an infernal and chilling landscape: he must pedal faster to extract himself

from the bad feng shui of these places and thus reach the second level. There, he will be propelled onto celestial bodies in the confines of the universe by riding an interstellar bicycle: if he finds the mushroom, he must eat it to be taken up to the third level, where he will be parachuted onto a magnified and improbable coloured-haloed ground. There, all is sweetness and beauty that the user can enjoy before the arrival. Damn, the trip is already finished.

CONCLUSION

Some smart bikes already exist on the market with more or less interaction, but the addition of a pleasant and beautiful serious game instead of a simple simulation will significantly enhance the user's interest.

We would like to thank the students of the school of visual arts Académie de Meuron who have imagined and drawn the magnificent environments the players will discover throughout the game.

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