3d Game Development Using Unity 3D for Biofeedback System.

Background

This project is done in collaboration with the German Heart Center and Sony. The goal of the project is to research and develop systems that help children with heart disorders to recover physical fitness after having an operative treatment. The system uses electronic games to help motivate the children to perform exercise. Playing games will cause the children to perform moves that are supporting the rehabilitation process. The patients physical engagement is measured by biomedical sensors and used for controlling the intensity and frequency of moves that are stressed by playing the game.

Description

The objective of this thesis is to develop a game under the Unity 3d game engine to be integrated into the biofeedback system. With this game engine virtual environments and characters may be easily created. The game will receive user actions such as hand movements, peddling from an ergometer, posture, which should influence the virtual character on screen. Several levels of difficulty should be created to be used by the biofeedback system depending on the user physical condition. If you have a creative mind, programming skills and experience with 3d modeling this is the project for you.

This project is to be developed at the Experimental Heart Surgery Lab of the German Heart Center. (Lazarettstr. 62)

References

- German Heart Center: http://www.dhm.mhn.de/
- Unity 3d: http://unity3d.com

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