Figure 1: In-game screenshot.

Figure 2: Plunder Planet gameplay with the Full-Body-Motion Controller and the Kinect.

KEYWORDS

Plunder Planet; fitness game; adaptivity.

Plunder Planet: An Adaptive Fitness Game Setup for Children

Anna Lisa Martin-Niedecken
Department of Design
Zurich University of the Arts, Zurich, Switzerland
anna.martin@zhdk.ch

ABSTRACT

Childhood obesity is one of the greatest public health challenges of the 21st century, although it could easily be prevented by regular physical activity. Exergames have been applauded for their potential to counteract this tendency in a playful and motivating manner. However, current solutions often lack a user-centered, interdisciplinary design approach covering the physical and virtual design levels. Consequently, motivational factors, attractiveness and effectiveness of these fitness games remain limited. To contribute to this topic, we – a team of sports scientist and game designers – developed the adaptive exergame Plunder Planet (Fig. 1) with and for children and young adolescents [1]. It can be played as single or cooperative multiplayer [2] with two different motion-based controllers that require either haptic or gesture-based input movements (Fig. 2) and trigger different (social) gameplay experiences. Based on the player's heart rate and in-game performance the game difficulty and complexity are continuously adjusted to provide a maximum attractive and effective experience.

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