I DO, IT REACT:

Integrating Physical Movement in Video Game using AI&ML

A PROJECT REPORT

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ABSTRACT

This project is rooted in exergaming, an innovative domain that merges exercise with gaming through interactive media and health informatics. Exergaming is designed to promote physical activity by engaging users in digital games that require physical movement. The World Health Organization (WHO) reports that over a quarter of adults worldwide do not engage in sufficient physical activity, leading to health issues such as obesity, reduced muscle strength, weight gain, and increased risks of cancer and type 2 diabetes.

This project proposes a novel solution to combat physical inactivity by integrating physical movements into video gaming. By developing a game where character movements are controlled by the user's physical actions, we merge entertainment with exercise. This approach, known as active gaming, allows users, especially children, to enjoy technology and gaming while being physically active. This method can increase engagement in physical activity, improve fitness levels, and potentially reduce sedentary behavior-related health issues, promoting healthier lifestyles without sacrificing gaming enjoyment.

Despite its promise, this approach presents challenges. Designing games that are both engaging and physically demanding requires extensive resources and expertise in game development and exercise science. There is also a risk of injury if physical movements are not performed correctly, necessitating proper guidance and possibly professional supervision.