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DEVELOPING AN IMMERSIVE EDUCATIONAL GAME FOR TEACHING PHYSICS THEORIES AND THEIR APPLICATION IN REAL-WORLD SCENARIOS

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ABSTRACT

Traditional educational methods often fail to retain students' engagement and motivation. They also lack Real-World Relevance, specifically in subjects like physics. Many researchers have conducted studies integrating game elements to address this issue, but they lack real-world relevance and the necessary gamification, often failing to achieve both. This study focuses on developing an immersive educational physics game that solves real-world physics problems while integrating gamification elements throughout the gameplay.

In this study, the author attempts to design and develop an immersive educational physics game with integrated gameplay elements throughout the experience. This application will provide players with real-world problems they need to solve using their physics knowledge.

The initial game demo successfully presents a real-world scenario where the player must calculate the correct metrics for a car to jump across a gap. The game has a dedicated 2D screen in a guided format to determine the correct answers.

Subject Descriptions:

- Applied computing -> Education -> Interactive learning environments -> Game-based learning

Keywords: Educational Games, Physics Learning, Game-Based Learning, Immersive Learning Technologies, Game Engine Selection