7SENG013C Software Development Project

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Virtual Learning Platform for students to Model the Stem Education Scenarios

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ABSTRACT

Education plays a crucial role in sculpting the future of individuals and nations. World's rapid development generates a demand for new tutoring techniques to educate students efficiently. This project is a novel 3D STEM-based gaming web application. Though the researches have been published on STEM based gaming web platforms, current existing systems act as virtual laboratories to support teaching activities. However, none of the game-based applications has been mapped to an educational curriculum and contains a leaderboard in a user-friendly interface to influence the learner's motivation. This project focuses on developing a web application that integrates a virtual 3D gaming environment to model STEM-based activities which the activities are mapped to the Cambridge grade 7 curriculum. This project concludes that the game-based learning approach enhances the student's skills and critical thinking. Further, system can enhance to cover the whole syllabus and evaluate students based on attempts of an activity.

Keywords: - STEM Education, Virtual Learning Environments, Unity Gamification, Web- based game,