Abstract

Online multiplayer educational game is designed to support collaboration and assess different cognitive and social abilities among students. The educational games are developed to capture student responses or actions, both shared and unshared, within the game environment and extrinsic resources. This paper describes the implementation of new technology with better performance over existing HTML5 and Flash platform to develop such games, which have been developed as part of the ATC21S™ research study by the University of Melbourne. CONSTRUCT2 has been used in preference to other available technologies in creating the games to deliver a reliable experience for students across all browsers, platforms, and devices. The multiplayer component of the games was maintained with the use of the AJAX and Web Socket application which allowed the communication protocol between the client and server to be established. Embedded Canvas on CONSTRUCT2 is used to create all animations and game objects. The paper will describe the issue such as multiplayer game design with new technology and optimization of collaborative game design using dynamic platform structure called ‘CONSTRUCT2’ over HTML5 to facilitate the game flow and a positive user experience.
References

5. Crockett, L. 2014. HTML5 Canvas, User Illusions and Game Flow, Proceedings of the European Conference on Games Based Learning, 1, 68-76.

Index Terms

Computer Science Circuits and Systems

Keywords

CONSTRUCT2, HTML5, Canvas, Web socket, Game design, AJAX, Collaborative Problem Solving, Web Graphics Library.