ABSTRACT

A new genre of video games was developed after researchers integrated standard games with Brain Computer Interfacing (BCI) technologies and was termed as “neuro-games”. Neuro-games allowed players to control virtual objects with just their thought. However traditional neuro-games suffer from performance and entertainment issues which makes people hesitant to invest in them. This paper explains the drawbacks of these games and provides the description of the game “Mind-Zone” that aims to solve some of the problems of traditional neuro-games. Mind-Zone is the First-Person Shooter (FPS) that uses the player’s concentration levels to improve the player’s damage level and recover health. Artificial Intelligence and Navigation algorithms have been used to make the enemy more challenging to beat. Players can also compete to improve their score on the leader board. The paper also examines the game’s potential to improve brain functionalities of the players and whether it can be used to help people diagnosed with Attention-Deficit-Hyperactivity Disorder (ADHD).