Virtual Gaming



**B.S. (CS) Final year Project Report**

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**ABSTRACT**

Brain-computer interface (BCI) is a progressing area that has been adding this whole new dimension of capability to HCI. BCI has created a unique communication channel, mainly for the ones who're incapable to generate the required muscular movements in their daily life to control the common devices[1]. The patients who suffer from Thalassemia or dialysis undergo painful treatments with time duration of 2-3 hours which is quite long. The engagement of their hands due to the canola drips makes them even more mentally disturbed. They are unable to carry out any task utilizing hands and feet except from watching the screens which can be very exhausting after some time. They need some enjoyable entertainment especially during their treatment to divert their mind from the pain they endure. Furthermore, Studies shows that the ADHD (Attention deficit hyperactivity disorder) patients are also treated by the neuro-feedback, since they tend to lose the focus easily very often. Taking these issues in consideration, we proposed a solution called Virtual Gaming, which comprises of an EEG (electroencephalogram) headset. EEG safely measures brainwave signals and monitors the concentration and attention levels of users as they interact with the system in order to play the game[2][3]. The proposed solution aims to provide those patients an ease and means of entertainment during the treatment without any involvement of the hands. Also, the proposed system acts as a mind booster for normal people to increase attention, focus and concentration.

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