

Abstract

Children with special needs (ABK) is a child with special characteristics that differ from the majority of children without always showing to the inability of mental, emotional or physical. One of the children with special needs (ABK) is a quadriplegic, In definitive terms, quadriplegic is the inability of the body to carry out its functions due to the reduced ability of the body to carry out normal functions, which caused by injury, disease, or incomplete growth. So for the purposes of learning, it'll need special services.

Quadriplegic limitations affect their ability to explore or get familiar with surroundings. Lack of their exploration of the outside world and the environment makes them less likely to feel apathetic, shame, low self-esteem, sensitive and sometimes even selfish attitude appear towards the environment. To develop their mindset in getting to know to their surroundings, one method taken is to get them to be familiar with the environment of the zoo. The process is supported by oculus rift and Leap Motion devices, since both softwares can support the process of zoo digitalization.

To address the above problems, such idea has emerged to create an application with the title "**Zoological Park** : interactive virtual zoo by using contactless Leap Motion device for quadriplegic". The end result of this application is zoo simulation in virtual media presented using 3D objects in its visualization. The simulation model being created is supported by the interaction ability between users and applications via motion sensors to give the real impression on its use.

Keywords : Quadriplegic, Zoo, Oculus Rift, Leap motion, Virtual Reality