Human Body Parts Connecting Through Nerves In 3d Virtual Reality Space

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Abstract:- The paper presents a work in the body, concerning the development of an interactive virtual reality, the main aim of this project is students can learn the anatomical sciences with exceptional case. The human body consists of many different types of cells that together create tissues and other organ system. They ensure homeostasis and the viability of the human body.

Index Terms:- Human body, Virtual reality, Anatomical sciences, Cells, Tissues, Rendering, Rigging, Organs.

1. INTRODUCTION
This is an experiment base paper one of the foremost necessary areas that of the anatomy. The anatomy gather attention grabbing individual structures, likewise powerful culture that traverses most historical periods. Human body is that the study of anatomy for scientific functions, many scientists and doctors researched on anatomy for noncommittal reality. Every time they researched on human body gain the new and interesting facts about human body. Mainly Brain most researched body part yet there is no full detailed information about brain. Herophilus and his younger brother. Erasistratus were the first scientists to be researched on human body. Leonardo old master combined each scientific and inventive study created a series of drawings of interior of body through anatomy studies for created an ideal body. and a controller to control the computer-generated world.

2. INTRODUCTIONS TO VIRTUAL REALITY
Virtual Reality is a computer-generated artificial world in which we can feel like we are in that world. Mainly in this field to experience the virtual reality some components are required mainly head mounted display. At 1970-1980 virtual reality is only used for medical, military purposes and flight simulations to train them. In 1979 Eric Howlett developed optical system and created a stereoscopic image. By 1980 virtual reality became popular by Jaron Lanier who started vpl Research Company and developed a VR device like a data glove, eye phone and audio sphere.

3. REPRESENTATION OF HUMAN BODY IN 3D SPACE
Due to the new advancements in science a new study area called augmented reality and virtual reality took place which shows any object designed in 3Dimensional space means in all directions. This paper have a new field medical simulation and visualization and human body model in 3d space with immense graphics which means each and every part of human body is seen clearly when removes and placed using some rod. The users will experience the human body with an illusion of how human body nerves respond when any part of body is removed.
4. IMPLEMENTATIONS OF THE VR APPLICATION

Our project is a VR app which the user uses Head Mounted Display to experience Virtual Reality. User will find the human body in 3 dimensional space and his organs like heart, brain, lungs, kidney, nervous system and respiratory system is shown with nervous connection between every part clearly and what happens when hand is removed from his body. Virtual reality space can be accessed through high end computers to get better quality and a VR headset to get VR experience. By rotating head user can see human body in all directions and able to feel it.

5. CONNECTING BODY PARTS THROUGH NERVEROUS SYSTEM IN 3D UNITY

The first phase of implementation includes a survey on human body which represents how the nerves react when hand is removed from body and what are the effects caused by the nerves in other body parts. In the second phase assets are created with the help of 3D Design and Development software. Here the design 3D models of human organs like Brain, heart, lungs, kidney, respiratory system, eyes, nervous system, skeleton.

Here in this paper, Maya software is used for some assets or 3D models to create them using rigging tool for controlling nerves. 3D model of Nerves system connection between lungs and brain shows the blood pump from heart to brain. To work brain effectively heart needs to send oxygen rich content blood to brain, if it does not happen body will suffer fuzzy thinking. The Maya software is used for some assets or 3D models to create them and rigging tool for controlling nerves.

In above(fig.6) assembling of all the body part models into single transparent human body to watch the process going in the human body when the hand is removes from the body.

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If the hand is severed apart from the body nerves present in that region which that are cut will grow 1mm every day it
takes nearly 4 weeks to recover for the nerve and connect again. If a hand is connected again with a rod depending on the nerves that area has lost time will vary for each and every recovery.

Fig.8. Hand is connected to body with small rod.

From the (fig.8) we can see that the hand is connected to body with the help of rod. This happens when the nerves are alive if they are dead it is hard to connect hand to body then we require artificial hand replaced with in the body. The Third phase is to make a VR app which consists of VR video of connection of nerves between every part of our body which is under progress.

FUTURE WORK
Future work includes more interactive scenarios, which include connection between each and every part of our body and user can come close to the body to see it clearly.

REFERENCES