SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

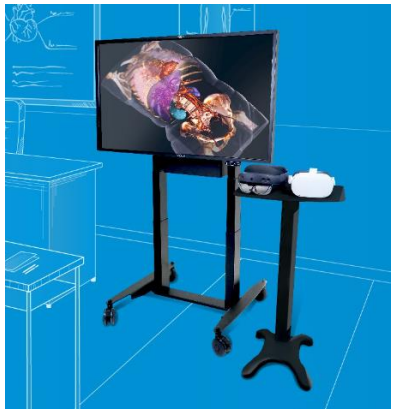
COIMBATORE-35.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Topic : VEGA TOOLS IN VR & DE

VEGA

Vega is an advanced anatomy visualisation and study system, which can be used for education and preoperative planning. Vega creates 3D models of anatomical structures by processing medical images, and allows highlighting and characterisation of tissues, organs, and organ systems. Automatic fusion of different types of medical images, such as CT, MRI, and ultrasound images, adds more details to the clinical picture. Vega also provides an extraordinary immersive experience, which allows exploration of anatomical volumes in virtual and mixed reality using VR/MR headsets. Vega tools are a set of open-source software tools for data visualization and exploration in virtual and augmented reality environments. They allow users to interact with complex datasets in a more immersive and intuitive way, using hand gestures and other natural movements.



APPLICATIONS

DIAGNOSTICS AND PLANNING

- Vega is a versatile tool which helps doctors diagnose diseases and plan surgical and interventional procedures. They can outline lesions and structures at risk, combine images, and define trajectories to the target points.

EDUCATION AND TRAINING

- Vega changes traditional medical education and makes it more engaging: students can observe the anatomy of the human body and its pathological alterations, examine treatment options, compare different imaging modalities, and build their skills in simulated and hybrid environments.

VIRTUAL REALITY AND MIXED REALITY

- Doctors and students can hone their skills also with virtual reality and mixed reality when using Vega. If they don VR headsets, they become fully immersed in a digital environment, where they can focus completely on the object of interest and examine every aspect of it. If they don MR headsets, they experience the blending of physical and digital worlds, and have the ability to manipulate 3D reconstructions and move them around as if they were real objects. The exploration of the anatomy in three dimensions becomes therefore even more effective, for example, when it comes to highlighting tissues to visualise a tumour, enlarging and rotating organs to see them from different angles, and practising on medical images from patients to operate with higher accuracy.

THANK YOU