REQUIREMENTS OF VR

① Virtual Databases

Before any image can be displayed, a 3D database is required describing the VE.

Geometric description of objects.

② Real-time image generation

The time taken to render an image has always been a major issue in the world of CG.

There are 2 main reasons for such long rendering times: due to large databases, & the level of realism they want.

③ Database Interaction

Interaction wl the database requires attention.

Eg → collision detection

③ Physical Simulation

Developing the issue of interaction further.

Simulating dynamics.

④ Non-immersive VR systems

Leaves the user visually aware of the real world but able to observe the virtual world through some display device.

⑤ Hybrid VR systems

It permits the user to view the real world wl virtual images superimp-osed over this view (also called augmented reality).

CAVE

→ It enables 1 or more people to experie-nce the sensation of being completely surrounded by high-res, 3D video & audio.

→ It is a room formed from 3 rear-projection screens for walls & a down-projection screen for the floor.

→ High-res video projectors display computer-generated images.

→ CAVEs have proved to be very useful in exploring visualizations of precomputed datasets.

→ Typical applications – Scientific visualization