SNS COLLEGE OF TECHNOLOGY

Coimbatore-36.
An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A+' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

COURSE NAME : 19CSE402–VITUAL REALITY AND DIGITAL ENTERTAINMENT
IV YEAR/VII SEMESTER

UNIT – I INTRODUCTION TO VIRTUAL REALITY

Mr. Selvakumar N
Assistant Professor
Department of Computer Science and Engineering

Virtual

Reality

1

Contents

- ➤ What is Virtual Reality?
- ➤ History
- ➤ Types of Virtual Reality
- ➤ Hardware used in Virtual Reality
- ➤ Applications of Virtual Reality
- ➤ Advantages and Disadvantages

What is Virtual Reality?

- Virtual Reality means feeling the imaginary(virtual) world, rather than the real one. The imaginary world is a simulation running in a computer.

- Virtual reality is the term used for computer generated 3D environments that allow the user to enter and interact with alternate realities.

- The definition of 'virtual' is near and 'reality' is what we experience as human beings.

3

History

- More than one person has been involved in the development of this technological system.

- In 1950's visionary cinematography Morton Heilig built a single user console called Sensorama. This enabled the user watch television in 3 dimensional ways.

Types of Virtual Reality

- Immersive Virtual Reality
- Non-Immersive Virtual Reality
- Window on world Virtual Reality

Immersive Virtual Reality

Immersion into virtual reality is a perception of being physically present in a non-physical world.

Elements of virtual environments that increase the immersiveness of the experience:

1. Continuity of surroundings
2. Conformance to human vision
3. Freedom of movement
4. Physical interaction
5. Physical feedback

Non-Immersive Virtual Reality

▶ Large display, but doesn't surround the user.

Window on world Virtual Reality

▶ Desktop- based Virtual Reality involves displaying a
3-dimensional virtual on regular desktop display without use of
any specialized movement tracking environment.

Hardware Devices

- ▶ Input Devices
- ▶ Output Devices
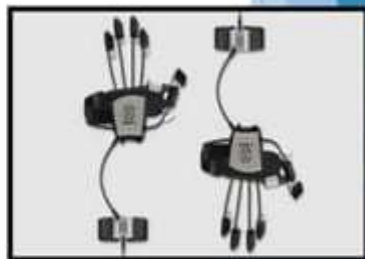
Input Devices

Prio VR

Razer Hydra

Leap Motion

Stem

Magic wand

Control VR

Output Devices

Headset

3D Audio

Sensing Gloves

Helsinki

11

Applications of Virtual Reality

1. Virtual Reality in the Military

2. Virtual Reality in Healthcare

3.Virtual Reality and Education

4.Virtual Reality and Scientific Visualization

5.Virtual Reality in Entertainment

Advantages and Disadvantages

Advantages

- Virtual reality creates a realistic world.
- It enables user to explore places.
- Through Virtual Reality user can experiment with an artificial environment.
- Virtual Reality make the education more easily and comfort.

Disadvantages

- The equipments used in virtual reality are very expensive.
- It consists of complex technology.
- In virtual reality environment we cant move by our own like in the real world.

17

Thank you