



# **SNS COLLEGE OF ENGINEERING**



**Kurumbapalayam(Po), Coimbatore – 641 107**

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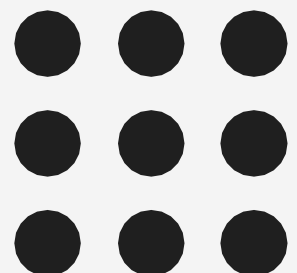
## **Department of Information Technology**

**Course Name – COMPUTER GRAPHICS**

**III Year / V Semester**

**Unit 1 – INTRODUCTION TO COMPUTER GRAPHICS**

**Topic :Graphics Input Primitives and Devices**



# DISPLAY DEVICES

- An **input device** is any peripheral used to provide data and control signals to an information processing system.





# INPUT DEVICES



- **Mouse**
- **Keyboard**
- **Trackball**
- **Space ball**
- **Joystick**
- **Digitizer Dials**
- **Button boxes**

# Keyboard

- IT is a device primarily used to enter TEXT STRINGS.

## APLLICATIONS:

- Used to enter Text Strings
- Short cuts to many Functions

## In Graphics:

- Used to provide screen coordinates
- Menu selection
- Gaming controls
- And FOR entering many graphics function



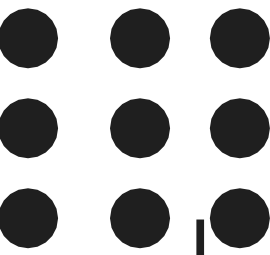


# MOUSE



- **Handheld BOX used to position the screen cursor**
- **Wheels or Rollers(nowadays Laser lights) on the bottom are used to record the position of the screen**
- **Generally there are two or three buttons, used for operations like recording of the cursor positions or invoking of a function**

# TRACKBALL



- It is a 2D positioning device.
- It consists a ball held by a socket containing sensors to detect the rotation of ball about TWO axis
- User rolls the ball to move the cursor
- They are often mounted on devices such as keyboards, Zmouse





# SPACEBALLS

- A **graphical input device that is based on a fixed spherical ball.**
- It inputs six different values defined by the orientation of the ball and the pressure together with the direction that is applied to it.
- It allows complex objects to be positioned and rotated in three-dimensional space using the single input device.



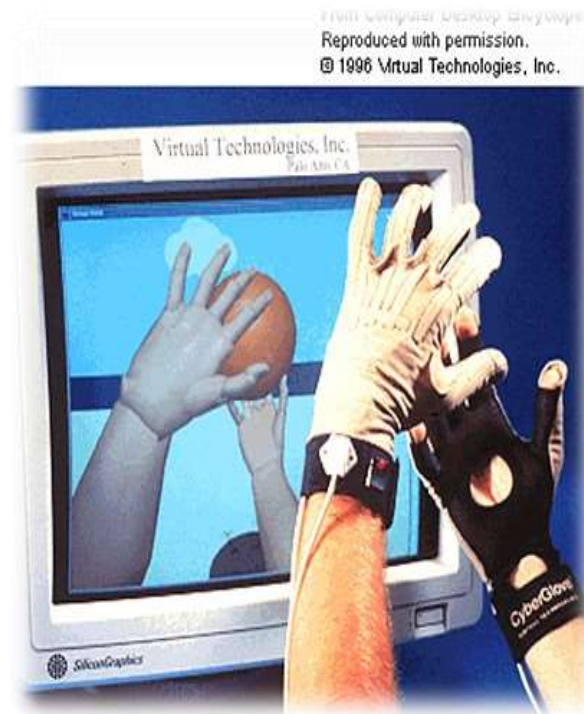
# JOYSTICK

- Consists of a stick pivoted on a base
- Used to steer the screen cursor
- It also has one or two PUSH buttons as input switches to perform certain
- Applications:
  - In Gaming consoles
  - 3D animation
  - Used to drive machines like cranes, mining trucks, hydraulics etc.
  - Used as assistive technology pointing device such as in Electronic wheelchairs





# DATA Glove



- Used to grasp a “virtual” object
- Uses sensors to detect the Hand and finger motion
- Applications:
  - 3D animation movies
  - Visual effects

# DIGITIZERS



- Common device for drawing, painting, or interactively selecting coordinate positions on an object.
- Typically, it is used to scan an Object and to input discrete coordinate positions.
- A **graphics tablet** is a computer input device that allows one to handdraw images and graphics, similar to the way one draws images with a pencil and paper. These tablets may also be used to capture data or handwritten signatures

# IMAGE SCANNERS



- In computing, a **scanner** is a device that optically scans images, printed text, handwriting, or an object, and converts it to a digital image.
- When the scanning is performed, the gradation of gray scale or colors are recorded and stored in an array
- Once scanned, any kind of transformations can be applied to the object image

# LIGHT PENS



- A **light pen** is a computer input device in the form of a lightsensitive wand used in conjunction with a computer's CRT TV set or monitor
- Allows the users to point to displayed objects and to draw objects on screen
- The position points are highly accurate and sensitive
- It generates electrical pulse which records the position of the electron beam





**THANK YOU**