Introduction To Computer Graphics

Computer graphics is now a well-known technology. lt is one of the most important application of technology. Computer graphics allows communication through pictures, charts and diagrams to the people. Today's world is of information technology. But as the volume of information increases, problems arise. As time is money, in the 21st century a person doesn't have time to read huge number of pages. So this problem is solved by computer graphics. A huge database can be represented by pictures like bar chart, pie chart etc. A More precise definition computer graphics is “the use of a computer to define, store, manipulate, interrogate and present pictorial output. The computer prepares and presents stored information to an observer in the form of pictures. The observer has no direct control over the picture being presented. Dynamic interactive computer graphics also uses the computer to prepare and present pictorial material, however, the observer can influence the picture as it is being presented i.e. the observer interacts with the picture in real time. The old adage A picture is worth a thousand words" is certainly true. A **major use of computer graphics** is in design processes, particularly for engineering and architectural systems, but almost all products are now computer designed. Computer Aided Design (CAD) is a segment in computer graphics, which helps in creation, modification or optimization of a design of product such as buildings, automobiles, aircraft, watercraft, spacecraft, computers etc.

Why Computer Graphics?

Suppose, we have to show the performance of some sugar factory related with profit since from 1965. We would require a large number of pages to store this huge information related with ' financial, numerical and statistical information. Now for common people it requires a lot of time to understand it. There is an alternative to show or represent this information with the help of graphical tools such as bar chart or pie diagram i.e. we can express our data in pictorial form. Hence any person can understand it at a glance. Thus computer graphics is very useful in business to represent their data, market share, and profit margins. There are many software packages and graphics languages. Many display devices are developed. The problem for all such is that the same program may not work on another a installation. ln the late 1970s the CORE system was developed. This system provided a) ns standardized set of commands to control the construction and display of graphic images. The CORE system defined basic graphics primitives from which more complex or special purpose l graphics routines could be built. The CORE system contained mechanisms for describing and displaying both two dimensional and three-dimensional structures.

A second standard called the graphics kernel system was developed. The GK was heavily influenced by core. The GKS standard did contain primitives for imaging areas and colors it didn't contain the constructs for three-dimensional objects

Another graphics standard is the programmer's hierarchical interactive graphics standard (PHIGS). It takes input and output functions and viewing model from CORE and GKS; it is a programmer's toolbox, intended for programming graphics applications.

Two other graphics standards are the computer graphics metafile (CGM) and computer graphics interface (CGI).