

INTRODUCTION TO COMPUTER GRAPHICS

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Computer Graphics

- The computer is an information processing machine. It is a tool for storing, manipulating and correlating data.
- There are many ways to communicate the processed information to the user.
- The computer graphics is one of the most effective and commonly used ways to communicate the processed information to the user.
- It displays the information in the form of graphics objects such as pictures, charts, graphs and diagrams instead of simple text.
- Thus we can say that computer graphics makes it possible to express data in pictorial form.
- The picture or graphics object may be an engineering drawing, business graphs, architectural structures, a single frame from an animated movie or a machine parts illustrated for a service manual.

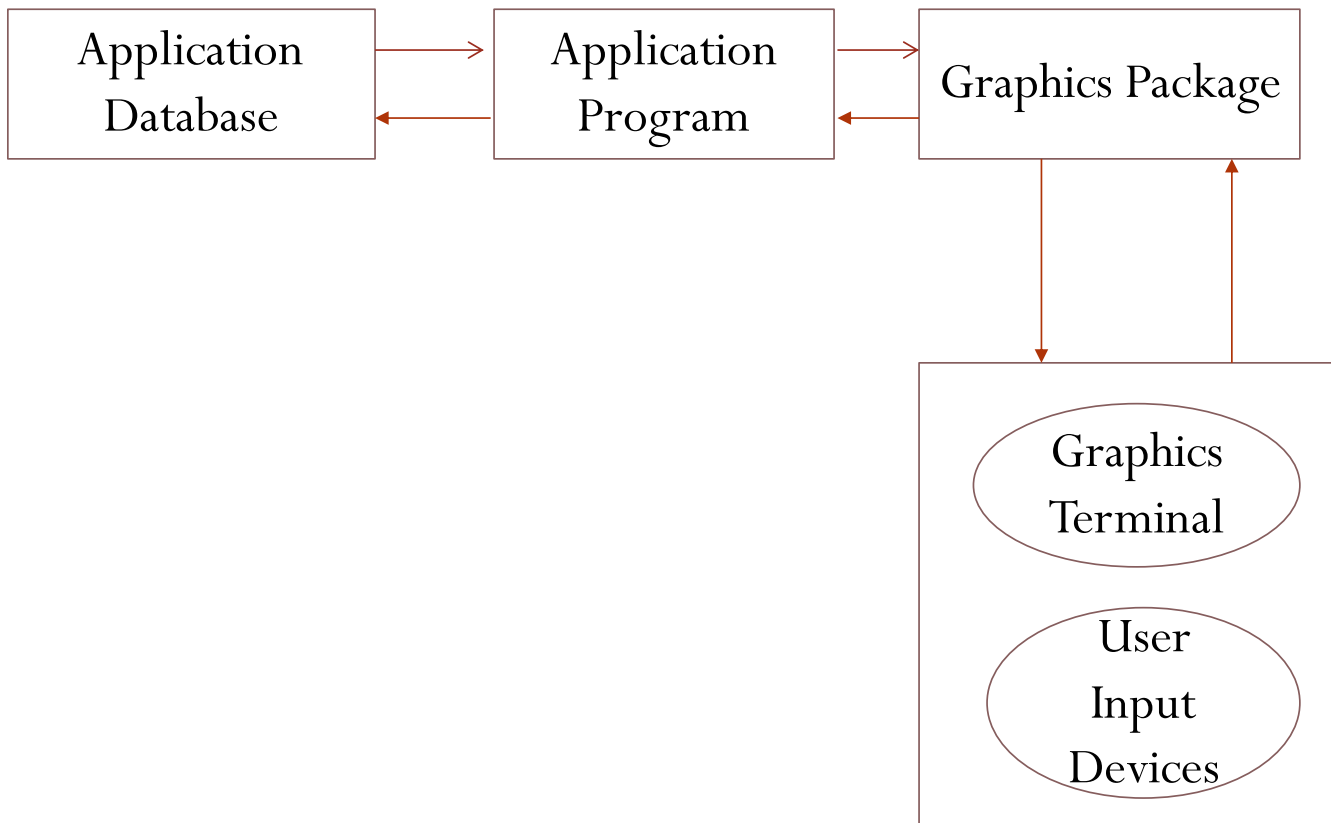
Features of Graphics Software

- Simplicity.
- Consistency.
- Completeness.
- Performance.
- Economy.

Modules of Graphics Software

It is divided into three modules

- 1- The Graphics Package
- 2- The application Program
- 3- The Application Database



Model of Graphics Software Configuration

Advantages of Computer Graphics.

- A high quality graphics displays of personal computer provide one of the most natural means of communicating with a computer.
- It has an ability to show moving pictures, and thus it is possible to produce animations with computer graphics.
- With computer graphics use can also control the animation by adjusting the speed, the portion of the total scene in view, the geometric relationship of the objects in the scene to one another, the amount of detail shown and so on.
- The computer graphics also provides facility called update dynamics.
- With update dynamics it is possible to change the shape, color or other properties of the objects being viewed.

Applications of Computer Graphics

- **User interfaces**
- **Plotting of graphics and chart**
- **Computer-aided drafting and design**
- **Simulation and Animation**
- **Art and Commerce**
- **Process Control**
- **Cartography**
- **Image processing**
- **Education and training**

Classification of computer graphic.

- In the last section we have seen various uses of computer graphics. These uses can be classified as shown in the fig. below. As shown in fig. below, the use of computer graphics can be classified according to dimensionality of the object to be drawn: 2D or 3D. It can also be classified according to kind of picture: symbolic or Realistic.
- Many computer graphics applications are classified by the type of interaction. The type of interaction determines the user's degree of control over the object and its image. Incontrollable interaction: user can change the attributes of the images. Role of the picture gives another classification.

- gives the another classification. Computer graphics is either used for representation or it can be an end product such as drawings. Pictorial representation gives the final classification of used computer graphics. It classifies the use of computer graphics to represent pictures such as line drawing, black and white, color and so on.