



# Computer Graphics

Introduction:

Definition: Computer Graphics is generally regarded as Computer Science that deals with the theory & technology for computerized image synthesis.

In other words we can say, the term **Computer graphics** includes almost everything on computers that is not text or sound.




Today almost every computer can do some graphics, and people have even come to expect to control their computer through icons and pictures rather than just by typing.

It has grown to include the creation, storage and manipulation of models and images of objects.



Until the early 1980's, CG was a small, specialized field b'coz the hardware was expensive and there are very few graphics based application programs..

Then PC with built in raster graphic display such as Xerox star, apple Macintosh & IBM PC popularized the use of bitmap graphics for user and computer interaction.



A Bitmap is a 1's or 0's representation of the rectangular array of points on the screen. Once bitmap graphics become affordable, an explosion of easy to use & inexpensive graphics based applications are followed which allows no. of user to control simple low cost application programs such as spreadsheets, word processors & drawing programs.



# Application of Computer Graphics

- Computer Aided Design
- Presentation Graphics
- Computer Art
- Entertainment
- Education And Training
- Visualization
- Image Processing



# Types of Graphics

- Passive Graphics

In passive graphics, operation transfers automatically & without operator intervention. The observer has no control over the image or we can say there is no communication between the computer and user. Familiar e.g of this form is titles shown on T.V or Video games.

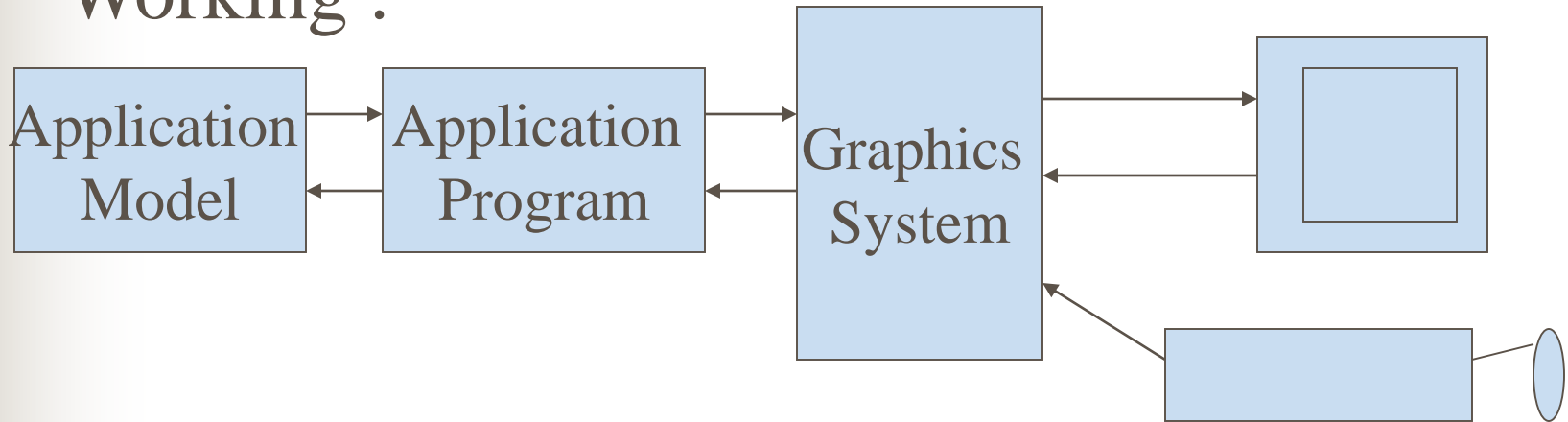


- Interactive Graphics

Interactive CG involves two way communication b/w computer and user. The user maintain the conversation with the computer.

E.g: The Engineer Designing an integrated circuit can see on the screen and has the ability to interact with the computer, the Engg. can quickly correct a design error.

Working :



Application Model: Represents data & objects.

Application Program: it creates, stores info, & retrieve from AM.

Graphics System: have a series of graphics output commands