

Unit 7

Visual Communication



Learning Objectives

After learning the lesson, students will be able to:

- ❖ differentiate a file from a folder
- ❖ know how to create a file and a folder
- ❖ use the system application like 'paint' to create images.
- ❖ use the system application like 'photo story' to create video from images.



Introduction

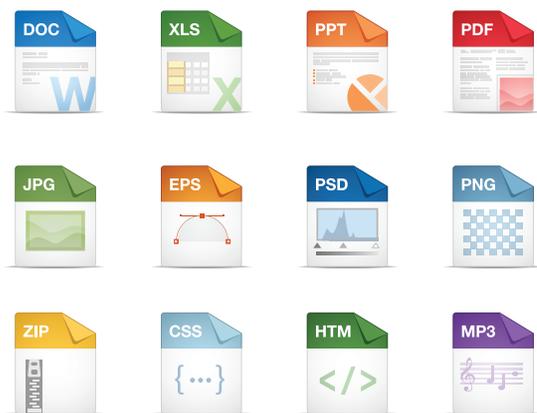
In general, whenever we think of computers, the things that come to our mind are computer screen, keyboard, mouse and CPU. We have learnt about computer and the parts of a computer as introductory part in standard VI. Apart from them, software and hardware also play vital role in the working of computer. Now, we shall learn how to operate the computer.

7.1 File and Folder

The reason we prefer computer is its speed and the ability to store data. How can we save data and information in computer? We can save them in folders which accommodate multiple files or a single file. Let us understand the terminologies like file and folder before moving further.

7.1.1 File

The output we get from any application is commonly referred as 'file'. Therefore, the application for the specific purposes determines the nature of the file.



Files

7.1.2 Folder

A folder is a storage space that contains multiple files. We can create files as per the user's need. For clear understanding, we can

take the example of a bookshelf in a library. The individual book can be considered as a 'file' and the whole set of books in a shelf can be considered as folders. When we right click on the mouse, the pop-up menu appears on the screen with multiple options. Select 'New' option and a secondary menu comes up with another set of options. Select Folder option in the menu. You can now save your file(s) in the newly created folder.

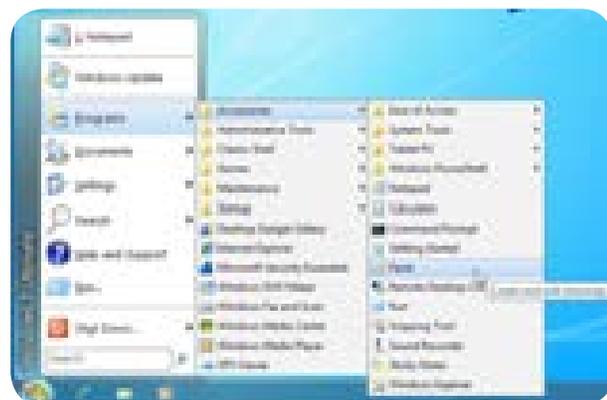


Folder

7.2 Creating Files

More people are using Windows and LINUX operating systems in their computers. We can do many activities like collecting notes, drawing / painting, creating animations / spreadsheets / word docs / PPTs etc.

We use 'Guide Board' to go to unknown places. When we 'On' the computer and click the 'Start' button at the left corner of the computer, it shows the list of all programs in the computer. Now select the required program and create the required files.





If the computer is operating on the Windows OS, we can collect our notes in 'Notepad' application and draw pictures in 'Paint' application. As per its name we can type notes in 'Notepad' and save the created files in a folder. Likewise in the 'Paint' app we can draw and edit pictures. Let us see how we can create image gallery, animations and graphics easily.

7.3 Visual Communication Devices

Pictures and audio-visuals gives us more understanding than teaching and writing on the black board. Is it right?



Instead of saying a story like 'once upon a time there was a king' we can understand the concept easily by seeing the video. Also it registers firmly in the minds of the students. The device which helps in explaining the concepts easily through pictures is known as 'Visual Communication Device'. For example photos, audio – visuals, drawings, animations all these can be created easily with the help of computer. Cinema is a good example for 'Visual Communication Device'.

7.3.1 Photo Gallery and Photostory

You all must have admired the photos in the albums. To beautify photos and edit the photos, photographers are using a



software known as 'Photoshop'. Can we make photo gallery only with the help of photos or is there anything more to do with a bunch of photos? We can make photostory. Yes, with the photos we can make a story.

In our primary classes we have studied photo stories like this. Children learn concepts easily through photo stories than by reading words. This type of photo stories can be converted easily into videos with the help of the software 'Microsoft Photostory'.



Microsoft Photostory

To make videos with the help of this software we have to order the photos first, then we have to select a music and keep it in a file.

Step 1

Open the application of 'Microsoft Photostory'. In that select 'Begin a new story' and click on 'Next'.





Step 2

Click 'Import Picture' in the next screen. Now, the files in our computer will appear. Select 'Saved pictures' for video. There is a provision for editing the picture. If required, we can edit the image and click on 'Next'.

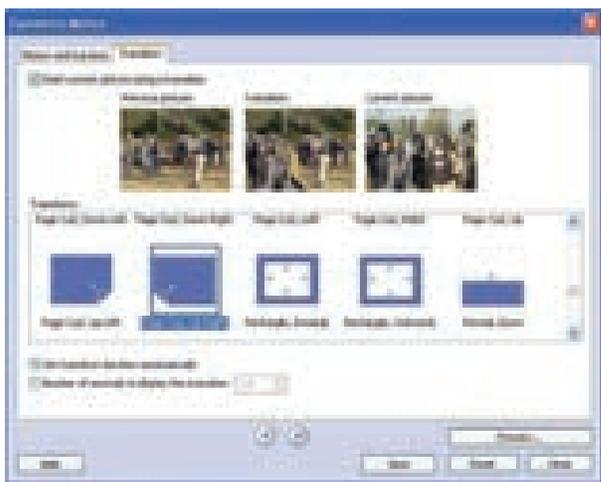


Step 3

Now we can input small text which is apt to the pictures. Then click on 'Next' and give animation to the videos. We can give audio effect also to these images. After finishing this click on 'Next'.

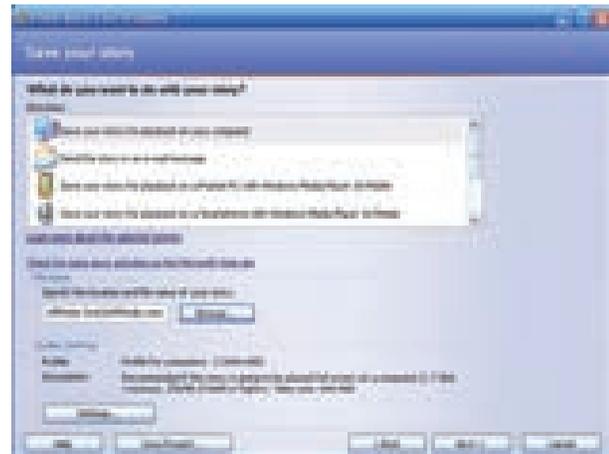
Step 4

To provide background music, we can select a music file through 'Select Music' and click on 'Next'.



Step 5

Next select a title for the story and select the place where it has to be saved in your computer. Then, through 'Settings', change the format of the video.



Step 6

Now our video is ready to view. Click 'View your story'. You can see your video now.



7.3.2 Graphics and Animation

a. Raster Graphics

The picture or image which is created by Raster Graphics is entered 'as file and data'. Pictures are of two types one is Vector another one is Raster.



Raster Graphics are created on the basis of 'Pixels'. The photos taken by camera and the



photos scanned by a scanner are of the Raster type. When we enlarge this type of photos we could see the pictures as rectangular layers or grids.

Types of Raster Files

- .png (Portable Network Graphics)
- .jpg or .jpeg (Joint Photographics Experts Group)
- .gif (Graphics interchange Format)
- .tiff (Tagged Image File Format)
- .psd (Photoshop Document)

The Software which edit the Raster Graphics is Adobe Photoshop.

b. Vector Graphics

As the Vector Pictures are created on the basis of Mathematics, even when we enlarge the picture its accuracy will not change.

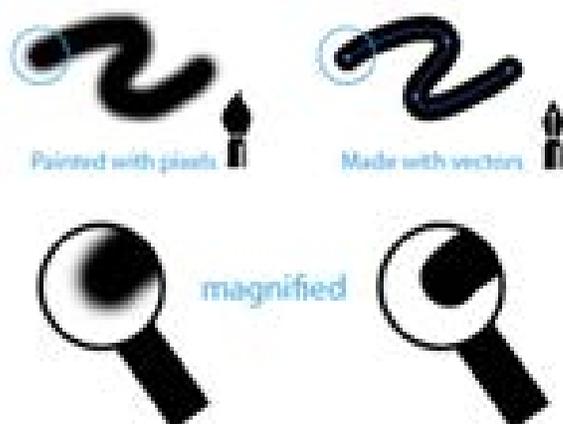
Types of Vector Graphics Files

- .eps (Encapsulated Post Script)
- .ai (Adobe Illustrator Artwork)
- .pdf (Portable Document Format)
- .svg (Scalable Vector Graphics)
- .sketch

The softwares which edit the Vector Graphic Images are:

- Adobe Illustrator
- Sketch
- Inkscape

Creating vector image through Inkscape software



Inkscape software is used to convert image drawn on paper into vector image.

Step 1

First we have to scan the picture we have drawn in the computer.



Step 2

Then we have to open this picture in the 'Inkscape' software. Select the entire picture.



Step 3

Select 'Path' option. From the submenu, select 'Trace Bitmap' option.



Step 4

Do corrections in the small screen which appears. Now upload this edited image and click on OK.

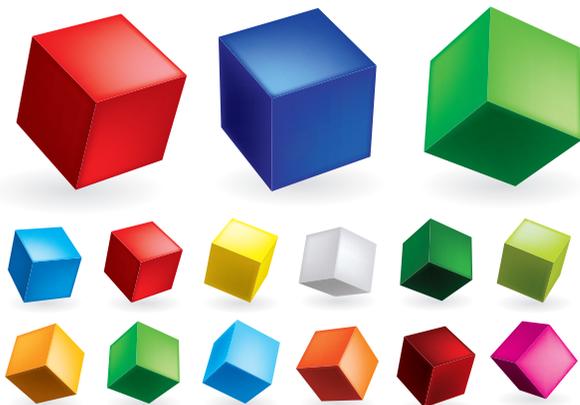


Step 5

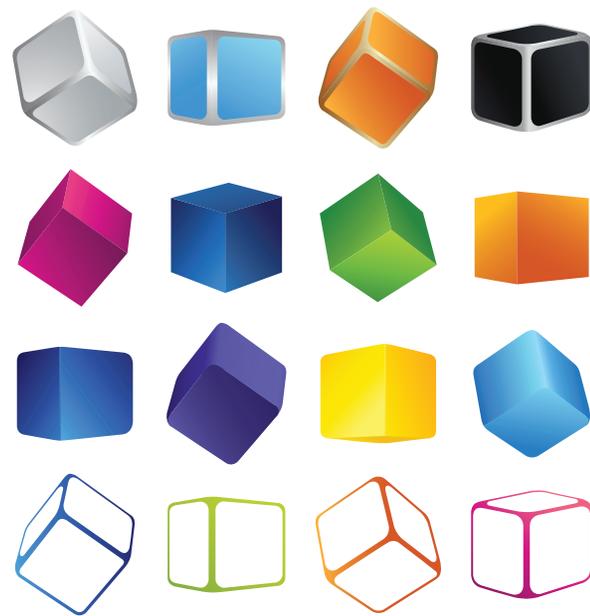
Now close the screen of TRACE BITMAP. Now click the picture that appears on the present screen and drag it. You will get the vector graphics of the drawn picture. SAVE it by clicking the 'save button' and save it in your choice of file format.



7.4 Dimensional and 3 Dimensional Images



As soon as we see the above picture we know the difference between the two. The first is TWO DIMENSIONAL (2D) another one is THREE DIMENSIONAL (3D). The two dimensional (2D) images have only the two dimensions - length and height. But three dimensional images (3D) have length, height and width. 3D images appear in front of our eyes like it happens in the real world.



Three dimensional videos will bring the scenes alive before our eyes. Already there are three dimensional films. Now three dimensional games have also got released.

Now there is a new technology - VIRTUAL REALITY in 3D. VIRTUAL REALITY is a technology which shows the computer image as real image. When we see games through this technology we can feel / perceive the setting of the game as real. Now this technology has been introduced in Smart Phones too.



Evaluation



I. Choose the correct answer.

- Which of the following is an example for animation?
 - Sound communication
 - Visual communication
 - Vector communication
 - Raster communication
- Who uses the photoshop software more ?
 - Teacher
 - Doctor
 - Painter
 - Photographer
- Which option is used in the Microsoft Photostory to upload the photos?
 - Begin a Story
 - Import Pictures
 - Settings
 - View your Story
- Which technology shows the computer-drawn pictures as real picture?
 - Inkscape
 - Photo Story
 - Virtual Reality
 - Adobe Illustrator

- Which technology uses pixels to create pictures?
 - Vector
 - Raster
 - Both
 - None
- Which software is used to create symbols?
 - Photoshop
 - Illustrator
 - Vector Graphics
 - Photostory

II. Match the following.

Animations	3D
Raster	Visual Communication
Vector	Pixles
Virtual Reality	Microsoft Photostory
Video Story	Illustrator

III. Answer briefly.

- What is Raster Graphics?
- Write a note on 2D and 3D pictures.
- Differentiate between Raster and Vector images.
- With the help of Microsoft Photostory how will you create a video?

A-Z
GLOSSARY

Atoms	- அணுக்கள்
Anion	- எதிர்மின் அயனி
Asexual Reproduction	- பாலிலா இனப்பெருக்கம்
Androecium	- மகரந்தத்தாள் வட்டம்
Anemia	- இரத்த சோகை
Antiseptic	- கிருமிநாசினி / நச்சுத்தடை பொருள்
Acceleration	- முடுக்கம்
Aphelion	- சூரியனுக்கு தொலைவில் இருக்கும் பூமியின் நிலை (portion)
Astronomy	- வானியல் பொருட்களைப் பற்றி படிக்கும் இயற்பியல் பிரிவு
Budding	- மொட்டு விடுதல்
Burn	- தீக்காயம்
Bruise	- கன்றிப்போன காயம்
Compound	- இரண்டு அல்லது அதற்கு மேலான, வேறுபட்ட மூலக்கூறுகளிலான சேர்மம்
Chemical formula	- அணுக்கள் மற்றும் மூலக்கூறுகளைக் குறிக்கக்கூடிய குறியீடு
Cation	- நேர்மின் அயனி
Coloumb	- மின்னூட்டத்தின் அலகு
Calyx	- புல்லி வட்டம்
Corolla	- அல்லி வட்டம்
Communicable disease	- தொற்று நோய்கள்
Cross Pollination	- அயல் மகரந்தச் சேர்க்கை
Centre of gravity	- ஈர்ப்பு மையம்
Celestial bodies	- வானியல் பொருள்கள்
Ductile	- கம்பியாக மாற்றக்கூடிய தன்மைவாய்ந்த உலோகம்
Density	- ஓரலகு பருமனில் அடங்கியுள்ள மொத்த பொருளின் நிறை
Distance	- தொலைவு
Displacement	- இடப்பெயர்ச்சி
Derived quantities	- அடிப்படை அளவுகளிலிருந்து தருவிக்கப்பட்ட அளவுகள்
Element	- ஒரே வகை அணுக்களினால் ஆன தனிமம்
Equilibrium	- சமநிலை
Free radical	- முடிவுறா மூலக்கூறு
Fragmentation	- துண்டாதல்
Fertilization	- கருவுறுதல்
First aid	- முதலுதவி



Gynoecium	- தூலக வட்டம்
Gingivitis	- பல்ஈறு வீக்கம்
Ion	- அயனி
Inter - atomic distance	- இரு அணுக்களுக்கு இடையே உள்ள தொலைவு
Matter	- அணு மற்றும் மூலக்கூறுகளினால் ஆன பருப்பொருள்
Malleable	- தகடாக மாற்றக்கூடிய தன்மைவாய்ந்த உலோகம்
Mass	- பருப்பொருள்களில் அடங்கியுள்ள பொருளின் அளவு
Melting	- திடப்பொருள் திரவமாக மாறக்கூடிய நிகழ்வு
Matter	- பருப்பொருள்
Molecules	- மூலக்கூறுகள்
Meditation	- தியானம்
Measuring container	- அளவுகள் குறிக்கப்பட்ட கொள்கலன்
Non - unifor acceleration	- சீரற்ற முடுக்கம்
Negative acceleration	- எதிர் முடுக்கம்
Neptune	- சூரிய குடும்பத்தில் உள்ள ஒரு கோளின் பெயர்
Orbit	- ஆற்றல் மட்டம்
Particles	- சிறிய துகள்கள்
Pollination	- மகரந்தச் சேர்க்கை
Plaque	- பல் சொத்தை / பல்தட்டை
Pustules	- கொப்பளங்கள்
Positive acceleration	- நேர் முடுக்கம்
Perihelion	- சூரியனுக்கு அருகில் இருக்கும் பூமியின் நிலை (position)
Physical quantity	- ஒரு பொருளின் இயற்பியல் பண்புகளின் அளவுகள்
Sexual reproduction	- பாலினப் பெருக்கம்
Subatomic particles	- அணுவகத் துகள்கள்
Self Pollination	- தன் மகரந்தச் சேர்க்கை
Speed	- வேகம்
System of international unit (SI)	- பன்னாட்டு அலகு முறை
Tuberculosis	- காச நோய்
Uniform acceleration	- சீரான முடுக்கம்
Valency	- இணைதிறன்
Vegetative propagation	- உடலவழி இனப்பெருக்கம்
Velocity	- திசைவேகம்
Vacuum	- வெற்றிடம் (காற்று இல்லாத இடம்)

