Unit 4.2: Bitmap and Vector Graphics

Digital still images are generated by the computer in two ways: as bitmaps (or paint graphics) and as vector-drawn. Bitmaps may also be called raster images.

Likewise, bitmap editors are sometimes called "painting" programs. And vector editors are sometimes called "drawing" programs.

Bitmaps are used for photorealistic images and for complex drawings requiring fine detail.

Both types of images are stored in various file formats-for example, GIF, JPEG, and PNG.

Vector Graphic is used for geometrical such as point, line or curves.

Vector graphic can be extended to any size without losing detail. It is good for reproducing crisp outlines such as logo or illustration.

Vector image is more practical for typesetting or graphic design.

Images of vector graphic cannot provide the realism of a photograph due to the nature of line drawn images.

Most drawing programs can export a vector drawing as a bitmap.

Bitmap graphics are the most common graphic format in use on the computer. This graphics are composed of minutely small rectangular grids or pixels.
Each pixel contains specific colour information.

Each pixel in an image has its own colour properties. However, the bitmap graphics you cannot scale a bitmap image to a higher resolution.

Why? Because once you enlarge them too much, the images will become blocky.

Actually you can have your own image graphic. You may scan a photo and save it into your computer. You can also use your screen capture program (Print Screen).

You can also use software such as Photoshop or Painter.

Now you may try to draw a red filled circle using bitmap drawing tool such as Paint. Then I will use Flash to draw the other one.

Then I want you to magnify a part of the edge. What you will see is that, when magnified, the saw-tooth pattern is clearly visible in bitmap image, as opposed to vector image.

This experiment also shows that when you zooming in on a vector object, the shape can still be accurately shown.