

Images | Part A

So what is computer graphics? Graphics are getting better every year but how did we get started and what are computer images made of?

This is a game played on an old Soviet computer which was never meant for games or graphics. This is what your current games could have looked like without graphics.

We will tell you that there are different types of graphics suitable for different uses, and how advances in technology and manufacturing help bring you better graphics every year.

Graphics are made up of coloured dots called pixels; a pixel stands for picture element. Now you can't see these pixels because in modern cameras they're very very small but I'm going to zoom in until we see the pixels, can you see them now? Now the difference between the lenses is not that big but you can see the newer phone has more dot elements and they are packed more tightly together.

You might have seen ASCII art, it is not realistic at all it is black and white and yet it still works. Each pixel is actually a character from the ASCII table. We could call this 1 bit colour as only 1 bit on and off is enough to describe every pixel.

In real photographic images the pixels are much smaller and each pixel is displayed using a combination of some red, some green and some blue. Modern computers encode pixel colour by allocating normally 8 bits to each of the red, green and blue components. Why 8 bits? Well it turns out that is the number of different shades that the eye can distinguish, if we use less than 8 bits you cannot get a smooth gradient.