

## Notes on Paint Shop Pro and Photoshop Image Manipulation

Digital photography is the same as traditional photography except that instead of film it uses an array of photocells called pixels.

Each pixel is in three parts, each part being only sensitive to one of the primary colours RED, BLUE or GREEN.

Each photo cell part gives out a voltage depending on the brightness of the colour falling on it. This is converted to an 8 bit word, giving 256 steps.

So each pixel is represented by a 24 bit word (8 bits for each colour).

A 10 megapixel camera for example would therefore result in a 240 megabit file (more in fact if all the additional synchronizing bits are included) This would require a huge storage capacity in the camera and would be impractical.

Consequently some form of data compression is used to make the files manageable. Reducing files to the JPG format is the most common.

All digital software like Paint Shop Pro and Photoshop does is change the 24 bit words.



### A Simple Exercise



**Take a poor quality digital photograph ( a Gaudi building in Barcelona)      What is wrong with it?**

1. It has perspective distortion – photo taken from ground level looking up.
2. The sky is dreary – a grey November day!
3. The building is underexposed (probably because the photo was taken in automatic mode and it has taken an average reading including the sky).

#### Using Paint Shop Pro.

- Use perspective correction tool in left hand toolbar. Shape to building. You will see perspective is now correct but the aspect ratio is distorted. Correct this by image > resize ( don't forget to un-tick the "maintain aspect ratio" box)
- Select the sky using the "Magic Wand" again in left hand toolbar. Select "Paint" and a suitable sky colour, say light blue. Paint in a better sky.
- Invert selection (now we are working on the building). Go to adjust > brightness and contrast > curves. Correct building under exposure by dragging the mid point up. Deselect and job done.

#### Using Photo Shop

- In "crop" (left hand toolbar) drag the top handles so the sides are parallel with the buildings. Tick OK. Note unlike PSP no resizing is necessary.
- Select sky using "magic wand" and "gradient" – both in left hand toolbar. Chose two blueish colours one darker and the other lighter. Drag cursor vertically down so that the sky is lighter high up and darker lower down. You could of course have painted in or filled in the sky to a uniform colour like in PSP. Or better still using layers inserted a nice sky with fluffy clouds. There are hundreds to choose from in Google Images - or get one from a photo you have taken yourself on a lovely day!
- Invert selection. Go to adjust > curves, drag the mid-point up a bit. Deselect and that's it.