Framing

In a modern point-and-shoot camera we don't have to worry about many of the settings that were important in film photography. Focus, shutter speed, lens aperture, film sensitivity can all be controlled by the camera itself and will generally produce very good results. However, there is still something crucial we need to take care of: the correct framing.

For our purpose, the pictures should be taken from straight ahead and in "portrait" mode, as you can see in the example below. The photo should not have too much background but should not be cropped or too close either.

The sun and brightness

Light conditions are a very important aspect of photography, especially in outdoor conditions. The position of the sun and the light metering method used by the camera are essential to achieve good results.

Sun

If it is sunny, the time of day makes a difference. Once in the field, we should take advantage of all the available time so it is not always possible to wait for the right sun. However, remember to avoid backlighting (the sun behind the memorial) and strong shadows (use the mirror to reduce shadows).

Brightness

Most cameras can use three methods to read the amount of light presents in the scene. By default it is set to Evaluative, a technique that sets the brightness based on the overall scene. In our photos the centre of the scene is much more important than rest, and the gravestone, especially if dark in color, can reflect much less light that the rest of the scene, in particular if there are parts of the sky as well. For this reason, the best option for us is the **Center Weighted Average** metering type. A spot

meter, instead, measures the brightness of a small circle in the center of the viewfinder, and can be difficult to control.


Pixel resolution and file size

The sensor in a digital camera is composed of pixels, which are tiny light-sensitive squares. The sensors in most cameras today are made up of millions of pixels; this number is referred to as the image's resolution.

For example:
An image that is 2048 pixels in width and 1536 pixels in height has a total of 2048×1536 = 3,145,728 pixels or 3.1 megapixels

Many modern digital cameras can produce images of several megapixels (> 10) but an increase in megapixels doesn't mean an increase in image quality (that is much more affected by the quality and the size of the lens) but just how **large** the image can be displayed on a screen or printed on paper without the pixel effect.
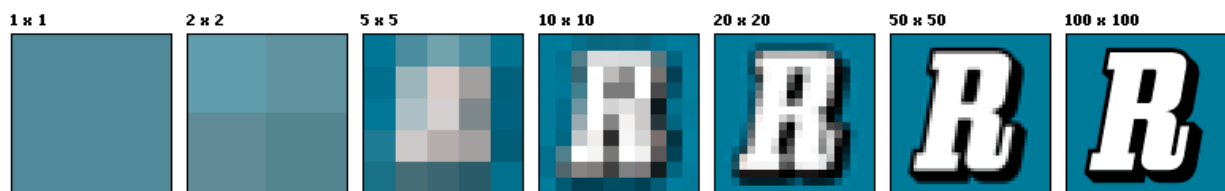
For our purposes resolution is important because it allows us to zoom into the image and more easily read the inscription during data entry and to increase the size of the image in the browser when viewing.

At the same time, images larger than necessary should be carefully avoided as dealing with them involves several problems:

- They slow down the system:
    - When downloaded from the camera
    - When uploaded to the website the first time
    - Every time they are viewed from the website
- They occupy more space on the server, increasing the cost of maintenance

We have found that the best resolution for our purposes is at 5MP (2592x1936). Images at this resolution record enough details and produce files not bigger that 3MB.

Most digital cameras allow you to change quite easily the resolution settings in the menu option.

Some cameras do not have a 5MP option. In that case choose the closest option.

Image format

Most compact cameras have just one format (JPEG) so you don't have to worry about that. However, the majority of professional cameras also let you shoot in a non-compressed format called RAW. This format records more detail than is necessary and is too difficult to manage for our purpose. Only JPEG file will be accepted by the database in www.historicgraves.ie

Time and date

Setting the right time and date is important especially if we are using the geotagging methods that require post-processing based on GPS log (methods 2 and 3 in the GNSS leaflet). Those methods use the timestamp of the photo to mach it with the location recorded by the GPS at the same moment.

Most cameras do not have a setting for seconds which can cause an additional souce of error when the photos are geotagged.

To reduce this problem you can click "SET" at the same time that the GPS time arrives at the end of a minute: ie. in the example on the left you should click SET when the GPS clock shows 10:24:59

You can also fix this problem during post-processing as most Geotagging software (ie. Geosetter) allows for a time offset. For this reason is always good practice to take a picture of the GPS screen (showing location and time) so that the time on the file can be compared with time shown in photo of the GPS and the difference can be entered into the software.