Mobile Photography Tips

In this lesson, we'll be taking a look at
Mobile Photography Tips.

Estimated Completion Time: **30 minutes.**

Mobile Photography Tips

The mobile phone is probably not your main camera. But there is no reason why you can't use basic and advanced photographic techniques with your mobile.

You may not always have a dedicated SLR camera on you - but you are almost always going to have your phone. And, as they say, the best camera is the one you have on you.

Mobile Photography Tips

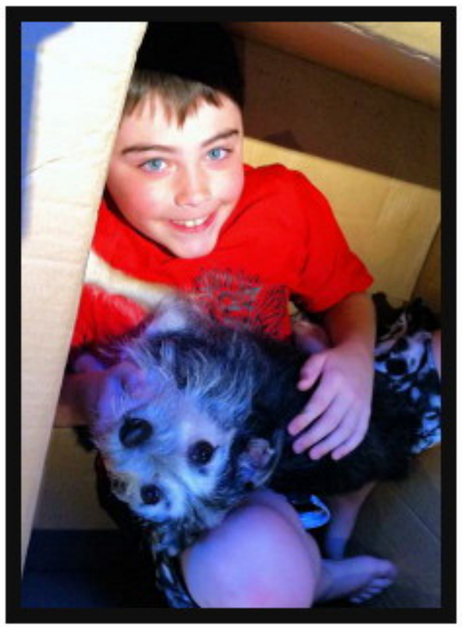
Most mobile phones do not have manual controls like you'll find on dedicated cameras. No shutter or aperture control, no white balance, etc. So many photographic techniques will not be applicable. This however, is changing - many mobile cameras now have more control than ever.

So, in this app, we'll have a look at some of the simple techniques you can use with your mobile to improve your shots.

Mobile Photography Tips

One of the great things about any phone is its immediacy. It's always there. And it's almost always near or in your hand. What better excuse to get those shots you never would have before?

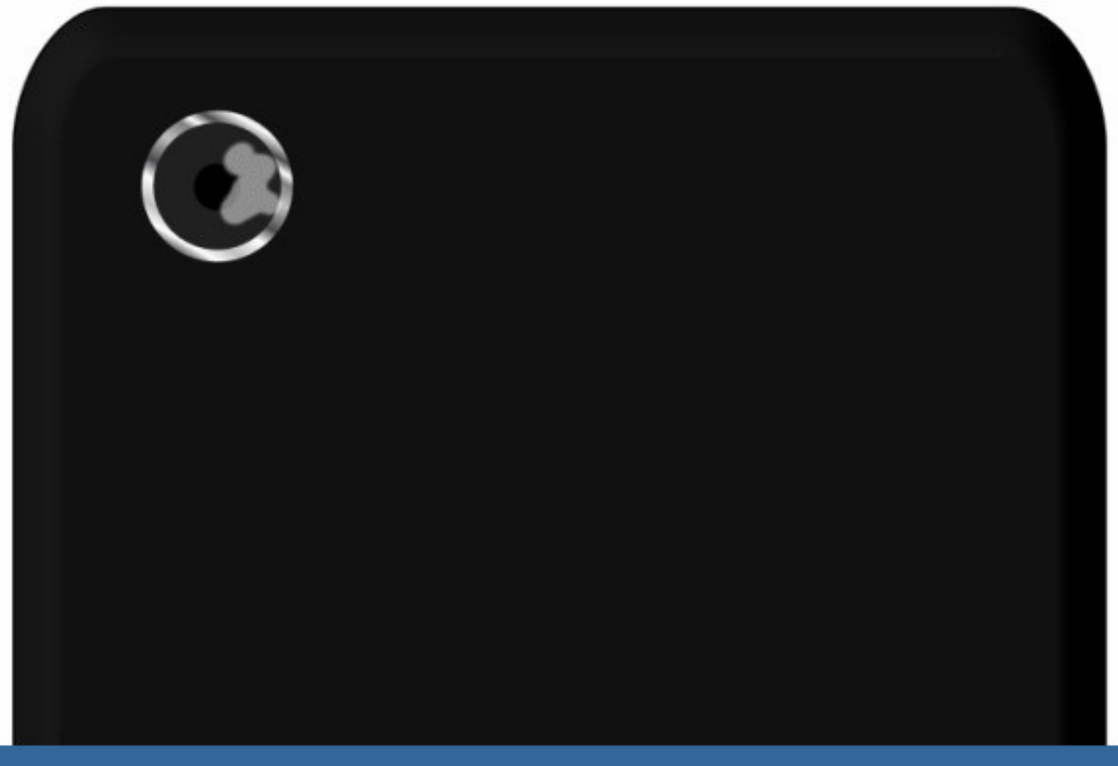
Use this to your advantage. Candid, spur of the moment shots are some of the best photographs you can take. People tend to stiffen up when a serious camera appears.



Mobile Photography Tips

Always make sure the camera lens on your phone is clean and clear. Use a soft cloth to ensure this the case, especially before you take a shot.

A fingerprint or smudge over a lens as small as the phone's lens can dramatically affect an image.



Mobile Photography Tips

This is a more important point than it might at first sound - **keep the camera as still as you can when you take a photo.**

Depending on lighting conditions (especially indoors), most mobiles need to use fairly slow shutter speeds (1/15, to 1/30 of a second or so).

This means the camera shutter stays open for longer, and increases the chance of blur if the camera moves at all.

Mobile Photography Tips

If you can't trust your hands to keep the camera still, lean against a pole, a door, your elbows, a counter - this will all help.

Later in this app, we also look at anti-shake apps - camera apps that won't take a photo until the camera is still.

Third party tripods are also available for camera phones - standard camera tripods won't fit.

An impromptu tripod we created to get some shots in this app.

Mobile Photography Tips

Normally, your phone will set focus automatically. Most phones, however, now allow you to do this manually. All you need to do is, when using the phone as a camera, touch the image on the area you'd like to be in focus.

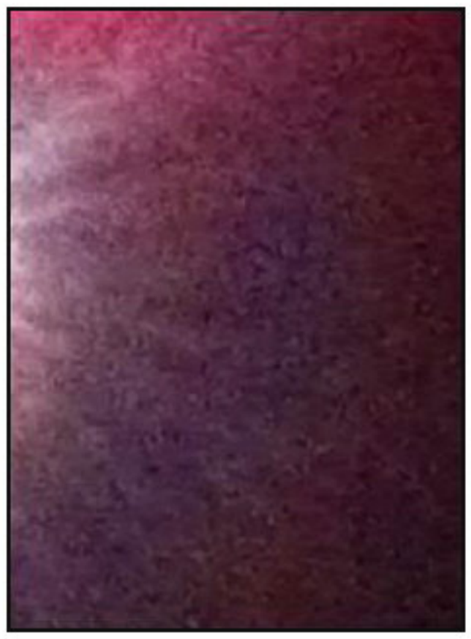
For a series of far off objects, this won't make much difference. But where there are some objects close to the camera, it can make a lot of difference.

A white rectangle appears to indicate focus.

Mobile Photography Tips

The more light available when you take a photo, the clearer, more colorful, and probably less blurry the photo will turn out.

On most phone cameras, low light photos tend be a little - or even a lot - *noisy*. *Noise* appears like a series of dots, often colored, as the camera increases its sensitivity to light.



Here we've zoomed in on an image taken in near darkness. See the dots? This is noise.

Mobile Photography Tips

Indoors, where light is poor, you will either need to use the flash (where available), or, keep the camera very still. At the sorts of shutter speeds likely, you'll also want the subjects to keep fairly still.

Of course, you can ensure there is more light available - turn the lights on, move the subjects into the light, wait till they move into the light, etc.

Another technique for indoor shots - take a lot of them. Some are bound to turn out better than others.

Mobile Photography Tips

If you want to take action shots, you'll really need to move it outdoors - unless of course, you use the probable blur to your advantage. In fact, you can get some quite interesting results with moving subjects at low shutter speeds.

It is wrong to say that all blurry shots are bad. Some give quite a nice effect, or emphasize movement.

Mobile Photography Tips

Outdoors, when photographing people, avoid lighting contrast. You'll probably get better results with the subject in the shade, rather than direct sunlight, because direct sunlight on a face can result in high contrast shots.

On the left, the problems with direct sunlight are obvious. The shot on the right, taken in shade, gives a much better result.

Mobile Photography Tips

As camera phones go, LCD flashes, like on the iPhone, is right up there with the best. In general, results are great (although the range is still fairly small - 10 feet or so). In low light, shutter speed is also increased, resulting in a clearer image.

On the left - no flash (1/15 of a second). On the right, iPhone 4 Flash - 1/167 of a second. The use of flash here has the added effect or darkening, and removing, the background.

Mobile Photography Tips

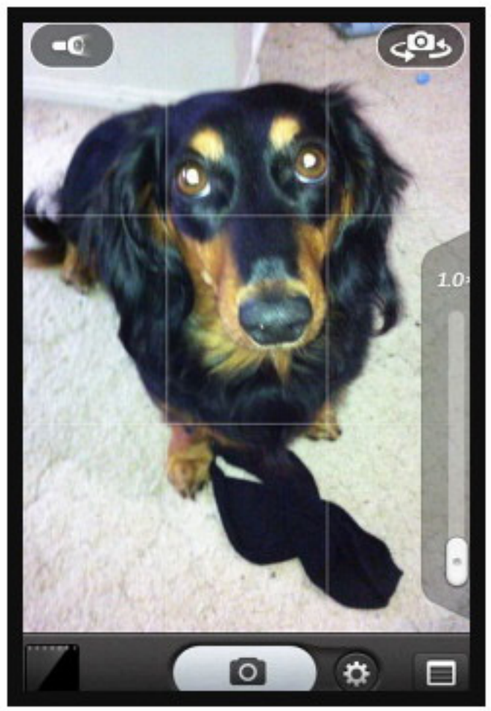
Using the flash in low light situations will enhance color, help reduce noise, and because of the faster shutter speed, help reduce blur.

Have a closeup look at the eyes from the photos on the previous step to see a good example.

See how much more colorful, and clear, the image on the right, taken with flash, is?

Mobile Photography Tips

Many camera apps available in the App store allow you to use a slight variation on the Flash. Generally called something like 'torch', perhaps, this feature turns on the LCD flash on iPhones before the photo is even taken. This gives you a good idea of what the photo will turn out like before it is taken.

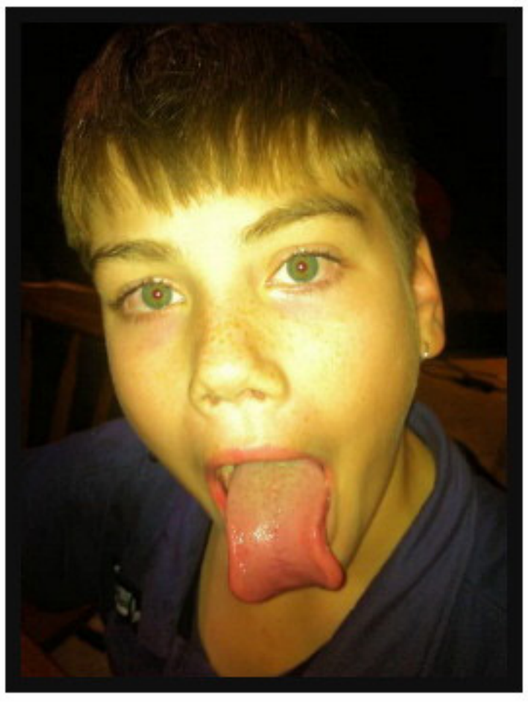


Torch mode, in the App ***Camera+.***

Mobile Photography Tips

The resulting light is not as bright as the flash - but a very handy mode - as either the flash can sometimes be too bright, or its result sometimes a little unpredictable (too bright or too dim).

An added benefit is that this mode also reduces red eye effects.



Mobile Photography Tips

On most phones, exposure is set automatically, and is generally set based on the brightest part of the image. Newer phones, however, give you a little more control.

On most phones, you can touch the image to set the focus. This also sets where the phone determines how to set the exposure.

On the left, the exposure was set on the road. On the right, the sign was selected.

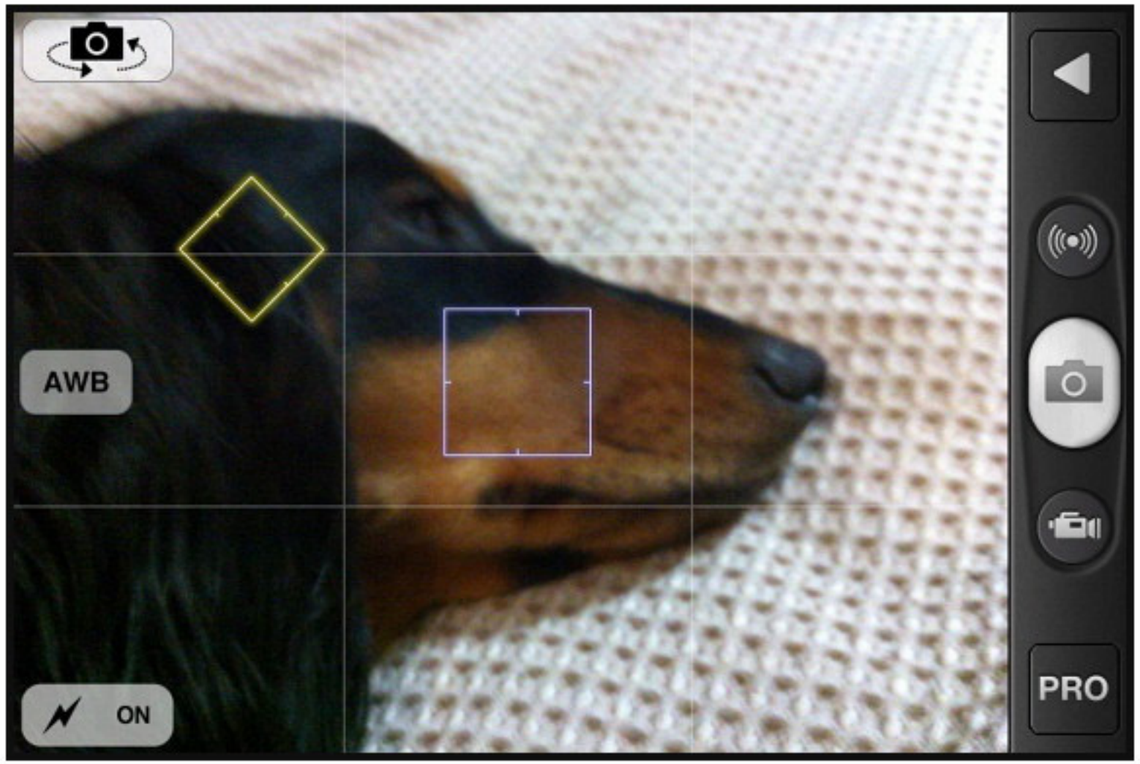
Mobile Photography Tips

Below, see the technique used the capture the images on the previous step.

On the right, the focus has been set on the road. On the iPhone, this is as simple as touching this part of the screen. On the left, we touched the road sign - and exposure and focus shift to match.

Mobile Photography Tips

Some Apps available in the App store allow exposure and focus to be set separately - see the image below.

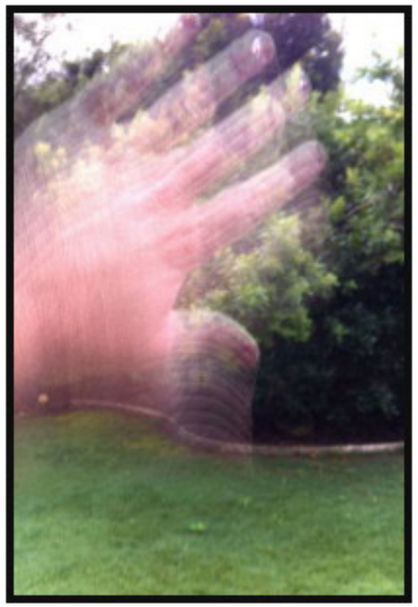


*This screen shot was taken from an App called **ProCamera,** available in the Apple App Store. The diamond represents exposure area, the square indicates where focus is set.*

Mobile Photography Tips

On most cameras, exposure is also determined by the shutter speed - how long the camera lens opens for. On most phones, this cannot be customized.

However, some apps, like **SlowShutter,** allow you simulate long shutter settings for special effects.



*Here, we've used the app **SlowShutter** to simulate a 2 second shutter speed. We move the hand around, and get this special effect.*

Mobile Photography Tips

Many phone cameras include the ability to lock focus and exposure.

When exposure and focus are locked - they do not change, regardless of where the camera moves. This allows you to set up a shot, or get repeated shots, without the camera having to refocus and reset exposure each time.

Mobile Photography Tips

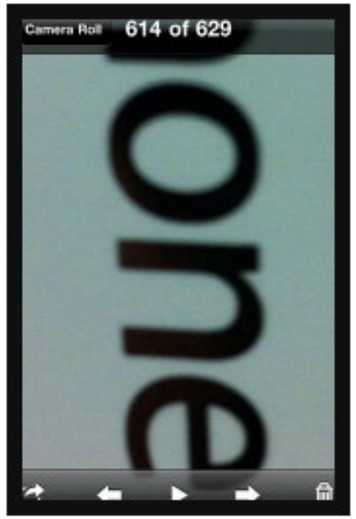
Most phones have a fairly decent *macro* (close-up) facility. The main problem though - that of camera shake - is magnified as you struggle to keep the close-up subject in focus. If you can manage that, you'll be able to take some shots from a little as a few cms away.

In most cases, lean on something - this will help. Or use an anti-shake application.

Mobile Photography Tips

Another issue with macro shots is determining what part of the image is in focus - if anything. Get too close, and nothing is in focus. Because of the phone screen size, often you can't see exactly what is in focus until the photo has been taken, and you zoom in to check it.

One way to get around this is to take a lot of shots - some a little closer, some a little further away - and use the touch focus system to focus on the area you want.



At first glance, the image on the left appears in focus. Take the shot, and then zoom in, however...

Mobile Photography Tips

Depth of field (where some parts of the image are in focus, and others are not, emphasizing depth) is easier to achieve with phones that allow manual focusing.

To achieve depth of field, move so that the subject is fairly close the camera. Ensure that the subject retains the focus (by using your finger to *select* the part of the image to focus on), and take the shot. The background, assuming it is sufficiently far away, will become blurred.

Mobile Photography Tips

Most phones do not have optical zoom. Digital zoom (5x) is, however, generally available. Optical zoom uses a lens to zoom in (better quality), and digital zoom tries the same thing digitally (worse quality).

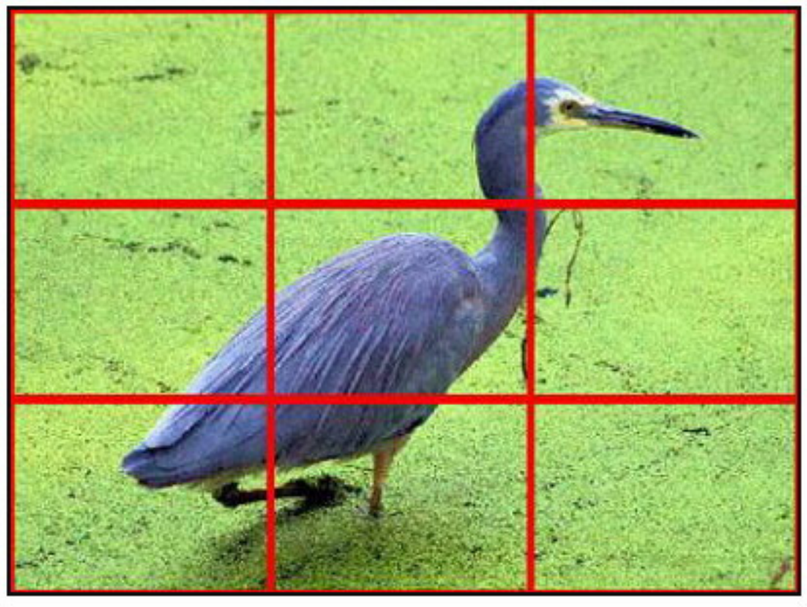
Digital zoom? Forget it. You'll get better results shooting normally, and cropping later.

Some companies market cases with add on lenses for mobile phones, allowing such things as wide angle, and optical zoom.

Mobile Photography Tips

A popular design rule in photography is the rule of thirds.

The **rule of thirds** - more of a guideline - dictates that important elements of the photograph be placed *on* or *near* imaginary lines that intersect the image into three parts - both horizontally and vertically.



Imagine drawing a grid like this over a photograph. Note that the design element here - the bird's eye - is positioned near the first vertical and final horizontal 'third'.

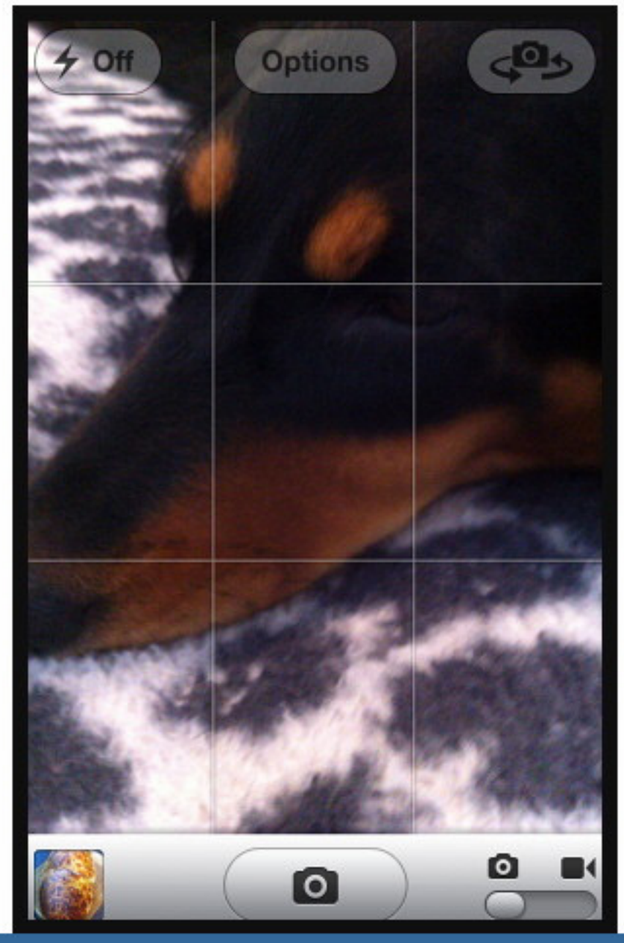
Mobile Photography Tips

This does not have to be any particular third - it may be the top, bottom, left, or right hand side third.

When photographing faces, even animal faces, the eye (or head) should be the focal point of the image. Here, the bird's eye falls nicely in the top right hand third of the image.

Mobile Photography Tips

Most cameras allow you to overlay a grid on the camera screen. This makes creating photos that conform to the rule of thirds a lot easier to create.



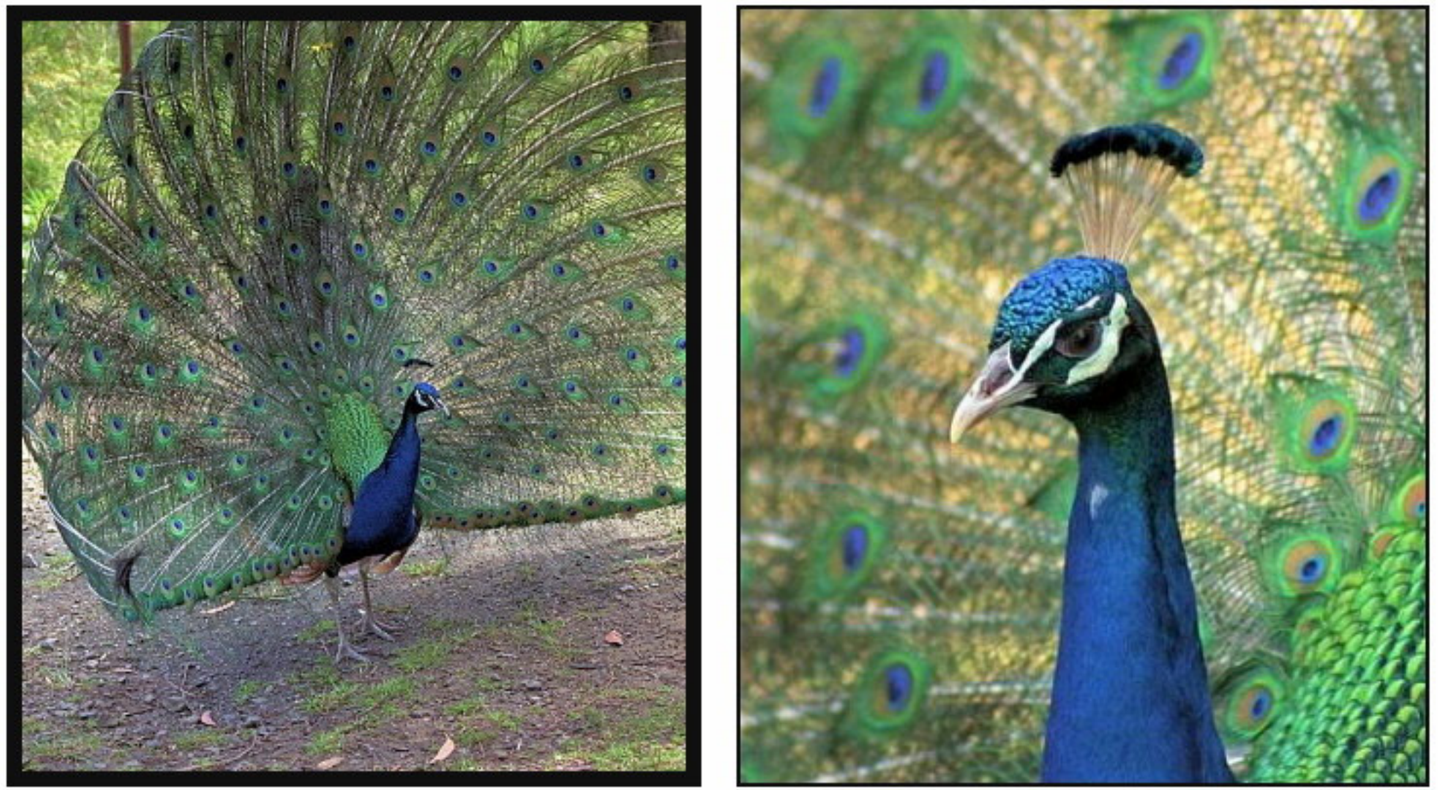
Mobile Photography Tips

Get Down Low. If you are photographing children, or pets - you'll get better shots by getting down low - to eye level - or even lower.

When photographing faces, even animal faces, the eye (or head) should be the focal point of the image.

Mobile Photography Tips

Get in Close. If you think you are close enough, get closer. Faces and objects that fill the frame can result in great photos.



On the left is the shot most people will take...but getting in close can give you that much better shot.

Mobile Photography Tips

Many cameras now allow, as an option, HDR (high dynamic range) photography. HDR photography is used to increase the possible range of color/exposure in an image.

These are unretouched photos taken on an iPhone 4. On the left, the original image. Note the washed out areas behind the dog. On the right is the HDR version of the same photograph. Note the area behind the dog in this shot and compare to the image on the left.

Mobile Photography Tips

HDR works by the camera taking two or three shots in quick succession, using different exposures for each. The camera combines these images, allowing for darker and lighter areas that might normally be over or underexposed to be combined in the one photograph.

In these shots, look at the sky. On the right, the HDR version gives a much better result.

Mobile Photography Tips

HDR does not always get you a better shot. This is why the phone will generally allow you to save an original, and a HDR version of a photo, if you wish. You can then decide which is better.

There are also third party camera apps in the App stores that allow HDR photography on all phones.

Because, in HDR mode, the camera takes two shots in quick succession, you increase the chance of blur, or double image. HDR does not work that well where the subject or camera is moving.

Mobile Photography Tips

Many companies market external lenses you can add to your phone - such things as wide angle, macro, fish-eye, and zoom.

Mobile Photography Tips

Above are examples of photos taken with a macro, a fish-eye, and a wide angle lens.

Mobile Photography Tips

No matter how good a photographer you are - or how good your camera is - post processing an image can almost always improve it.

Post processing is where you edit the original photograph in a graphics application. This may be to improve color, sharpen an image, remove unwanted elements, and much more.

On the right, we've enhanced saturation, sharpened, and removed noise.

Mobile Photography Tips

Don't consider post processing any photo, from any camera, a failure. It happens all the time, for both professionals, and amateurs.

On the left is the original photo. On the right, we've enhanced the saturation, sharpened, and removed noise.

Mobile Photography Tips

Many phone cameras can give results that sometimes appear a little flat - lacking a little color. This can depend on lighting conditions, camera angle, and more.

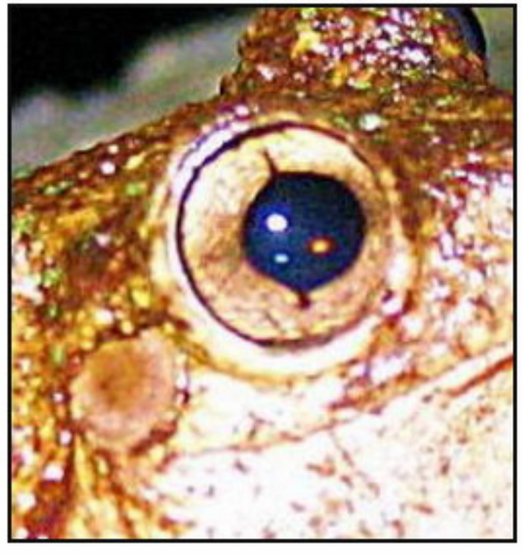
Enhancing the colors in the image, or the *saturation* of an image, can improve a photograph dramatically.

On the right, we've enhanced saturation.

Mobile Photography Tips

Despite all your best efforts, some shots just come out a little blurry. As long as they are not *too* blurry, you can use software to sharpen the image. Note that sharpening also has its limits. Too much sharpening can increase the noise in an image, as well as giving the image a really harsh appearance.

Have a close look at the eye in both images, below. Almost all graphics software allows you to sharpen images.



Mobile Photography Tips

Many graphics programs allow you to sharpen in at least two ways - normal sharpening, and a technique called *Unsharp Mask*. Other techniques, such as *High Pass Sharpening* may also be available.

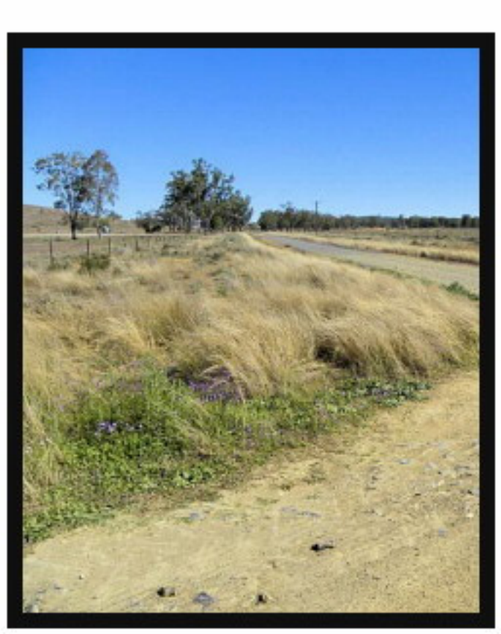
Traditional sharpening sharpens the whole image, where *Unsharp Mask* concentrates on sharpening edges. Most programs allow sharpening at customizable rates - how much is required is really up to you.

Mobile Photography Tips

Sometimes when taking a shot, you are so fixed on the foreground - or take the photo so quickly, that you only realize later that the camera was tilted, or the horizon offset.

Straightening an image is a simple process used to correct this error.

Later on, we look at apps that allow a grid to be overlayed on screen to help prevent this before it happens.



Mobile Photography Tips

Noise in an image is characterized by random dots appearing on the image, and is much more apparent as the image is enlarged.

Noise occurs mainly in low light situations - technically, the higher the ISO the camera uses, the more noise will appear on the image, reducing its quality. *Noise reduction* is a processing technique that reduces or eliminates this random noise in an image.

Mobile Photography Tips

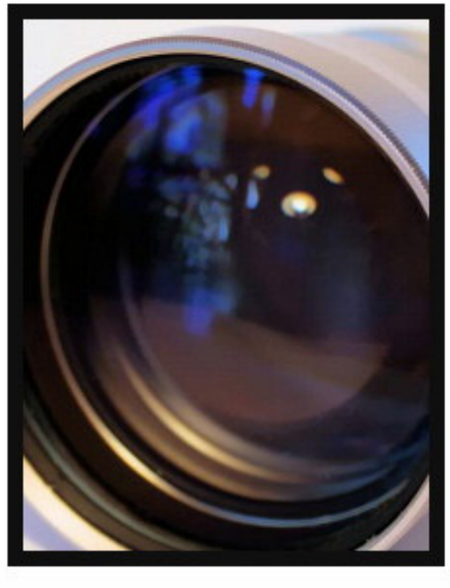
Dedicated digital cameras, particularly digital SLR cameras, generally have larger CCDs (the internal sensor used to create the image), and larger lenses to absorb more light. This generally means less noise in an image.

The bottom line for photos taken on cameras like those in the iPhone is that the more light you have available, the less there is likely to be any noise in an image.

Mobile Photography Tips

There are a number of noise reduction techniques you can use in dedicated graphics editing software. Standard noise reduction will remove those stray, colored dots that often appear.

Some programs, for example, contains features variously called salt and pepper filters, scratch or dot removal. This allows you to remove things like dust particles (check for dust on the lens in the images below) and other small imperfections.



Mobile Photography Tips

Depending on lighting conditions, you'll get images where at least some part is too dark, or too light, or has too much/little contrast.

Most applications not only allow the photo as a whole to have brightness and contrast adjusted, but just parts of photos - perhaps you only want the dark areas lightened, or just the light areas darkened.

We've darkened the highlights in this image - this affects the clouds and leaves the green area.

Mobile Photography Tips

White Balance is also called the *color temperature* of an image. This essentially determines which parts of the image represent white, and which represent black.

Cameras automatically determine white balance, and generally do a very good job at it (to do this, it has to try and determine the light source - sun, indoor light, florescent light, etc). But - if it does get it wrong, white balance is easy to adjust in most graphics editing programs.

Mobile Photography Tips

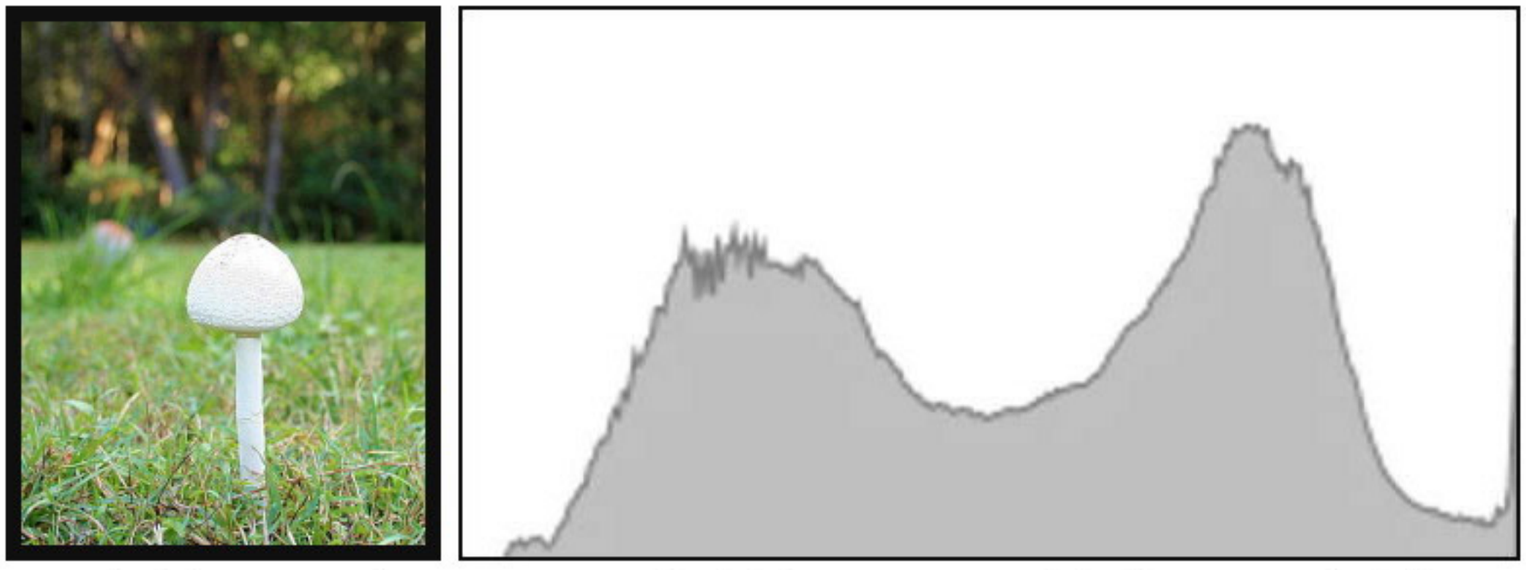
In order to achieve good framing, or to remove unwanted regions, or simply as a means to 'zoom' in on your subject, you can crop images.

All graphics editing software will allow you to crop images. JPEG images will only allow rectangular cropping.

Mobile Photography Tips

Many editing applications will allow you to adjust an image *histogram* to enhance the image color.

Histograms, quite simply, are a graphical representation of the brightness of colors in your photograph. They are used to determine if a photo is underexposed, or overexposed - and look something like the image below.



The histogram above represents the brightness range of the image on the left.

Mobile Photography Tips

If you really want to have more fun taking photos - and tremendously enhance what you can do with your phone, you need to check out some of the apps in the various App Stores.

These apps can add all sorts of features to the standard mobile phone feature set - and in the following pages we'll have a look at some examples.

Mobile Photography Tips

Many apps available in the App Stores provide multiple camera features. We'll look at these more by the sorts of feature sets that are available.

Mobile Photography Tips

Post Processing Apps. A number of applications allow you to enhance your photos. Most of these apps don't have the range of some dedicated desktop editing applications, but are quick and easy to use. These apps let you to crop, rotate, change brightness, contrast, and add effects.

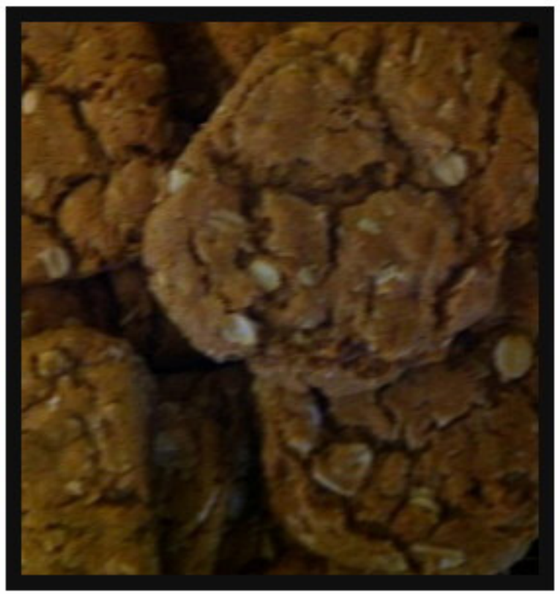
Some apps are designed specifically for certain edits - e.g. reducing image noise.

The image on the right was enhanced directly on the iPhone, using Photoshop Express.

Mobile Photography Tips

Anti-shake Apps. A number of applications specifically designed to take photos when the camera is steady, using the phone's sensors, are available.

Using these apps, when you press the shutter, the camera waits until you can hold still before taking the shot. This in itself leads to massive improvements in the quality of photos you take. (Note that this won't help if the *subject* is moving).



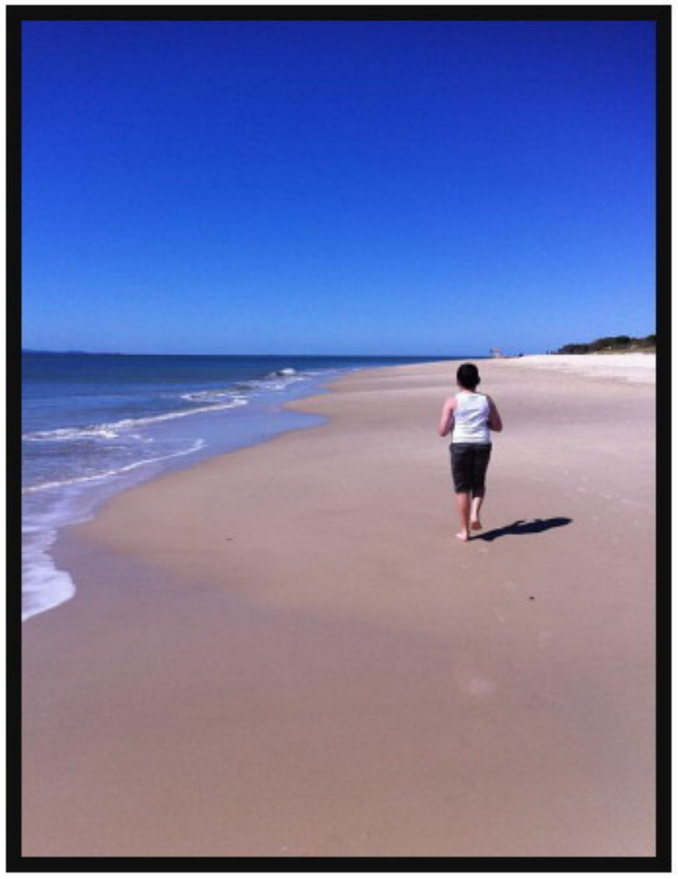
How many times have you taken a shaky photo on your iPhone?

Mobile Photography Tips

Below, we used the app **Photogene** to apply multiple effects, including a frame to this image.

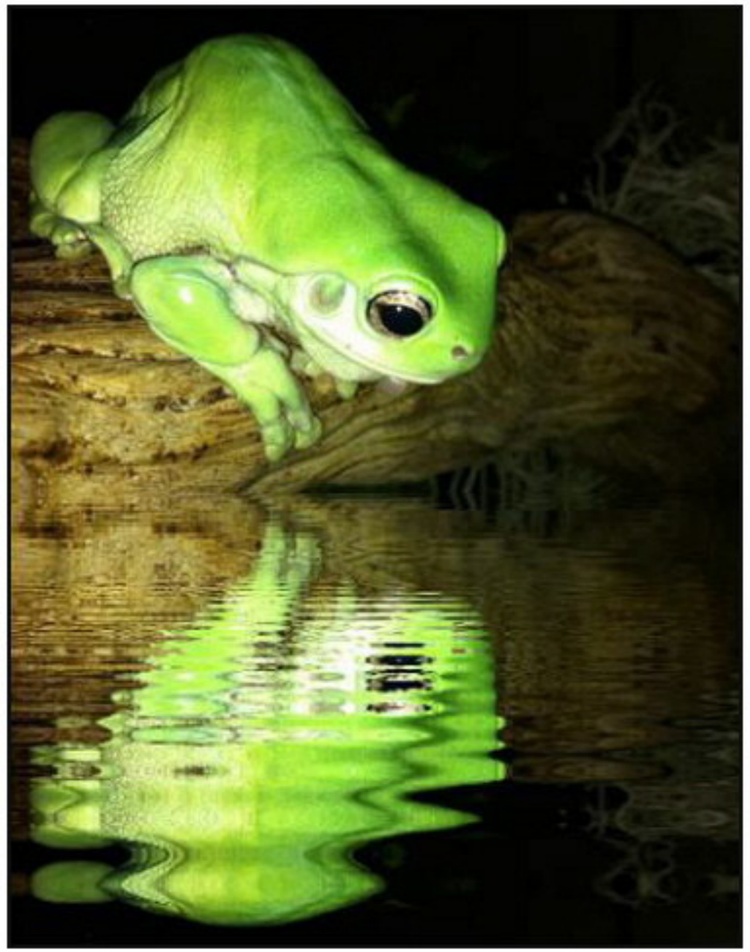
Mobile Photography Tips

Below, we used the app **Pixlr-o-matic** to apply multiple effects, including a frame to this image.



Mobile Photography Tips

Below, we used the app **Water My Photo** to add the water effect to this image.



Mobile Photography Tips

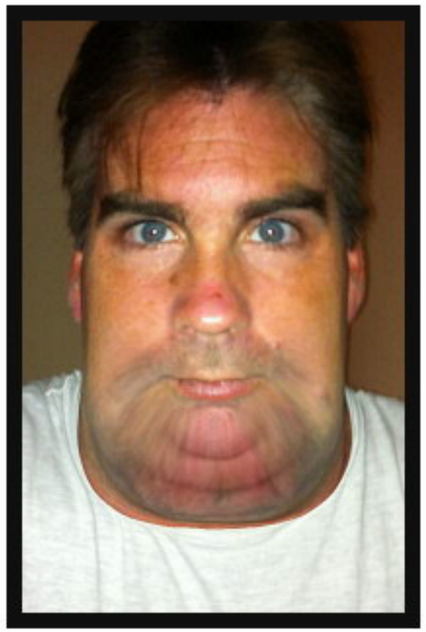
Below, we used the app **Photogene** to create this montage.

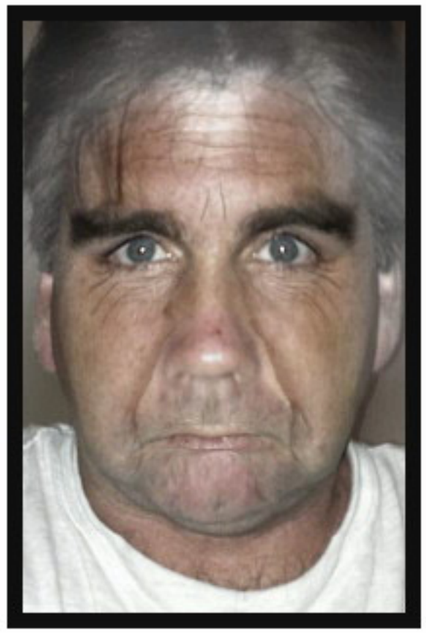
Mobile Photography Tips

Below, we used the app **100 Cameras in 1** to apply an effect to this photograph.

Mobile Photography Tips

Many comical apps allow you to create funny versions of your images. Below, we've used **Fat Booth, Aging Booth,** and **Geek Booth.**





Mobile Photography Tips

The list of features and apps goes on and on. Below, we've used **My Sketch, WordFoto** and **FocalLab** to create these effects.

Mobile Photography Tips

Preprocessing Apps. Rather than taking a shot, and then using some software to enhance it, many apps will preprocess the shot for you.

For example, you can increase color, sharpen, add other effects like vignetting, etc. This is done as you take the photo.

The image on the right was taken using an application called JoyCamera. We set this application to increase saturation, sharpen, and add a border and minor vignette.

Mobile Photography Tips

Effects Apps. There are a range of camera apps that simulate the sort of photos taken on cameras of the past, using films, or filters of the past.

Hipstamatic is a good example of this.

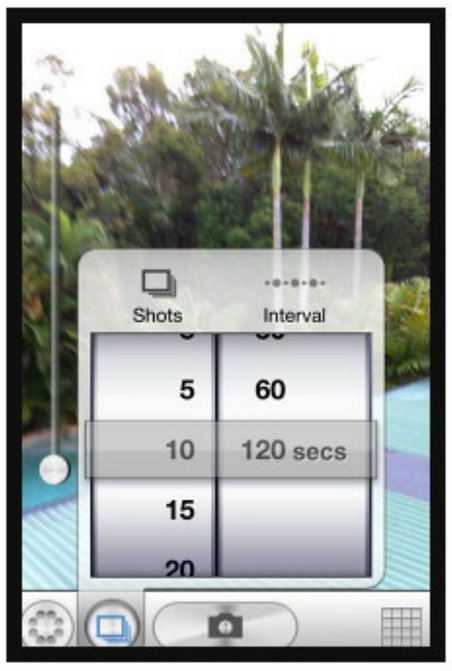
Mobile Photography Tips

More Advanced Editing Apps. Rather than just allowing relatively simple edits, like brightness/contrast, rotating, etc, some apps really go the extra mile.

If you really want to have fun, have a look around at some of the editing apps that allow you to apply all sorts of effects to your photos.

Mobile Photography Tips

Time Lapse Apps. For something a little different, try an app that has Time Lapse ability. This lets you set the camera to take a certain number of photos, at a set time interval. Set the camera up, and you can then leave it alone for a while. This gives you a series of time lapse images - or in some cases, the app will convert the images to a movie for you.



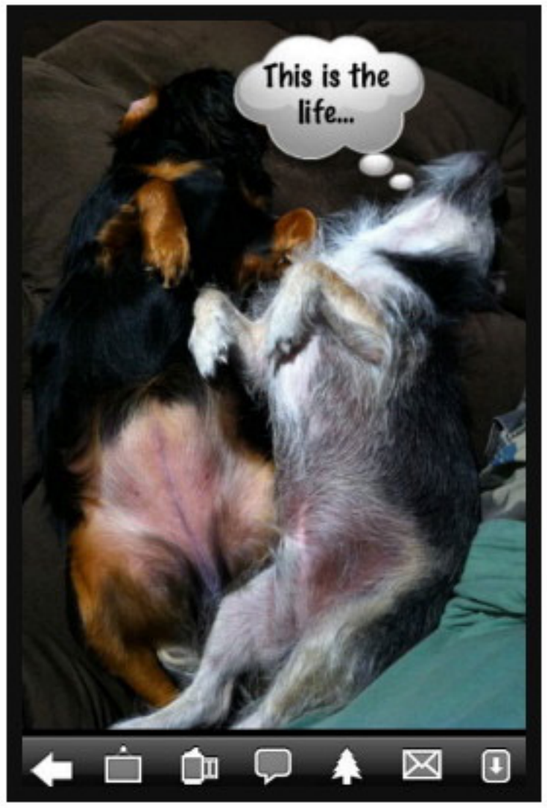
*The **Gorillacam** app allows Time Lapse images to be taken (among other features).*

Mobile Photography Tips

Time Lapse Apps. Here is an example time-lapse movie, taken using **GorillaCam.**

Mobile Photography Tips

Captions/Symbols Apps. Several apps allow you to add captions, and other elements (including such things as ghosts!) to your images.



*The **PhotoCaptions** app allows you to add all sorts of text and elements to an image.*

Mobile Photography Tips

You've now completed this lesson. In this lesson, we took a look at **Mobile Photography Tips.**