Smartphone Videography – recording and editing
By Nigel Goldsmith

Introduction
Smartphones have become the go-to device to take a 'snap', the phone's sound and video capabilities are less widely employed . The improving quality, flexibility, size and affordability of these devices has not gone unnoticed by professional filmmakers. More and more major box office films are partly or totally filmed on smartphones. Steven Soderbergh filmed his thriller [Unsane starring Claire Foy](#) exclusively on iPhones.

As with smartphone photography, the device will deliver the best quality under optimum conditions, good lighting, stable supports and clear sound.

Preparing your phone for video
Grabbing a quick picture with a smartphone can be a very spontaneous act, to avoid disappointment, video requires a little more preparation.

Like photography, you should check the lens is clean before you start filming. While some social media platforms work better with square format media, most video is still captured in the horizonal format so you need to get used to holding your phone on its side.
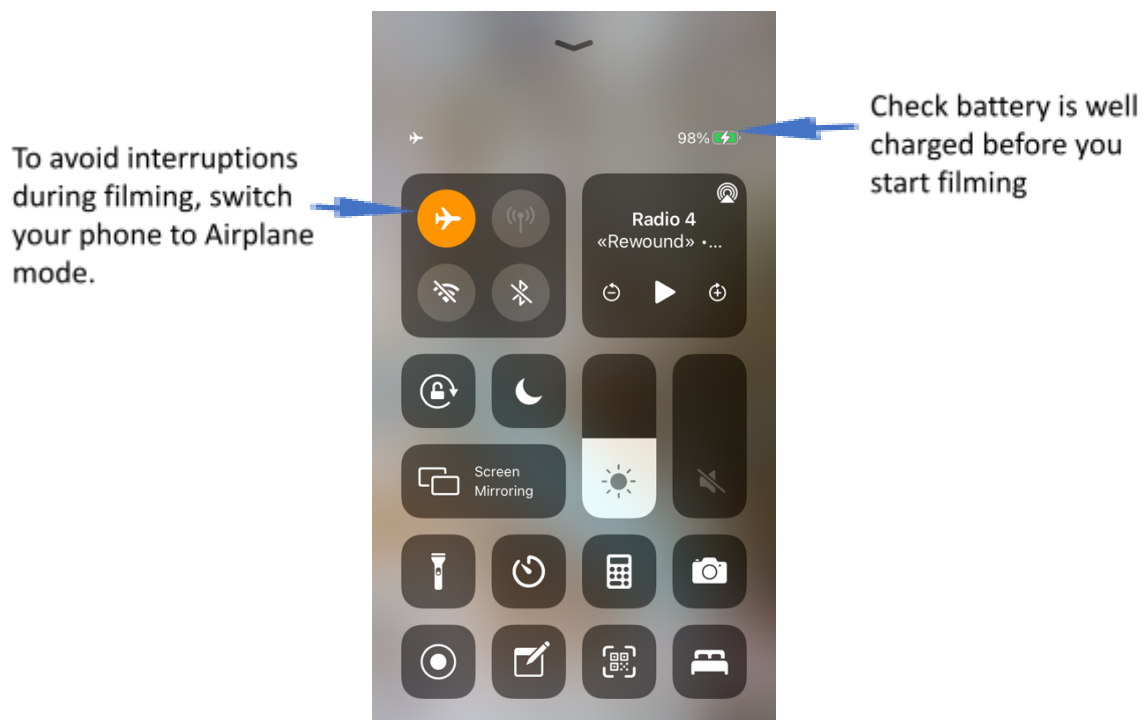

To avoid interruptions during filming, switch your phone to Airplane mode.

Check battery is well charged before you start filming

Figure 1 preparing your phone to shoot video

Frame rate
Film is captured as a series of still images, the number of images or frames per second is known as the frame rate. The standard frame rate that film projectors work at is 25 frames per second (fps) in the UK and Europe (PAL). Recording at this speed will match the standard speed used to display video on projectors or TVs. Phones can capture much higher frame

rates such as 240 frames per second. When this is played back at normal speed the video appears to have slowed to 1/10th of the original speed (Slow Mo).

Video resolution

Most phones will offer a choice of different video resolutions. Resolution is the number of pixels used to record a subject, the higher the number of pixels, the greater the image detail and the larger the final video. The resolution for high definition (HD) video is 1080, the quality is acceptable without the video size being too large. Most modern phones also offer the much higher 4K resolution. While 4K offers much more detail, the files are considerably larger and more demanding when it comes to editing on a computer.

720p HD at 30 fps	
1080p HD at 25 fps (PAL)	
1080p HD at 30 fps	
1080p HD at 60 fps	
4K at 24 fps	
4K at 25 fps (PAL)	✓
4K at 30 fps	
4K at 60 fps (High Efficiency)	

QuickTake video will always record with 1080p HD at 30 fps.

Video formats

Some video apps will allow the user to choose the format they will use to capture their video in. As in stills, some formats preserve more of the detail than others. In this workshop we will only be using the phone's standard camera app, we will not cover this in greater depth at this point.
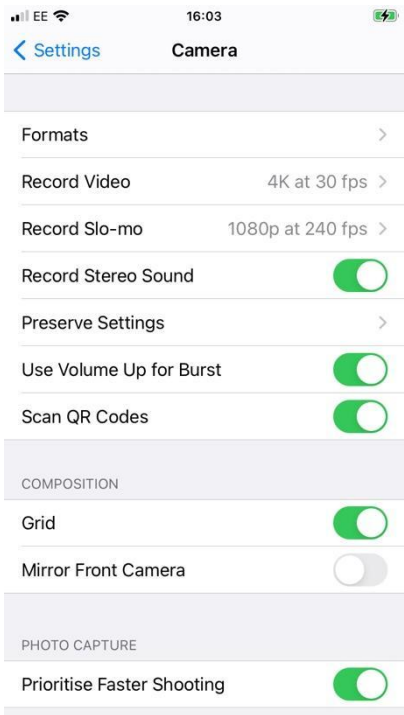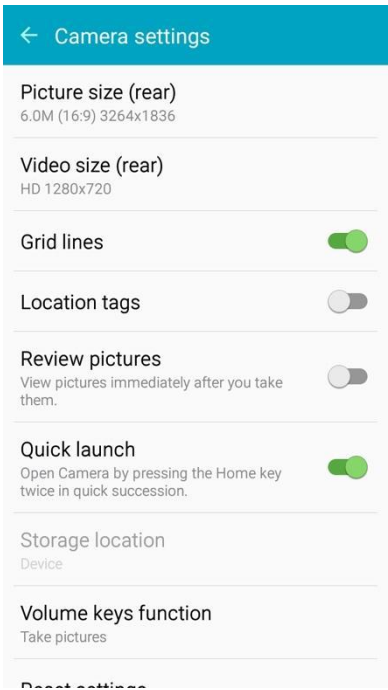

Figure 3 Video settings in Camera settings on iPhone

Figure 4 Video settings in Camera settings on Android

Planning

Like photography people shoot videos for a wide range of applications from special events such as holidays and weddings to video diaries, citizen journalism, vlogging etc. Before you start filming you should consider;

What is the film for?
Do you want to tell a story?
Is it instructional or informative, describing a person, place, object?
Is it recording an event?
Etc etc etc……

Whatever the purpose, some planning can help to give you a more pleasing end product.
It is essential to keep your audience's attention if you want them to watch your film to the end. Our attention span is quite short so we need to add variety to our filming to maintain interest.
We can do this with different types of shot, a wide angle shot can establish a scene, give us context, close ups and details helps to build a story and reveal information.

To provide you with a range of shots to edit later with a minimum of preparation, I would like you to do a simple instructional video. I would like you to produce a 'how to' intructional video for a very simple task such as how to make a cup of tea or coffee, boil an egg prune a rose bush etc.

Focus

The phone's autofocus may adjust focus during a shot which can be distracting. You can lock the focus at a set distance form the phone by touching the screen and holding for a couple of seconds. **AE/AF Lock** will appear. You can then start filming and the focus will be locked throughought the shot.

Exposure compensation

You can also adjust and lock the exposure before you start filming. Focus and exposure lock are linked together and you set and adjust them in the same way.

Camera movement and stability

As in still photography, there are times when you want your phone to be static when you film a subject and tripods or other supports can be employed. Movement however adds interest and can help to develop a story and can make the viewer feel like they are in the scene. Shaky movement can seem rushed and dramatic though can be difficult to watch for long periods. If you want to improvise, string tripods can smooth out some of the shakyness in shots. You can also improvise with skateboards or roller skates to achieve basic dolly style shots, custom made gimbals produce more of a polished steadycam style shot.

Figure 5 smartphone on gimbal

To mount a smartphone on a standard tripod you will need a bracket which grips the phone and has ¼ inch threaded holes.

Sound

Sound recording doesn't always get the consideration it deserves when it comes to filmmaking. Adverts for the latest smartphone always celebrate the capabilities of it's camera but rarely mention the quality of the microphone.

When possible, a microphone should be placed as close to the source as possible. With a phone that is recording both sound and video together, this isn't always possible, for example, if you are taking a wide establishing shot and the source of the sound is more than a few feet away from the camera. A second phone can be used to record the sound separately. It may be possibe to conceal the phone in a position close to the source. If a hand clap is filmed and recorded at the start of a clip the sound and video can be aligned in the editing application.
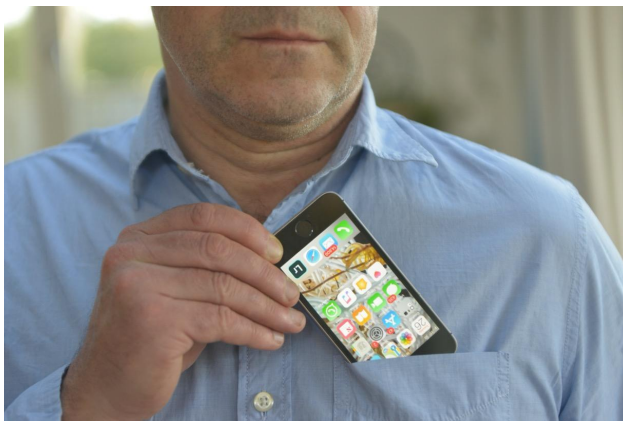
Figure 7 Using second phone as microphone and placing close to source

Figure 8 Lavalier microphone for smartphones

Manufacturers such as Rode make microphones deisnged to work with smartphones.

You now have the basics to start filming

The task for the workshop is to create a simple instructional video which combines a variety of shot types which you will edit using VN.

You will need to shoot

1. You or a compliant subject talking to the camera in a single shot. Tell us what you are going to make for example; make a cup of tea, boil an egg transplant a seedling, prune a rose etc.
2. tell us what equipment and ingredients we will need all in a single shot. (approx 30 seconds)
3. In a separate shot, film the 'what you will need' no speaking required.
4. Film the stages, explaining what you are doing, (warm the pot then add the tea) record your voice with the action.
5. Hero shot of the end product (5-10 seconds)

Try different angles and framing, wide establishing shot, close up, move the camera etc. Let the camera run for a few seconds before any action or dialogue.

Editing in VN

VN is a free video editing app for iPhone and Android (and OSX devices). It has its own social media community linked to it. If you choose not to join which I haven't (it is free) you have to wait a few seconds when you first open it. At times, you are encouraged to share you work with the wider VN community which again you can easily ignore. VN offers many of the features you would want from a video editing application and uses the small working area of a phone screen particularly well. If you have used VN before, you will be presented with previous projects (Figure 10). If you want to create a new project click on the (+) button at the bottom to see the screen also in Figure 10.
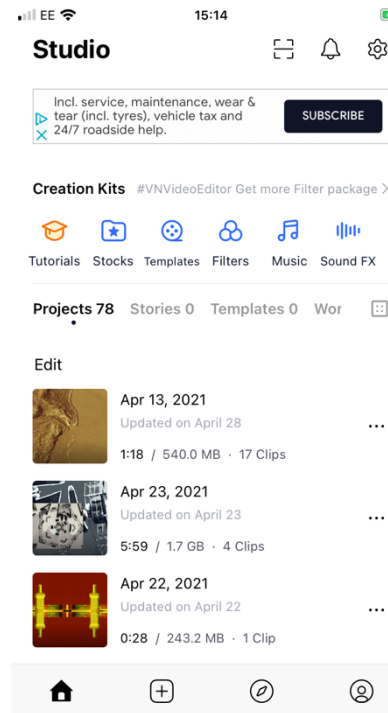
Figure 9 Initial VN screen on opening

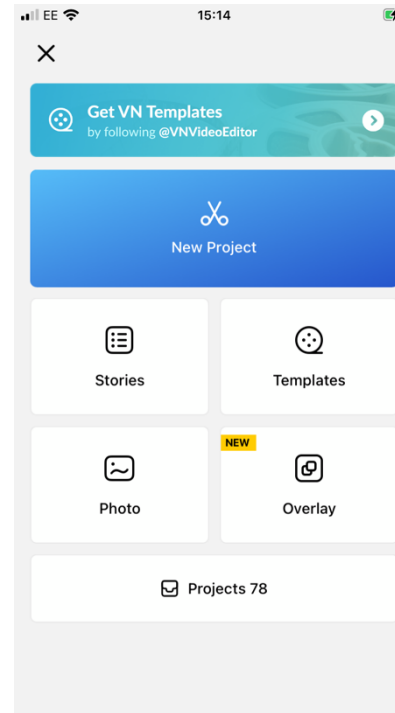*Figure 10 Previous project window or '+' new project*

Figure 11 New Project option

After clicking on New Project option, you can select which video clips you would like to use in the project (figure 12). If you don't add them all now, you can add more clips later.
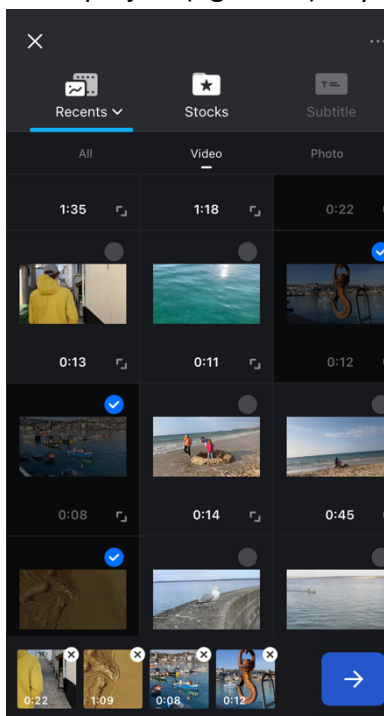

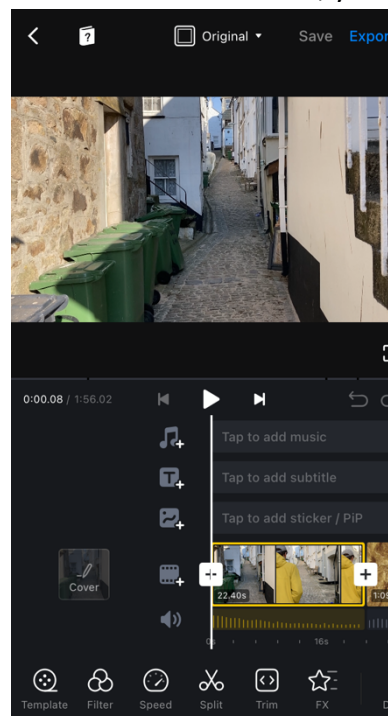*Figure 12 Select clips to add to project (tick in box above clip)*
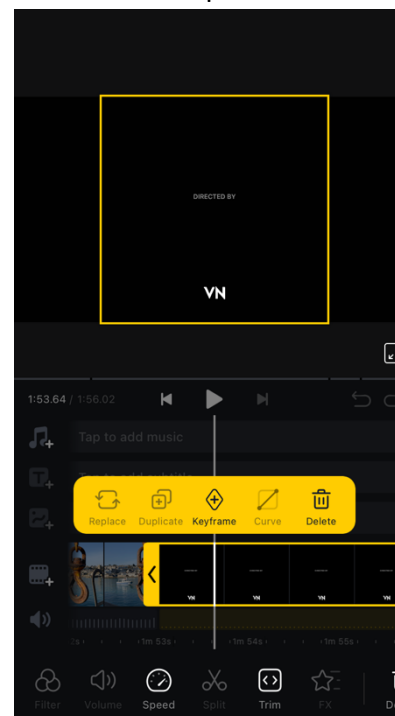

Figure 13 Clips arranged automatically in timeline

Figure 14 VN title at end of video, to remove one tap on clip and Delete

The clips you have selected will be placed in the timeline (figure 13). You can swipe along the timeline with a single finger, at the end of the timeline, there is an end credit for VN. To remove this, click on it once and choose the Delete option (figure 14). To shorten a clip in

the timeline, click on it once and the clip is highlighted in yellow. Hold your finger down on the arrow at the end and you should be able to drag the clip to trim it down (figure 15).
If you want to cut a clip in the middle, move the clip to align the point with the vertical white line (playhead) and click on the Split (scissors) button at the bottom (figure 16). You can then click on the section you don't want and press delete to remove it.
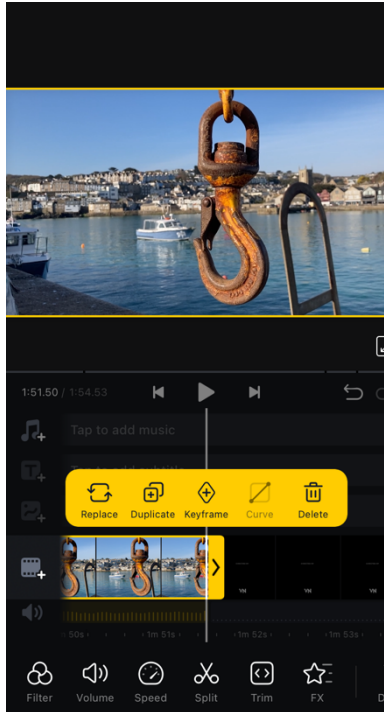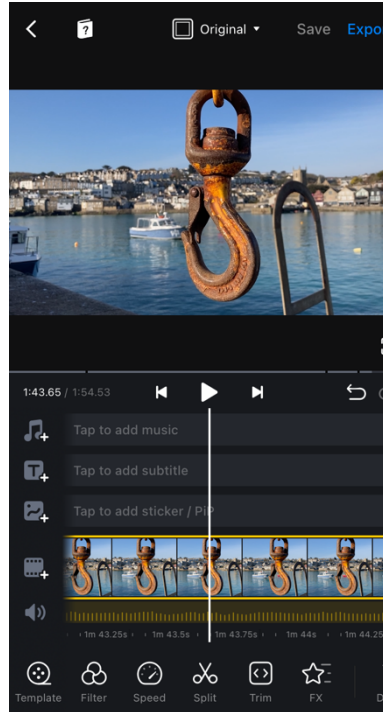

Figure 15 Trimming shot with arrow at end of clip

Figure 16 Cut clip in the middle using 'Split' tool'
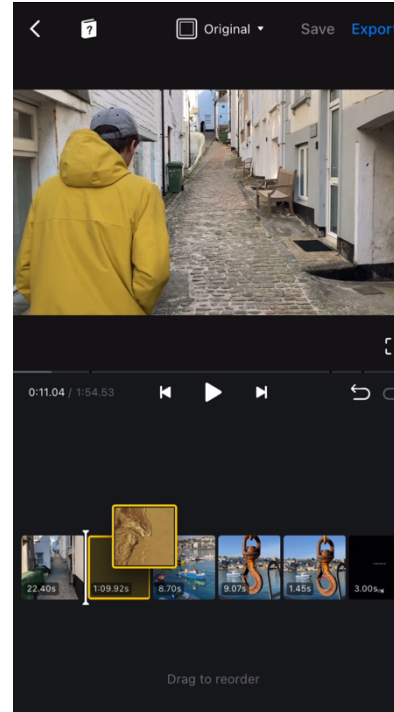
Figure 17 Swapping order of clips in timeline

By default, the edits between clips will give you jump cuts. If used at the right moment, jump cuts are hardly noticeable. Transitions can provide blended cuts between shots. In the example below (figures 18-20), a dissolve is applied as a transition between two clips. Click on the '+' sign between the two shots. A range of transitions appear, I have selected 'Dissolve', I can adjust the duration of the transition and decide if I just apply the transition to this edit or all edits in my timeline. The point between the two clips is now displaying a transition icon instead of the '+'.
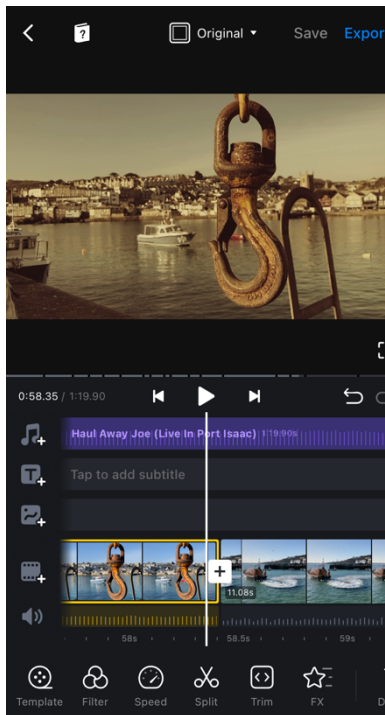
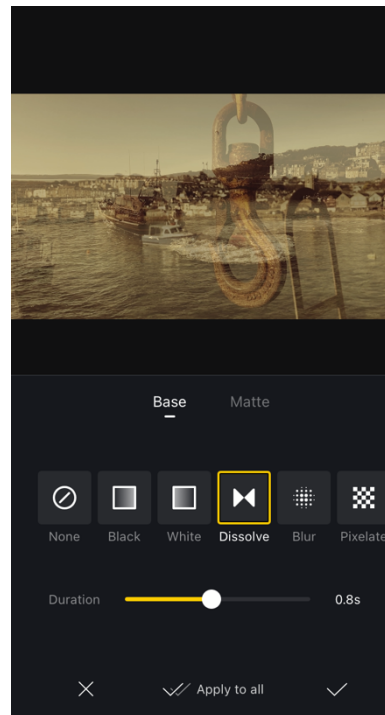*Figure 18 '+' sign between two clips to access transitions*
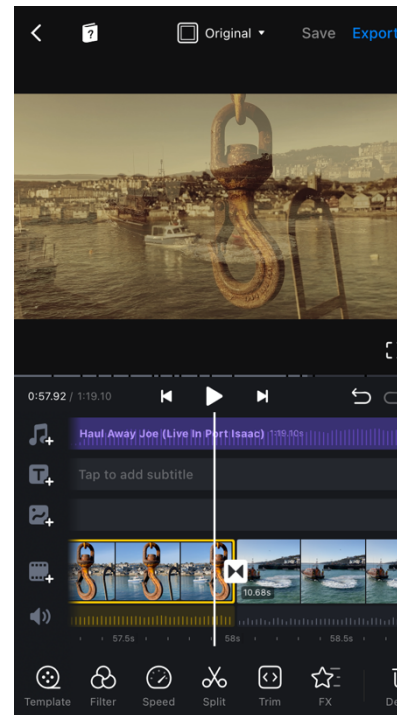

Figure 19 Dissolve transition options

Figure 20 Timeline after transition applied

If you want to change the order of the shots in the timeline, hold your finger down on a clip, after a second or so, you can then drag the clip to a new position. Sound can be added by clicking once in the audio track i (figure 21). You can add music stored on your device, there is a library of sound effects, or you can choose record to record your own voiceover or other sound to the film.
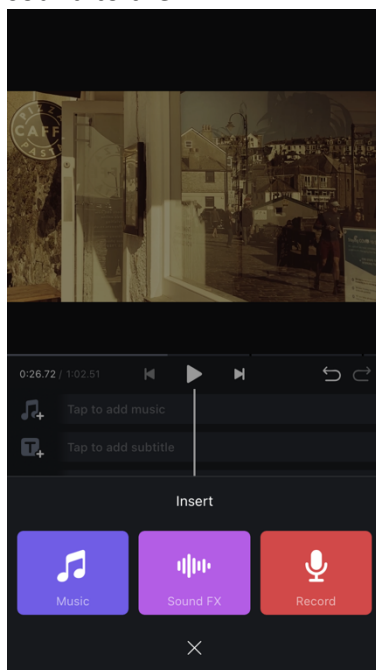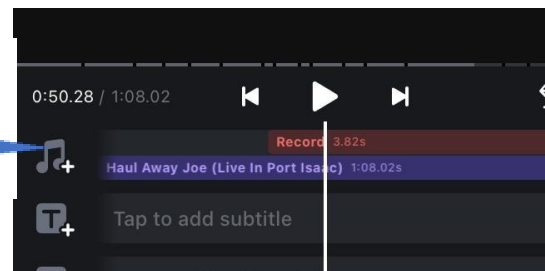

Figure 22 adding extra sounds to a video

You can have more than one audio track in a video such as soundtrack and voiceover. To add a second audio element, click on the add audio button (figure 22) and chose the type of sound you want to add. If you need to, you can adjust the volume of the new track by clicking on the sound and adjust the volume up or down, you can also fade it in and out (figure 23).
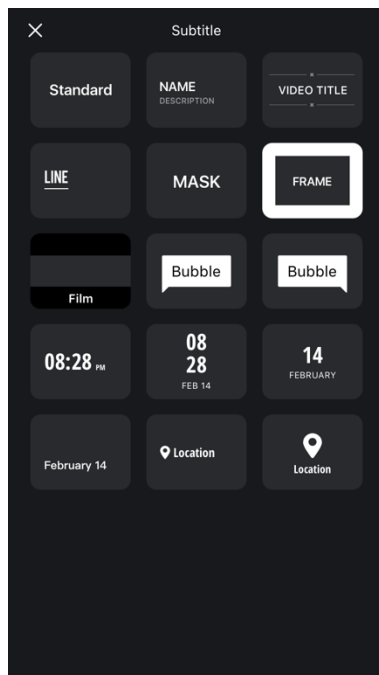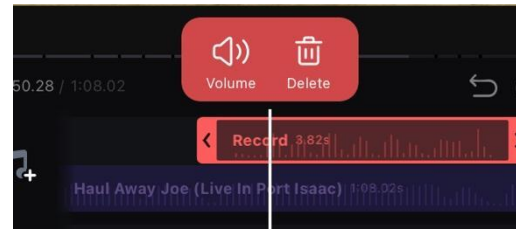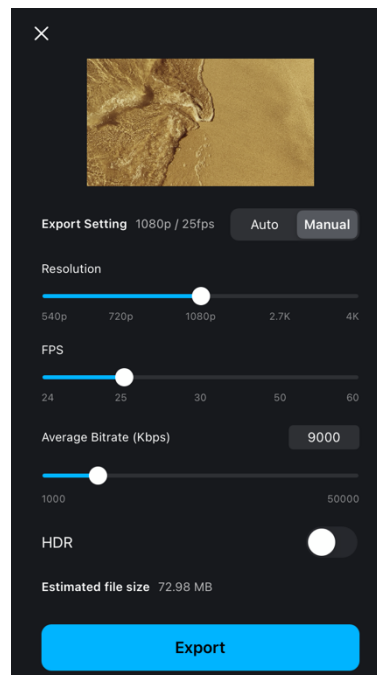
Figure 24 Adding text, or titles to video

Figure 25 Exporting finished video

Subtitles, captions and titles can be added by clicking on the (T) Subtitle track (figure 24). This may behave differently to the illustration on Android phones.

When you have finished editing, choose Export (top right of screen) you can choose the resolution and frame rate before clicking Export (figure 25). Depending on the length of the film, this may take a few minutes. Once processed, you will be offered the choice of Save and Publish or Save to Album. **Select Save to Album which will store the edited film on your phone.**

Other video Apps

FilmicPro offers features and controls that a professional filmmaker would expect to find in their cameras. It offers control over focus, zoom, sound recording, exposure and colour quality and can synchronise with other hardware such as gimbals.

Figure 25 Screenshot of Filmic Pro interface

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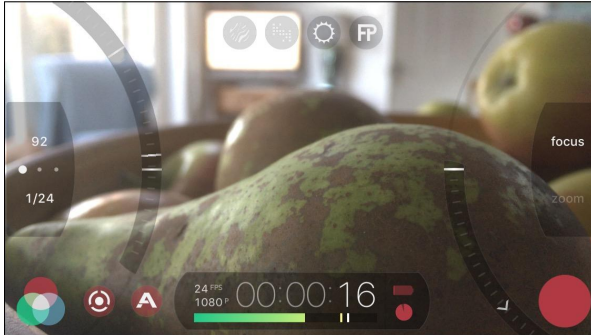
Teleprompter is an app which allows you to create a script and read it to camera while recording. It displays the text on the screen close to the front facing lens, the text scrolls at a user selected speed. The app uses the front facing lens which isn't as good as the lenses on the back. A phone using this app can be used in hardware teleprompters mounted on high quality video cameras for broadcast quality recordings.

Figure 26 Screenshot of Teleprompter app

Other resources

You can film in a way that makes editing easier and the final video will be more effective. This video shows some simple techniques that can add interest to video.

https://www.youtube.com/watch?v=fKyRaZIc_uc