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CPAGB

# MOBILE PHONE PHOTOGRAPHY

*The best camera is the one you have  
with you.*



# ADVANTAGES OF MOBILE PHONES

## Change how you think about mobile phones

- Always with you!
  - Small and light
  - Post process immediately
  - Bigger screen than compacts and DSLRs
  - Sharing images
  - Fully silent shooting
  - Easy selfies / group shots
  - Fast lenses
  - Low light shooting
  - Timelapses
  - Panoramas
  - Candid shots
- Camera phones are better in specs than most older compacts DSLs



# ABOUT YOUR MOBILE PHONE

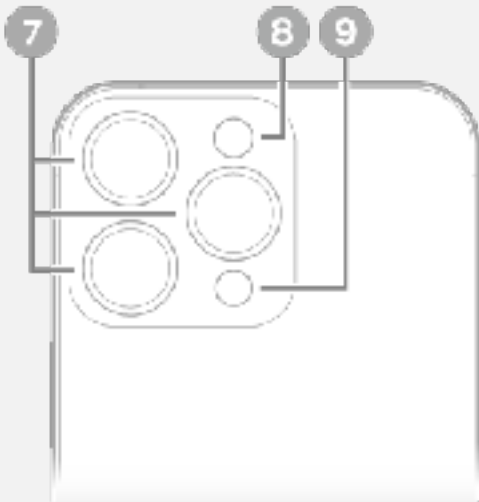
*Common brands,  
applications and settings*

# BRANDS

*There are many different brands of camera phones, all have the same features.*

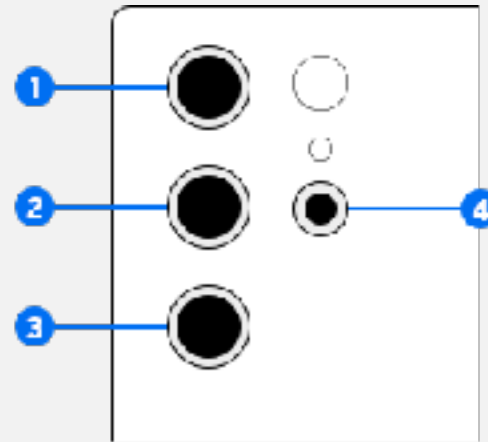
## Apple

- iPhone6 was the last camera <12MP
- Between 1 and 3 lens depending on models
- f1/8 and f2.4 (2.4um pixels)



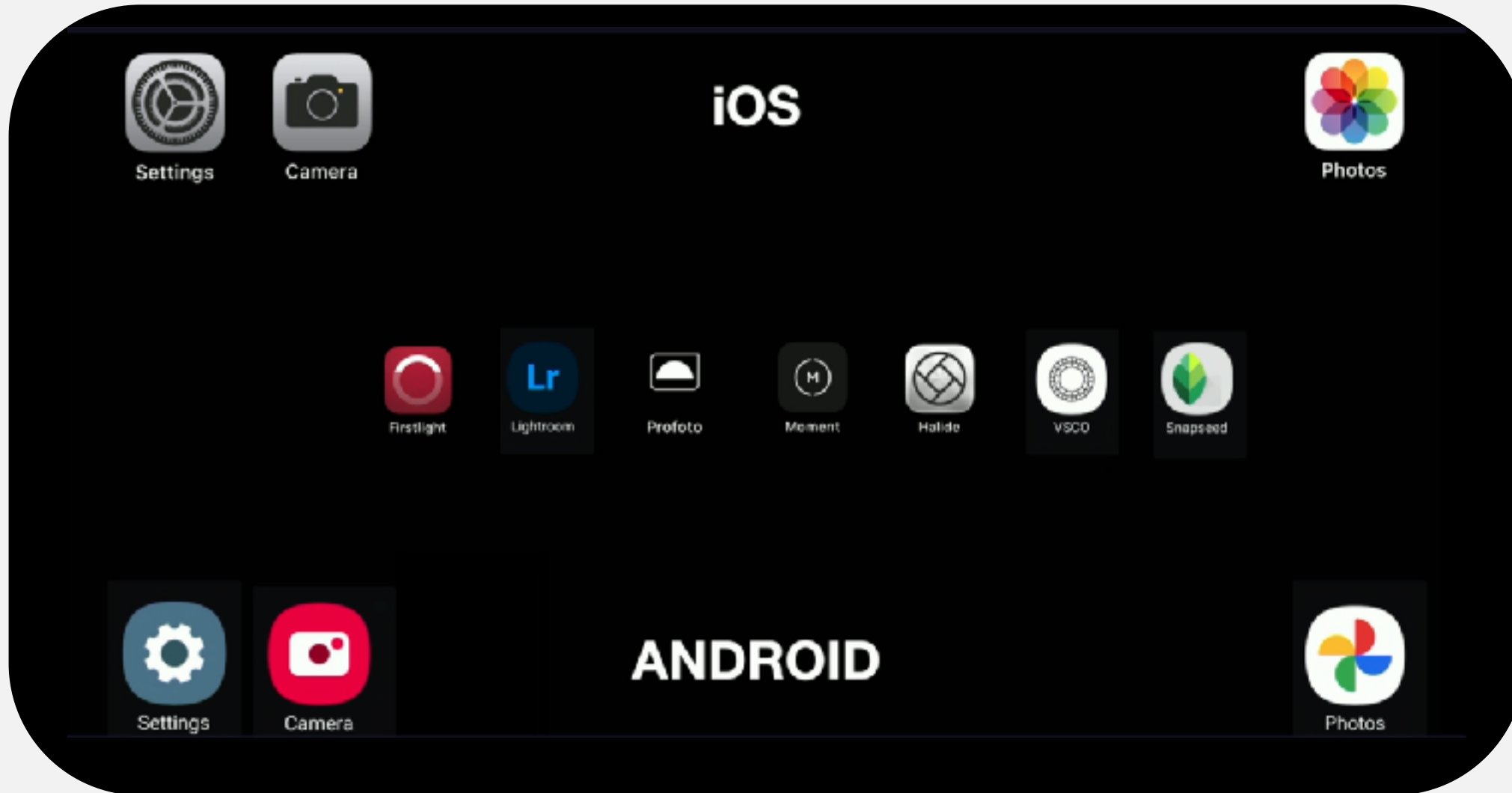
## Android

- Samsung / Google-Pixel (S22Ultra 102MP!)
- Between 1 and 3 lens depending on model
- f1.8, f/2.2 and f/2.4 (1.4um pixels)





# CAMERA APPLICATIONS



# DOF

*What is the DOF of these lenses*

## iPhone Specs

12MP  
**Wide**

New  $f/1.6$  aperture  
7-element lens  
26 mm focal length  
27% improved low light  
Optical image stabilization  
100% Focus Pixels

12MP  
**Ultra Wide**

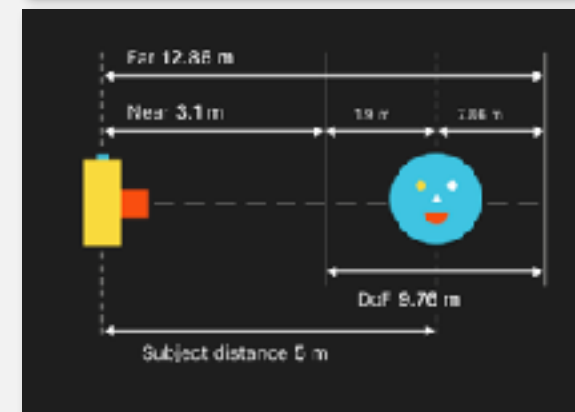
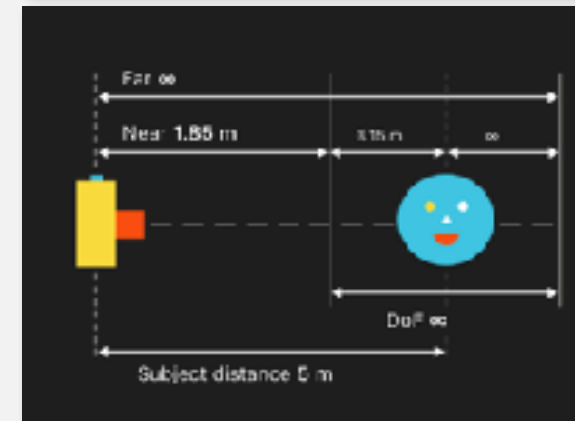
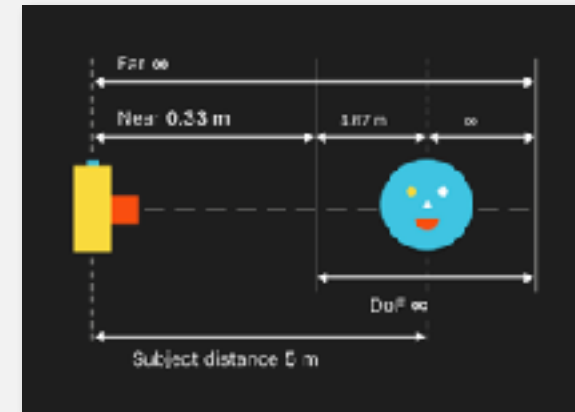
$f/2.4$  aperture  
5-element lens  
13 mm focal length  
120° field of view

iPhone 12 Pro  
12MP  
**Telephoto**

$f/2.0$  aperture  
6-element lens  
52 mm focal length  
4x optical zoom range



- Sensor distance is very small
- Large DOF even at  $f/1.6$
- Designed to get most subject situations in focus



Simple DoF Calculator

Cancel 30 600 500 400 300 200 100

Infinite  
15.60 m  
11.30 m  
3.37 m  
Infinite

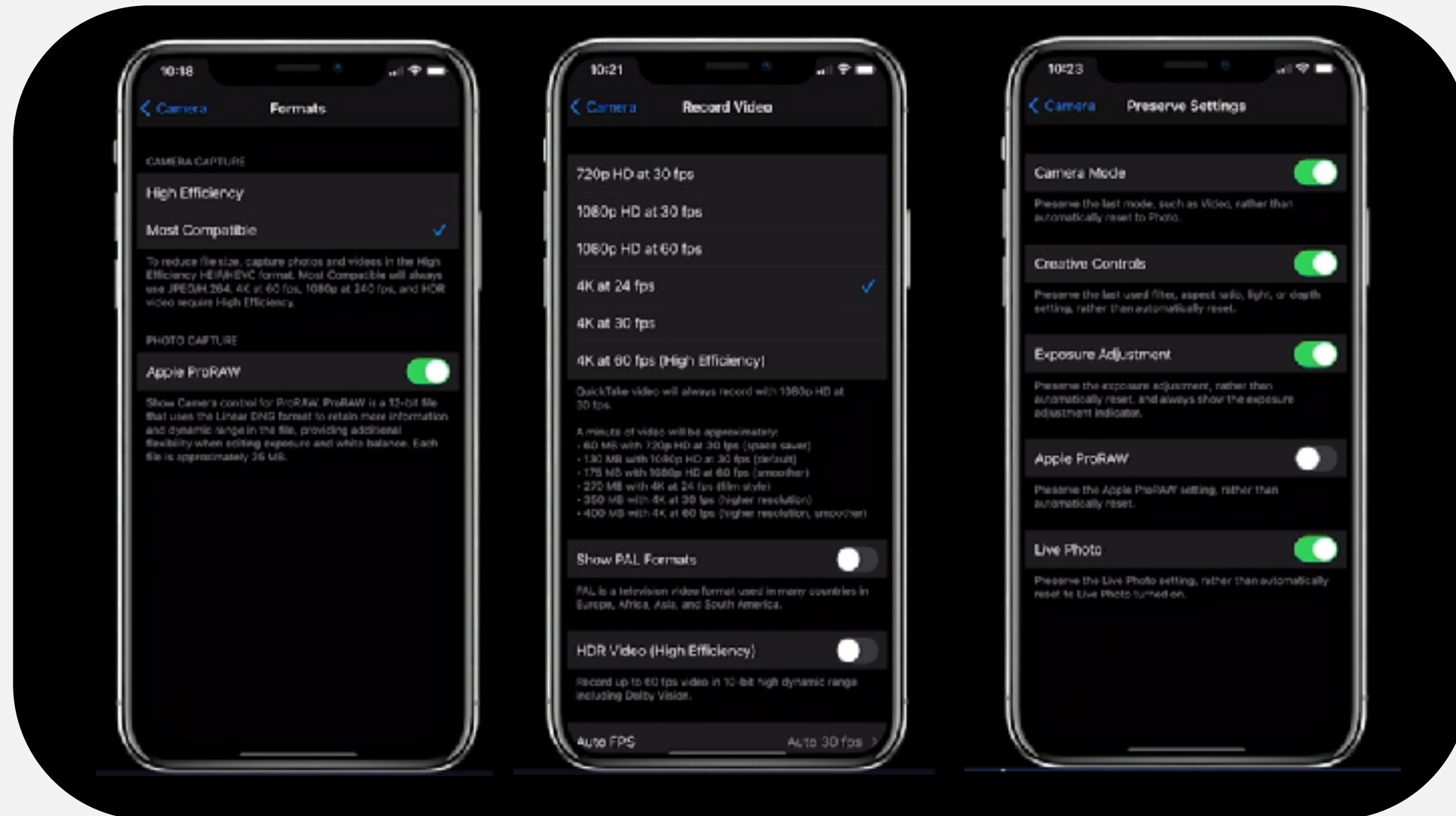
Look: 1.079 Hyper Focal Distance: 1.25 m

f/stop	lens	focus distance
1.0	11	12
2	12	13
2.2	13	14
2.4	14	15
2.5	15	16
2.8	16	17
3.2	17	18

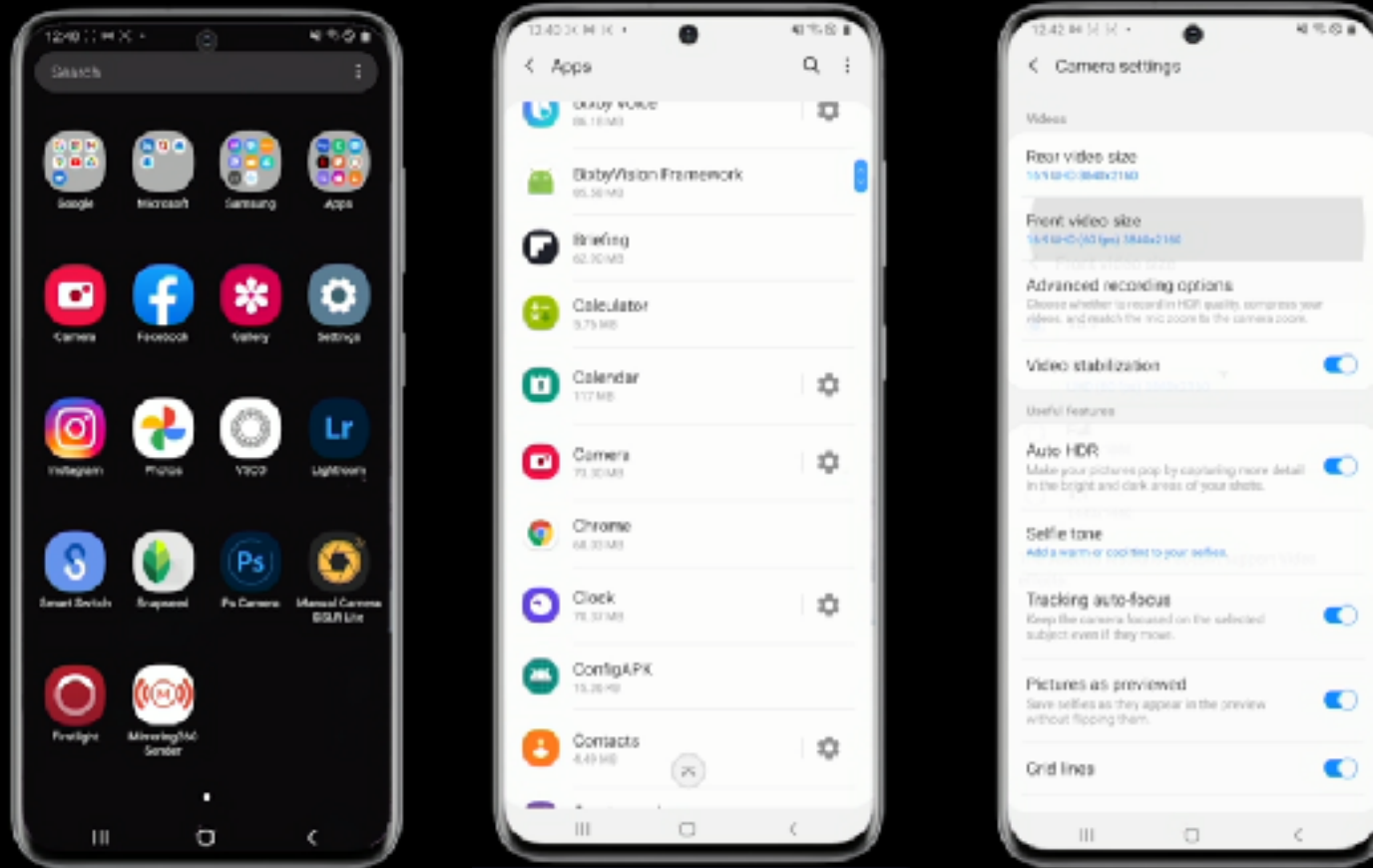
# IPHONE SETTINGS



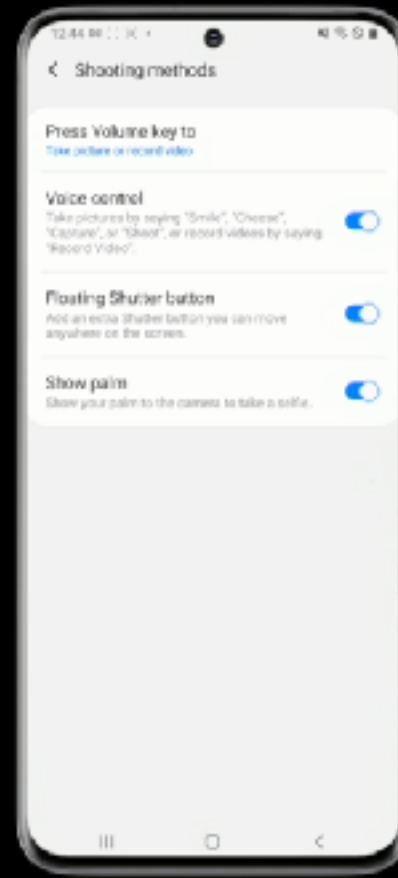
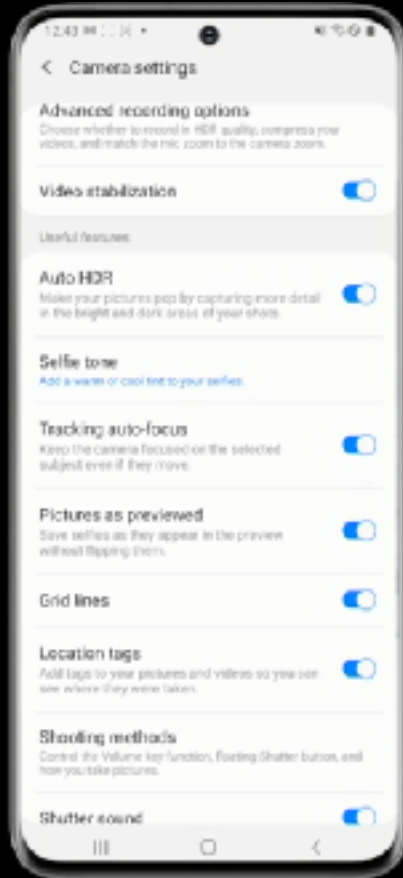
# IPHONE SETTINGS



# ANDROID SETTINGS



# ANDROID SETTINGS





# WAYS TO TRIGGER

Headphones



Watches



Bluetooth trigger – Amazon £4



Volume buttons

Screen button

Voice command

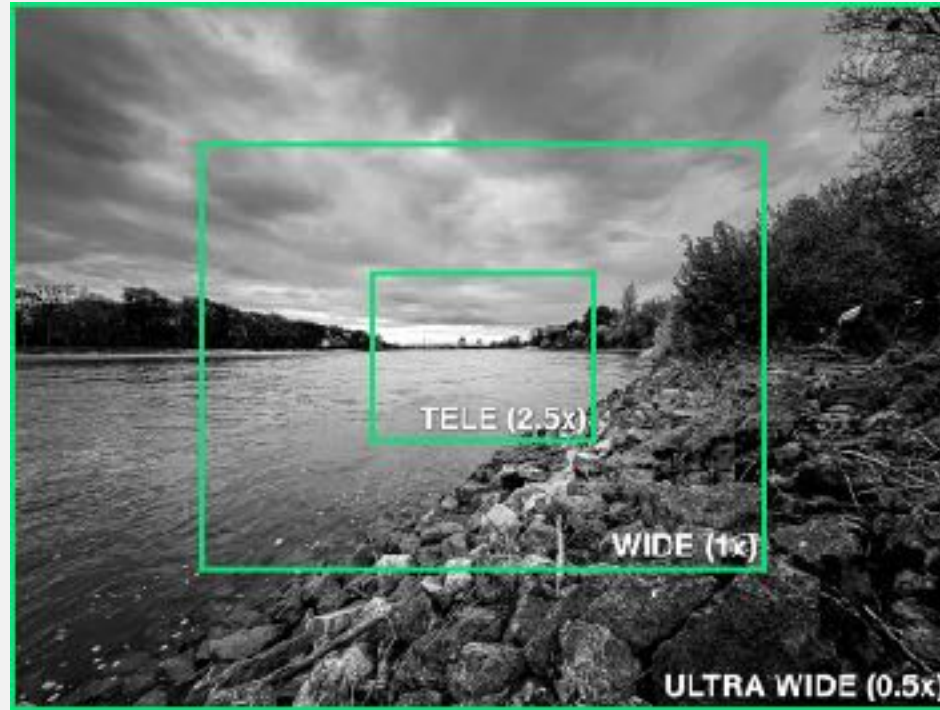
BackTap  
Configure in accessibility options  
Great way to access the camera

# LENS

*Different lenses – different views*

## Viewpoints

- Lenses give optical zoom
- Pinching will move between lenses
- Only use native zooms
  - Everything in between setpoints will be a digital zoom



.5x



1x



2x



10x

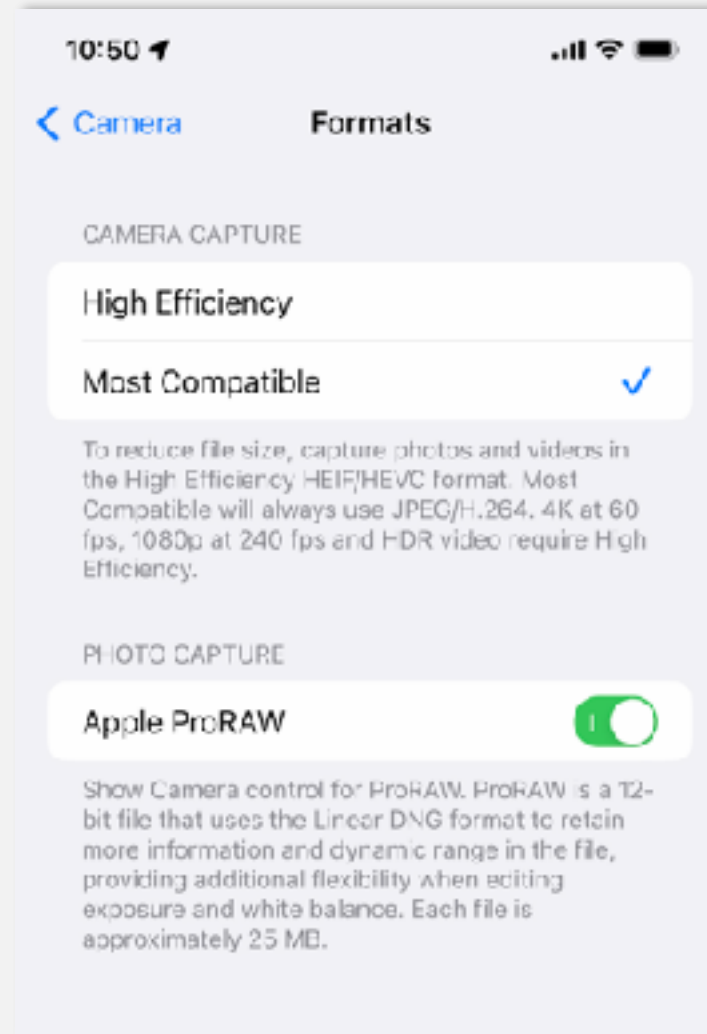


# FILETYPES

## *Why filetype matters*

### Size matters

- High efficiency
  - Apples' HEIF/HEVC format
  - Works well on iPhones and Adobe apps
  - Smallest filesize
  - Not shareable between devices
  - Not easy to share online
- Most compatible
  - JPEG format
  - Compression artefacts
- RAW
  - Captures 12-bit raw from the sensor
  - Most flexibility in editing
  - Largest file size



# HDR

*Modern smartphones can make HDR in device*

Input



Output



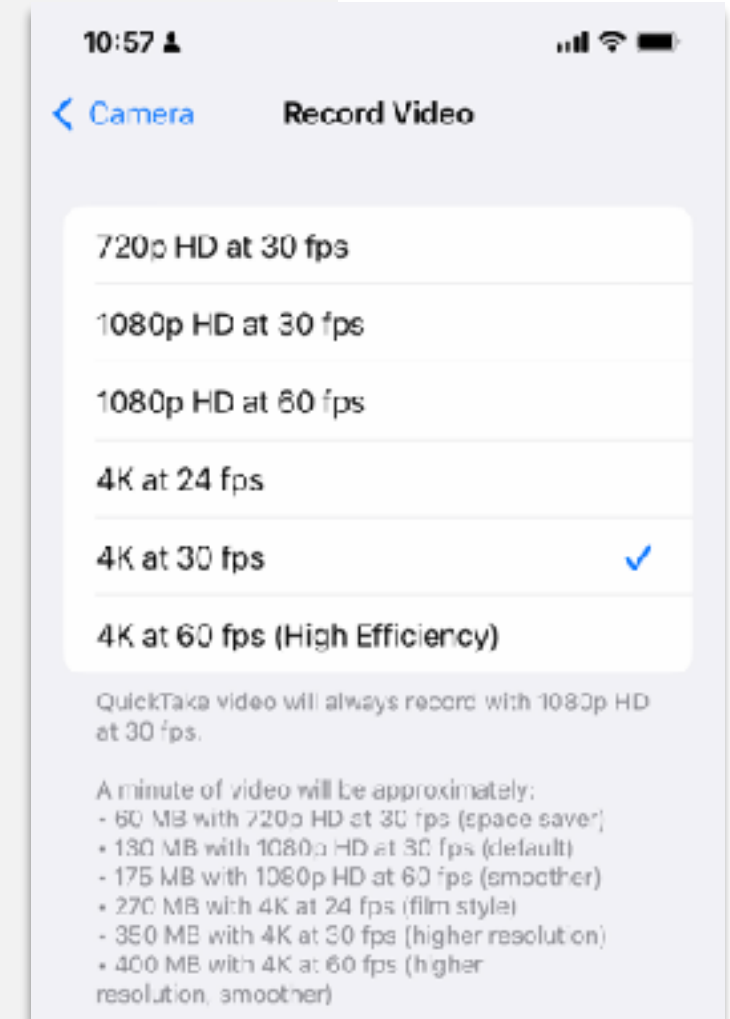
- The phone will take multiple photos rapidly based on auto-exposure settings
- Combined on the device to give the best exposure
- Tone mapping algorithms differ between devices
- Processing power of device
- Use a tripod or stabilising techniques



# FRAMERATES

## Frames from video

- Extracting frames from video to capture the moment
  - Live view
  - Slow motion
  - Native videos

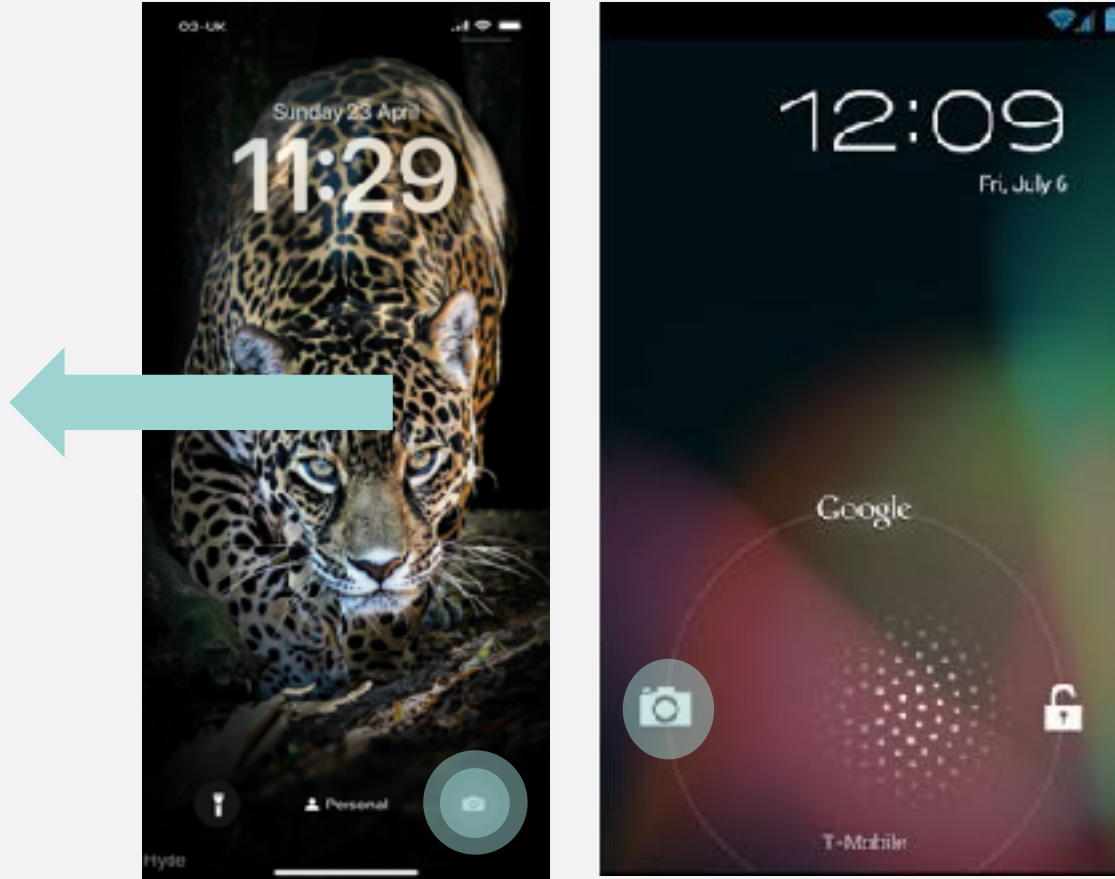


# NATIVE CAMERA APPLICATION

*How to use the native apps*

## Ways to open

- (Force) push the camera icon on home screen
- Swipe left
- Backtap
- Siri / Alexa



# BASIC CONTROLS

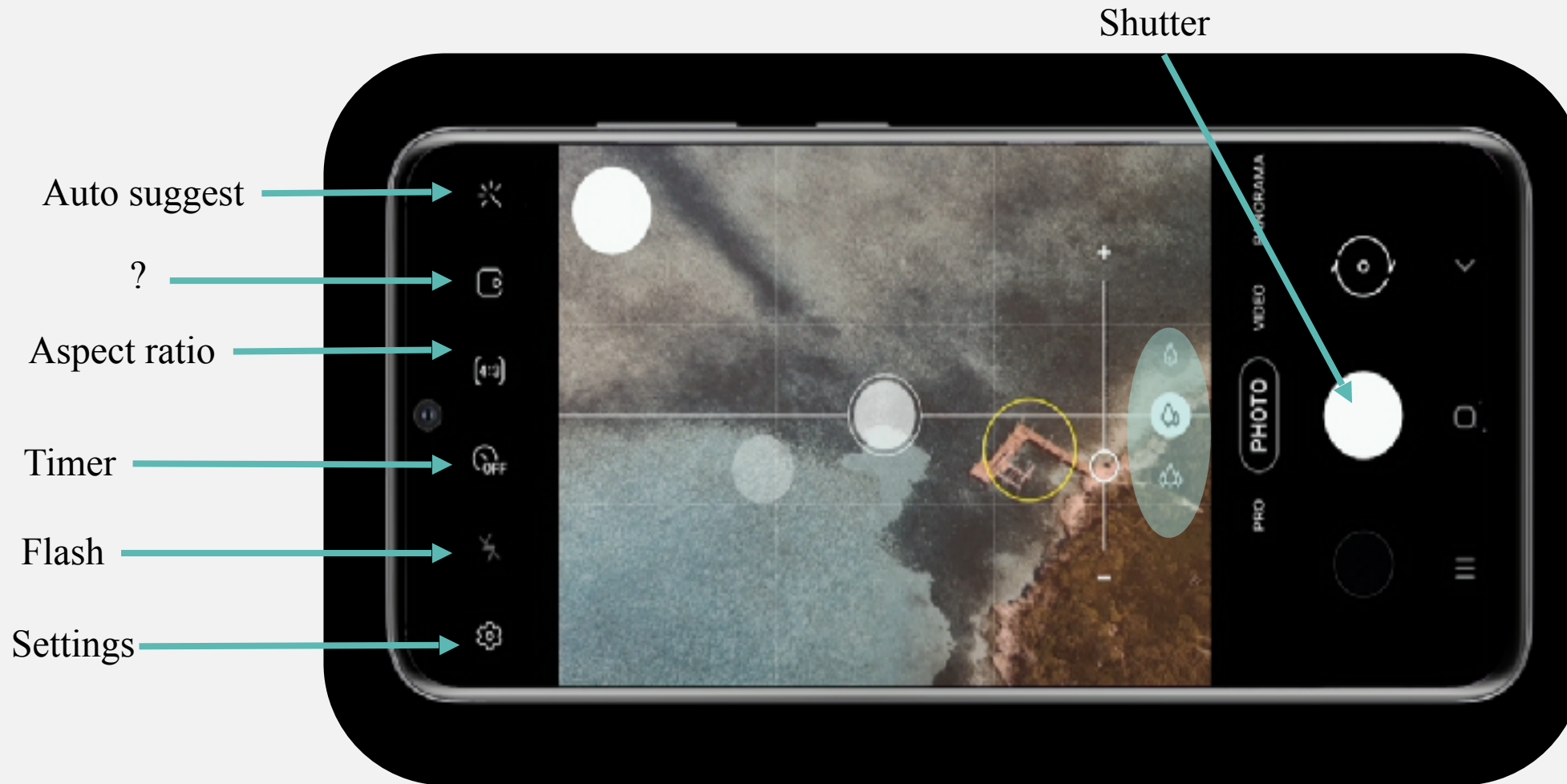
*Apple iPhone*





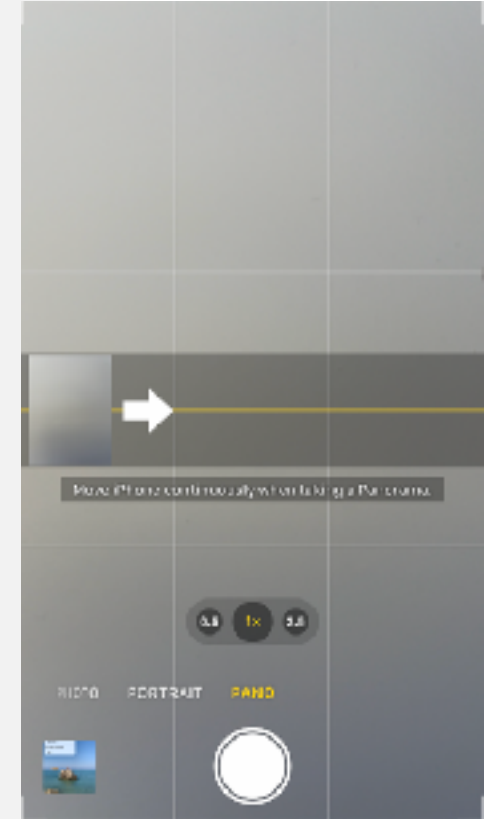
# BASIC CONTROLS

*Android*



# PANORAMAS

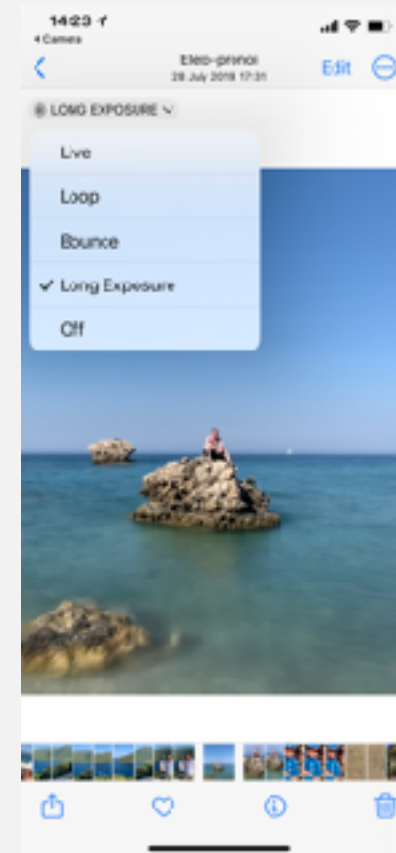
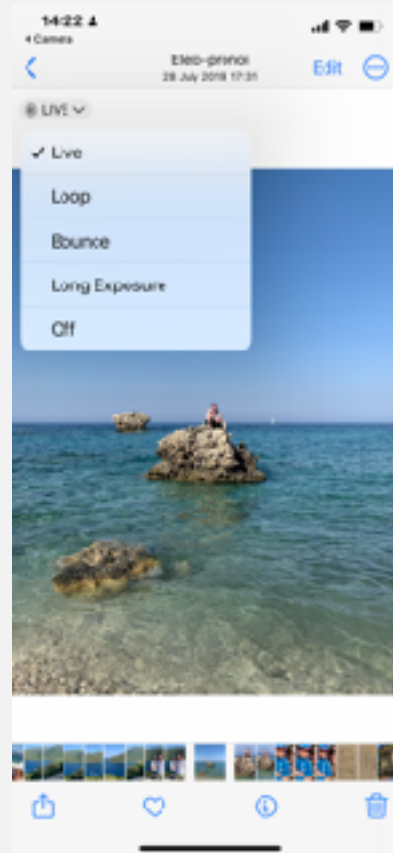
*Shoot wider than wide*



- Works best with 1x or 2x lens
- Move carefully and slowly from left-to-right (or up / down for vertical panos)
- Hold phone in portrait
- Camera stitches and blends on the fly

# LOW LIGHT AND LONG EXPOSURES

*Native applications - long exposures*



- Activate live photos
- Hold steady or use tripod
- Change mode after taking



# PORTRAIT MODES


- Variety of portrait modes
  - Natural light
  - Studio light
  - Contour light
  - Stage light
  - Stage light mono
  - Noir (high-key mono)
- Can change modes after taking
- Can change apparent aperture after taking
  - Light-field cameras
- Adjust settings at taking (exposure etc)



# UNDERWATER SHOTS

- Most phones are IP68 rated
- 30 minutes
- A few meters depth
- Don't push it – use a waterproof case
- Don't charge for a while
- Completely dry the phone out afterwards

JOTO Universal Waterproof Pouch Cellphone Dry Bag Case for iPhone 14 13 12 Pro Max Xs Max XR X 8 7 6S Plus SE, Galaxy S22 S22+ S21 FE -Black



Roll over image to zoom in

Shipping by Amazon.com for business-to-business pricing, communicate with us via [Amazon.com](#)

Worth the price? 4.4 ★★★★★ 49,473 ratings

**Amazon's Choice** for "phone waterproof pouch"

**Amazon Prime** FREE Returns

**Buy 4, Save 30%** Discount by Amazon. Terms & Conditions

Our gift to you: Pay \$6.95 \$9.99 for this order. Get a \$3 Amazon Gift Card upon approval for the Amazon Business Card. No annual fee in the first year. High-RPM (3.7%) Variable Amazon is a credit provider. Not a lender.

Color Name: **Black**

**\$6.95**

**Amazon One-Click** FREE Returns

**FREE delivery Tomorrow, April 24.** Order within 2 hrs 1 min. Details

**Deliver to:** Philadelphia, PA 19101

**In stock**

Quantity: **1**

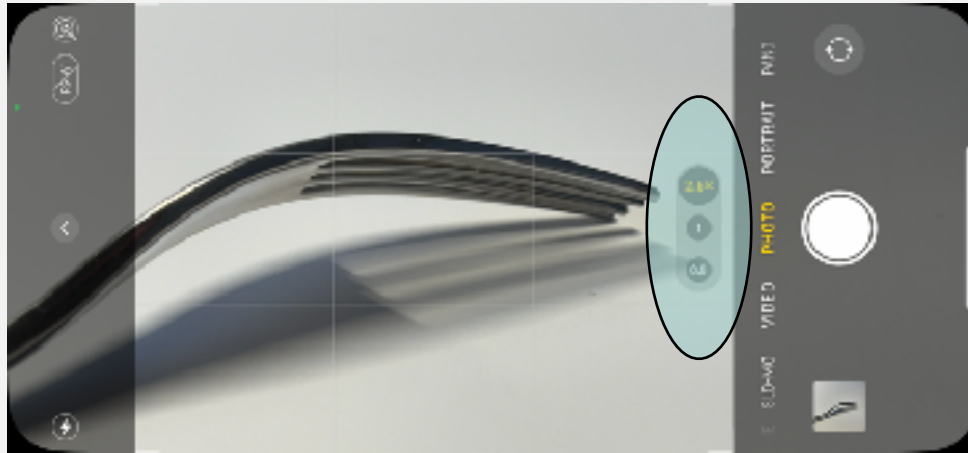
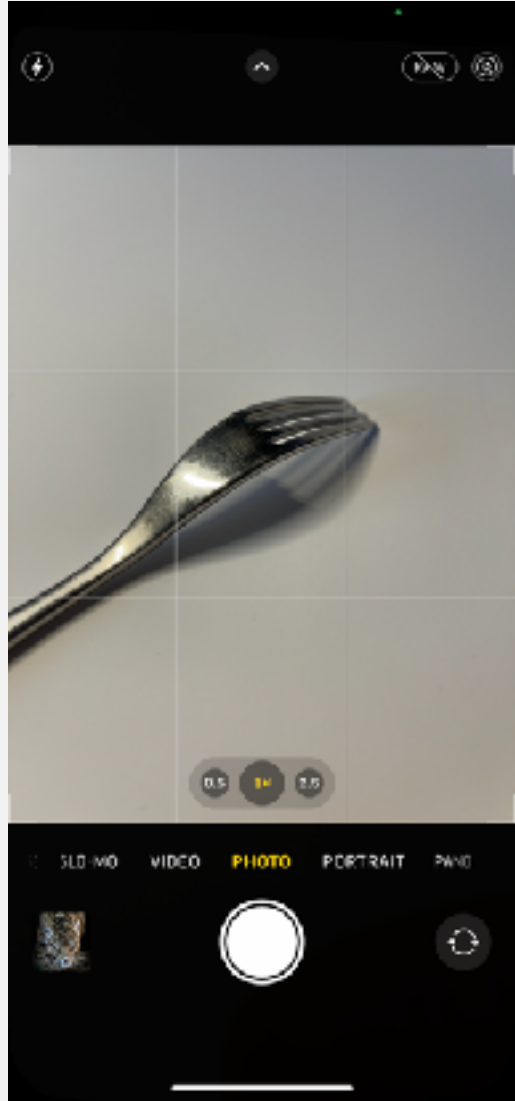
**Add to Basket**

**Buy Now**

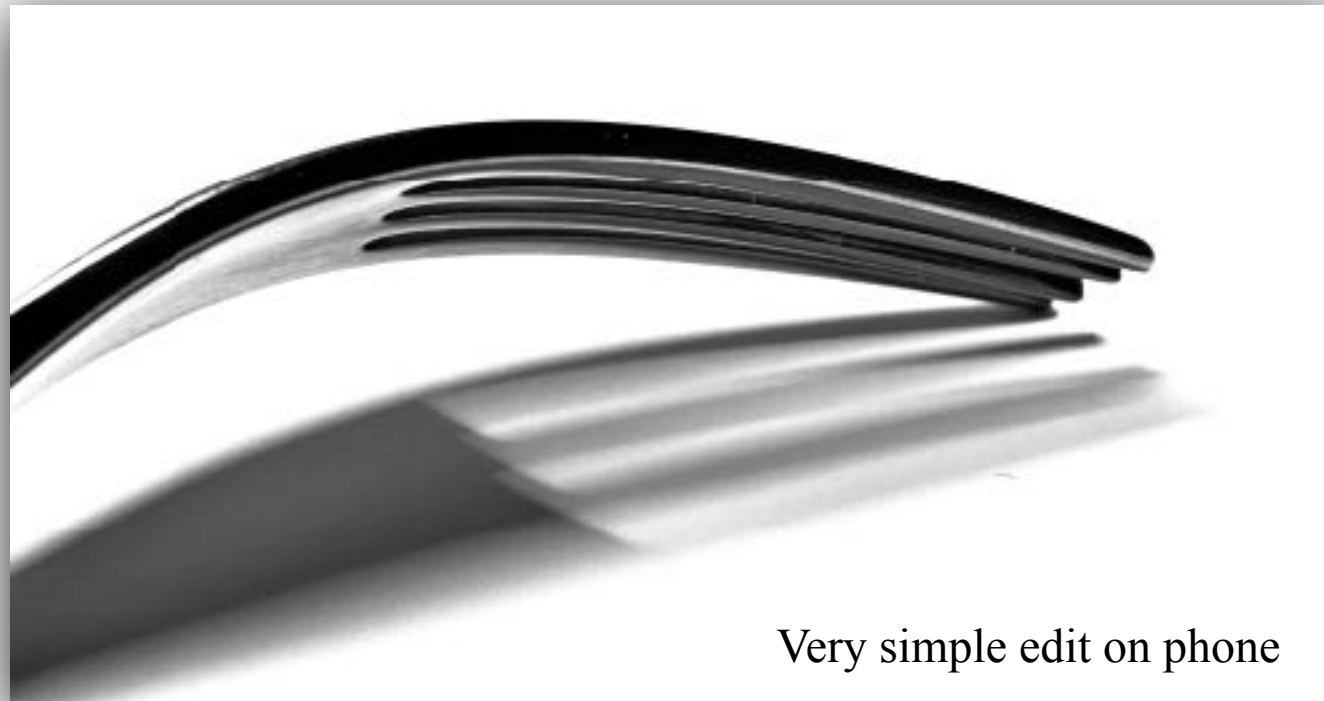
Payment	Secure transaction
Log in to Amazon	Amazon
Sold by	Amazon Direct LLC
Payment method	Payment method
Shipping	Ships from Amazon
Details	



# BASIC SETTINGS WITH ANY PHONE

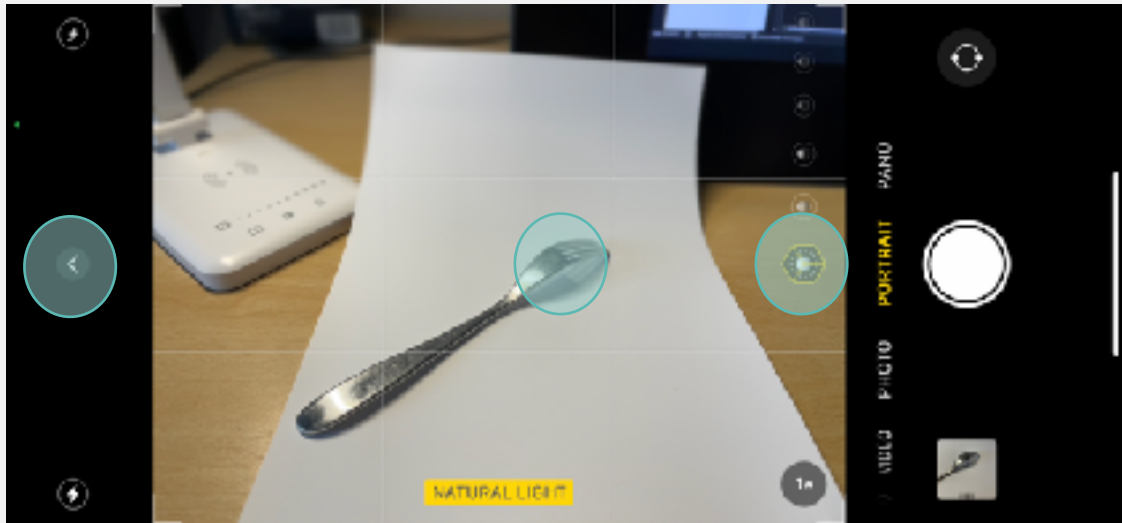


Switch to a longer lens with a change of viewpoint



Very simple edit on phone

# MORE ADVANCED WITH SPECIAL MODES

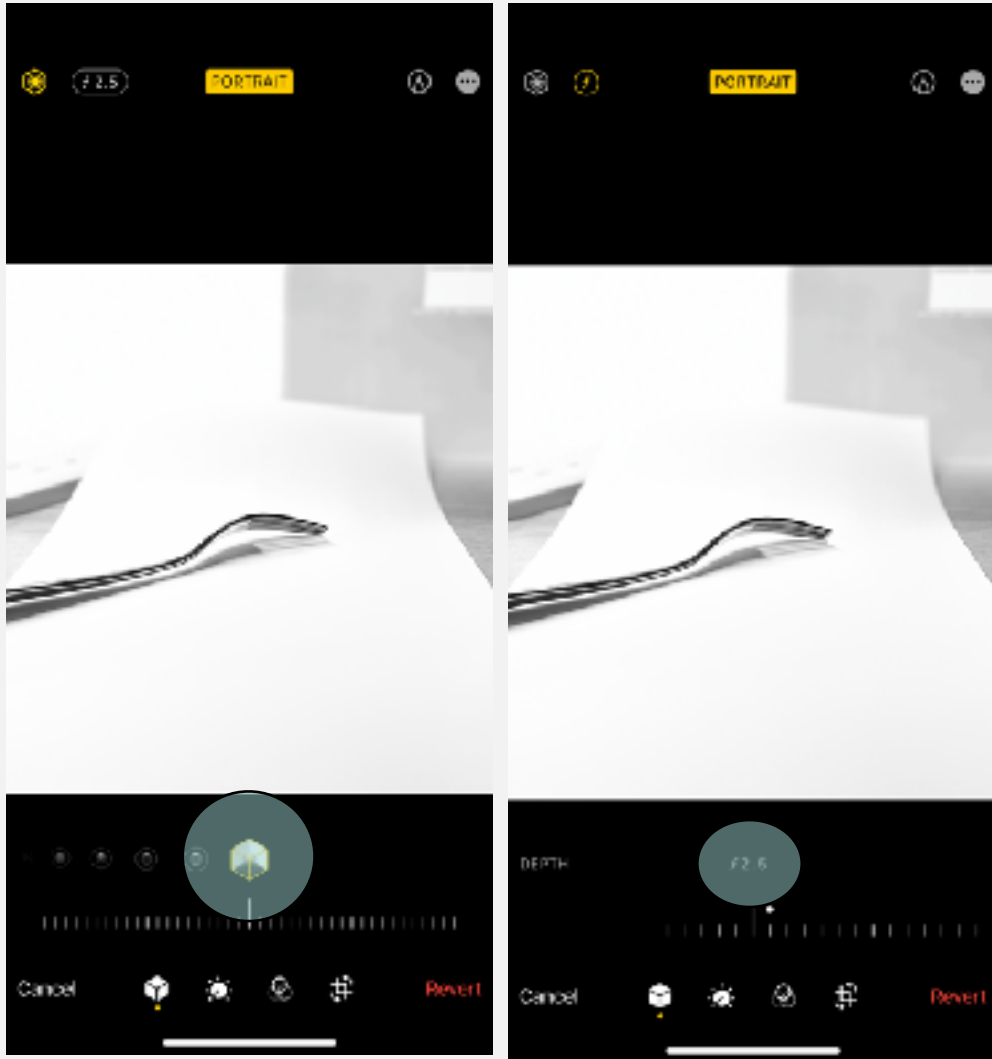


- Photos with multiple lenses have portrait modes
  - Uses more than one lens to capture image
  - More effects built in to edit post capture
  - Only available when shooting 1x (mid range lens)
  - Needs to be further away to take advantage of effects



Still looks like a boring shot!

# QUICK AND SIMPLE EDIT ON THE PHONE



Crop, Noir mode, reduced aperture slightly

# PRACTICAL

*Let's practice and get a  
simple shot now!*

# WHAT MAKES A PHOTOGRAPH

*Common principles of  
photography*



# PHOTOGRAPHY PRINCIPLES - COMPOSITION

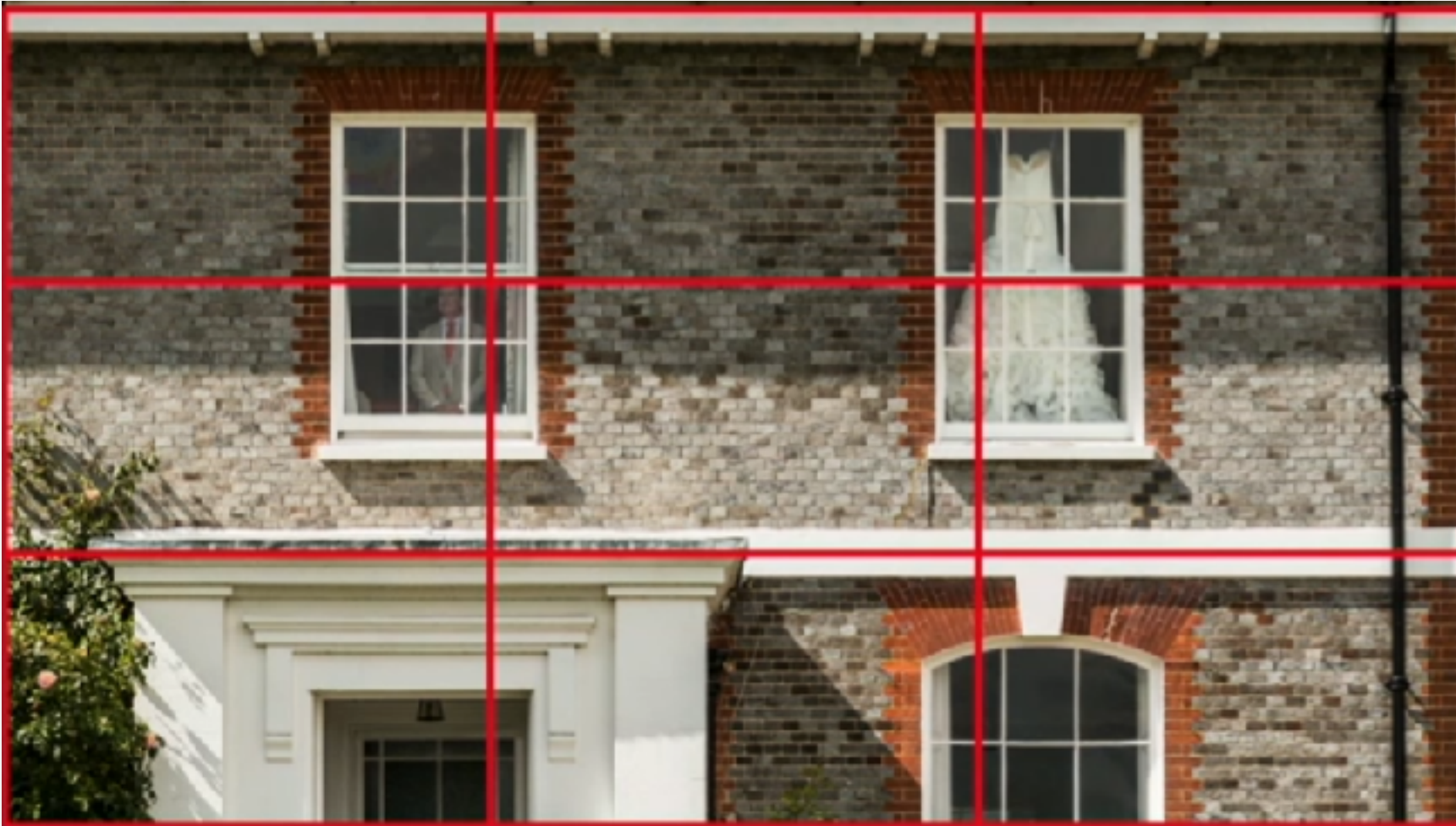
Cropping changes everything





# PHOTOGRAPHY PRINCIPLES - COMPOSITION

## Rule of thirds



# PHOTOGRAPHY PRINCIPLES - COMPOSITION

## Frames in frames





# PHOTOGRAPHY PRINCIPLES - COMPOSITION

## Proximity to edges



# PHOTOGRAPHY PRINCIPLES - COMPOSITION

## Leading lines



# PHOTOGRAPHY PRINCIPLES - COMPOSITION

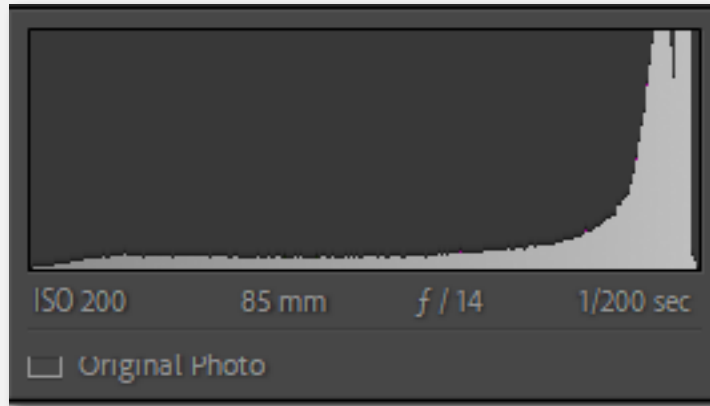
## Use of colour





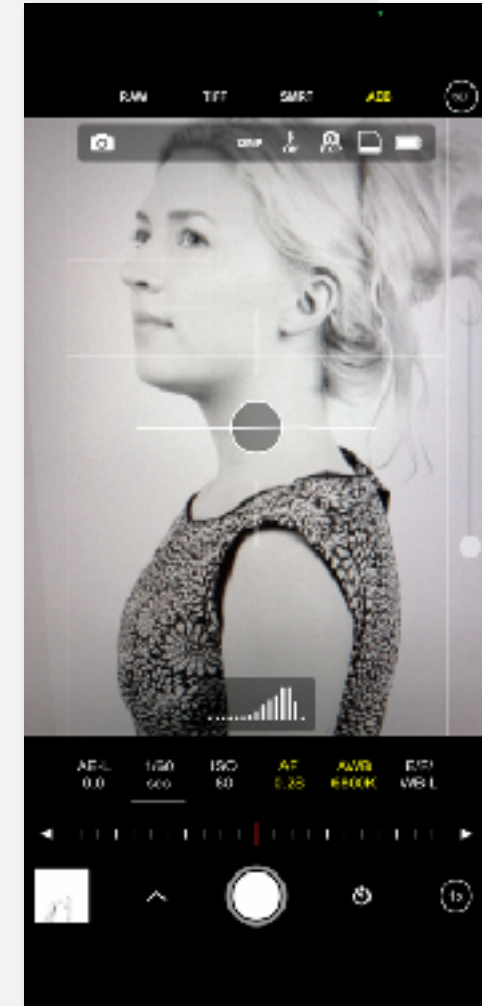
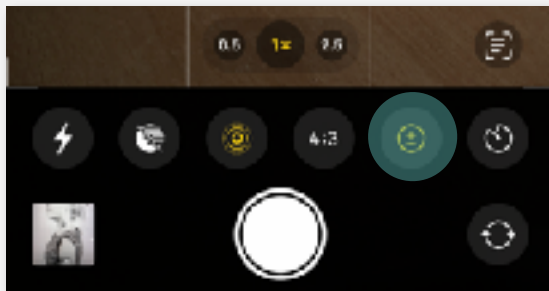
# PHOTOGRAPHY PRINCIPLES - EXPOSURE

## Use the histogram



Bar chart of all the pixel luminance values in the image

Use compensation sliders when taking images



# PHOTOGRAPHY PRINCIPLES - SUBJECT

## Simple, obvious subjects

- Uncluttered backgrounds make subjects obvious
- Street photography
  - Choose a good background
  - Strangers act naturally
  - Stand on the side
  - Pretend to make a video call
  - Use headphone shutter release
  - Use burst mode
  - Use the longest lens for close-ups
  - Use puddles and reflections
  - Find interesting angles of subjects
  - Venture out after or in bad weather



# MOBILE APPLICATIONS

*Overview of applications*

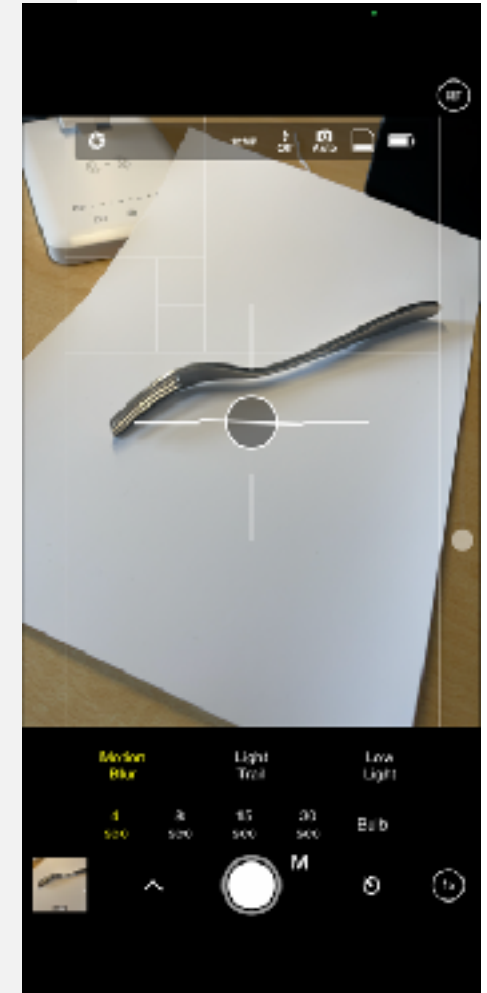
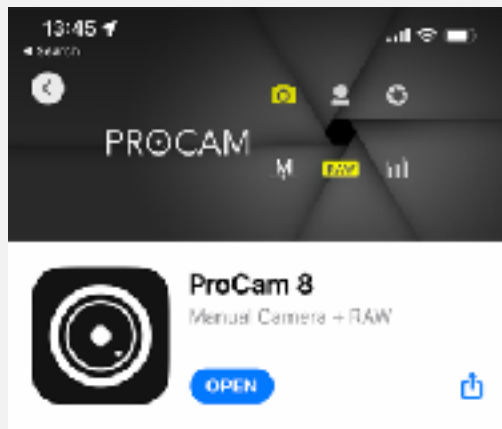


# PROCAM+

*Access more features than native applications*

## More controls / easier

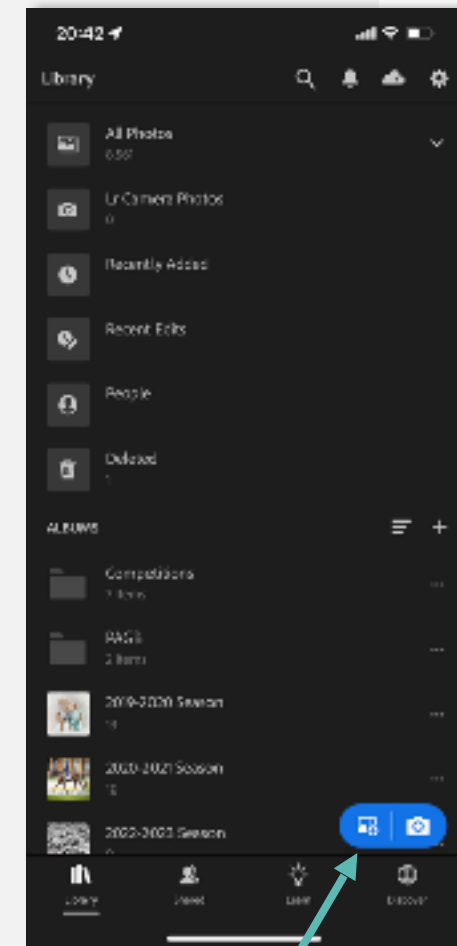
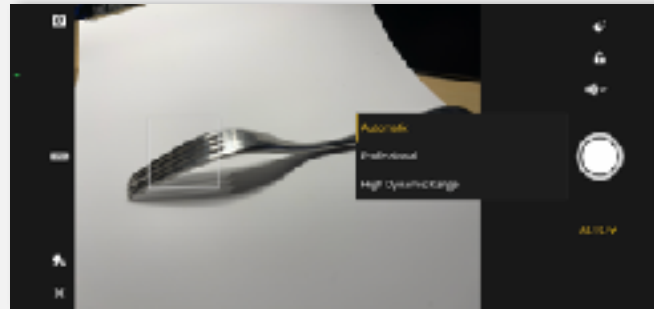
- Available for iOS and Android
- Provides good controls over
  - Aperture
  - Shutter speed
  - Compositional aids
  - Low light shooting
  - Output formats
  - Editing



# ADOBE LIGHTROOM

## Shoot and edit with complete control

- Access to camera from Lightroom App
- Put camera in either
  - Auto
  - Professional
  - HDR (Captures HDR in DNG-RAW)

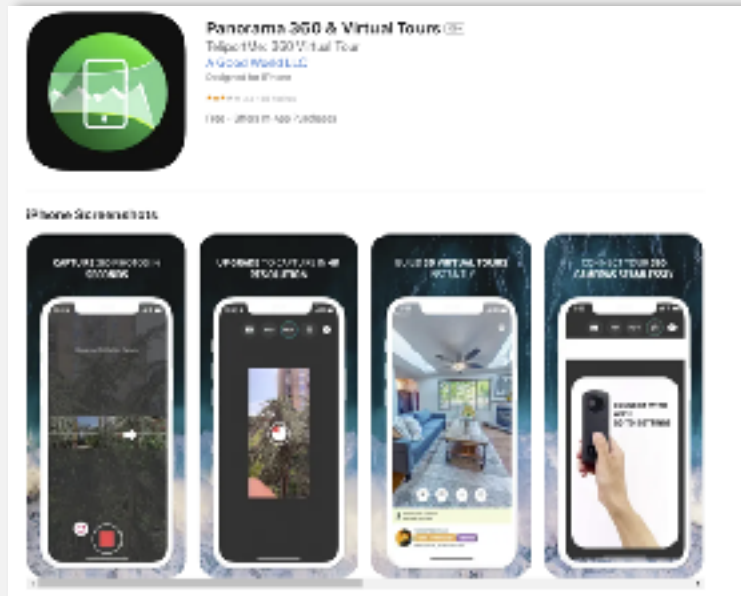


Not the easiest to find,  
you have to scroll until  
it appears

# 360 (AND RICHO THETA)

## 360 (application)

- Projects a sphere on screen with an image from the camera
- Uses the accelerometer to work out direction / tilt
- Automatically captures images as you move around
- Stitches them together to create 360 panorama



## Richo Theta

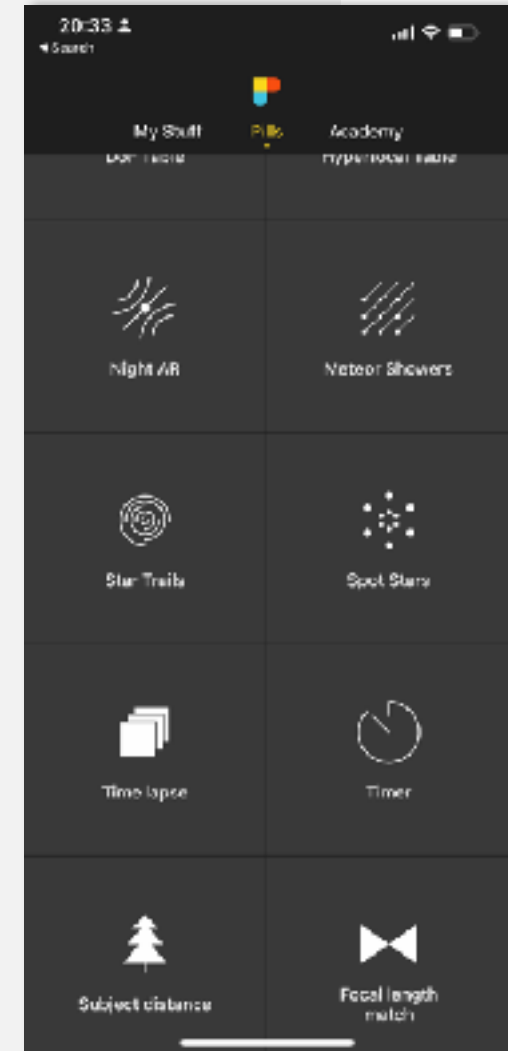
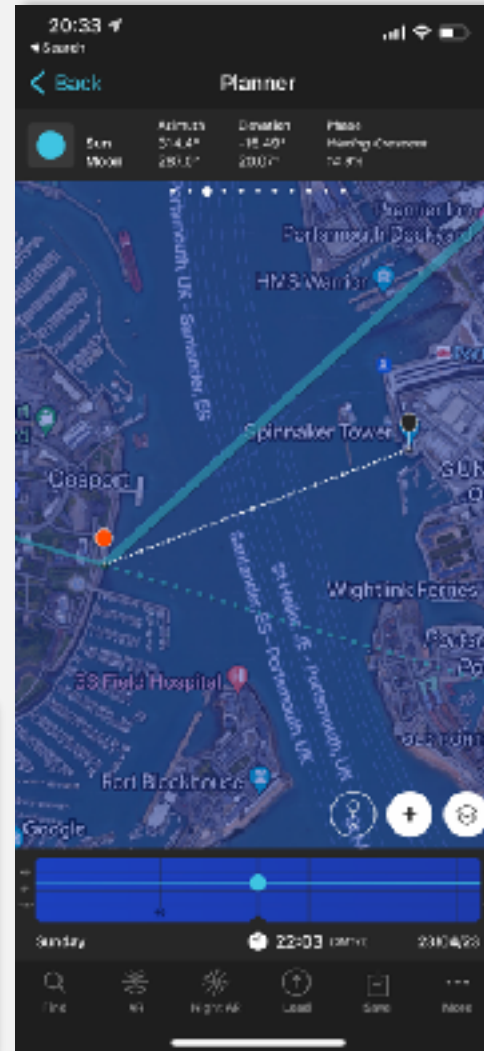
- Separate camera
- 2x 200° lenses back to back
- You are always in the shot
- Can use smartphone as a remote release
  - Not in shot
  - In better position



# PHOTOPILLS

## Plan where sun / moon / stars are

- Powerful predictive program
- Ephemeris but also capable of determining height of objects at distance
- Put the moon on the tip of the Spinnaker Tower
  - Moon should be 5m apparent size when 170m above horizon



# EDITING ON MOBILES

*Overview of applications*



# NATIVE APPLICATIONS

## Native apps have come along way in editing



- Select photo from browser / grid
- Click edit
- Controls open at the bottom of the screen
- Wide range of controls available
  - On par with desktop editing
- Slider (left-right) changes options

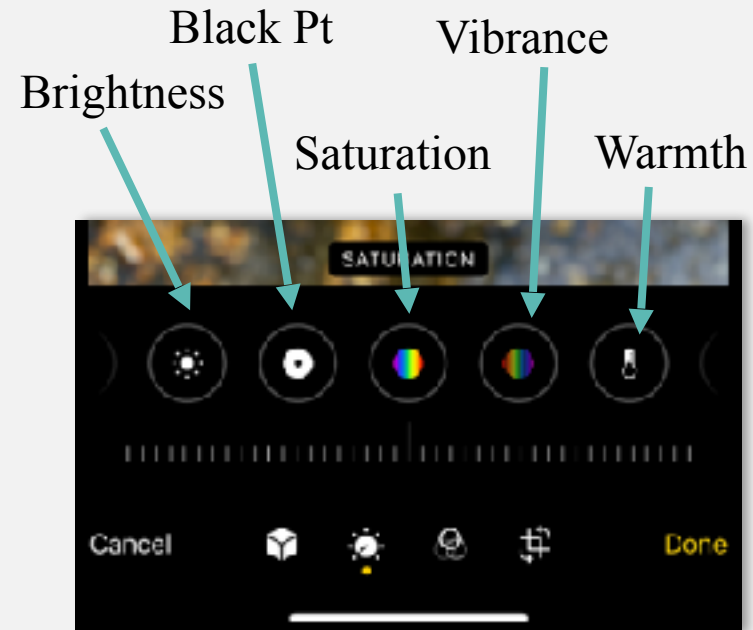
Exposure

Brilliance (Contrast)

Shadows

Contrast

Highlights



Brightness

Black Pt

Saturation

Vibrance

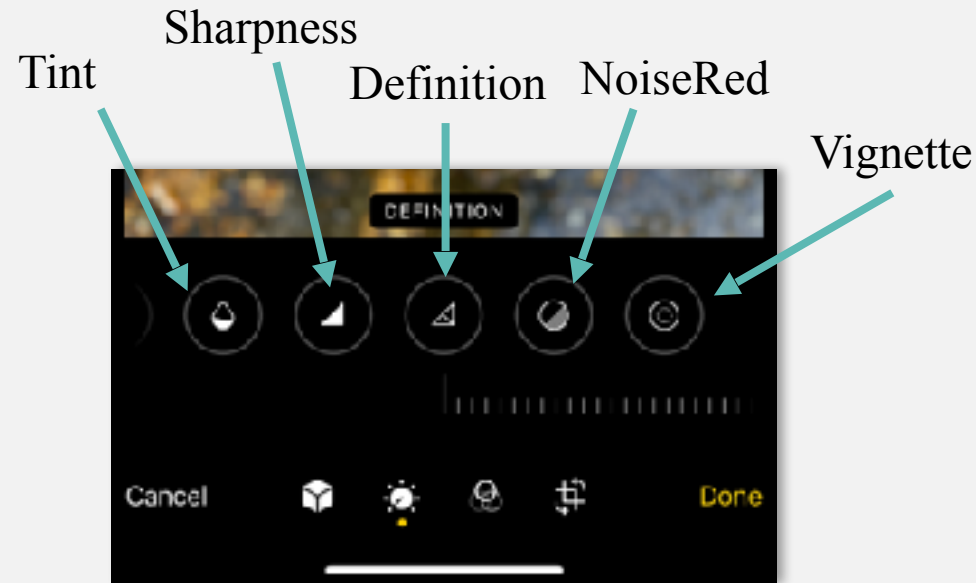
Warmth

# NATIVE APPLICATIONS

## Native apps have come along way in editing



- Preset filters
- Send to other editing apps (for effects)
- Crop tool
- Red-eye removal tool
- Add markup (draw on images)

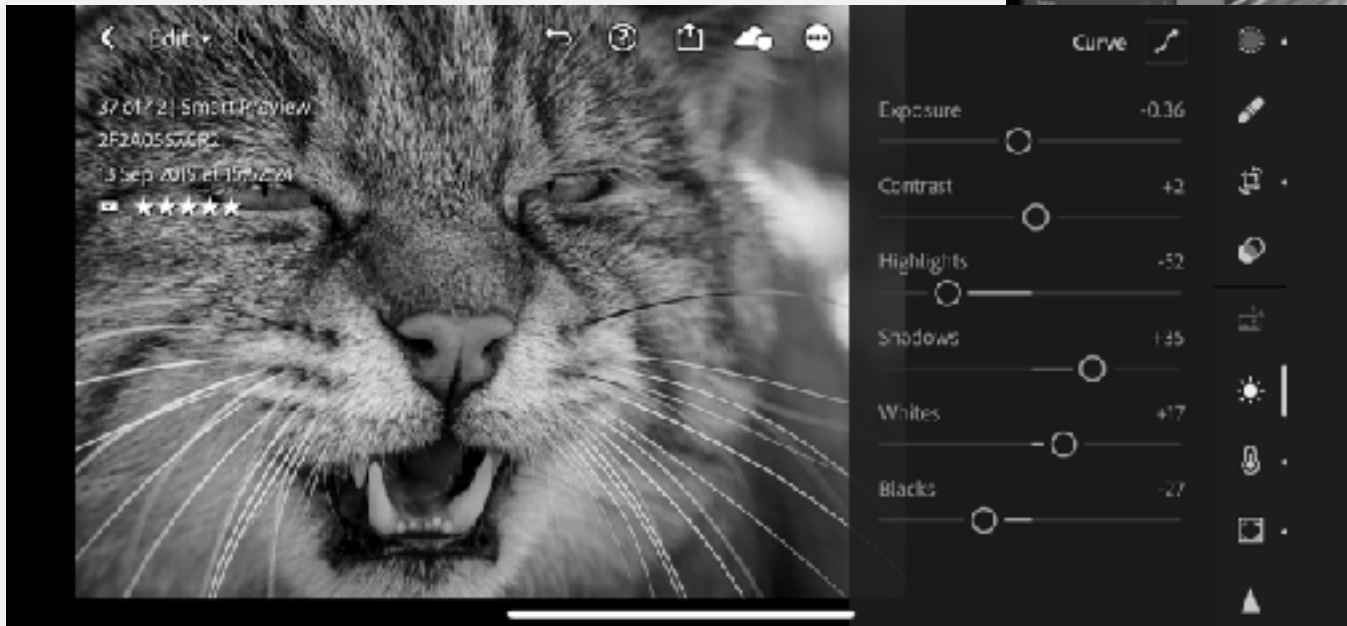


# ADOBE LIGHTROOM

*Every control is available on the mobile platform*



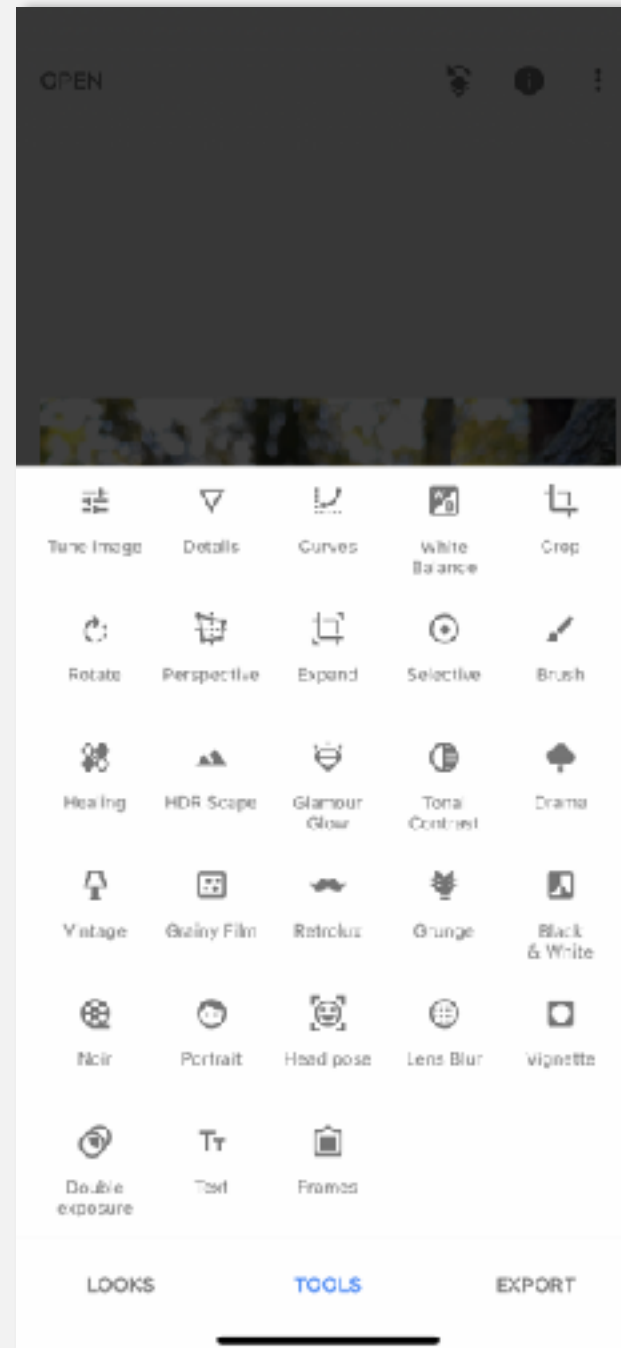
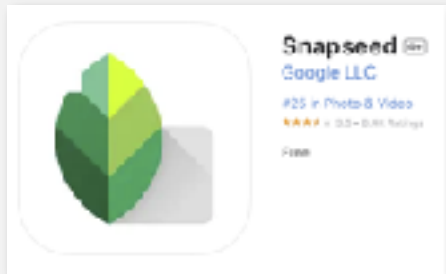
- Full desktop experience on your phone
- Every control available
- Masking, brushing, clone stamp etc
- Sync edits back to desktop



# SNAPSEED

## Editing and object removal

- Great editor
- Lots of simple to use tools
- Preset filters
- Powerful clone stamp / removal tools

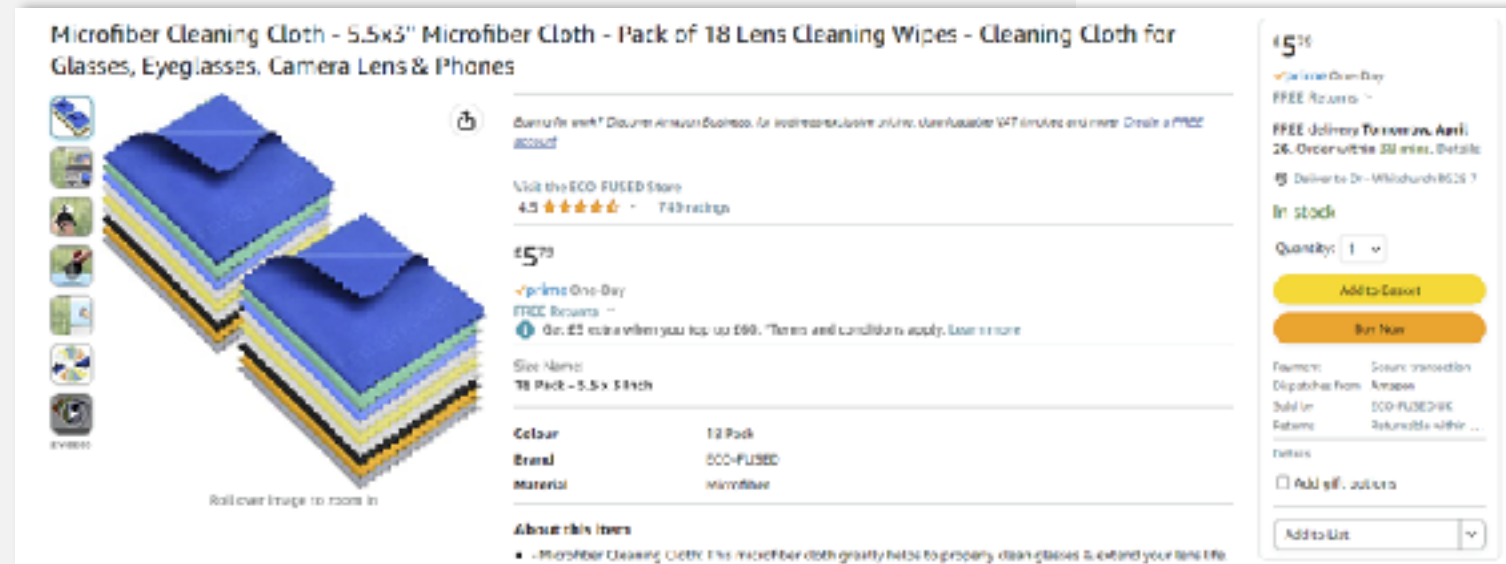


# TOP TIPS

## Things to remember

- Set up quick opening shortcuts
- Release from headphones / buttons
- Use the grid
- Shoot low / turn phone upside down
- Shoot as wide as possible (video shooting)
- Shoot panoramas
- Use a tripod (or another stabilizing device)
- Live view for long exposures
- Scout scenes / shoot textures
- View outside of the frame
- Shoot underwater
- Burst mode


- Shoot manual using apps (lightroom)
- Keep your lenses clean!





# THANK YOU

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