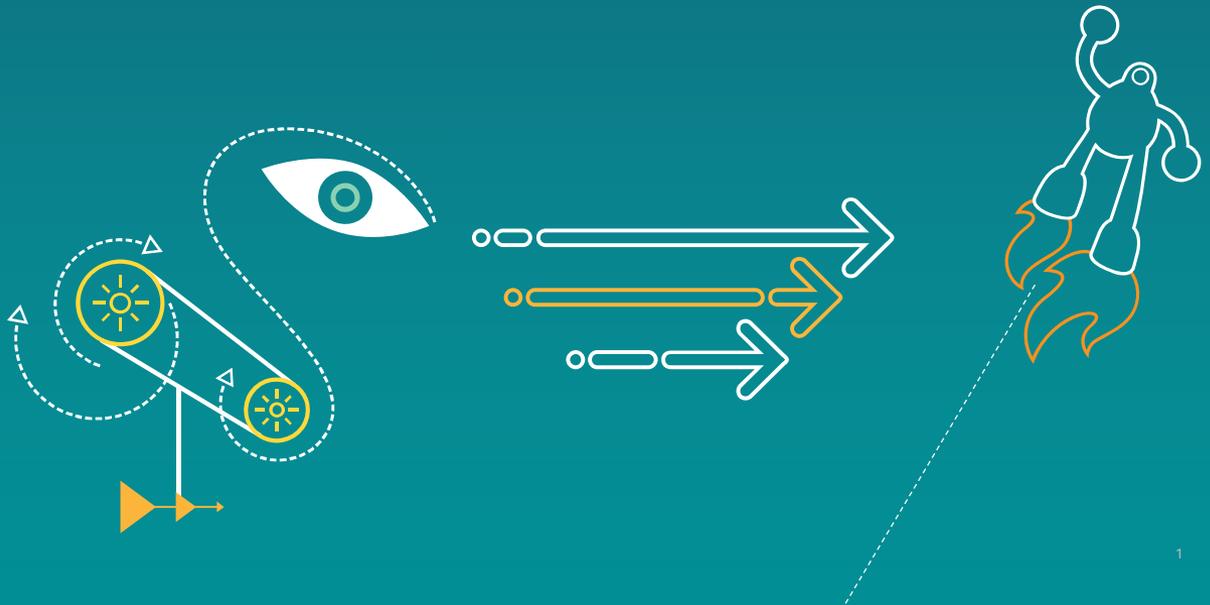


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VIME Applicable Consumer Images

QUALCOMM®



VIME Consumer Images

What is a valid way of defining VIME consumer images?

- VIME - Consumer Use-Cases
 - Digital single-lens reflex (DSLR) Camera
 - Digital Still Camera (DSC) and Rear Mobile Camera
 - Front Mobile Camera – Selfies and Video Conferencing
 - Action Style Cameras (i.e. GoPRO)
- VIME - Consumer User-Generated Web Content
 - Facebook, Flickr, Instagram, Twitter, Kakao, YouTube, Vimeo
- Non-VIME
 - Medical devices (X-Rays, MRI scans, etc.)
 - Infra-red images (Nightvision)
 - Computer graphics
 - Artificial test patterns

Example automatic consumer modes

Mode Name	Mode Description
Action or sports	Increase ISO and uses a faster shutter speed to capture action
Landscape	Use a small aperture to gain depth of field.
Portrait	Widens the aperture to throw the background out of focus. The camera may recognize and focus on a human face.
Night portrait	An exposure long enough to capture background detail, with fill-in flash to illuminate a nearby subject.
Fireworks	Used on a tripod, use an extended exposure (around four seconds) which results in showing several fireworks as well as their paths.
Water modes	Will either widen the aperture and increase the shutter speed for an action shot or shrink the aperture and slow down the shutter speed to show the motion of the water.
Snow modes	Compensates for the misinformation the white snow gives the light meter and increases exposure in order to properly photograph subjects.
Natural light	Attempt to raise the ISO and use a very wide aperture in order to take a photograph using the limited natural light, rather than a flash.
night snapshot	Attempt to raise the ISO and use a very wide aperture in order to take a photograph using the limited natural light, rather than a flash.
Macro or close-up	Tend to direct the camera's focus to be nearer the camera. It may shrink the aperture and restrict the camera to wide-angle in an attempt to broaden the depth-of-field (to include closer objects)
Smiling Faces Mode	Uses face detection to take a picture either when a subject smiles, winks or when a new subject enters the scene.

Image Net Database (image-net.org)

Image selection from automatic consumer modes

What is ImageNet?

ImageNet is an image dataset organized according to the WordNet hierarchy. Each meaningful concept in WordNet, possibly described by multiple words or word phrases, is called a "synonym set" or "synset". There are more than 100,000 synsets in WordNet, majority of them are nouns (80,000+). In ImageNet, we aim to provide on average 1000 images to illustrate each synset. Images of each concept are quality-controlled and human-annotated. In its completion, we hope ImageNet will offer tens of millions of cleanly sorted images for most of the concepts in the WordNet hierarchy.

Can we map Automatic Consumer Modes to ImageNet?

Use the ImageNet synonym set to map specific modes to images. For example, if the consumer mode **Action or Sports** is crossed with **Landscape** then a query into ImageNet yields images of **Rock Climbing** which has aspects of both synonyms. The images in ImageNet are good quality and may be considered as references for VIME.

The following table shows a few examples of hyper-links into the ImageNet database that finds VIME specific images based on the automatic consumer modes described in the last slide.

Image-Net.org Synset Database Queries

Map consumer mode use-cases to real-world high-quality images with Web-Links. Click links below.

Mode Name	Mode Description	Action or sports	Landscape	Portrait	Night portrait	Fireworks	Water modes	Snow modes	Natural light	night snapshot	Macro or close-up	Smiling Faces Mode
Action or sports	Increase ISO and uses a faster shutter speed to capture action	Sports Athletics										
Landscape	Use a small aperture to gain depth of field.	Rock climbing	Landscapes									
Portrait	Widens the aperture to throw the background out of focus. The camera may recognize and focus on a human face.			Faces								
Night portrait	An exposure long enough to capture background detail, with fill-in flash to illuminate a nearby subject.				Night Club							
Fireworks	Used on a tripod, use an extended exposure (around four seconds) which results in showing several fireworks as well as their paths.	Fire-Eater				Fireworks						
Water modes	Will either widen the aperture and increase the shutter speed for an action shot or shrink the aperture and slow down the shutter speed to show the motion of the water.	Water Sports					Water sport, Aquatics					
Snow modes	Compensates for the misinformation the white snow gives the light meter and increases exposure in order to properly photograph subjects.	Skiing	Cross-Country Landscapes	Winter Snow Faces				NA				
Natural light	Attempt to raise the ISO and use a very wide aperture in order to take a photograph using the limited natural light, rather than a flash.								NA			
Night Snapshot	Attempt to raise the ISO and use a very wide aperture in order to take a photograph using the limited natural light, rather than a flash.									NA		
Macro or close-up	Tend to direct the camera's focus to be nearer the camera. It may shrink the aperture and restrict the camera to wide-angle in an attempt to broaden the depth-of-field (to include closer objects)	Gymnastics								Close-up Night Fire-Eater	Close Faces	
Smiling Faces Mode	Uses face detection to take a picture either when a subject smiles, winks or when a new subject enters the scene.	Smiling Gymnast										Smiler