



User-Generated Content (UGC) / In-The-Wild Video Content Detection



The National Centre
for Research and Development

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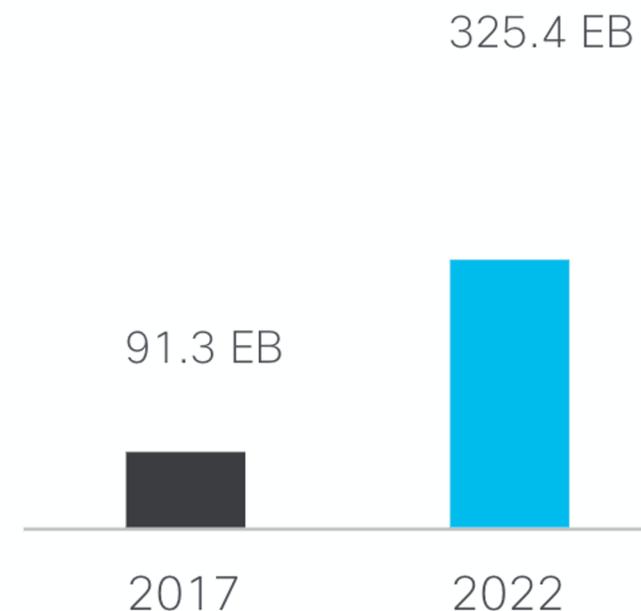
Mikołaj Leszczuk, Michał Grega, Lucjan Janowski, Jakub Nawala
Video Quality Experts Group (VQEG) Meeting, 14.12.2021

Large Volume & Demand

According to Cisco [1]

- » 3-fold increase in IP traffic over the next 5 years (from 2017)
- » 82% of all IP traffic will be IP video traffic (in 2022)

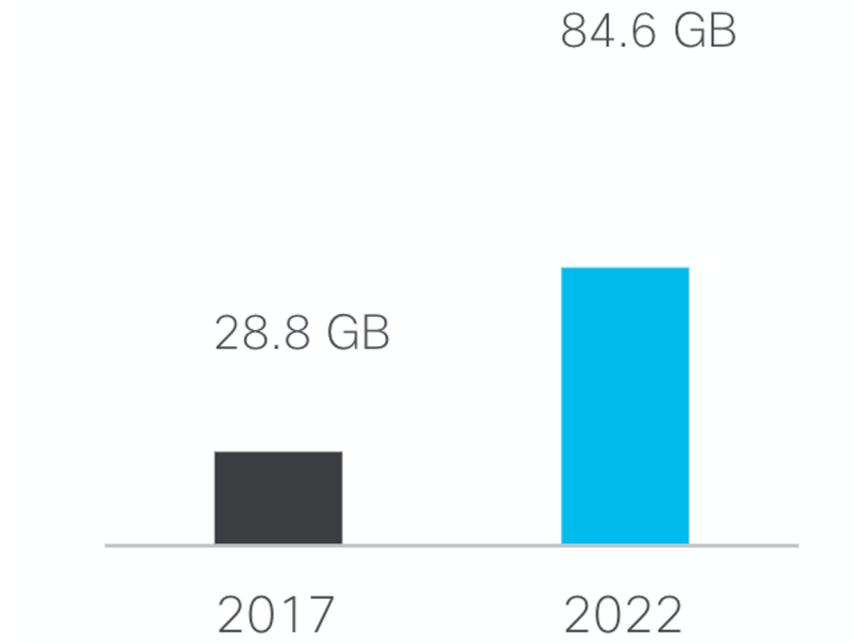
IP Video Traffic per Month



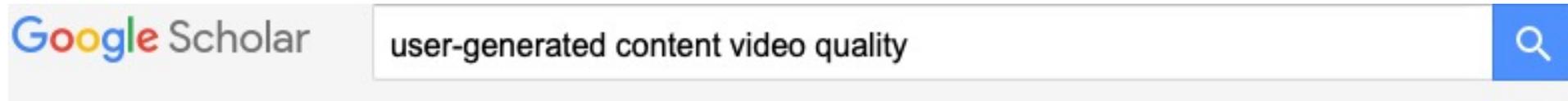
Upload Increase

- According to Cisco [1]
- » the average internet user will generate 84.6 GB of traffic per month (by 2022)
 - » up 194% from 28.8 GB in 2017

Fixed Consumer Internet Traffic per User per Month



Research on UGC Quality



Articles

About 76,200 results (0.15 sec)

- » UGC quality evaluation – very popular research topic nowadays
- » Clearly distinctive from general quality evaluation
- » But how to decide in advance if content is really UGC?

Content Type (Formerly)



Professionally-
Generated Content
(PGC)



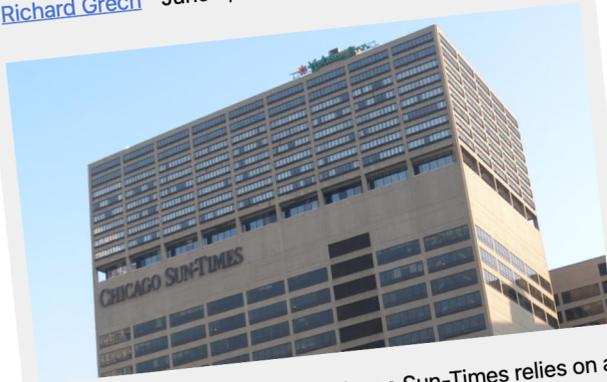
User-Generated
Content (UGC)



Professional Camera in Your Pocket

Could iPhones replace news photographers? The Chicago Sun-Times thinks so

[Richard Grech](#) June 4, 2013



Like many newspapers, the Chicago Sun-Times relies on a staff of photographers to provide images for its stories. But last week the paper did something unimaginable: it laid off its entire staff of 28 full-time photographers. While it's no secret newspapers across the country are struggling to make ends meet, the move by Sun-Times goes beyond just budget cuts. Citing a need for more video content, the Sun-Times will utilize freelance photographers and require its reporters to shoot photos

Swiss TV Station Replaces Cameras with iPhones and Selfie Sticks

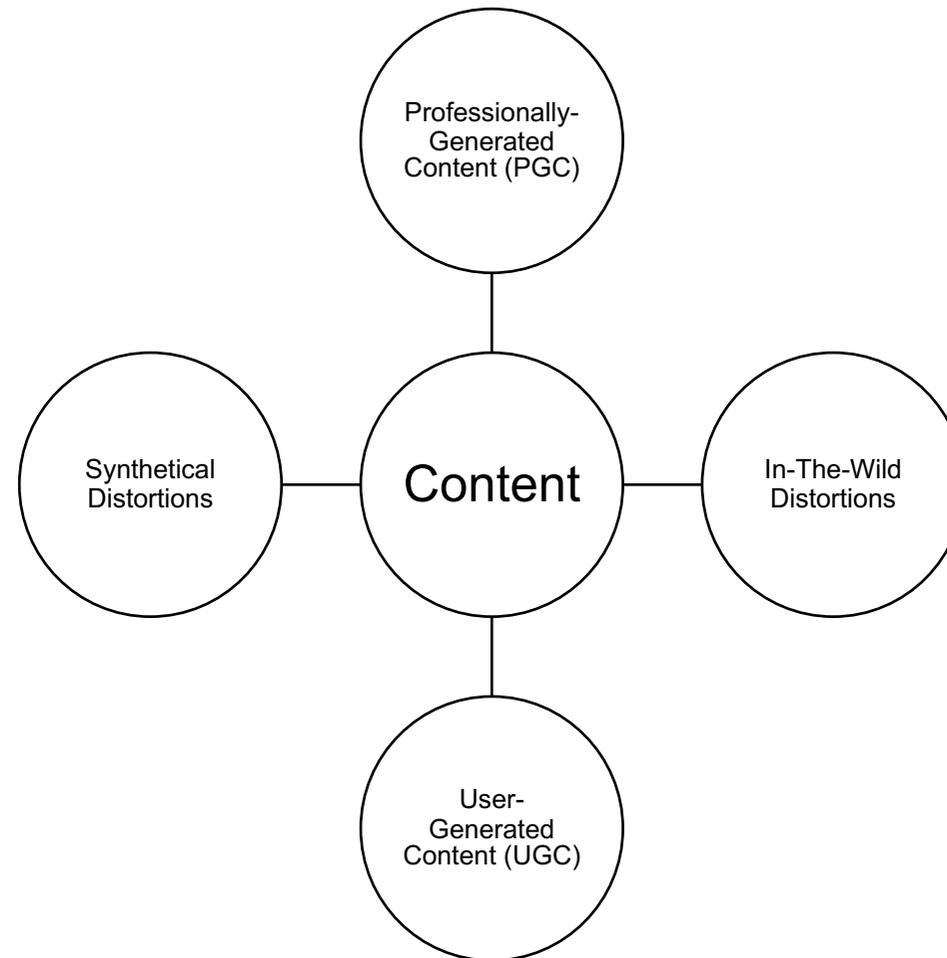
Sep 29, 2015



iPhones may not be very good at [photographing lunar eclipses](#), but apparently they're just fine for television news broadcasts. A local TV news station in Switzerland has ditched standard TV cameras to go 100% iPhone.

Swiss newspaper [Le Temps reports](#) that the TV station Léman Bleu made the major switch this past summer when it outfitted each reporter on the field with an iPhone 6 kit for shooting pre-recorded stories and for shooting

Content Type (Currently)



Characteristics of In-The-Wild Content

- » Not professionally curated
- » Captured and processed by amateurs
- » Unstable camera motion
- » Captured with hand-held device
- » May contain other annoying distortions due to:
 - Out of focus,
 - Object motion, or
 - Under-/overexposure

Research on In-The-Wild Content

- » Quite a lot of research available on the quality of in-the-wild content
- » But relatively little research available on recognizing in-the-wild content
- » Happily, at least available (3+) publicly available in-the-wild video databases:
 - KoNViD-1k
 - CVD2014, and
 - LIVE-Qualcomm

Current Research State

- » Collected in-the-wild content (KoNViD-1k, CVD2014, and LIVE-Qualcomm)
- » Collected non-in-the-wild content (NTIA simulated news)
- » Collected mixed content (6000+ YouTube news clips)

Next Research Steps

- » Actual modelling of in-the-wild content discriminant indicator
- » Modelling based on AGH Quality Indicators
(<https://qoe.agh.edu.pl/indicators/>)
- » Annotating collected mixed content (but no, we won't annotate 6000+ videos :D)

All Your References, Ideas, Discussion Are Welcome!

The central image is a composite graphic. On the left, there is a logo for QOE (Quality of Education) consisting of a white 'QOE' text overlaid on a colorful geometric pattern of triangles in shades of blue, green, yellow, orange, red, and purple. On the right, there is a photograph of a colorful lizard with green, red, and yellow scales, perched on a piece of weathered, light-brown driftwood against a black background.

<https://qoe.agh.edu.pl>
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