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Pocket camera

The evolution of iPhone camera



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In the 21st century, the mass production of smartphones has resulted in almost everyone now owning one, and through the technological advancements, each smartphone is capable of a variety of photography and videography. Because of the widespread popularity of smartphones, the average person now has more opportunities to take and share their photographs. People's photographic equipment has evolved, from simple film cameras to digital cameras, and now to the smartphones that people hold in their hands. A smartphone camera works on the same physical principle as a regular camera, converting light into an image. Smartphone cameras get better and better in terms of pixel count. iPhones are not lagging, and Apple continues to improve the cameras on all of its devices, setting new standards for mobile photography quality. So let's go back in time and witness the entire evolution of the iPhone camera.

The original iPhone, the iPhone 2G, was a smartphone with a 2-megapixel main camera. Although a 2-megapixel camera is nothing



compared to today's smartphones, it is undeniable that this new device changed our perception of mobile photography in 2007. As time passed, technology is advancing at a rapid pace. By 2010, Apple had introduced the iPhone 4, which featured a 5-megapixel rear camera. And it is fair to say that the iPhone 4 introduced many innovations to the smartphone market, even suggesting that it could eventually replace handheld cameras. Meanwhile, the Apple iPhone 4 was the best-selling phone in the world in 2010.

In 2014, the smartphone market is shifting to larger display diagonals for a better experience on the screen. Apple followed suit, unveiling two new iPhone at its 2014 launch event. The iPhone 6 and 6 Plus. In terms of the camera, they use the same 8-megapixel sensor found in the iPhone 5s. Aside from the screen size difference, the iPhone 6 Plus version has optical stabilisation, a feature that elevates mobile photography to a whole new level.

Brand new cameras on the iPhone 11 series, which debuted in 2019. When compared to

other smartphones on the market, the iPhone 11 has two powerful cameras, ultra wide-angle and wide-angle cameras, which take sharp photos that are among the best on the market. They also work faster and take better photos because they process frames as they are taken. The iPhone 11 series includes cameras capable of recording 4K video as well as extended HDR for more detailed and stable video. In addition to the two cameras found on the iPhone 11, the iPhone 11 Pro and Pro Max have a third camera. A main wide-angle lens with an optical zoom lens below is combined with an ultra-wide-angle lens to capture more footage.

Apple have release its 12th model in 2020. There are four models in this series: iPhone 12, Mini, Pro, and Pro Max. The camera from the iPhone 11 series has been carried over, giving all models in the series ultra-wide angle and wide-angle lenses. The series' main camera also has a wider aperture (f/1.6) than the iPhone 11 (f/1.8), making the iPhone 12 series the best iPhone camera at that time. The prefix version

also received an additional telephoto lens and a LiDAR sensor. The iPhone 12 Pro was one of the most technologically advanced camera phones available before the release of the iPhone 13.

From the 2 megapixels of the iPhone 2G in 2007 to the 12 megapixels of the iPhone 12 today, the "evolution" of the iPhone camera is also the "history of mobile photography." Every year, Apple makes some attempt, big or small, to improve the phone's camera. The iPhone has become many people's "pocket camera" after more than a decade of development. According to CIPA, 122 million digital cameras were sold globally in 2010, the year of the iPhone 4, but this figure has since dropped to 35 million, demonstrating the iPhone's popularity. This demonstrates how popular the iPhone is.



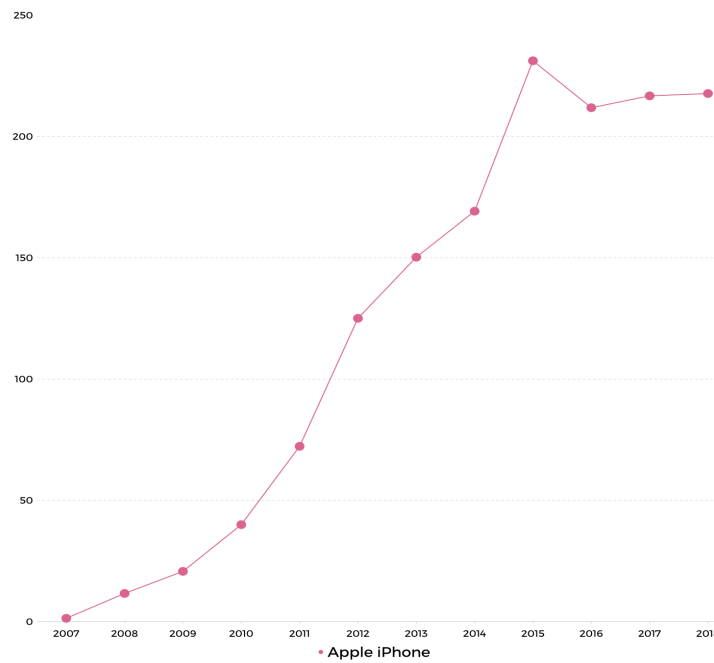
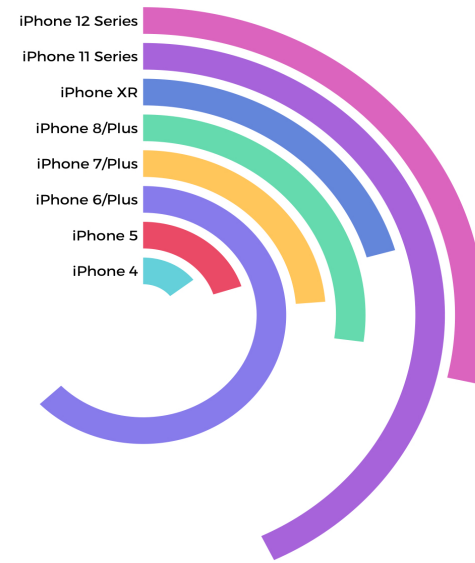
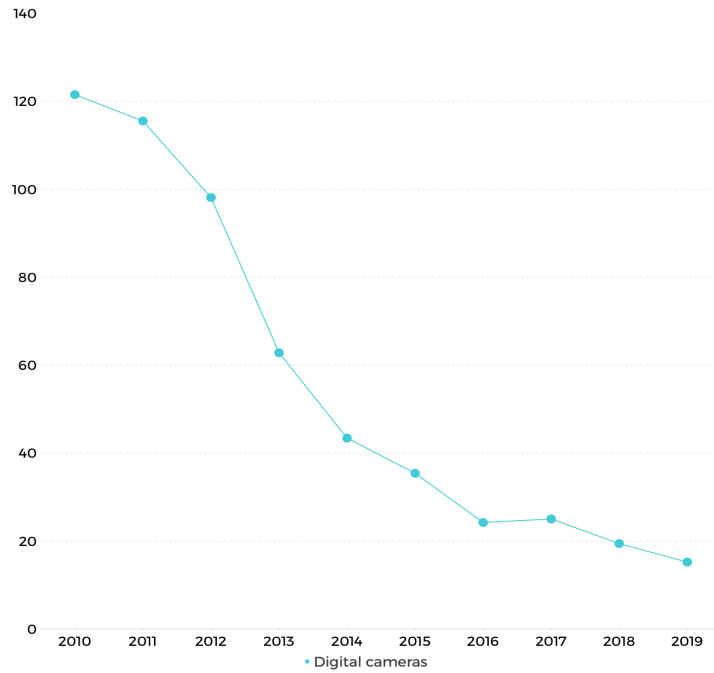
References:

- Pattanayak, S., Malik, F. and Verma, M. "Viability of Mobile phone cameras in professional broadcasting: A case study of camera Efficiency of Apple iPhone 11," 2021 International Conference on Computational Intelligence and Knowledge Economy (ICCIKE), 2021, pp. 452-456, doi: 10.1109/ICCIKE51210.2021.9410774.
- Chesher, C. "Between image and information: The iPhone camera in the history of photography," 2012, pp.1-10, doi: 10.4324/9780203127711.

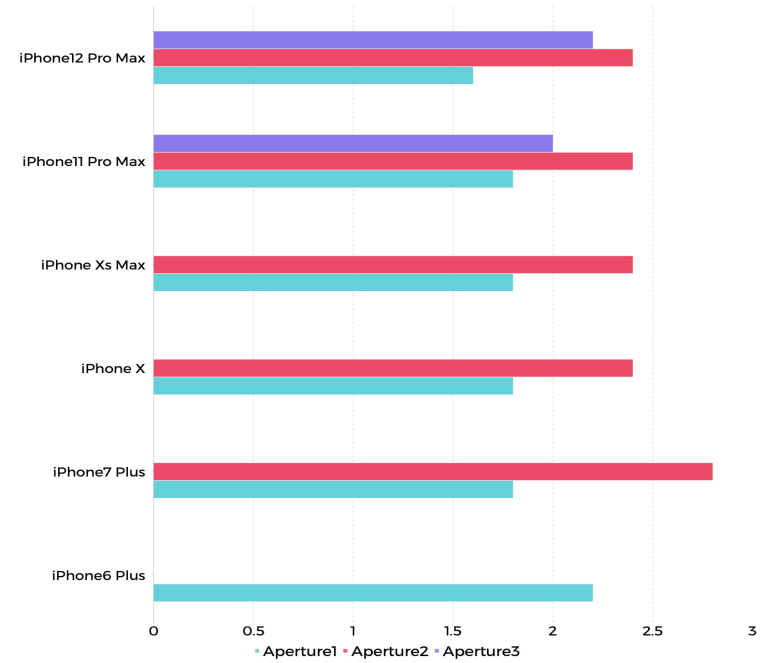
Team G Style. (2021). *The evolution of the iPhone camera: from 6 to 12pro*. Retrieved October 3, 2022, from <https://gstylemag.com/2021/08/09/the-evolution-of-the-iphone-camera-from-6-to-12-pro/>

Sarah, A. (2020). *Infographic: 12 Years Of iPhone Camera Evolution (Includ. 11 Pro Max)*. Retrieved October 3, 2022, from <https://www.netbooknews.com/tips/evolution-of-iphone-cameras/>

David, P. (2017). *How the iPhone revolutionized photography*. Retrieved October 3, 2022, from <https://www.cultofmac.com/488402/iphone-photography-camera-industry/>



• iPhone 4
 • iPhone 5
 • iPhone 6/Plus
 • iPhone 7/Plus
 • iPhone 8/Plus
 • iPhone XR
 • iPhone 11 Series
 • iPhone 12 Series



iPhone 13 released in 2021

-Main camera: 12 megapixel sensor, 1.7 micron pixels, 26mm f/1.6 lens equivalent, full pixel dual-core phase detection autofocus, sensor-shifted optical image stabilisation

-Ultra wide angle camera: 12 megapixel sensor, 13 mm equivalent f/2.4 lens, 120 degree field of view



iPhone 11 released in 2019

-Main camera: 12 megapixel, 1 / 2.55 inch sensor with 1.4 micron pixels with 26mm, f / 1.8 lens

-Ultra wide angle camera: 12 megapixel sensor with 13mm, f / 2.4 lens



iPhone 14 released in 2022

12MP main camera: 26mm focal length, f/1.5 aperture, sensor-shifted optical image stabilisation, seven-mirror lens, 100% Focus Pixels

12MP Ultra Wide angle camera: 13mm focal length, f/2.4 aperture and 120° angle of view, 5-mirror lens