

HEIF - New image format will take the throne?

If successful overthrow, this image format will cause many software and applications you are using to update to support.

Have you ever wondered how the newly purchased USB device can fit snugly on the computer's plug? How is the clock hand on your hand the same as another friend's? Or why does the document you create on your tablet open on your co-workers' computers? The answer to these questions as well as many other issues is: standardization.

Almost everything people create is standardized to ensure compatibility and everyone can use it. From the language to the time, from the paper size to the light bulb . You can see this in the technology world when everything is standardized, including file formats.

When it comes to standard image formats, JPEG is the first name, along with PNG and GIF, but they're all about to be overtaken by a new name HEIF. So what is HEIF and what is special about it?

Summary of JPEG image format

JPEG is an old image format that dates back to the 80s, which is more than a quarter of a century. Compared to the technology world, it is quite long. One of the reasons it is used mostly is because no better format can replace it.

JPEG stands for Joint Photographic Experts Groups, a non-lossy compression method commonly used for digital photos, especially those created by digital photography. The compression level is adjustable, allowing a trade-off between image quality and storage capacity. JPEG is usually compressed at a ratio of 10: 1, the image quality will be slightly reduced at acceptable levels.



JPEG is the most popular image format

This format was created to take advantage of computer processing capabilities at the time. And although it has changed with the development of technology, JPEG has also shown its era, it is now unable to meet the needs of today's users as well as not taking advantage of the technological advances that are present.

Unsuccessful attempt of BPG

There have been attempts to create better image formats instead of JPEG. One of the prominent names is BPG (Better Portable Graphic), which is based on a single video frame of HEVC codecs. It was developed by Fabrice Bellard, a well-known software engineer who created FFmpeg, a popular video processing software.

The BPG has all that is needed to replace JPEG as the standard image format. It is an open source product, developed by a well-known software engineer (also known as 'super programmer'), based on HVEC effectively doubling the previous video compression format and supporting all browsers. Despite the attention of the press, including Forbes, The Register or DPReview, the lack of marketing campaigns or a support industry has made it impossible to get what it needs.

Apple and the establishment of new standards

It turns out that replacing something that has been used for a long time is not easy. If there is a company that always tries to bring new standards better than it is Apple. Their efforts are not always successful, but many of them have opened up the user vision, though initially opposed.

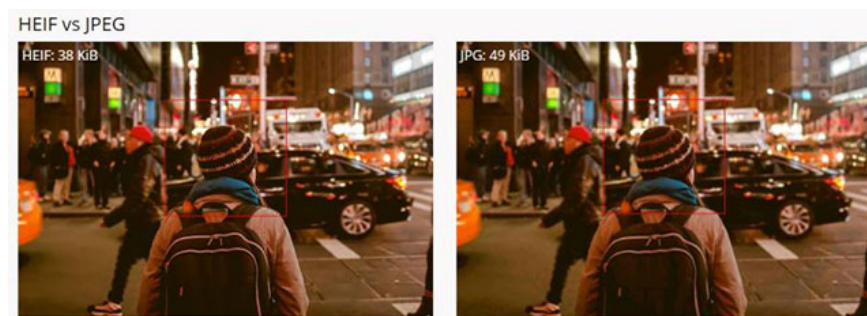
We probably remember the same old computers that were cast, just black boxes until the Mac and iBooks appeared colorful. Or the physical keyboard remains an integral part of the phone until the iPhone comes into being. Nobody talks about using tablets in everyday life until the iPad comes out. And remember how the world mocked Apple for discarding floppy disks and optical drives. There are many such examples and there will be many more examples coming.

On July 5 at the WWDC conference, Apple announced it would use the new image standard called HEIF on the iPhone and iPad running iOS 11. With the majority of users, this statement loses between iPad and iMac information. , HomePod, virtual reality and augmented reality and many other cool things will appear in the upcoming iOS and macOS updates. But those who work with images will pay attention to this. Looking at how Apple removed old standards, this means that the new era of image format is about to begin.

HEIF and halo

HEIF stands for High-Efficiency Image Format. It also compresses images like JPEG or TIFF but uses new algorithms, HEVC codecs developed by MPEG. The HEIF file can store single HEVC video frames, with size about 50% smaller than JPEG. It can do so using more effective codecs.

Another advantage of HEIF over JPEG is the ability to store images, video bursts, audio, text, all in one 'package'. It also offers the option of compressing data loss and not losing data for users, storing image editing operations (rotate, cut, insert) as a separate part of the file.



HEIF has many advantages over other image formats

Simply put, HEIF has all the capabilities of JPEG, GIF, PNG and even MP4. Using the current standard image format, a 128GB iPhone can store about 50,000 photos. With HEIF, you will have double digits. In addition, users also get non-destructive photo editing capabilities without saving the original image as we still do.

Challenges await

Can HEIF replace all image formats or will it disappear without anyone knowing? Supported by Apple and millions of loyal users, HEIF has an advantage over formats that have failed, but that doesn't mean that the path to glory will be full of roses.

First of all, everything will have to be updated to support the new image format. It is a digital camera, computer, email, phone, web browser, TV, archive, print and everything that has been used as a standard JPEG for 25 years.

Many software also need to update, from big names like Adobe Photoshop, Microsoft Word, Google Chrome to photo-sharing websites like Flickr, 500px, Facebook or Google Photos.

Don't forget that HEIF is not the only format trying to take over the throne. There are many other WebP image compression codecs from Google that are silently used on Chrome and Android platforms. We will have to wait and see what will happen.

What does the future bring?

To get attention from software developers and persuade them to update support, the new format will need more users. This is the weakness of BPG but luck is HEIF also backed by Apple. With its advantages compared to other formats, HEIF will probably be accepted. There is currently an open source HEIF file viewer in JavaScript called libde265. Java is one of the most widely used languages ??on the web, so we can hope that the sooner web browser will support HEIF. At that time, everything will be on the road and perhaps optimizing images for the web is only a thing of the past.

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