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|  | | Application Skills Managing Data | | | | |  | |
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|  | | | | Ruben Panzich |  | | | |
|  | | | | 15 March 2021—AIT—Mr. Lane |  | | | |
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|  | What is the raw image file format and why use it? The camera he is using is an Olympus PEN E-PL9, this camera uses a RAW file Codec being their Olympus RAW File Codec. A RAW Codec is a file format. The difference between this and a JPG is the way they compress images. JPEG is one of the most common photo file formats. However, when you take a photo in a JPEG format, it is compressed within the camera, this compresses all the data into pixels. However, RAW files do not process the photo in the camera but instead captures all the data and stores it all in a photo. RAW file is better than using files such as JPEGs because there are minimalist settings applied to the image, more overhead for editing the image after and it is even possible to recover some data. This means if you use JPEGs and there are small amounts of blown highlights in the image you cannot recover them easily without altering the image. However, with a RAW file there is a chance that you can recover that data due to all the data being stored in the image. Other benefits include all the conversions and calculations that happen during compression are done on a fast and powerful computer, rather than the processor in your camera. With the RAW file Codec things like sharpening and compression are not done, this means you do not lose any data. Then there is also the fact that you can change your mind about some of the pictures settings after you have taken the image in some cases including settings such as colouring and exposure. Overall, this makes the RAW Codec file type a very powerful and effective choice for anyone that is doing photograph ether has a hobby, as a freelance artist or especially as a job if you have the gear. | | | | |  |
|  | What issues does the photographer face in terms of being able to transfer the images? In this situation our photographer runs into many issues with getting his photos to the National Geographic. First, he must send around 50 files at once. This is an issue as that means he is going to be giving them 50 RAW images at once, with the way that RAW images are constructed all the data is stored, this leads to extremely big file sizes not to mention how many we have. We must get it to the National Geographic as fast as possible as they need to be at the National Geographic before the next issue with enough time to edit them in and make any needed alterations. The other issue faced is the fact that we cannot put the files on a USB drive and post them or even hand them personally, this is because posting them will take too long and he is not physically able to give them in person. This makes it a difficult situation with many issues that will have to be tackled. | | | | |  |
|  | What does he need to accomplish in order to send the images but still be viable? To solve these issues there are a few solubilities that can be used. To solve these issues, we will be doing it will free tools, this is assuming that they do not want to pay for any services or apps in their process. First of all, to solve the issue of sending 50 files at once we will be sending a compressed file like Zip that can send multiple files as one with a smaller file size. To get them to the National Geographic on time we will be sending them over the internet via an online file service, this will also solve our issue of physically giving them as services like that will give you 10 gigabytes for free to use.  In our case we are going to use the 7-Zip app as it is a free open source file compressor that is widely used. However, this is not the only reason we are using 7-Zip we are also using it because the 7-Zip app supports compressing files into an archive with their proprietary file format, being ‘.7z’ the reason we are using this file format is because it can compress a file to 46% its original size. This is amazing as it will quite literally over half the size of the file easing all future processes without losing any data. We will then sign up for a Google account, this will solve our last two issue as then we will have access to Google Drive which will give us 10 Gb free for free to upload our file. Then our Google account will also give us access to Gmail their free mailing service. This means we will be able to email the link to our Google Drive upload to National Geographic then they can download and use the images. | | | | |  |
|  | A step by step for the process for converting a raw image using photoshop for publication?  |  |  | | --- | --- | | 1. To convert the raw images for publication you must download the plugin installer. |  | | 1. Run the .exe continuing through the installation process. |  | | 1. Then you need to open photoshop. |  | | 1. Click on ‘Open’ located under the ‘File’ heading. |  | | 1. Then find your RAW file. |  | | 1. Once you open your RAW file your photoshop should open up a new window created by the plugin to edit the raw image. |  | | 1. After your done click ‘Open Object’. |  | | 1. After this you will be able to export it via the ‘Save As’ feature that is located under the ‘File’ heading. |  | | 1. Here you will be able to chose what file format you want to export as. |  | | | | | |  |
|  | Comparison between raw and a manipulated file. Comparison between RAW and JPEG | | | | |  |

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| RAW Format | | JPEG Image | |
| Advantages | Disadvantages | Advantages | Disadvantages |
| Far more shades of colour (can contain up to 68.7 billion colours) | Must be post-processed | Already processed | Lossy compression |
| Wider dynamic range and colour gamut | Requires more storage | Small footprint | JPEG is 8-bit |
| Finer control and adjustment potential | RAW format compatibility | Compatibility | Limited recovery options |
| Can adjust colour space after image capture | Sharing issues | No camera slowdown | Camera settings impact JPEG images |
| RAW images are lossless | More files to manage | Choice of compression |  |
| Better sharpening potential | Longer backups | Faster backups |  |

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