LIGHTROOM AND BEYOND

A SURVEY OF PHOTOGRAPHY POST PRODUCTION SOFTWARE
WHAT is Post Production Editing?

1) Post Production Editing means to modify or improve digital or standard photographic images using various techniques, devices or technology.

2) Captured Images print through scanners, click through digital cameras or other devices may be good, but not perfect.

3) Using a process to transform photos from what was captured in a camera either to be closer to what our eyes saw, or to alter the image artistically.
How Does Image editing work?

1. Image editing is done to remove unwanted elements such as spots and scratches.
2. It adjusts the image geometry such as rotating and cropping.
3. Corrects lens aberrations.
4. Sharpens or softens the image.
5. Changes colors or adds special effects to the image, etc.
In the simplest of terms, it is using software on a computer to alter a photo. There are lots of ways and reasons to do that.
You can pretty well guarantee that every shot you have been impressed with in the past decade has been post-processed. Sure, a good photographer will get more out of a camera than someone who doesn’t know how to use it, but post-processing is a very big part of what makes a photographer today.
Even as a very new beginner you have likely already been told that you should be “shooting RAW.” For good reason, a good portion of photographers (professional and hobbyist) shoot RAW. As a hobbyist photographer, I shoot RAW.
When a photographer shoots **RAW**, they do so knowing that they will be doing post-processing on the images taken.

You can think of RAW images being a little like being given raw hamburger meat that has to be cooked, while a **JPEG** is like being handed a fully cooked hamburger cooked exactly the same way every time (many camera models let you choose between a couple of recipes). Sure, you could add things to the fully cooked hamburger to change the flavor, but the options are fewer because the cooking is done.
1. The electronic sensors in our current digital cameras are pretty amazing, but very far from perfect. They are improving significantly with every new generation, but the signal coming out of them is not “clean.”

2. Part of the valuable technology inside your camera is the algorithms built specifically to compensate for this.

3. When comparing a JPEG to an un-processed RAW image, the RAW looks “soft” (slightly out of focus or lacking detail), “flat” (the difference between black and white is not as big as it should be, the colors are drab), and have other issues that need to be fixed.
Another type of photography that is done, knowing ahead of time that the images will be post-processed, is high dynamic range (HDR).
The easiest way to explain dynamic range is to have you think back to the last breathtaking sunrise or sunset you saw.

1. Remember how incredible it was?

2. Remember the bright and vivid colors?

3. Did you try to capture the moment with a photo?

4. How did the photo compare with what you saw?
The photo was not even close to what you saw with your eyes.

WHY?

Our eyes are amazing in their ability to take in an extremely wide range of light, or at least to switch between bright and dark so fast it feels like we can take it all in. But no camera can capture that same range of light our eyes can handle. There is too big a difference between the brightest and darkest parts of a sunset for the camera to capture it all. When there is a really large difference between bright and dark (photographers say “highlights” for bright and “shadows” for dark) the scene is referred to having a high dynamic range.
1. Due to how it is the digital sensors inside our cameras function, they aren’t as good at capturing the shadows (remember these are the darker parts of the scene) in a shot.

2. They are much better at capturing the highlights (the brighter parts).

3. Because of this some photographers will purposefully overexpose the shot slightly so that the shadows are brighter.

4. ETTR is another trick to get around the limitations of the camera not able to capture all of the light.
Other Common Post-Processing

Exposure

1. You are likely to miss the exposure frequently (all photographers do), getting shots that are overexposed and shots that are underexposed.

2. If you shoot in RAW (instead of JPEG) then you will have a significant ability to “fix” the exposure using post-processing software.

3. Raising the exposure brightens the entire photo at once, although you should note that raising it a lot will increase the noise (random spattering of pixels that are the wrong color) in the photo, especially the darker areas.

4. Lowering the exposure darkness the entire photo at once (as done in ETTR).
WHITE BALANCE

From a bright day outside to a candle lit room, we mostly see something white as white. Our cameras do not have this ability.

As the camera writes the image data taken by the sensor out to a file on the flash card, it has a limited range of color that can be represented in that data.
White Balance

- As the camera writes the image data taken by the sensor out to a file on the flash card, it has a limited range of color that can be represented in that data.

- In order to deal with this the file format (RAW or JPEG) includes the definition of a white balance point, a point in the scene that is defined to be a “neutral” color around which all the other colors in the shot are defined.

- Even with your camera in auto-white balance (AWB) mode, the camera analyzes the scene and makes its best guess about what this white balance point should be.
The Filter Tools in Post Production Software are modeled after the physical filters photographers use in front of the lens as the pictures are being taken, allowing a photographer to apply a similar effect to a shot once it is on the computer.
There are two basic types of post-processing filters. Both types allow the same thing to be done to the photo, applying alterations in a pattern smoothly transitioning from a strong application of the effect to no application at all.

1. Graduated
   A. The graduated type applies the effect in a straight line, top to bottom, left to right, upper left to lower right, etc.

2. Radial
   A. The radial type applies it in a circular pattern.
Conclusion

WHY IS POST PROCESSING IMPORTANT?

1. FLAWS
2. PHOTOS AREN’T ALWAYS TRUE TO LIFE
3. YOUR VISION MAY NOT BE TRUE TO LIFE
4. EVEN GOOD PHOTOS COULD BE BETTER
PHOTO EDITING SOFTWARE

HOW MUCH DO YOU WANT TO PAY?
Adobe Photoshop
Check Price
The world's best image editing software adds mind-blowing neural filters, automatic sky replacement, and even better selection tools.

Adobe Lightroom Classic
$9.99/Month at Adobe
Adobe's Photoshop Lightroom remains the gold standard in pro photo workflow software. It's a complete package, with top-notch organization tools, state-of-the-art adjustments, and all the output and printing options you could want.

Adobe Photoshop Elements
$99.99

DxO PhotoLab
$129.00 at DxO US
Though it's still not a complete photo workflow solution, DxO PhotoLab can deliver image results beyond what's possible in other photo software.
Corel PaintShop Pro
$79.99 at Paint Shop Pro
$99.99 at Amazon
Corel continues to add new photo editing possibilities to its PaintShop Pro software, making it a worthy Photoshop alternative on Windows for a budget-conscious, one-time price.

CyberLink PhotoDirector
$40.99 Per Year at CyberLink
Photo workflow and editing program CyberLink PhotoDirector offers a smooth interface and powerful tools. New in this version are a sky replacement tool, GIF animations, stock photos, glitch effects, people selection, and more.

Adobe Photoshop Express
Free at Adobe
Adobes’ entry-level photo editing app is a freemium offering that lets you do some cool things with photos for free, but you’ll need to pay to access to its best features.

ACDSee Ultimate
$89.95 at ACDSee
ACDSee’s pro-level tool offers many powerful photo organizing and editing tools, combining functions of both Lightroom and Photoshop, but its interface can get overwhelming, and it falls short of competitors in raw camera file conversion and usability.
<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
<th>Description</th>
</tr>
</thead>
</table>
| Exposure                | $129.00  | With extras $149.00  
Photo-workflow application  
Exposure is similar to Adobe's Lightroom. It boasts lots of filter effects, but it's missing some key capabilities, such as automatic image correction. |
| ON1 Photo RAW           | $99.99   | ON1 Photo RAW is brimming with editing tools and offers a great selection of high-quality filter effects, but its interface is dense, and the program is short on organization and output options. |
| Skylum Luminar AI       | $89.00   | Luminar AI is an all-new application and plug-in and the first fully AI-powered image editing software in the world. While Skylum is well-known for building software that taps into artificial intelligence for great results, Luminar AI is entirely different. |
| Topaz Studio            | $99.00   | With its simple interface and wealth of imaging effects, Topaz Studio is a worthy entry in your photo editing toolkit, but it lacks workflow tools and some common photo optimizations. MSRP $99.99 |
FREE PHOTOCORRECT EDITING SOFTWARE

FREE BUT ???
GNU Image Manipulation Program (GIMP).
From layers, masks, and curves to brushes, clone stamps, and perspective changes, there is not a whole lot that GIMP can’t do compared to Adobe’s counterpart. It is an open-source editor, meaning the huge community of users has created an extensive array of plugins that expand the functionality and abilities of GIMP. Some of these plugins come preinstalled, but there are tons more in its glossary that you can install in addition. You can also use Photoshop plugins.
Darktable is an open source photography workflow application and raw developer. A virtual lighttable and darkroom for photographers. It manages your digital negatives in a database, lets you view them through a zoomable lighttable and enables you to develop raw images and enhance them.
PhotoScape X is an all-in-one photo editing software which provides photo-related features such as Photo Viewer, Editor, Cut Out, Batch, Collage, Combine, Create GIF, Color Picker, Screen Capture, RAW images and More.