

Total time:
3-5 hours



Difficulty Level: Normal

Skill Points:

- Recognizing lens produced aberrations in a photograph
- Using lens aberrations creatively in-camera
- Creating lens aberrations artificially using apps

THE BEAUTY IN THE BAD LENS ABERRATIONS

Camera manufacturers have worked diligently trying to perfect camera lenses. One of the first innovations that made a huge difference in lens quality was the incorporation of multi-coating. Early lenses displayed all kinds of aberrations, distortions and defects. Photographers now look to those imperfections as a source of creative inspiration.



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KEY LESSON: Lens flare, vignette, and chromatic aberrations are the most commonly known lens producing defects. Since most lenses are designed to help eliminate these as problems, the best way to creatively incorporate them back is through the use of editing apps.

EQUIPMENT: Any camera including mobile | Any lens | Specialized Editing Apps

SAMPLE PHOTOGRAPHS



- 1- This image displays two classic lens aberrations. The first one is **Lens Flare**: streaks of light coming from the light source. The second is called **Ghosting Flare**: the round aberrations present in the lower right. This is usually caused by an older lens, or a lens of poor quality with non-multicoated lenses.
- 2- A dirty lens, an old lens, or a lens of lower quality, will often display 'veiling flare' when confronted with strong backlighting. Be careful of this aberration, as it can easily ruin a photograph by wiping out important details in an image.
- 3- In recent years there has been a trend toward using toy lenses, old lenses, and manufacturers are even designing new lenses that have old world defects. These lenses will often show a vignette as well as color shifts and focus aberrations.
- 4- Most lens aberrations become noticeable when faced with backlighting. Knowing this can help you to control it, and even use it creatively, as this photographer did. You can control the amount of lens flare and ghosting flare by changing your camera point-of-view (POV) - so that the light source moves in and round an opaque object- such as the tree limbs.
- 5- There are many apps that can introduce lens aberration defects into perfect digital picture files. Some of our recommended apps are: LensFlare, Rays, LD (Lens Distortions), LightLeaker, Snapseed, and AfterFocus. These apps are easy to use, and they allow you to take a simple photo, such as this 'Dead End' image, and turn it into something visually interesting.



ACTION ASSIGNMENT!

- 1- Organize a photo shoot similar in content to the example photos. Keep in mind that you want backlighting.
 - Shoot at sunset.
 - Have an opaque object in the shot (similar to the trees in the 3rd example photo), so that you can experiment with moving the light source in and out to vary the effect.
- 2- Select 3 photos from your image files, which contain backlighting. Download three of the above mentioned apps. We suggest starting with LD, Snapseed, and LensFlare. Play with the apps to create lens aberration defects (lens flare, ghosting, and vignette).
- 3- Print out your results and share them with others.

HOW DID YOU DO?

- Did you make creative use of the backlighting and lens aberrations?
- Did you enjoy augmenting your photos with the app software?

READY! SET! GO! **ACTION CARDS**
STRETCH GOALS: LENS ABERRATIONS