

Fix exposure using Photoshop©

I'm going to show how to improve under-exposed images of certificates using Photoshop[©], the most popular image editing software. Scanners usually give decent exposures so I am going to assume you are taking pictures of certificates with cameras, or more likely, smartphones. Even with flashes, photographs of certificates tend to be under-exposed.

If photographing certificates, certificates will always look somewhat misshapen. Use this technique to improve exposures, but see my other tutorials for bringing them back into rectangular shapes.

Open an image in Photoshop. To make this example, I placed a certificate on my desk and photographed it with my smartphone. Certificates often turn out too dark because cameras, smartphones included, are expecting to see things that are 18% gray. My desk is only a few percent gray, so the camera under-exposed (darkened) everything to its expected range. This leaves the certificate looking darker and dirtier than it really is.



For reference, here is a scanned image of the same certificate. The scanner actually made it look brighter and cleaner than it really is!



The first step is to brighten the image. Select **Image > Adjustments > Brightness/Contrast** from the top menubar.

mage Layer Select Filter View <u>M</u> ode	Window Help Br Mb T
<u>A</u> djustments	Brightness/ <u>C</u> ontrast
Auto Tone Shift+Ctrl+L Auto Contrast Alt+Shift+Ctrl+L Auto Color Shift+Ctrl+B	Levels ^{Lo} Ctrl+L Cyrves Ctrl+M <u>E</u> xposure
Image Size Alt+Ctrl+I Canvas §ize Alt+Ctrl+C Image Rotation Crop Trim Reveal All	Vibrance Hue/Saturation Ctrl+U Color Balance Ctrl+B Black & White Alt+Shift+Ctrl+B Photo Filter Channel Mixer
Duplicate Apply Image Calculations Variables Apply Data Set Irap	Invert Ctrl+1 Posterize Ihreshold Gradient Man
	Selective Color
	Snado <u>w</u> s/Highlights HDR Toning Variations
	Desaturate Shift+Ctrl+U Match Color Beplace Color Egualize

Next, grab the small handle for the Brightness control and slide it to the right to brighten the image.



This is a dramatic improvement and quite close to the original. It would not be unreasonable to stop here. However, the left side looks somewhat darker than it should be, so parts of the certificate can be lightened a bit more.



Select the Polygonal Lasso Tool from the Toolbox. If not immediately visible, click and hold down with the left mouse button until a flyout appears. Then select.

•• >	3
[],▶⊕	
P.	Lasso Tool L
甘.	Polygonal Lasso Tool L
0	Magnetic Lasso Tool ¹ L
2 2	
0, ~,	-
0.1	
R. /	
E. C	
2	

When lightening specific areas around the edges of certificates, it is often easier to first select the bright areas instead. Simply click around the bright area and tap the "Enter" key when finished.

CONFREDESTR. PRSEAVERRICE Chiralyn, Lim out and Outin Lun RAILROAD SHARES S100 EACH **B**3 Rust 20. of N.Y. Gertifies thus thi Dir Vie Capital Shai. hickan Burlington as ham, hansfeatte only on the.

Next, select the inverse by clicking **Select > Inverse** from the top menubar.

-	Select Filter	View	Window		
	All		Ctrl+A		
-	Deselect		Ctrl+D		
*	Reselect	Sh	ift+Ctrl+D		
P	Inverse	S	hift+Ctrl+		
	All Layers	,	Alt+Ctrl+A		
	Deselect Laye	ers			
	Similar Layers				
	Color Range				
	Refine Edge	. 1	Alt+Ctrl+R		
	Modify		•		
	Grow				
	Similar				
	Transform Se	lection			
	Edit in Quick Mask Mode				
	Load Selectio	n			
	Save Selection	n			

Now only the darker (dirtier) areas are selected.

CANFUEDISTE JEST ANIE RICEL
OF ANN. Burlungton and Dasi
The contract of the second sec
-RAUROAD - COMPANY
The second secon
Bi3352 SHARPS STUD PACING - 10
of Deve Oning Burtington of Oning Statute Company, hansford to Capital Stock of the
mpany in person or Sy (Inconey as the Olymony in the Sock in the the sub-conter of this footflade In Stances it hereof. The Platienal Vienky Commerce. Transfer Ugent all the User subs to this to this de by its Reputer of the stander subs it by
and any of first 100.
The film nearly multiplicity of the same state of the same and the same state of the

If brightened at this stage, there would be obvious, sharp divisions between light and dark areas. It is better to spread the brightening over a larger area. To modify the existing selection, click **Select > Modify > Feather** from the top menubar.

Select Filter	View	Window	Help	Br	МЬ
All		Ctrl+A			
Deselect		Ctrl+D			
Reselect	Sh	ift+Ctrl+D			
Inverse	SI	hift+Ctrl+l	1	0	1 2
All <u>L</u> ayers	ļ	Alt+Ctrl+A			
Deselect Lay	/ers				
Similar Laye	rs				
<u>C</u> olor Range	e			-	0000
Refine Edge)	Alt+Ctrl+R		4	
Modify		•	Bord	er	
Grow			Smo	oth	
Cinciles			Expa	nd	
Similar			Cont	tract	
Transform S	election		Feat	her S	Shift+F6
Edit in Quic	k Mask M	lode		43	3
Load Select	on			-	\$
Save Selecti	on			23	3.

Set the feathering distance to 200 pixels (the widest available in Photoshop.)

Feather Selection	×
Fasther Padius 200 airek	ОК
Feather Radius: 200 pixels	Cancel

Open the Brightness/Contrast dialog box again.

Image Layer Select Filter View	Window Help Br Mb 🛅 🔻			
Mode •	ne Edge			
Adjustments	Brightness/ <u>C</u> ontrast			
Auto Tone Shift+Ctrl+L Auto Contrast Alt+Shift+Ctrl+L Auto Color Shift+Ctrl+B Image Size Alt+Ctrl+I Canvas Size Alt+Ctrl+Ctrl+C Image Rotation Crop	Levels bd℃ctrl+L Curves Ctrl+M Exposure			
Trim Reveal All	Photo <u>F</u> ilter Channel Mi <u>x</u> er			
Duplicate Apply Image Calculations	Invert Ctrl+1 Posterize Ihreshold Gradient Man			
Varia <u>b</u> les ▶ Apply Data Set	Selective Color			
Irap	Shado <u>w</u> s/Highlights HDR Toning Variations			
	Desaturate Shift+Ctrl+U Match Color Replace Color Egualize			

I know it sounds silly, but I have found that it is usually easier to *decrease* brightness to match preexisting levels than it is to *increase* brightness. To see how this works, run the Brightness slider all the way to the right.



That leaves areas around edges too bright.



Now, start decreasing the brightness until the brightening is barely evident when compared to the rest of the certificate.



The result is not great, but the certificate is simply not worth messing with too much.



If satisfied with the product, abandon the feathered outline by clicking **Select > Deselect** from the top menubar.

5	Select Filter	View Window
	All	Ctrl+A
	Deselect	Ctrl+D
	Reselect	Shift+Ctrl+D
	Inverse	Shift+Ctrl+I
Ľ	All Layers	Alt+Ctrl+A
	Deselect Lay	vers A
	Similar Laye	rs
	Color Range	t
	Refine Edge	Alt+Ctrl+R
	Modify	•
1	Grow	
Similar		
	Transform S	election
	Edit in Quick	k Mask Mode
ľ	Load Selecti	on
Ľ	Save Selection	on

The next page compares the finished product with the initial photograph.

CONTRADISTA ADSEANTBRICA chiring and Kurlington and Ding STATEOF ILLINOIS RAILROAD NO PANNY ** DIAVILES TUNITE B 33382 SHARES \$100 EACH OFN.Y. erog is the holder This Certifies that Thereage Burtington of Quine Stainer Company, som Share Sie Capital Stock of the mpany in person or State of this testificate. In The Sticker of The National Bank of Commera Transfer Ugent aller york sugar this Certificate by is Repident or lasher and Countersugar it by is Transfer Clerk, this runsfer Clerk Ass't. Cushier. rend A SUL 000 100

