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FlyingArchitecture Studio on how they mix 3D and Photoshop

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■ **PRO TRICKS FOR COMIC COVERS**
How Tiago Da Silva created and evolved his graphic novel project

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PROFESSIONAL TIPS FOR SELECTIONS

| LEARN HOW TO SELECT WITH EASE, AS OUR EXPERTS GIVE THEIR ADVICE ON THE BEST SELECTION TOOLS AND TECHNIQUES TO USE IN PHOTOSHOP

No matter what kind of Photoshop images you create, the likelihood is that you'll need to use Selection tools, and use them well. But as Photoshop has evolved, so have its tools for choosing, cutting out and applying image elements. We're now faced with a plethora of options for working with selections, and although these offer much greater precision than was previously possible, the sheer number of options can lead to confusion as to which is the best tool for a particular job.

To solve this dilemma, we've rounded up some of the industry's leading experts across a wide range of imaging disciplines to explain how they use Photoshop's Selection tools and share their tips, tricks and hacks for getting the most from them. Whether you're a digital painter, illustrator, compositor or photo editor, read on to discover how you can use Marquees, Lassos, Masks, the Magic Wand and the Pen tool to increase your precision when cutting out, speed up your workflow and enhance your images.

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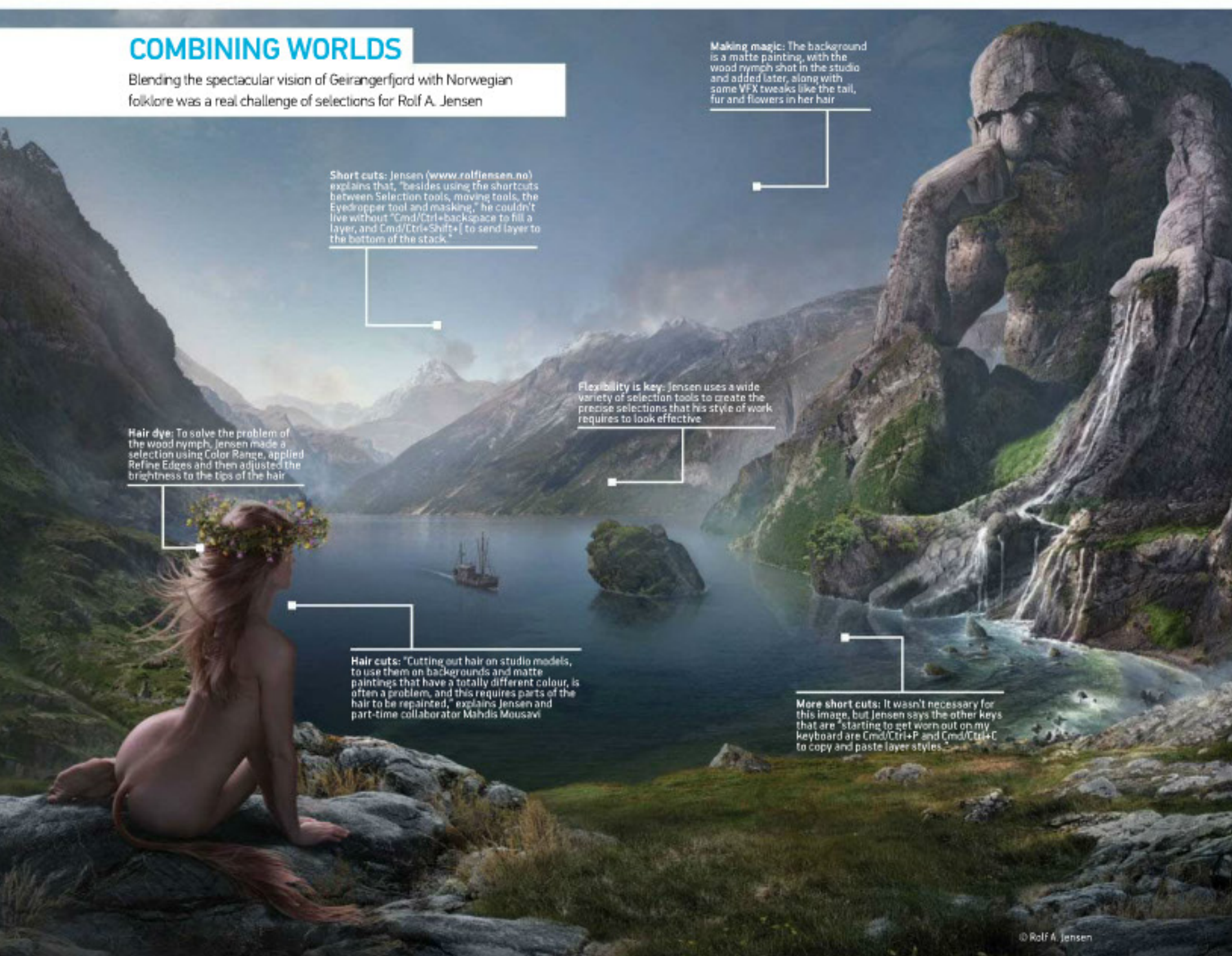
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COMBINING WORLDS

Blending the spectacular vision of Geirangerfjord with Norwegian folklore was a real challenge of selections for Rolf A. Jensen

Making magic: The background is a matte painting, with the wood nymph shot in the studio and added later, along with some VFX tweaks like the tail, fur and flowers in her hair

Short cuts: Jensen (www.rolfjensen.no) explains that, "besides using the shortcuts between Selection tools, moving tools, the Eyedropper tool and masking," he couldn't live without "Cmd/Ctrl+backspace to fill a layer, and Cmd/Ctrl+Shift+[to send layer to the bottom of the stack."

Flexibility is key: Jensen uses a wide variety of selection tools to create the precise selections that his style of work requires to look effective

Hair dye: To solve the problem of the wood nymph, Jensen made a selection using Color Range, applied Refine Edges and then adjusted the brightness to the tips of the hair

Hair cuts: "Cutting out hair on studio models, to use them on backgrounds and matte paintings that have a totally different colour, is often a problem, and this requires parts of the hair to be repainted," explains Jensen and part-time collaborator Mahdis Mousavi

More short cuts: It wasn't necessary for this image, but Jensen says the other keys that are "starting to get worn out on my keyboard are Cmd/Ctrl+P and Cmd/Ctrl+C to copy and paste layer styles."

© Rolf A. Jensen

TARGET YOUR SELECTIONS

How you make selections depends on what sort of work you are doing. John Ross (www. theartofretouching.com) often has shots with similar lighting or locations to work on, and having a standard approach to how he tackles them speeds things up. "Every image that crosses my desk uses Select>Color Range for general selecting," he explains, "and Select>Edit in Quick Mask for refinement. I have two basic ways to make any of my selections. When I have larger areas of common colour, I will use Color Range to make selections easy, although not perfect. I can then go into Quick Mask to fine tune the areas I want to include or exclude. The other way I create manual selections is

to go [straight] into Quick Mask. By using a small brush, I will trace along the perimeter of the areas that I want. I can then fill in the interior with the Paint Bucket, Magic Wand and Edit>Fill, or just paint with the brush. When I exit Quick Mask, I have a manually created selection that I can apply to my adjustment layers as a Layer Mask. When we remove the creative elements using Photoshop, [it's all about] repetition – I will use Curves and Selective Color over and over again. The difference in using each tool is being able to target specific elements by using selections. This makes the results of the repeated adjustment layers [noticeably] different each time they are applied."

© John Ross

THE HOLY GRAIL OF HAIR

For Milton Menezes, director of Brazil's Lightfarm Studios, Paths are the best option for general selection requirements. "Depending on resolution, I can also use [the] Lasso tool or even [the] Magic Wand – whatever looks good for the size [that] you need. [However], let's talk about what really matters – hair! If you know how to clear-cut flying hair out of a messy background, then you know everything about selections. For hair selection – the nightmare [for] Photoshop users – I mainly have three methods to clear-cut: Channels or Calculations for the main selection, brush strokes on a Quick Mask or a layer for tiny hair and fur, and Path strokes to get those

long hair lines that are too hard to get from brush strokes. I had issues with this mermaid image [called] *Harmful Nature.* As we shot underwater, the hair had motion blur and too much noise to use a simple Channel selection or blend modes. So I mixed three techniques I love to work with – there is no easy way [to do it]. Hair is hard, it takes time and patience, although there are shorter or more effective ways of doing it. You'll need to go step by step. Think big to small. You won't get everything at once. Get the head, main hair mass, a little brush stroking hair and path strokes with simulating pressure for precise selection with thick hair and smooth tiny endings."

© Rolf A. Jensen

DISCOVER FOCUS AREA IN CC

"We mostly use selections while working with matte paintings and photo retouching," explain Rolf A. Jensen and Mahdis Mousavi. "A new and interesting selection tool that caught our eye recently is Focus Area, a new tool in Photoshop CC (it's a part of the 2014 Creative Cloud updates).

"With Focus Area, we can now make selections based on the in-focus area of an image. In other

words, if we have an image where we need to isolate a person or subject from the background, and that person or subject happens to be in focus inside the depth of field while the background is out of focus or blurry; Photoshop can now analyse the image, figure out what's in focus and what's not, and make a selection of just the area that we need [to use]."
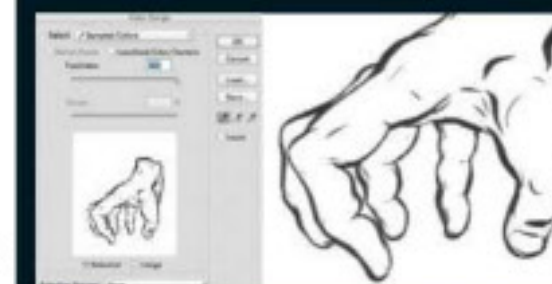
© John Ross

UPDATE YOUR WORKFLOW

"During college I enjoyed traditional airbrushing," says John Ross. "[My] use of frisket masking was frequent and became second nature. My first job, and many after, was in pre-press working with film. Early on, I was being shown how to paint with a brush onto the film to stop the light, and [how to] scratch it away to let the light through when we burned the plates for the presses. The basic principal in both situations was the same. When it came to Photoshop, the defaults tried to mimic what was happening in the darkroom, but this always led to confusion in the digital medium. Somewhere between the darkroom and the computer screen, it stopped working as well

as it once did. This just took me back to simple tools like the Magic Wand and the Lasso" – tools that Ross still uses today. After all just because something is simple, doesn't mean it's not the best tool for the job.

However, "by default," says Ross, "Photoshop tries to match how things were done in the darkroom, [and] this often leads to confusion. By using a more updated workflow, you may find that your masks and selections greatly increase in their simplicity and accuracy." Therefore the lesson is to think for yourself, not to use tools or methods because they're the expected ones, but to pick the ways and means that are right for you and your work.

SELECTION IN PRACTICE

In this image Milton Menezes (Lightfarm Studios) had to contend with the fact that the model had been shot underwater. This meant that there was too much movement and motion blur for a

simple Channel selection. Here you can see the work he did with brushes and the Path Selection, painstakingly teasing each strand of hair out of the water that surrounds it.

© Lightfarm Studios

On *Hunger White*, Menezes also had the challenge of hair. He used Path Selection to pick out the model and you can see here the work done to pick each strand out. Once the model is composited into the background – and with the addition of a mouse on her shoulder – the effect is impressive. Note the strands of hair around her face, and the light on her shoulders.

© Andy Potts

Hair is not the only thing that's tricky to select and place effectively. Andy Potts' brief in this image was "to create a futuristic London setting with huge number-shaped architecture dominating the horizon. This required a lot of photo

compositing of London and international architecture using the Color Range selection technique among others. The numbers selections were used to paste [into] the building facade textures before being manipulated to fit."

In this cover illustration for *BBC Focus* on 'How to Travel Faster Than Light', Potts had to take care to "pick out subtle edged light selections from photographs to layer up." While realism isn't the goal, everything needs to fit and sit perfectly, and it can't do that unless the elements are perfectly selected and cut out. Here he used Color Range again, because it's "one of the best methods to pick out a soft edged image with accuracy and not have grainy pixillated edges."

FIND THE RIGHT CHANNEL

"Calculations are great for a more complex Channel selection," says Milton Menezes. "Instead of getting the information you need out of one RGB channel only, you can mix or intersect the selection from two channels. Let's say the best channels to clear-cut are green and blue for your specific selection. By mostly

using Add or Difference and then playing with the settings, you might be able to get a better selection than (if you used just) one Channel."

Depending on your image and what you want to select from it, blend modes are another good option. "Blend modes are the standard and helpful way to

easily get clear-cuts without having to actually cut anything," explains Menezes. "Depending on the background you can use Screen or Multiply to get really fast selections with good results. By using Curves and Hue/Saturation you can balance the selection according to the background."

© Lightfarm Studios

PULL IT APART

Andy Potts' style mixes a range of different elements, so being able to select and control them precisely is of paramount importance

Lasso: "If the Lasso tool is too crude for a particularly elaborate or very curvy shape then I will create a Path," says Potts

Path creation: With the Path created, Potts will "adjust the anchor points to get more accuracy. I then Cmd/Ctrl+click the Path layer to create the selection"

High contrast: When Potts works with high-contrast images, then the Color Range option can be useful

Collage crazy: Potts finds that using a variety of techniques together can speed up workflow

Easy options: Like most professional Photoshop users, Potts says he uses "keyboard shortcuts where possible"

© Andy Potts

QUICK FIXES OR THE PEN TOOL?

To make a section with absolute precision, Jensen and Mousavi reach for the Quick Selection tool. "The Quick Selection tool was first introduced in Photoshop CS3. It quickly became a favourite, thanks to its combination of the Magic Wand and [how easy the paintbrush is to use]. This tool is unlike other selection tools, [as] it selects not just colours but also textures. However, if you really need to select an object that is merged with a detailed background, the Pen tool is still the best way to go. Combining that with Refine Edges to make the cut-out smooth is always best." Should they need to brush out water or something soft, then they'll often use the "Quick Mask (Q) and just paint it out quickly with [a] tablet, but it really comes down to what the landscape in the original photography looks like and how it should be handled."

© Microsoft, Rolf A Jensen

HAIR TODAY, GONE TOMORROW

"For images that contain hair," says David Padilla (**http://davidpadillablog.es**), "one easy [way] to cut is using the Refine Edge tool. Use the Quick Selection tool to select all the hair you want to cut, [it] doesn't matter if you let part of the hair out of the selection. The next step is to use Refine Edge in order to add the parts of the hair you didn't select, and using the Refine Radius tool and Smart Radius, you [can] paint the hair areas [that] you are interested in."

You can also use the Refine Edge tool after cutting a selection out with the Pen tool, which Padilla thinks is the "most efficient" method to follow. "I would advise [using] the Refine Edge tool after the selection with the Pen tool is made, [so that] you achieve an accurate finish]. Parameters like Smooth are very useful to [neaten] the final workmanship. [The] Lasso tool and Magnetic Lasso tool are helpful when [making] a quick selection, but they are not [as] precise as the [Refine Edge or Pen tools]. [I also use] the Rectangular Marquee tool for selecting part of the elements [that] I want to move."

© John Ross

NATURAL SELECTIONS

"As [many] of the colour or tonal changes I make are subtle," says retoucher John Ross, "loose masks are fine using [the] Quick Mask and a soft brush – Photoshop can be very forgiving. For studio portraits shot against white or grey, I can easily replace the background with whatever [colour] I want. With Color Range and Quick Mask, I can make fast but accurate silhouettes around the subject. Sometimes I will replace with solid white, [whereas] other times it could be a standard backdrop across a group of images. [I usually face problems] during natural settings – [when] the background's exposure is shifting the wrong way – [or when the] person is extracted completely and the background is replaced]. For skin and clothing, a tight mask using a small brush with Quick Mask is the most accurate [method]. When it comes to natural selection of the hair, nothing is easy. I will do as much as I can with Quick Mask, but will often use Refine Mask to try and ease the transitions."

© David Padilla

QUICK MASK AND COLOR RANGE
JOHN ROSS EXPLAINS HOW HE CREATES ACCURATE MASKS AND SELECTIONS

01 | CHANGE THE BASIC SETTINGS
"Double-click on the Quick Mask icon below the colours in the Tools palette. This will open up the Quick Mask preferences. Change Color Indicates to Selected Areas and the Opacity to 100%. When you click OK, you will be brought into the Quick Mask mode. Push the Quick Mask icon one more time to return to normal Photoshop."
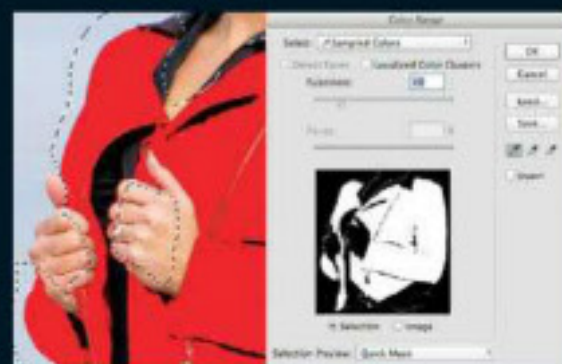
02 | LIMIT THE SELECTABLE AREA
"From the top menu, select Edit>Color Range and change the settings to Sampled Colors, [the] Fuzziness to 40 and select a preview of Quick Mask. When you push OK, you will have your mask turned into a selection. To further target a specific area, start by using the Lasso [tool] to make a loose selection and then Color Range to create the mask. This will limit the selectable area, allowing for more targeted final selections."
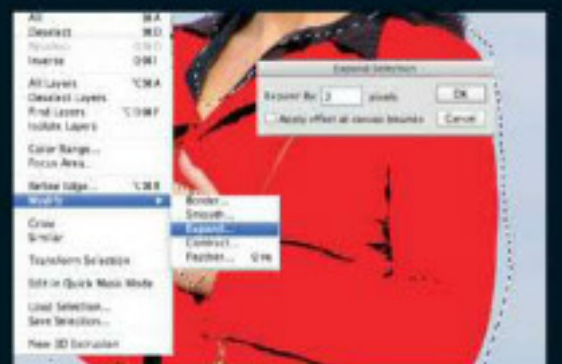
03 | TACKLE IMPERFECTIONS
"After making a selection with Color Range, [select] Edit>Expand 4 and then Edit>Feather 4 [to] fill in smaller pinholes and soften the hard edges. Push the Quick Mask icon and manually edit the mask using the Paint Brush tool. Black will add to the mask and white will remove from it. Finish by pushing the Quick Mask icon once again, and you can apply your mask to [your] adjustment layer of choice."

PEN TOOL POINTERS

"Selections are vital for any composition made using different images," says David Padilla. In the example of *Interstellar*, the background was added to the shot of the spaceman and his ship. "It's very important to make good use of the Crop tools in order to perform outstanding workmanship. I use different kinds of tools depending on what I need to cut. On [the] one hand, the Pen tool is the most efficient tool to make a good selection, because its anchor points allow you to draw curves, so the cut is much more precise. On the other hand I use the Polygonal Lasso for smaller areas. The Magic Wand tool is [also] useful, but the finished cut is not that accurate. The selection process I use tends to be very slow because the work is composed [from] different images and each one needs to be cut in a different way. In every project, the cuts must be made as accurately as possible in order to improve its integration with all the other elements. [Projects where the elements are too small to cut easily are the most difficult], like the hair or other small details of the image. For that reason, it's advisable to use the correct zoom and try to cut in an accurate way." It might take a long time, but ultimately, cutting out everything by hand can give great results, as *Interstellar* demonstrates.

Limit the selectable area: "From the top menu, select Edit>Color Range and change the settings to Sampled Colors, [the] Fuzziness to 40, and a preview of Quick Mask. When you push OK, [your mask will be] a selection. To further target a specific area, start by using the Lasso to make a loose selection and then Color Range to create the mask. This will limit the selectable area, allowing for more targeted final selections."

Change the basic settings: "Double-click on the Quick Mask icon below the colours in the Tools palette. This will open up the Quick Mask preferences. Change [the] Color Indicates to Selected Areas and the Opacity to 100%. When you click OK, you will be brought into the Quick Mask mode. Push the Quick Mask icon to return to normal Photoshop."

Tackle imperfections: "After making a selection with Color Range, using Edit>Expand 4 and then Edit>Feather 4, will fill in smaller pinholes and soften the hard edges. Push the Quick Mask icon and manually edit the mask using the Paint Brush tool. Black will add to the mask and white will remove from it. Finish by pushing the Quick Mask icon again, and [then you will be able to] apply your mask to the adjustment layer of choice."

© John Ross

BACK TO THE LASSO

"Selections are essential to the creative process in Photoshop," says Andy Potts. "My style relies on collaging from various photographs, so I need to be able to select what I need quickly and effectively. My first port of call is usually the Lasso tool. I use a mouse rather than a Wacom to select shapes using the Opt/Alt+click method, [which I find the] easiest way. I also use Paths to create smoother lines where lots of curves are involved. Another method I employ regularly is Color Range, to select a particular colour or tone from a monochrome image. The Magic Wand is [also] perfect for selecting larger areas of block colour. I'll [often] use a combination of techniques to speed up [my] workflow. If the Magic Wand can wipe out a lot of background quickly, then I'll use that before going in to [more detail] with the Lasso tool."

YOUR LIFE IN...

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© Andy Potts

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PREP THE SCENE

An illustration of the London skyline for RIBA gave Andy Potts a lot of fine selection work to tackle. His experience has taught him that choosing the right tools and lots of keyboard shortcuts is the best way to make a selection. He explains: "The image is a digital collage put together from photographs of iconic London architecture. To select the buildings I would make the photograph black and white and boost the Levels to get a high contrast image with clearer selectable areas. I then use Select/Color Range to select the black or the white in the image (with the Fuzziness set to 200), [before cutting] that selection to a new layer to begin editing it into the collage. If the building needed to be cut out of a busy scene rather than against a cleaner sky backdrop, then I would use the Lasso tool to Opt/Alt+click around the various edges."

© Disney/Watson: Rolf A. Jensen

RE-USE YOUR SELECTIONS

Most Photoshop pros stress the benefits of the Pen tool above all others. It is hard to get to grips with using, but you can create beautiful curves, you have complete control, and it's totally editable. However, surely the best bit is that you can save your selections as Paths, even in flattened files.

A little like Mac versus PC, the anti-Pen tool tribe are utterly mystified by the devotion of Pen tool fans. They would claim that using a vector tool in a raster file has decided disadvantages and that you end with hazing and lack of control around the edges. Of course, the pro-Pen tool group would say you can simply clean that up if you need to and that being able to save selections – even in a flattened file – trumps everything. It means that designs can be shared in compact JPEGS – which is helpful in something like product design, where lots of people need to work on similar images. It also means that if you create a Path in a low-res version of an image (perhaps for the web) and later have to make the same selection in a high-res version, then the work is already done for you. You can simply scale up your selection, make any edits that you need and your job is done. If there is a chance that you might need to re-use your selections, then the Pen tool to Path option is probably for you.


© Andy Potts

CHOOSE YOUR WEAPON

Like most Photoshop experts, Andy Potts uses the full range of selection options, and knowing which tool to reach for in any given circumstance is something that comes with experience. This image, *American Werewolf in London*, was Andy Potts' entry for last year's Serco Prize for Illustration. The theme was London Stories, so he decided to work up a piece inspired by one of his favourite films, *An American Werewolf in London*. "This was a combination of drawn and photo-sourced imagery which used all of my selection tricks," says Potts, who used the Magic Wand tool to select the iconic red London bus. The Magic Wand used to be the tool that marked you out as a amateur, but recent improvements – most notably Refine Edges – have given it much more power. Potts says, "To select dominant colours in a photo, such as the red in the London bus, I'll sometimes use the Magic Wand for speed and then Modify/Grow the selection to pick out any extra pixels."

COLOUR ME SIMPLE

"Sometimes there is a colour in multiple areas at the same time, like green trees and grass," explains John Ross. "If I only want one of them, I will use the Lasso Tool to make a very loose selection around the area [that] I want to keep. Then I can use Color Range to refine the target selection. Basically, the Lasso limits the Color Range's selectable areas. After using Color Range, the edges can be a bit jagged, [may] not reach the edges completely, or it may even leave little pinholes. [So] to get around these problems, I created a simple Action that applies Select>Modify>Expand of 4 pixels and then Select>Modify>Feather of 4 pixels, which I then attached to an F-key. This will make the selection a little bigger and a little softer. It [is] not usually noticeable, but [it] corrects minor imperfections that Color Range often leaves behind."

© Lightfarm Studios
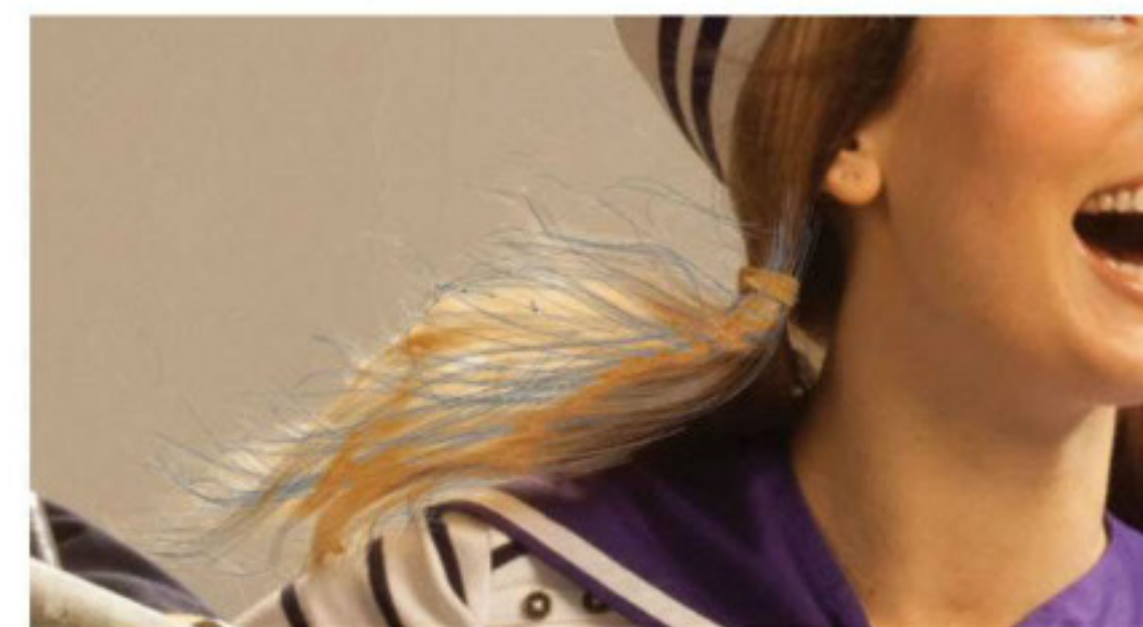
INVENT YOUR OWN

If your selection needs are mounting and you want to make more edits in less time, then it's no good relying on the existing tools and the shortcuts that Photoshop already contains. Instead, you'll need to start coming up with more personalised ways of approaching things, especially for those jobs you're going to find yourself doing again and again. Milton Menezes explains that "Cmd/Ctrl+Enter is useful to get a selection out of a path and Cmd/Ctrl+Opt/Alt+Key is great when you want to apply the same adjustment to a layer. For example, press Cmd/Ctrl+Opt/Alt+M to use the same curves again on a different layer, or Cmd/Ctrl+Shift+F to fade adjustments. I also like to set shortcuts for contrast, add expand and feather to selections which helps to speed up workflow, and I always use Cmd/Ctrl+S – Photoshop is not 100% reliable."

However, he is determined to go further than just personalising Photoshop and has been working to find his own approach to selection that will give him both accuracy and speed. "Searching for a way to clear cut with [great] precision," Menezes says he's started using Path Selection in a more detailed way, "by using brush settings and simulating pressure out of the stroke path. It's not as slow as brush stroke selection would lead you to believe and it's 100 percent editable and [as] precise as you would expect."

© John Ross