

The Link to the Online and Constantly Updated Version of this Document [HERE](#)

ALGOS I USED

Color Space Conversion Algorithms

- RGB ⇔ RYB
 - RGB -> RYB
 - <https://github.com/bahamas10/node-rgb2ryb>
 - RYB -> RGB
 - <https://github.com/bahamas10/node-ryb2rgb>
 - Using Trilinear Interpolation
 - NOTE: it has no mathematical inverse (check math forum, and I messaged the author of the paper)... which for our purposes makes it unusable...
 - http://web.siat.ac.cn/~baoquan/papers/ryb_TR.pdf
 - <http://vis.computer.org/vis2004/DVD/infovis/papers/gossett.pdf>
 - <https://math.stackexchange.com/questions/305395/ryb-and-rgb-color-space-conversion>
 - RGB ⇔ CMYK
 - https://github.com/AndreasSoiron/Color_mixer/blob/master/color_mixer.js

Color Mixing Algorithms

- RGB Mixing
 - <http://jsbin.com/afomim/1/edit?html,css,js,output>
 - Color averaging
 - RYB Mixing
 - <https://github.com/camme/ryb-color-mixer>
 - Each color as percent of max
 - CMYK Mixing
 - https://github.com/AndreasSoiron/Color_mixer/blob/master/color_mixer.js
 - Color averaging
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ALGOS I MIGHT USE

Color Space Conversion Algorithms

- All
 - <http://colorizer.org/>
 - <https://www.w3schools.com/lib/w3color.js>
 - https://www.w3schools.com/colors/colors_converter.asp
 - <https://www.easycalculation.com/colorconverter/colorconverter.php>
 - http://www.ginifab.com/feeds/pms/cmyk_to_rgb.php

- <https://toolstud.io/color/>
- <https://stackoverflow.com/questions/4945457/conversion-between-rgb-and-ryb-color-spaces>
- RGB ⇔ RYB
 - <http://www.deathbysoftware.com/colors/index.html>
 - http://nishitalab.org/user/UEI/publication/Sugita_SIG2015.pdf
 - http://nishitalab.org/user/UEI/publication/Sugita_IWAIT2015.pdf
 - RGB → RYB
 - ???
 - RYB → RGB
 - ???
- RGB ⇔ CMYK
 - <http://www.convertacolor.com/>
 - Also has RGB ⇔ CMYK ⇔ HSL
 - RGB → CMYK
 - <https://www.rapidtables.com/convert/color/rgb-to-cmyk.html>
 - <https://codebeautify.org/rgb-to-cmyk-converter>
 - <http://www.rgb2cmyk.org/>
 - CMYK → RGB
 - <https://www.rapidtables.com/convert/color/cmyk-to-rgb.html>
 - <https://codebeautify.org/cmyk-to-rgb-converter>
 - <http://www.cmyk2rgb.com/>
- Other
 - <https://stackoverflow.com/questions/4235072/math-behind-the-colour-wheel>
 - RGB → HSV
 - HSL and HSV

Color Mixing Algorithms

- RANDOM EQUATION
 - $\text{NewColor.R} = 255 - \text{SQRT}(((255 - \text{Color1.R})^2 + (255 - \text{Color2.R})^2)/2)$
 - $\text{NewColor.G} = 255 - \text{SQRT}(((255 - \text{Color1.G})^2 + (255 - \text{Color2.G})^2)/2)$
 - $\text{NewColor.B} = 255 - \text{SQRT}(((255 - \text{Color1.B})^2 + (255 - \text{Color2.B})^2)/2)$
- RANDOM EQUATION
 - $\text{NewColor.R} = (\text{Color1.R} * \text{Color2.R})/255$
 - $\text{NewColor.G} = (\text{Color1.G} * \text{Color2.G})/255$
 - $\text{NewColor.B} = (\text{Color1.B} * \text{Color2.B})/255$
- <https://stackoverflow.com/questions/6130621/algorithm-for-finding-the-color-between-two-others-in-the-colorspace-of-painte?noredirect=1&lq=1>
- <https://stackoverflow.com/questions/726549/algorithm-for-additive-color-mixing-for-rgb-values>
- <https://stackoverflow.com/questions/1351442/is-there-an-algorithm-for-color-mixing-that-works-like-mixing-real-colors>
- <https://stackoverflow.com/questions/4255973/calculation-of-a-mixed-color-in-rgb>

- <https://github.com/ddelruss/UIColor-Mixing>
 - <https://github.com/fyngvz/colorblending>
 - Kubelka-Munk Mixing / Krita Mixing
 - IMPLEMENTATION LINKS:
 - <http://stackoverflow.com/questions/10254022/implementing-kubelka-munk-like-krita-to-mix-colours-color-like-paint>
 - <https://www.stevenabbott.co.uk/practical-coatings/Kubelka-Munk.php>
 - <http://www.graphics.cornell.edu/~westin/pubs/kubelka.pdf>
 - Krita
 - <https://commit-digest.kde.org/issues/2007-08-12/>
 - <https://www.youtube.com/watch?v=lyLPZDVdQiQ>
 - <https://github.com/abhishekmurthy/Calligra>
 - IMPLEMENTED LINKS:
 - <https://github.com/benjholia/ColorMixer>
 - <https://www.shadertoy.com/view/XdSSWd>
 - <https://www.slideshare.net/DianaLiao3/mixing-paints-con-2016>
 - <https://www.youtube.com/watch?v=ElecGXs8jqY>
 - Some version of Subtractive Mixing
 - <http://knowpapa.com/cmt/>
 - Some version of Subtractive Mixing
 - <http://trycolors.com/>
 - Some version of Subtractive RYB Mixing
 - <http://www.thebest3d.com/dogwaffle/whatsnew/rybmixer/index.html>
 - Some color blender
 - <https://meyerweb.com/eric/tools/color-blend/#:::hex>
 - W3S Color Mixer
 - https://www.w3schools.com/colors/colors_mixer.asp
 - Opinion Based Mixing (based on the fact that how colors should mix is subjective)
 - Based on some essay I couldn't find again...
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ARTICLES ON THE SUBJECT

- "Paper" by FiftyThree App (Implementation Overview and Why)
 - <https://www.fastcompany.com/3002676/open-company/magical-tech-behind-paper-ipads-color-mixing-perfection>
- The Color Wheel is a Lie!
 - <http://www.infocellar.com/Graphics/color-theory.htm>
- Manipulating colors in .NET
 - <https://www.codeproject.com/Articles/19045/Manipulating-colors-in-NET-Part>
- Bahamas Repo Page
 - <https://github.com/bahamas10/ryb>
 - <http://bahamas10.github.io/ryb/about.html>

- <http://bahamas10.github.io/ryb/>
 - <http://www.daveeddy.com/2014/07/01/red-yellow-and-blue/>
- Scott Burns
 - <http://scottburns.us/reflectance-curves-from-srgb/>
 - <http://scottburns.us/wp-content/uploads/2015/04/ILSS.txt>
 - <http://scottburns.us/wp-content/uploads/2015/04/B12-matrix.txt>
- Commercial Paint Mixing
 - <http://www.easyrgb.com/en/>
- Subtractive vs. Additive Mixing Explained Briefly
 - http://www.intropsych.com/ch04_senses/color_mixing.html
 - http://worqx.com/color/color_systems.htm
 - <https://isle.hanover.edu/Ch06Color/Ch06ColorMixer.html>
- Subtractive vs Additive Explained Lengthy
 - <http://lucaskrech.com/blog/index.php/2010/01/22/color-theory-basics-additive-and-subtractive-color-mixing/>
 - <https://www.colormatters.com/color-and-design/color-systems-rgb-and-cmyk>
 - <http://wtamu.edu/~cbaird/sq/2015/01/22/why-are-red-yellow-and-blue-the-primary-colors-in-painting-but-computer-screens-use-red-green-and-blue/>

Other Links

- <https://stackoverflow.com/questions/180/function-for-creating-color-wheels>
- <http://vis.computer.org/vis2004/DVD/infovis/papers/gossett.pdf>
- http://art-si.org/PDFs/Processing/KMreport_10_01.pdf
- <http://ieeexplore.ieee.org/document/5673980/>
- http://www.cis.rit.edu/people/faculty/ferwerda/publications/2011/blatner11_cic.pdf
- <http://www.heathershrewsbury.com/dreu2010/wp-content/uploads/2010/07/ModelingPigmentedMaterialsForRealisticImageSynthesis.pdf>
- <http://sue.codes/math-art/2015/03/30/color-spaces.html>