

Finding Naturally Appealing Palettes

<https://github.com/cxc13513/color-match>

Catherine Chen



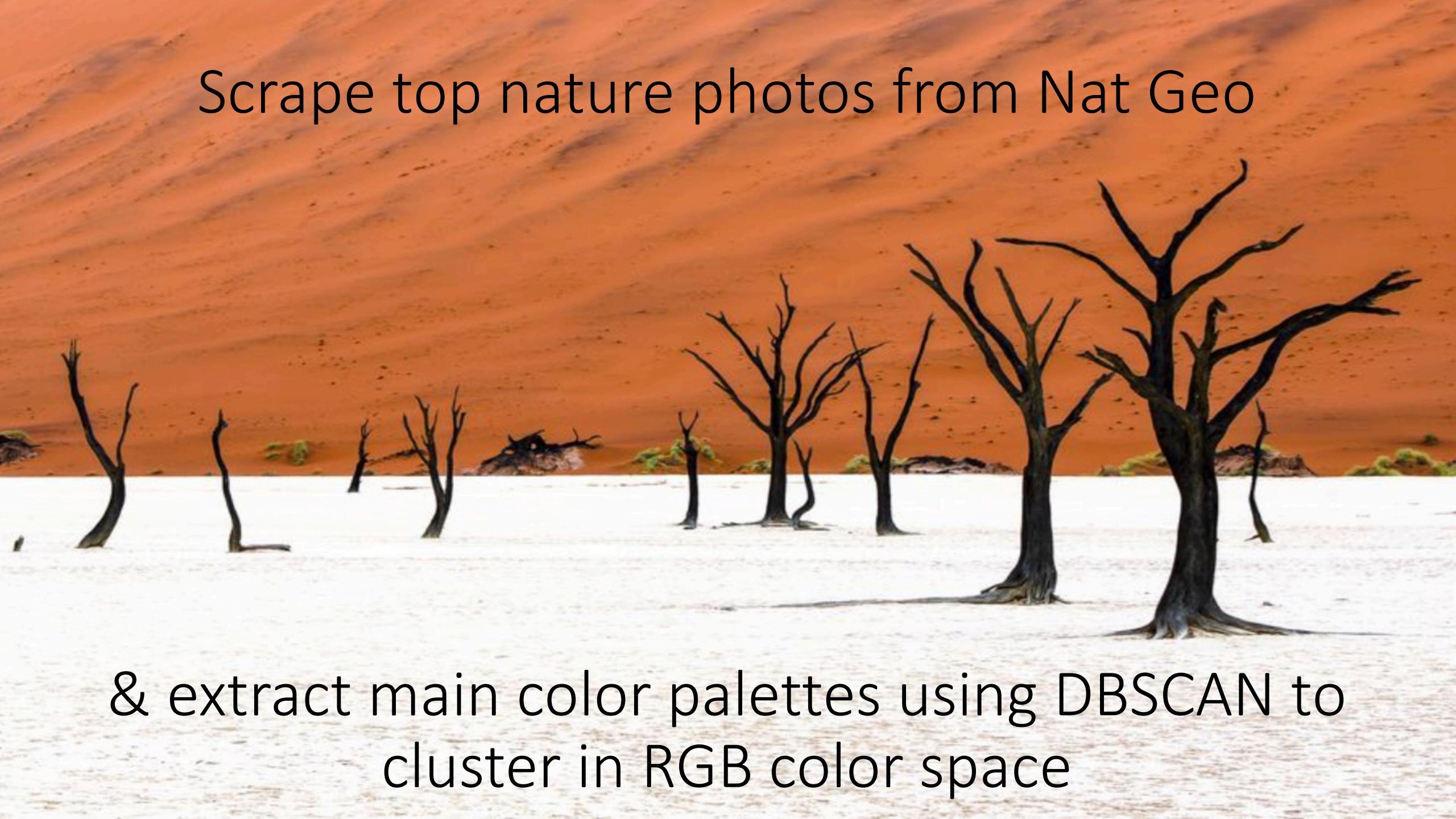
Process Overview

Scrape photos
Extract main color palette from each photo

Find complementary color palettes

Build web app to visualize color options

Validation
Next Steps

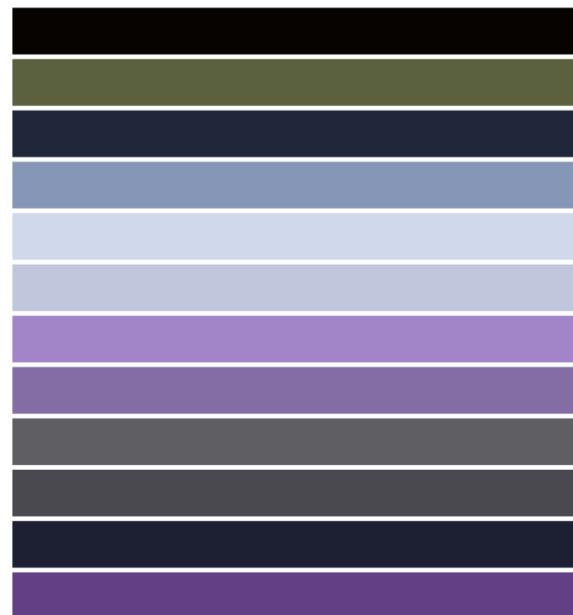
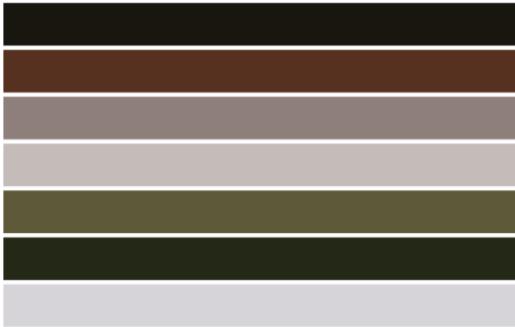


Scrape top nature photos from Nat Geo

& extract main color palettes using DBSCAN to
cluster in RGB color space



NATIONAL GEOGRAPHIC ©2013
Photograph by Maged Ali / National Geographic Photo Contest 2013
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Find complementary palettes

silhouette score: measures similarity of two sets of points in RGB color space



No overlapping colors: score ~ 1



Some overlapping colors: score ~ 0



One set entirely overlapped: score ~ -1

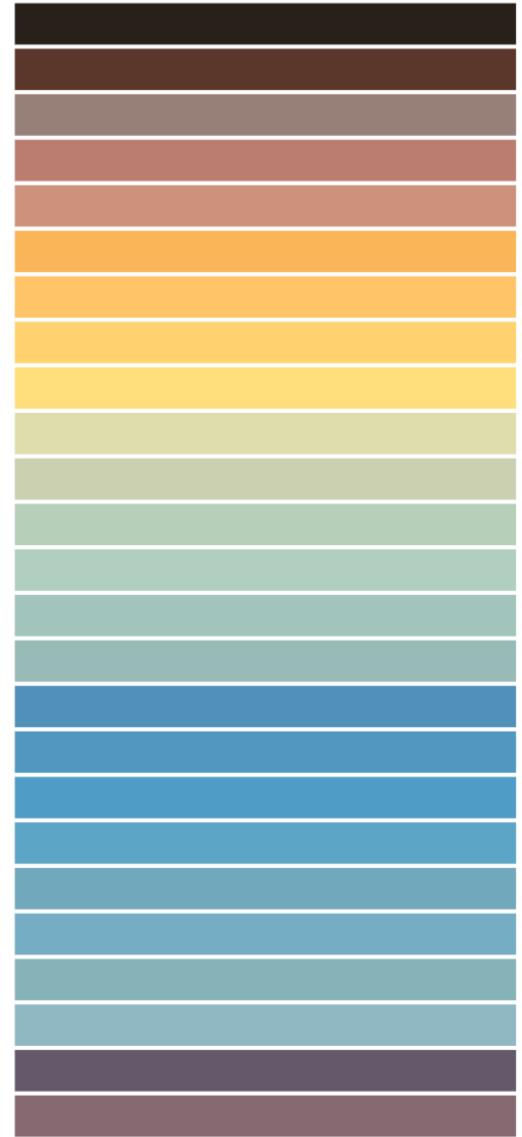
Upload a photo



See base palette



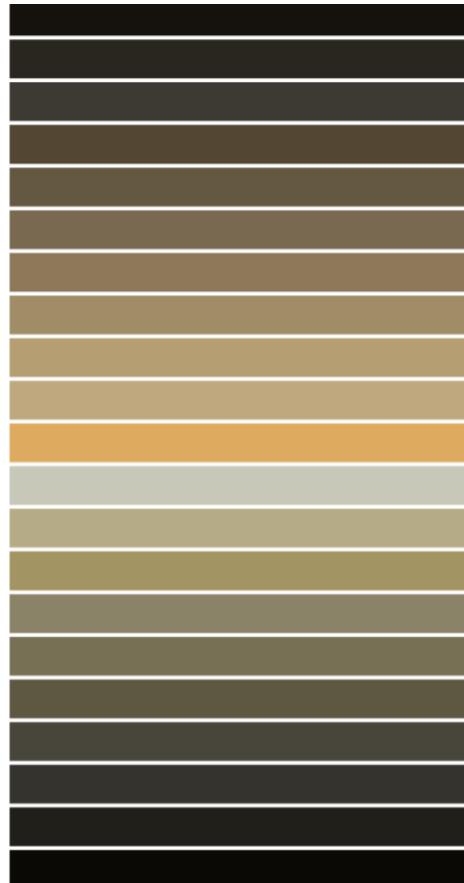
See suggestions



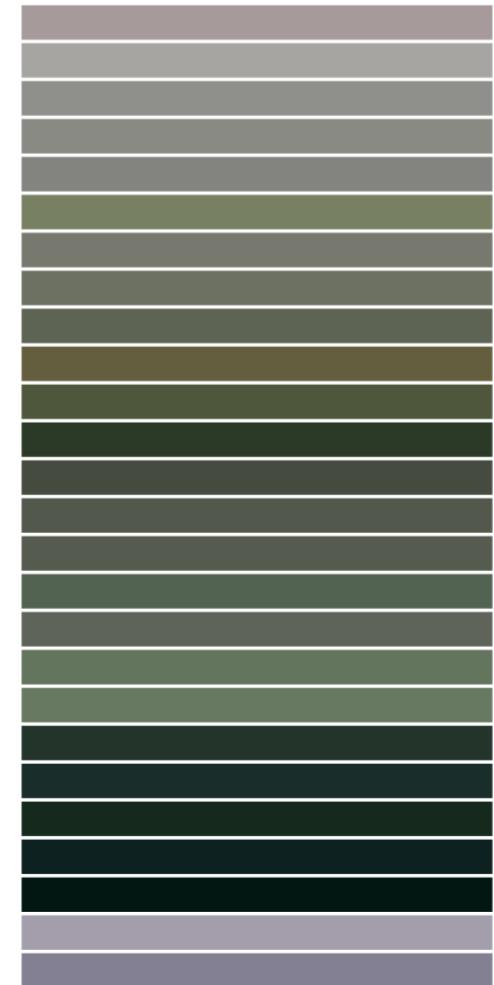
Coordinate with Raegar,
our class mascot



Raegar's
main palette

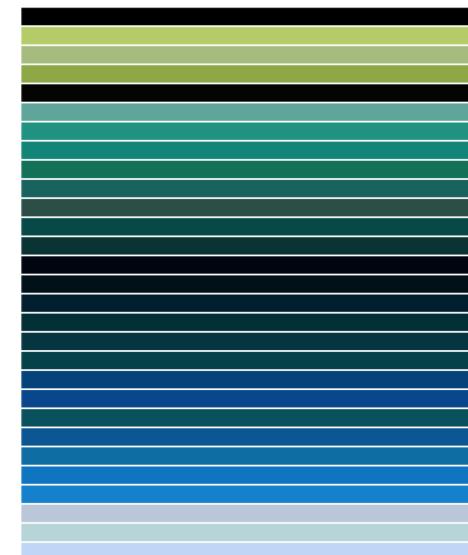
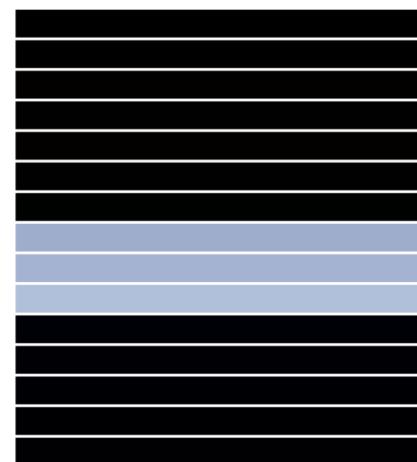
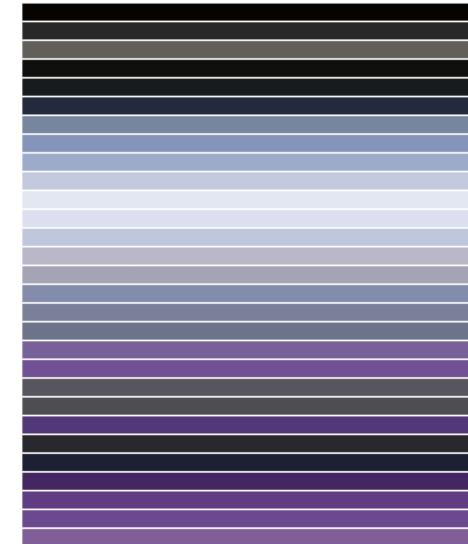
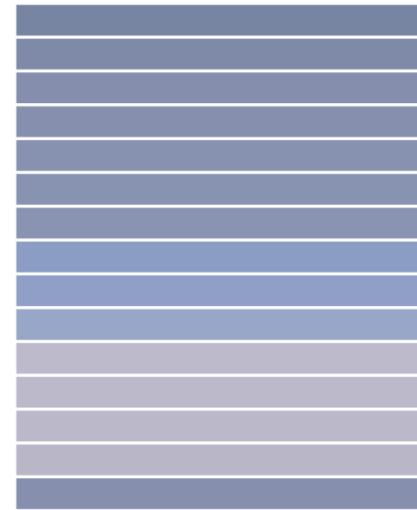


Suggested colors



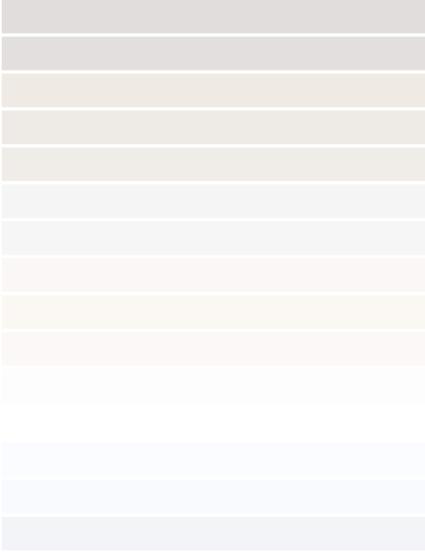
Extracted Main Color Palettes

Baseline Clustered



Baseline

Extracted Palette



Suggested Colors

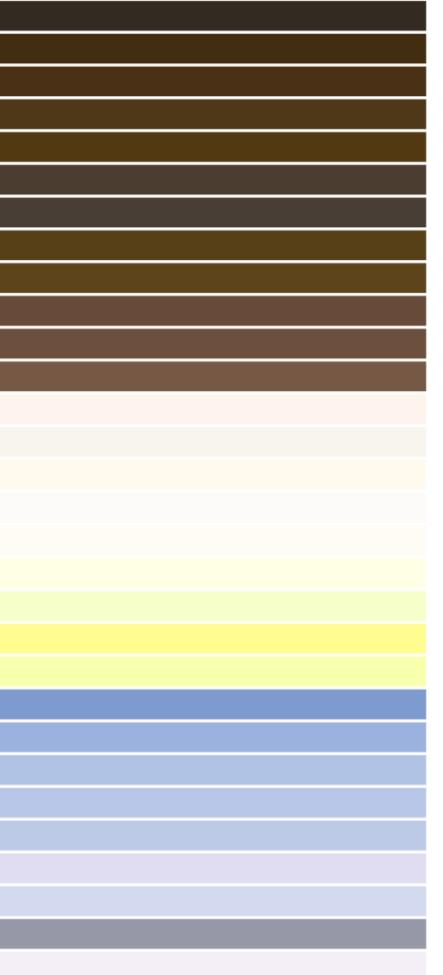


Clustered

Extracted Palette

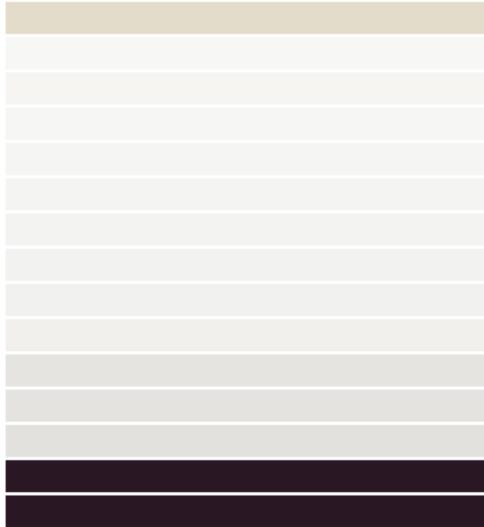


Suggested Colors

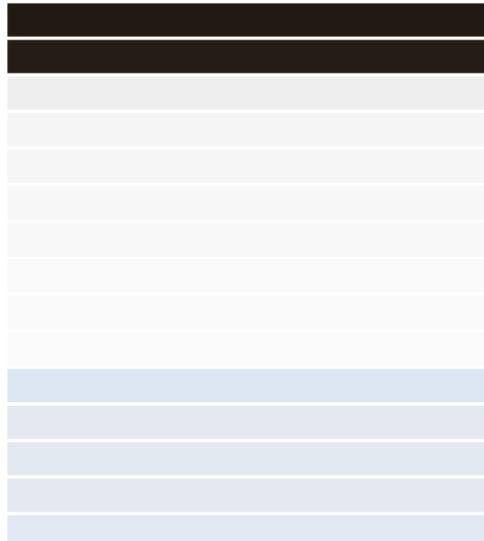


Baseline

Extracted Colors

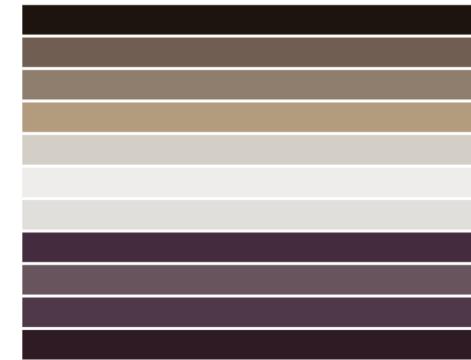


Suggested Colors

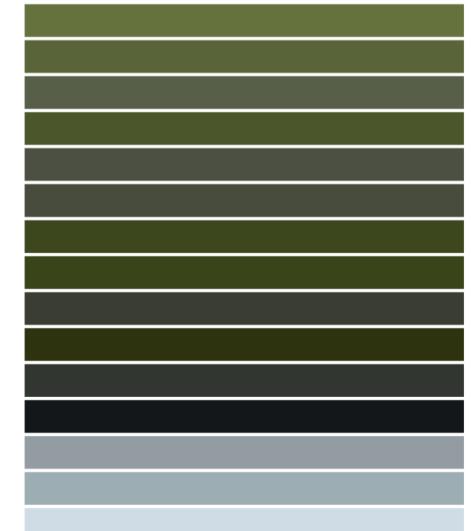


Clustered

Extracted Colors



Suggested Colors

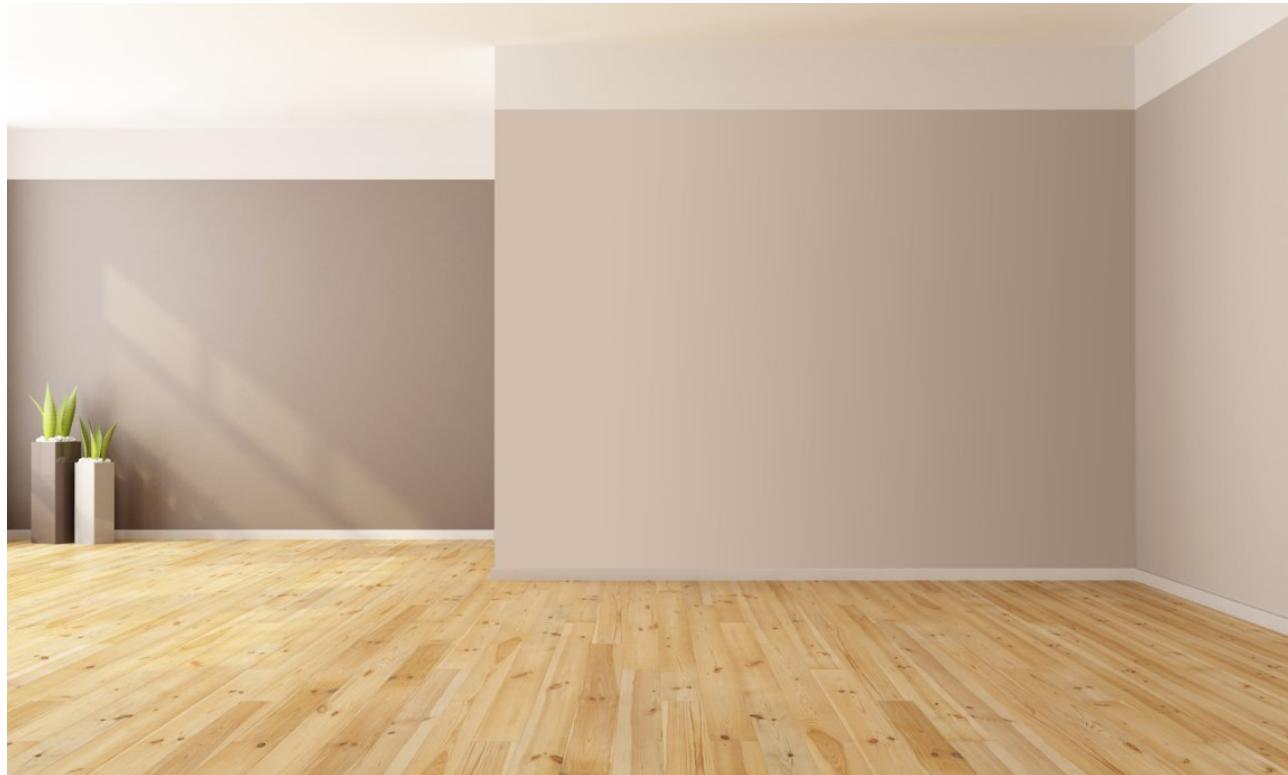
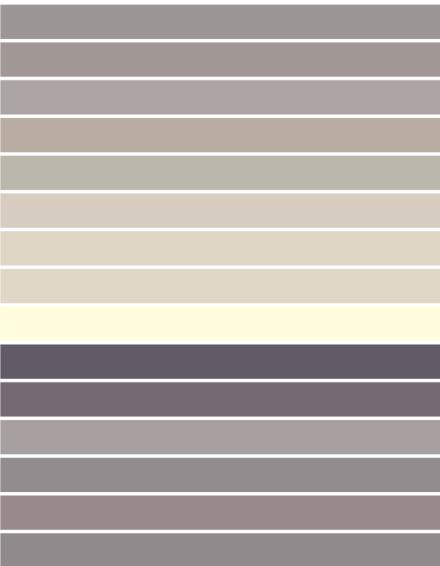


Baseline

Extracted Colors

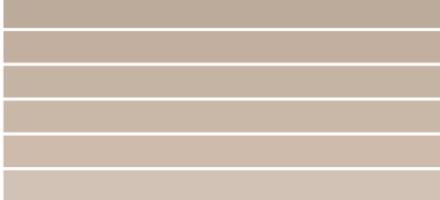


Suggested Colors



Clustered

Extracted Colors



Suggested Colors



Next Steps

- Adjusting DBSCAN parameters
- Alternative color values closer to human perception of color
- Make web app more user friendly & useful
- More robust validation method