

Finding Naturally Appealing Palettes

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

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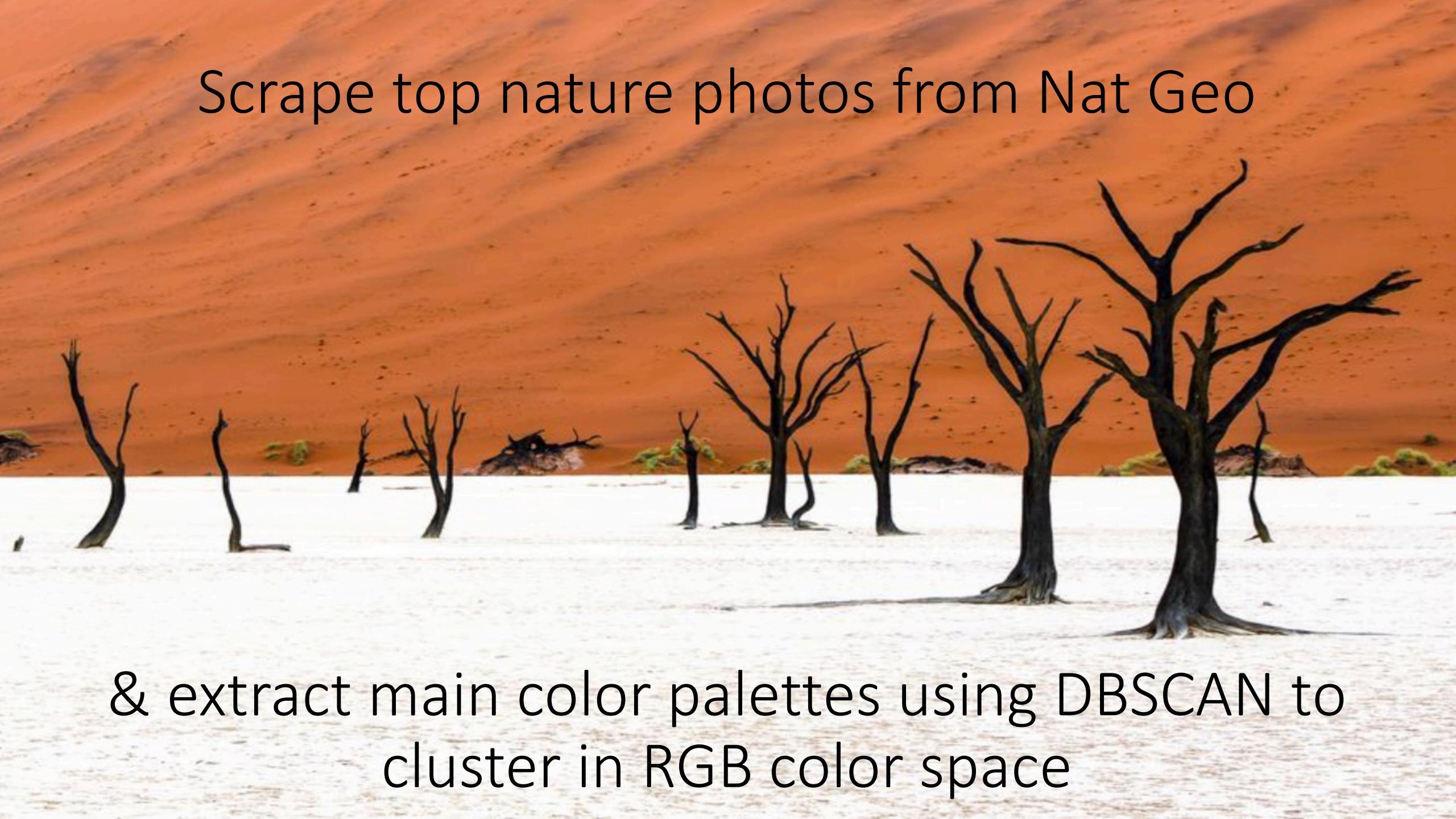
Process Overview

Scrape photos
Extract main color palette from each photo

Find complementary color palettes

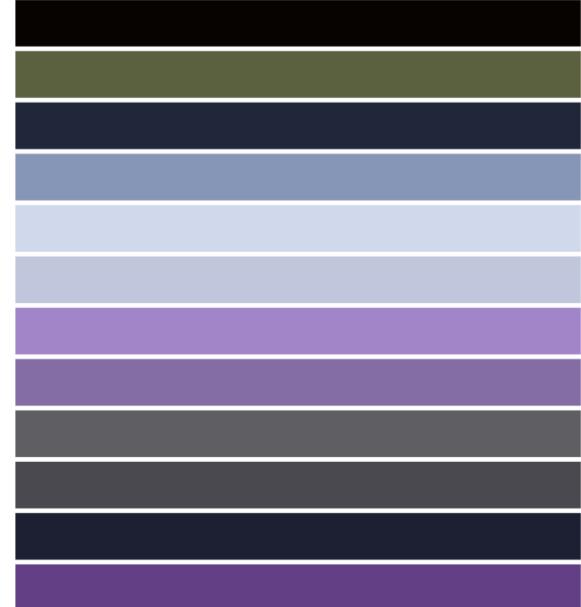
Build web app to visualize color options

Validation
Next Steps



Scrape top nature photos from Nat Geo

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



Find complementary palettes

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



No overlapping colors: score $\sim +1$



Some overlapping colors: score ~ 0

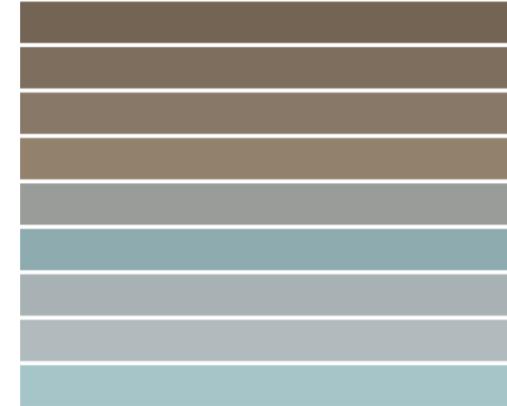


One set entirely overlapped: score ~ -1

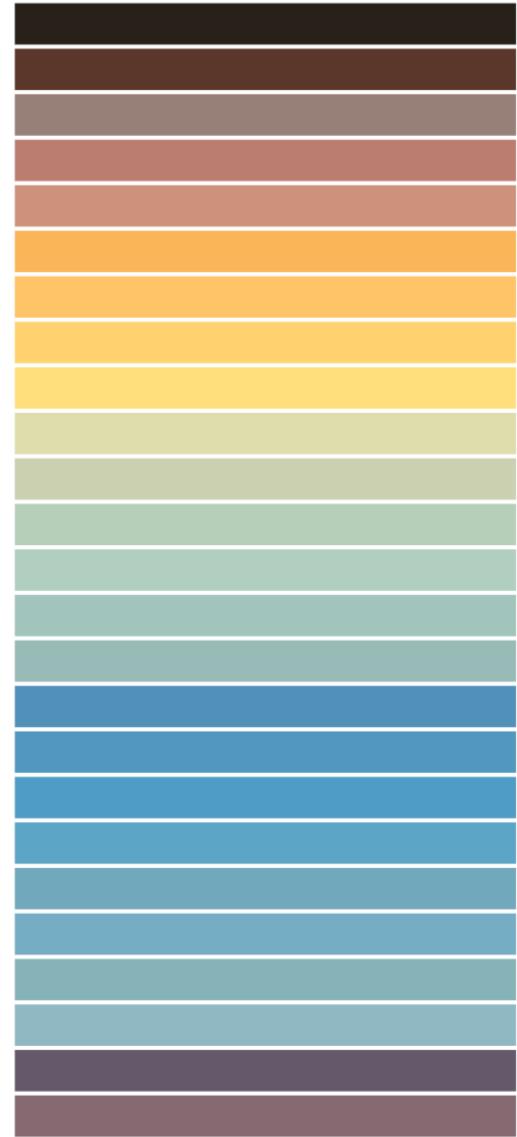
Upload a photo



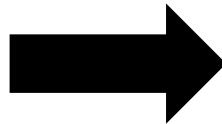
See base palette



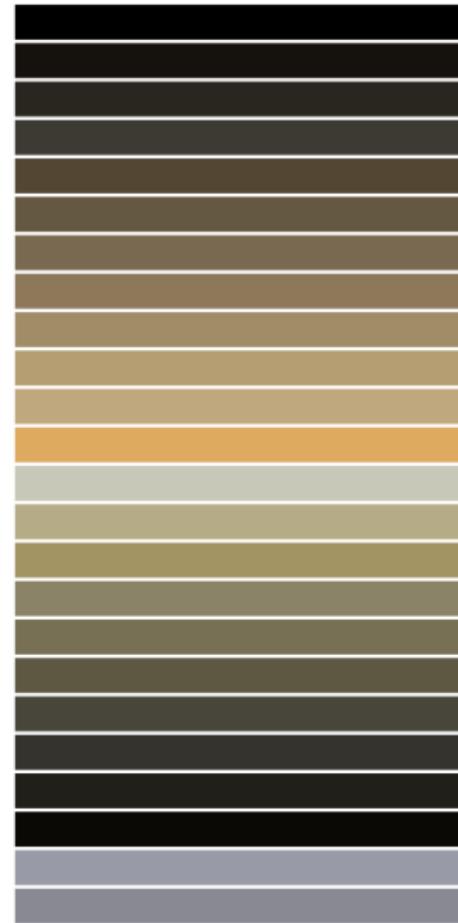
See suggestions



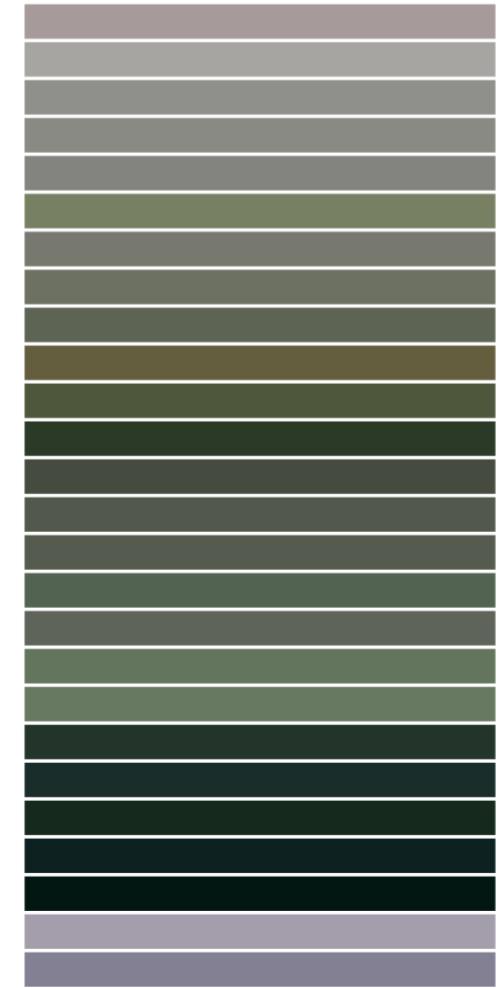
Upload a photo



Base palette

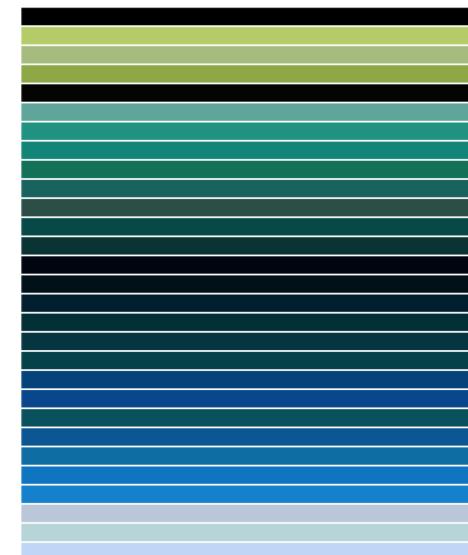
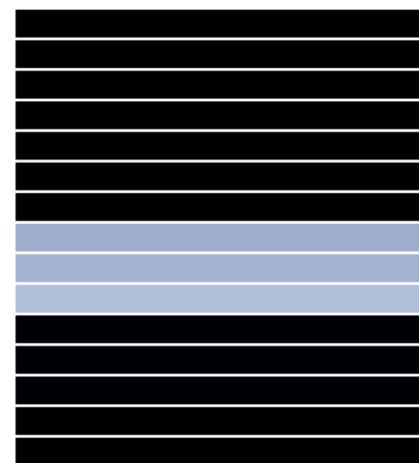
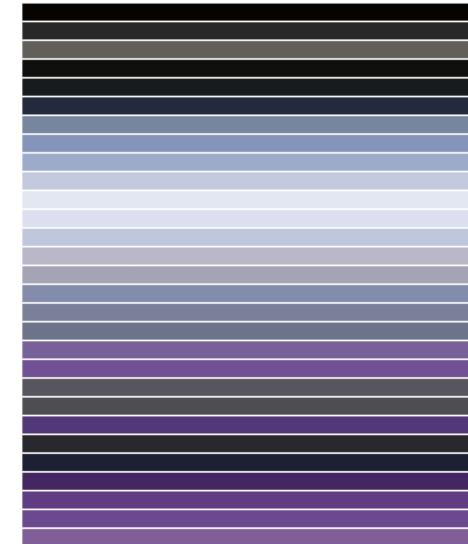
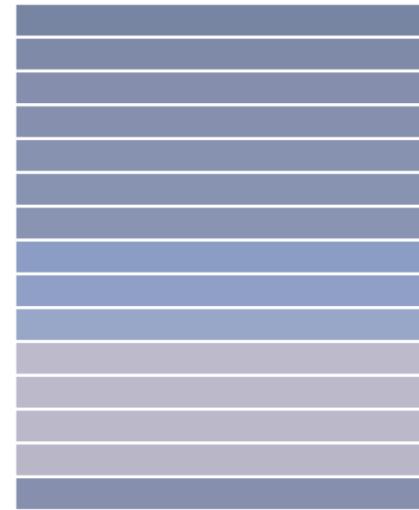


Suggested colors



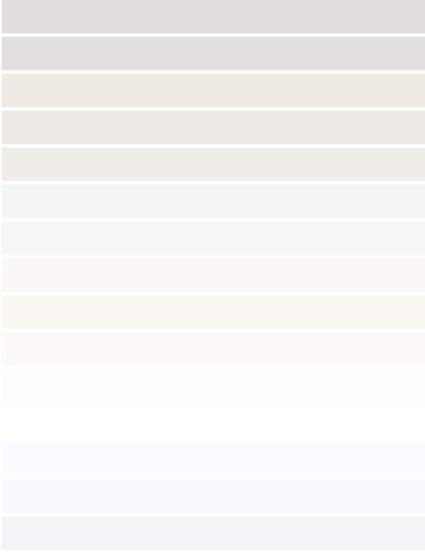
Extracted Main Color Palettes

Baseline Clustered



Baseline

Extracted Palette



Suggested Colors

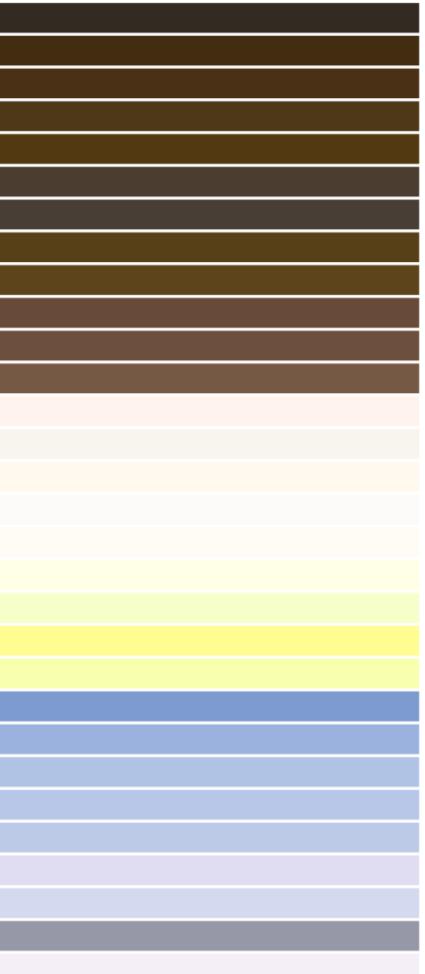


Clustered

Extracted Palette

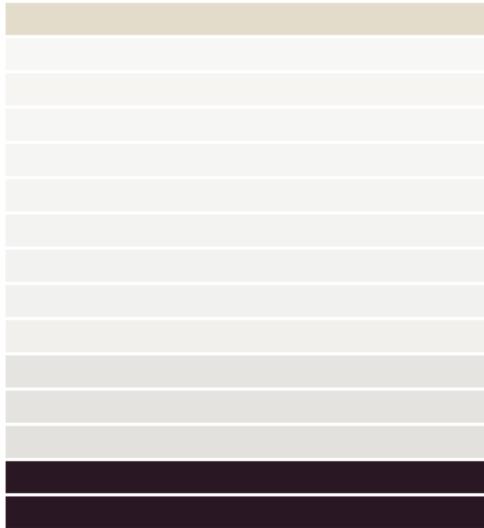


Suggested Colors

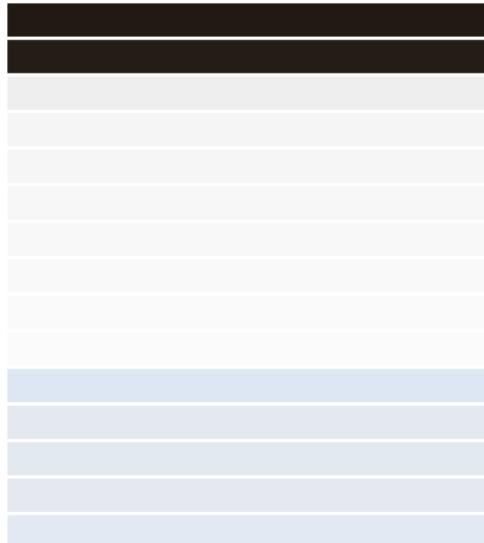


Baseline

Extracted Palette

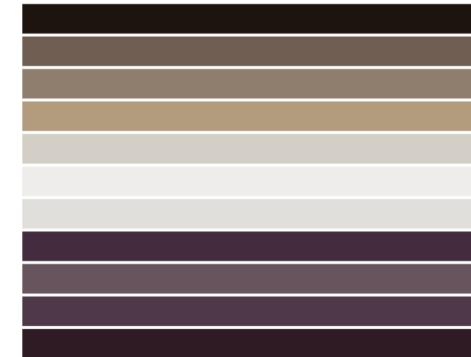


Suggested Colors

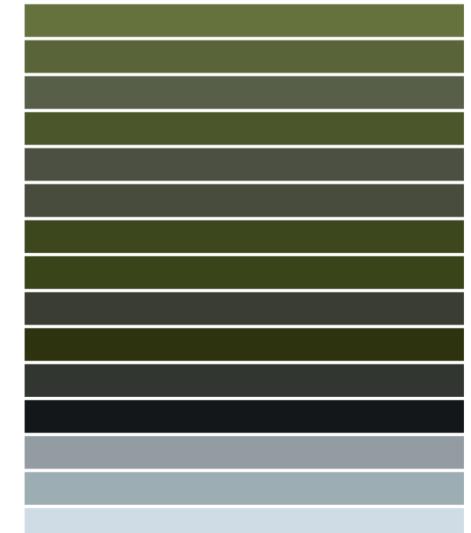


Clustered

Extracted Palette



Suggested Colors

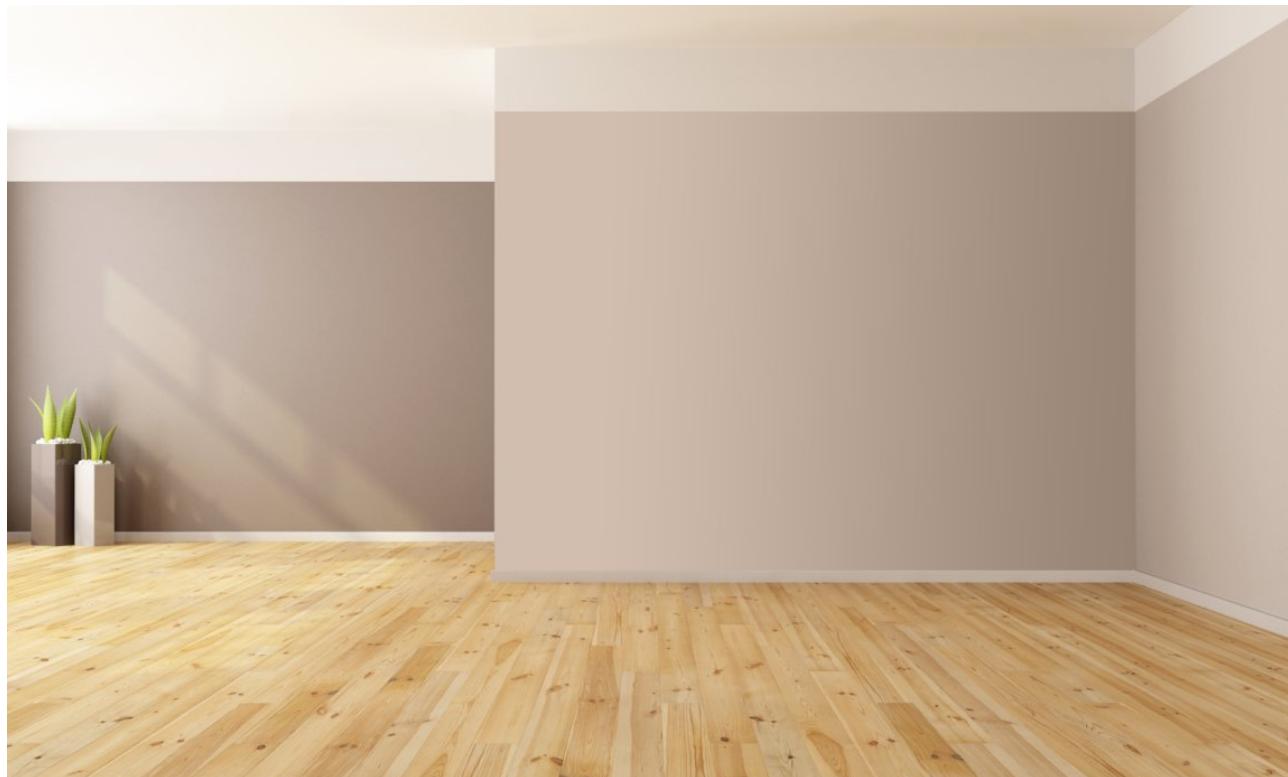
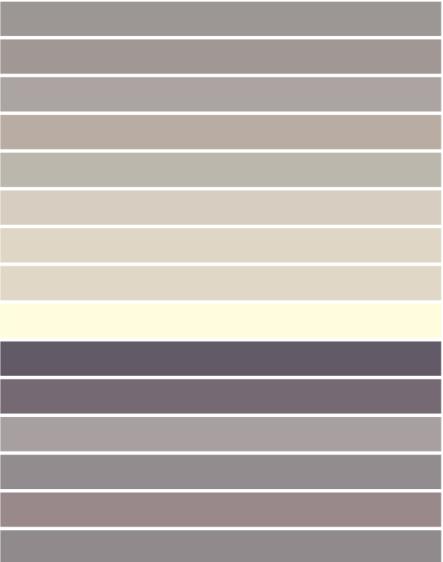


Baseline

Extracted Palette

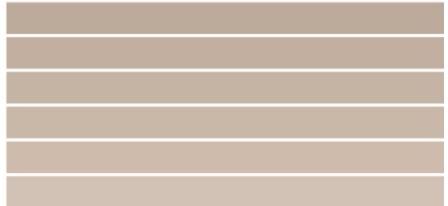


Suggested Colors

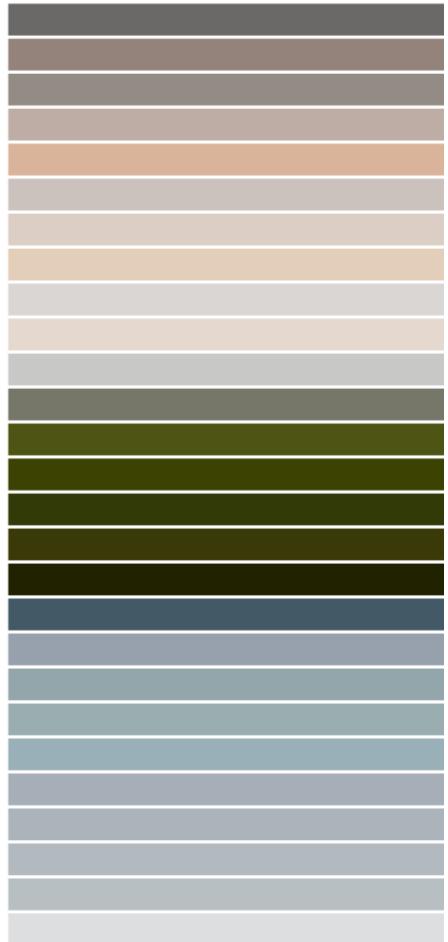


Clustered

Extracted Palette



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