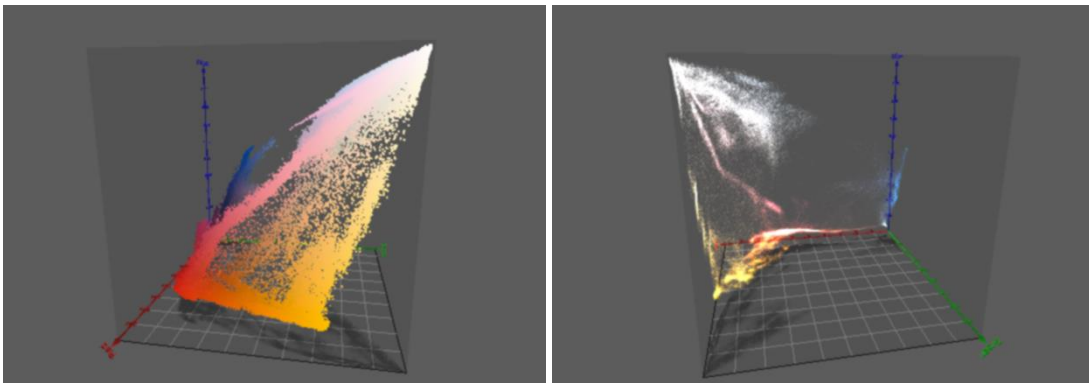


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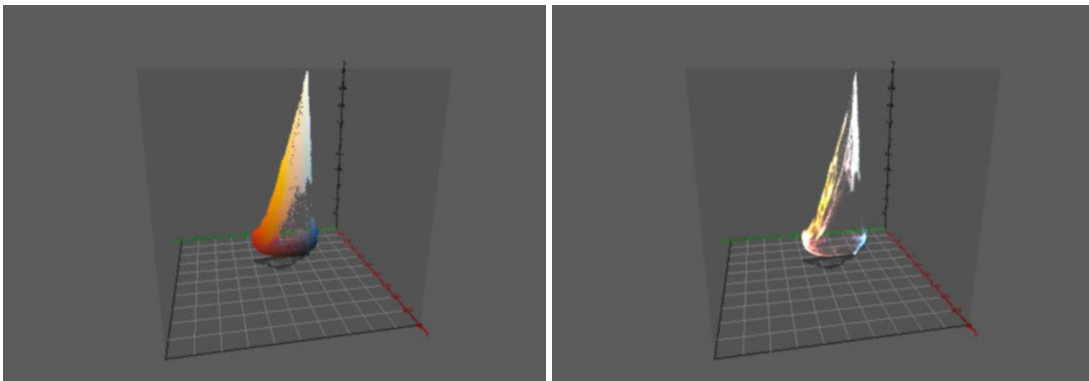
Three days to create a real web application dedicated to real-time color visualization in 3D, VR and MR.

Goals

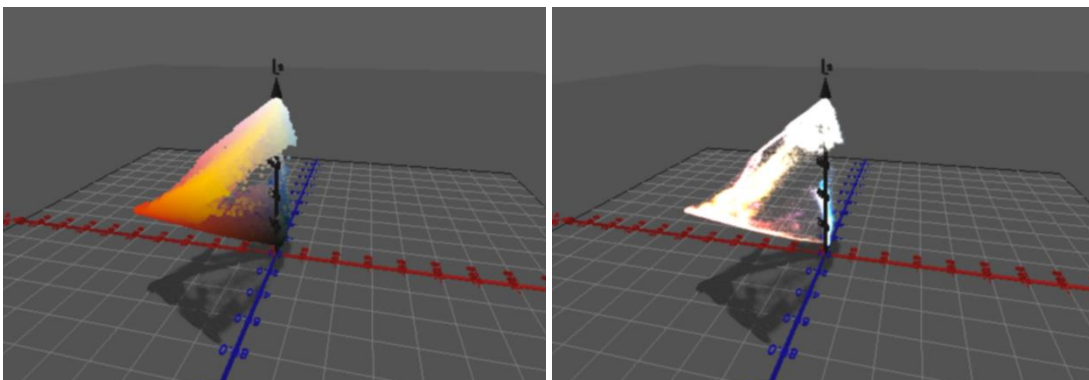
You will have to visualize the color data from video file. This color information, in a given color space, present in each of the frames is displayed as a color cloud with or without density in RGB, CIExyY, CIELAB color spaces like this:



RGB Color space – Left direct visualization – Right density visualization



CIExyY Color space – Left direct visualization – Right density visualization



Visualization

The visualization technique you're going to use needs to be able to display the video at the same time as the color cloud, and it needs to have an interface that allows you to change the color space that is used for the cloud.

VR and MR interaction

Set up an interaction system in VR and MR that allows users to pick up, move, or resize the video or color cloud with their hands using a Meta Quest.

Color conversions

sRGB to CIEXYZ

see <https://en.wikipedia.org/wiki/SRGB>

CIEXYZ to CIE_{xyY}

see

https://en.wikipedia.org/wiki/CIE_1931_color_space#CIE_xy_chromaticity_diagram_and_the_CIE_xyY_color_space

CIEXYZ to CIELAB

see https://en.wikipedia.org/wiki/CIELAB_color_space