



PROJECT 9 : REAL TIME VIDEO ART

LIVE CHALKBOARD

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FIRST, OUR TARGET USERS !

- Those who want to display a fun interactive art installation
(ex. Schools, Shopping centers, etc.)
- Anyone who likes drawing on chalkboards.
- Those who want to turn something into a chalk drawing.



AND NOW THE FEATURES !



SENSITIVITY

There is a 'sensitivity' slider, which changes the density of the lines drawn.



RGB CONTROL

The RGB sliders allow you to change the red, green, blue values of the chalk's color.



SAVE BUTTON

The 'save' button will capture the chalkboard image into a PNG file.

VISUAL CONCEPTS

MAIN CONCEPT

Design similar to the real chalkboard that we all know!

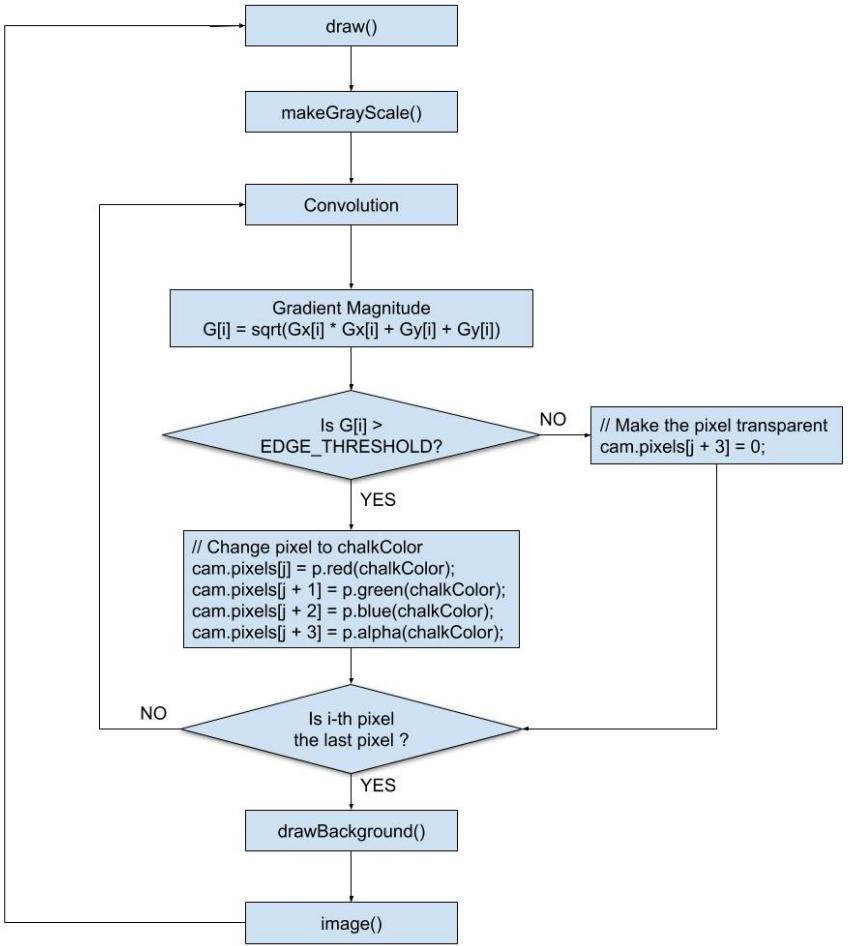
CHALKS

Slightly ragged lines created from the 'edge detecting' code, express the 'chalk' feeling that we intended.

UI DESIGN

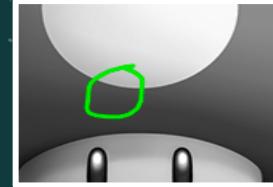
Red, Green, Blue letters in the sliders to provide better experience of the program.





THE ALGORITHMS !

Edge Detection (0)



Edge Detection (X)



Sobel operator

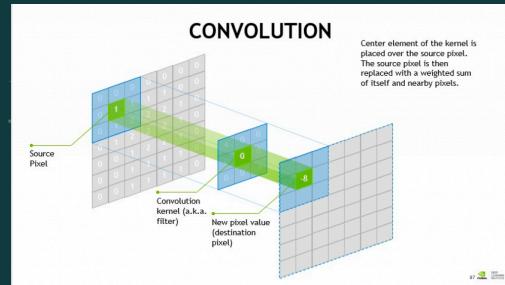
-1	0	1
-2	0	2
-1	0	1

1	2	1
0	0	0
-1	-2	-1

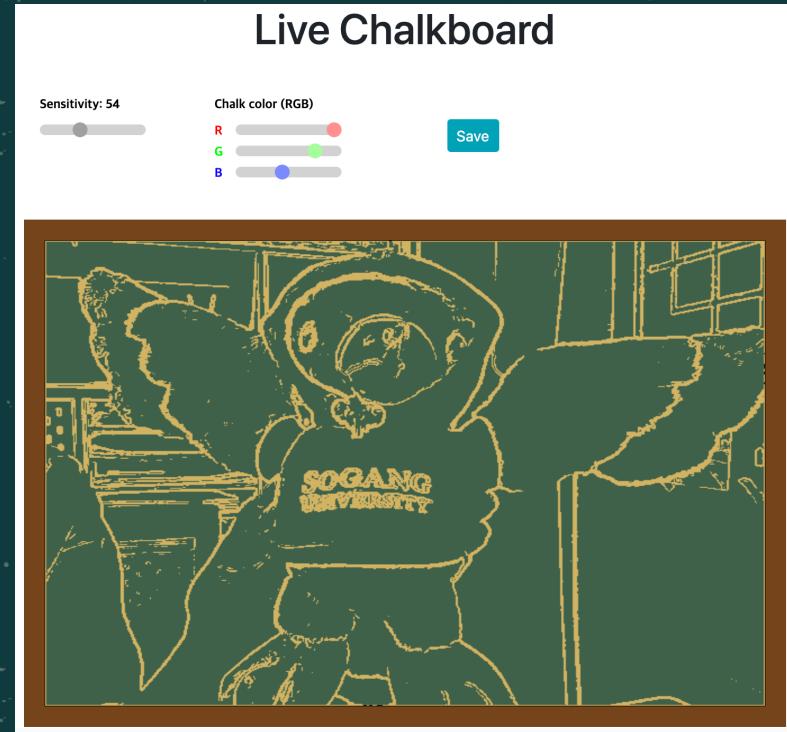
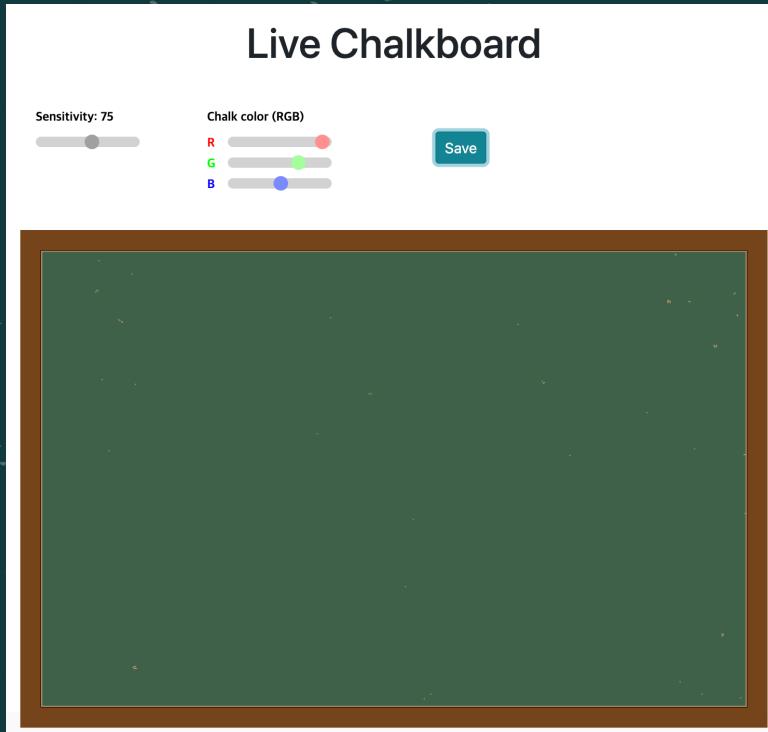
Gradient magnitude

$$G = \sqrt{G_x^2 + G_y^2}$$

Convolution operator



SCREENSHOTS



SCREENSHOTS

Live Chalkboard

Sensitivity: 87

Chalk color (RGB)

R G B

Save

This screenshot shows the 'Live Chalkboard' application interface. At the top, it displays the title 'Live Chalkboard'. Below the title are two sliders: 'Sensitivity' set to 87 and 'Chalk color (RGB)' with individual sliders for Red (R), Green (G), and Blue (B). A teal 'Save' button is located on the right. The main area features a chalk-drawn portrait of a person wearing a cap and a t-shirt that says 'SOGANG UNIVERSITY'. The drawing is framed by a thick brown border.

Live Chalkboard

Sensitivity: 116

Chalk color (RGB)

R G B

Save

This screenshot shows the 'Live Chalkboard' application interface with a higher sensitivity setting of 116. The layout is identical to the first screenshot, featuring the title 'Live Chalkboard', sensitivity slider, chalk color sliders, and a teal 'Save' button. The main drawing area contains the same chalk-drawn portrait of a person wearing a 'SOGANG UNIVERSITY' t-shirt. The drawing appears slightly more detailed or noisy due to the increased sensitivity.



$\sqrt{123}$



THANKS!

These are the Links to the code & present page

<https://editor.p5js.org/kimih12/sketches/930qV7CVH>

<https://editor.p5js.org/kimih12/present/930qV7CVH>

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