You finished this assignment

Grade received 95.83%

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Instructions

1. Upload a zip file containing **3D Sine Games** here. **12 / 12 points**

Remember to include all the files needed to run your code, not just the sketch.js file. Do NOT encrypt/obfuscate your code.

3DSinGames-Template.zip

Grading Rubric

A grid of tiles of the right size, spread over the right area has been produced.

- ○ **0 points** Not completed
- ○ **1 point** Reasonable attempt, but doesn't quite work
- ◉ **2 points** Complete

Correct material and stroke is on display.

- ○ **0 points** No attempt or incorrect material/stroke
- ◉ **1 point** Complete

Structure is wavy like the demo at the top of the page.

- ○ **0 points** Not completed
- ○ **1 point** Reasonable attempt, but doesn't quite work
- ◉ **2 points** Complete

Camera flies around like in the demo at the top of the page.

- ○ **0 points** Not complete
- ◉ **1 point** Complete

Confetti appear on top of structure like in the demo, at random locations and random angles, but do not necessarily animate.

- ○ **0 points** Not attempted
- ○ **1 point** Reasonable attempt but doesn't quite work
- ◉ **2 points** Complete

Confetti is falling downwards and is also rotating. When it reaches 0 on the y axis it resets to the top.

- ○ **0 points** Not complete
- ◉ **1 point** Complete

Has the student implemented ideas for further development?

- Customize the sketch by adding different materials that are affected by lights and add lights. Look at the p5.js documentation on lights and materials if needed. Can you add a different material only to the cubes and not the confetti? HINT: think back to push and pop.
- Create some p5.js sliders to make some of your variables for the cube grid dynamic, for example the height of the cubes or the speed of the sine wave or potentially resolution of the 2D noise.

○	**0 points**	Not really
○	**1 point**	Yes, something is there, but not much extra work has been put in
○	**2 points**	Yes! Learner implemented one idea very well or more things but not very impressively
◉	**3 points**	Yes! Learner really pushed themselves by doing 2 or more extensions to an impressive level. **Reserve this for impressive submissions**

Grader, please briefly comment on any/some of the following bullet points.

Positives

- Has the learner exceeded what has been asked of them?
- Has an aspect of the learners submission surprised you, the grader, in any way? Is the learners sketch unique?
- Does the learner's submission demonstrate a deep understanding of the concepts covered in class?

Negatives

- Is there a specific aspect of the topics covered that you feel the learner should revisit?
- Any recurring mistakes that the learner made?

Excellent submission. You showed high graphics programming level here. Good luck!

2. Upload a zip file containing **Average Face**. **12 / 12 points**

Remember to include all the files needed to run your code, not just the sketch.js file. Do NOT encrypt/obfuscate your code.

averageFace-Template.zip

Grading Rubric

Images loaded successfully using a for-loop **(a code check is required).**

○	**0 points**	No attempt.
○	**1 point**	Reasonable attempt, but doesn't quite work.
◉	**2 points**	Step has been achieved the right way.

Face appears on the left, grey canvas on the right.

○	**0 points**	No attempt or step has not been achieved.
◉	**1 point**	Step has been achieved.

Image initialised correctly within setup() function **(a code check is required).**

○	**0 points**	No attempt or step not achieved.
◉	**1 point**	Step has been achieved.

Images are looped over and updatePixels() is called on them.

○	**0 points**	No attempt or step has not been achieved.

- (●) **1 point** Step has been achieved.

Face appears on the left, red canvas on the right. Conversion from 2D to 1D coordinates has taken place **(a code check is required).**

- ( ) **0 points** Not attempted or step not achieved.
- ( ) **1 point** Reasonable attempt, but doesn't quite work.
- (●) **2 points** Step has been achieved.

Average image appears on right side of the canvas.

- ( ) **0 points** Not attempted or step not achieved.
- ( ) **1 point** Reasonable attempt but doesn't quite work.
- (●) **2 points** Average image appears on the right side of the canvas.

Has the learner implemented ideas for further development? They will need to have paid attention to this hint in the step: Do not remove the noLoop() from the end of draw(), simply call loop() at the end of the user input functions mentioned below.

- How would you change the code so that the image drawn on the left is a random face from the array of faces rather than just the first one, with a new random face selected using the keyPressed() function?
- Could you have the pixel values of the second image transition between the randomly selected image and the average image based on the mouseX value? HINT: Use the p5 lerp() function, read the documentation to understand what you need to do.

Points awarded based on whether the solutions to the ideas for further development were correctly implemented.

- ( ) **0 points** No.
- ( ) **1 point** Yes, they have attempted one or both but neither are quite working.
- ( ) **2 points** Yes, they have at least one working.
- (●) **3 points** Yes, they have successfully implemented both ideas.

Grader, please briefly comment on any/some of the following bullet points.

Positives

- Has the learner exceeded what has been asked of them?
- Has an aspect of the learners submission surprised you, the grader, in any way? Is the learners sketch unique?
- Does the learner's submission demonstrate a deep understanding of the concepts covered in class?

Negatives

- Is there a specific aspect of the topics covered that you feel the learner should revisit?
- Any recurring mistakes that the learner made?

Excellent work. You implemented all the requirements, including the suggested extensions. Keep up this high level, and good luck!

3. Upload a zip file containing **Your Own Instagram Filter**. **11 / 12 points**

Remember to include all the files needed to run your code, not just the sketch.js file. Do NOT encrypt/obfuscate your code.

instagramFilter-Template.zip

Grading Rubric

Sepia filter has been implemented successfully and images look very similar to the ones provided by the instructor.

- ( ) **0 points** Not attempted.
- ( ) **1 point** Reasonable attempt, but doesn't quite work.

- (●) **2 points** Step has been achieved.

Vignetting has been achieved using the map() and constrain() functions **(code check required)** and results look very similar to the ones provided by the instructor.

- ( ) **0 points** No attempt.
- ( ) **1 point** Reasonable attempt but doesn't quite work.
- (●) **2 points** Step has been achieved.

Radial blur has been achieved using the map() and constrain() functions **(code check required)**. Clicking on the face of the boy in the color image replicates the results provided by the instructor.

- ( ) **0 points** Not attempted.
- ( ) **1 point** Reasonable attempt but doesn't quite work.
- (●) **3 points** Step has been achieved.

Borders recreated using the technique suggested by the instructor.

- ( ) **0 points** No attempt
- ( ) **1 point** Reasonable attempt but doesn't quite work.
- (●) **2 points** Step has been achieved.

Did the learner further develop the sketch by implementing some logic to switch between different filter effects on the second image?

On key press change between a set number of different “filters”, perhaps try to combine different kernels (stored in the variable called “matrix”) with different pixel color effects like the sepia color effect, for example grey scale is another effect. Make sure that the first effect visible when the sketch is loaded is the sepia effect with the
radial blur and dark corners as per the above instructions, do not change the logic of applying the radial effect on mouse pressed. Beneath the images include written instructions about which key or keys to press. Include comments in the code about what you have done.

Points awarded to ambitious learners.

- ( ) **0 points** Not attempted.
- ( ) **1 point** Attempted, but not working.
- (●) **2 points** Successful logic to switch to one other basic filter covered in class material and back again. Or can switch between multiple filters, but UI instructions for key press are missing, or there are no code comments in messy code, or radial blur functionality was broken.
- ( ) **3 points** Successful switching between filters. Learner has a clean and clear UI and preserved the radial blur and/or has gone above and beyond filters taught in class material.

Grader, please briefly comment on any/some of the following bullet points.

Positives

- Has the learner exceeded what has been asked of them?
- Has an aspect of the learners submission surprised you, the grader, in any way? Is the learners sketch unique?
- Does the learner's submission demonstrate a deep understanding of the concepts covered in class?

Negatives

- Is there a specific aspect of the topics covered that you feel the learner should revisit?
- Any recurring mistakes that the learner made?

Good job here. You showed very good graphics programming here and achieved all these task requirements. I see room for development to improve the implemented extension and the switching between different filters' functionality. Keep this good work up, and good luck!

4. Upload a zip file containing **Webcam Piano.**

11 / 12 points

Remember to include all the files needed to run your code, not just the sketch.js file. Do NOT encrypt/obfuscate your code.

webcam-piano.zip

Grading Rubric

Renaming of backImg to prevImg has taken place.

- ○ **0 points** Not attempted.
- ◉ **1 point** Step has been achieved.

Frame differencing implemented by moving prevImg around.

- ○ **0 points** Not attempted.
- ○ **1 point** Reasonable attempt, but doesn't quite work.
- ◉ **2 points** Step has been achieved.

Learner has included Grid.js correctly and grid activates with movement.

- ○ **0 points** Not attempted.
- ○ **1 point** Reasonable attempt but doesn't quite work.
- ◉ **2 points** Step has been achieved.

Learner has included blur in order to reduce the amount of noise that activates the grid.

- ○ **0 points** Not attempted.
- ○ **1 point** Reasonable attempt, but doesn't quite work.
- ◉ **2 points** Step has been achieved.

Learner has scaled down images processed (currImg, diffImg) so that the sketch runs fast after blurring has slowed it down.

- ○ **0 points** Not attempted.
- ○ **1 point** Reasonable attempt, but doesn't quite work (still runs slowly)
- ◉ **2 points** Step has been achieved.

How much has the learner extended the sketch? Learner has included comments about the extension and shows understanding of techniques learnt throughout the course.

- Customize the graphics. In Grid.js you could customize the base grid of graphics thinking about color, opacity or shape. Can you make use of *noteState* to drive different effects that change over time after the note as been activated?
- Trigger secondary graphics effects or animations when an active note is drawn. Can you include rules that only trigger the effects sometimes, perhaps making use of noise or randomness?
- Implement the core p5.js sound library to play sounds depending on which “note” in the grid is activated.
- Implement a custom “Note” class that is used in Grid.js. Instead of an array of values for *noteSize*, *notePos* and *noteState* you would have an array of notes. Think about what parameters you would need for the Note constructor method and what other methods the Note class would need, both the methods needed to adapt the existing functionality from the Grid.js code and any custom methods you would like to add.

- ○ **0 points** No attempt.
- ○ **1 point** Learner has implemented one idea well, or both ideas or just the second idea is attempted very basically or poorly.

◉	**2 points**	Learner has implemented two ideas to a satisfactory level.
○	**3 points**	Learner has impressed you with their extension, either implementing more than two ideas, or demonstrating advanced techniques, or has combined animations or sound in interesting and creative ways.

Grader, please briefly comment on any/some of the following bullet points.

Positives

- Has the learner exceeded what has been asked of them?
- Has an aspect of the learners submission surprised you, the grader, in any way? Is the learners sketch unique?
- Does the learner's submission demonstrate a deep understanding of the concepts covered in class?

Negatives

- Is there a specific aspect of the topics covered that you feel the learner should revisit?
- Any recurring mistakes that the learner made?

Excellent work. You achieved all the requirements of this task, including the suggested extensions. Keep up this high level, and good luck!