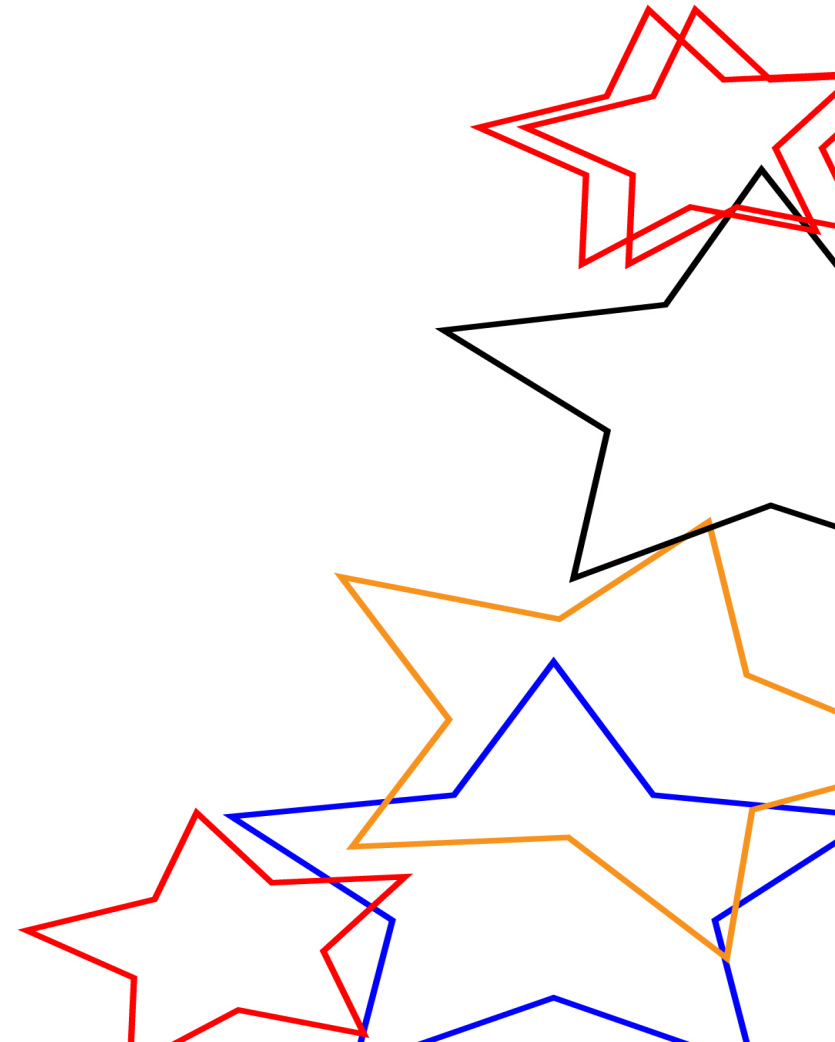


Interactive Star Particles

Written Description

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Computational Prototyping for Industrial Design



C O N T E N T

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INTRODUCTION

This written paper is about the Interactive Star Particles Program created using Processing. The Star Particles Program aims to make digital drawing more fun and interactive. This is particularly for children.

The star shape was chosen as it is a shape easily recognised. Furthermore a star in itself is an attractive and constantly changing phenomenon.

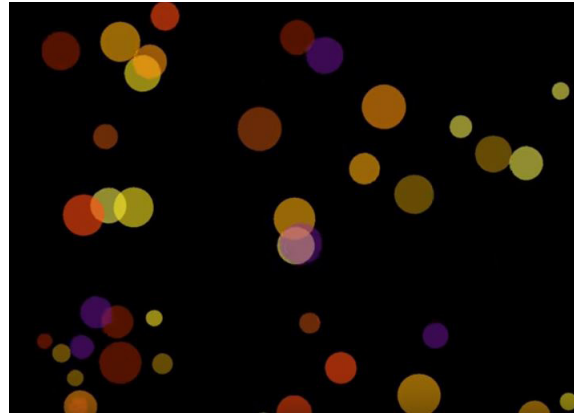
The program allows the user to draw with a star shape brush and has six different size/position functions and 3 colour functions.

1

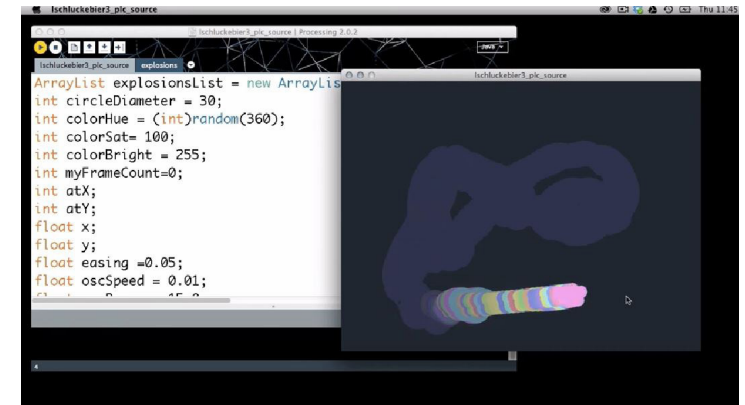
2

ARTISTIC INFLUENCES

The design of the program was inspired by existing processing programs and images.



Bouncing balls program.



Clouded Mind - Drawing tool



Star text

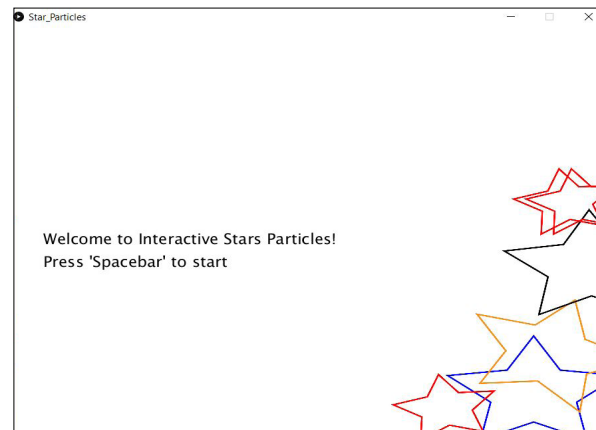
WRITTEN DESCRIPTION OF PROGRAM

Starting the program and basic drawing

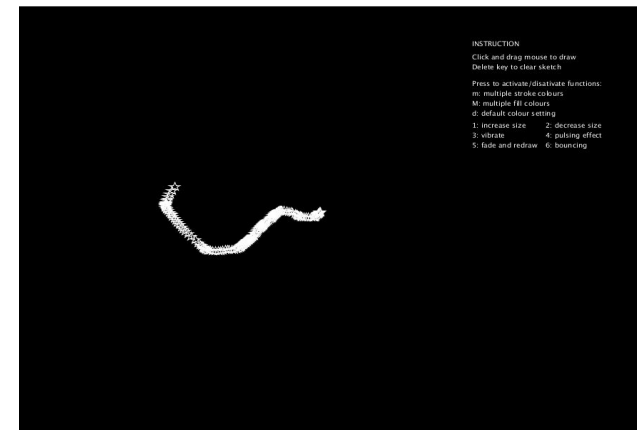
When the program starts, a welcome page appears. The welcome page shows the title of the program and an instruction to the user about how to start the drawing section. This is done by pressing the “Spacebar” key. The background of the welcome page is an uploaded “jpg” image, created using Adobe Illustrator.

After pressing the “spacebar” key, the screen changed to a black background with the basic instruction of how to use the interactive drawing program.

To draw, click and move the mouse. This activates the function that add stars to the sketch. The default colour of the star shape is white stroke and no fill colour. This is the basic drawing. To activate functions, different keys must be pressed. The colour of the respective function instructions will turn red if the function is activated. This makes it easier to keep track of what functions is on or off. Only the default colour does not turn red as it is automatically completely turned off when activating the other colour functions (multiple stroke colours, multiple fill colours). To clear the screen, press “Delete” space.



Welcome page



Basic drawing function

Colour functions

There are three colour function: default colour, multiple stroke colours and multiple fill colours.

1. Default colour

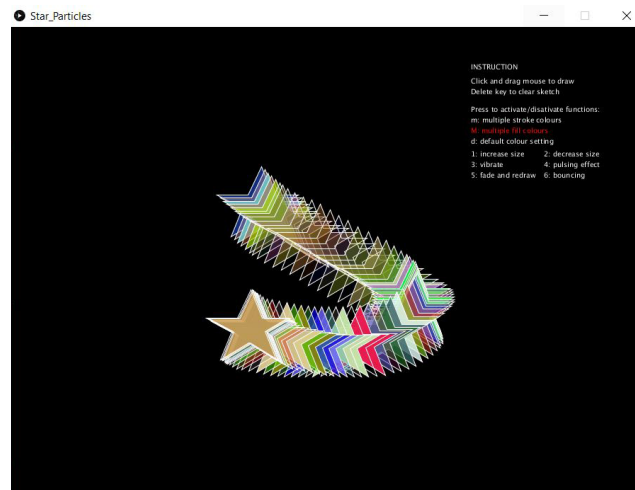
Default colour is the white stroke and no fill effect of the shape. This function is useful when the user wants to turn off completely the other two colour functions. Simply press the “d” key to activate the default colour.

2. Multiple stroke colours

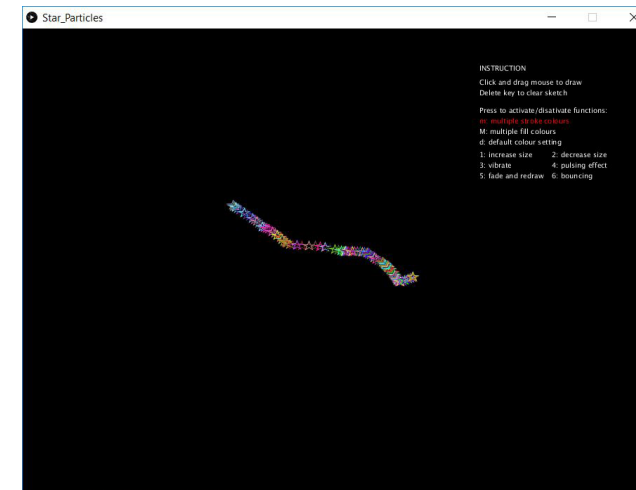
As the name suggests, this makes the strokes of the shapes colourful. The stroke will continuously change colour randomly until the function is disactivated. To activate and disactivate, press the “m” letter. If the default colour function is not activated after the multiple stroke colours disactivated, the stroke colour will remain colourful, but will not change.

3. Multiple fill colours

The “M” key activates and disactivates this function. Like the multiple stroke colours function, the colours will be random. To remove the fill colour completely, activate the default colour function.



Multiple fill colours



Multiple stroke colours

3

Size, position and movement functions

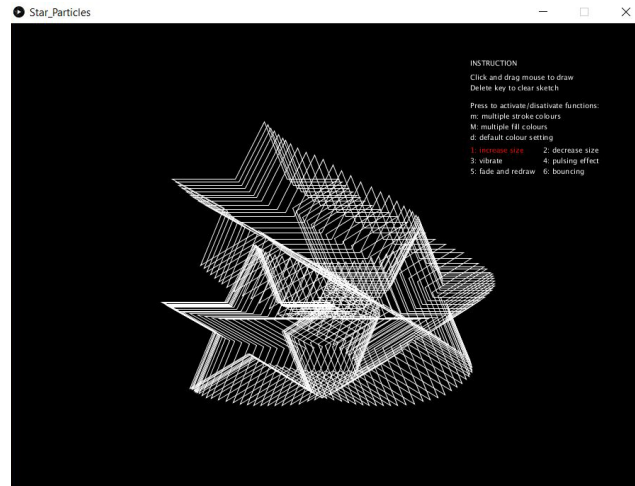
There are six size, position and movement function: increase size, decrease size, vibrate, pulsing effect, fade and redraw, bouncing.

1. Increase size

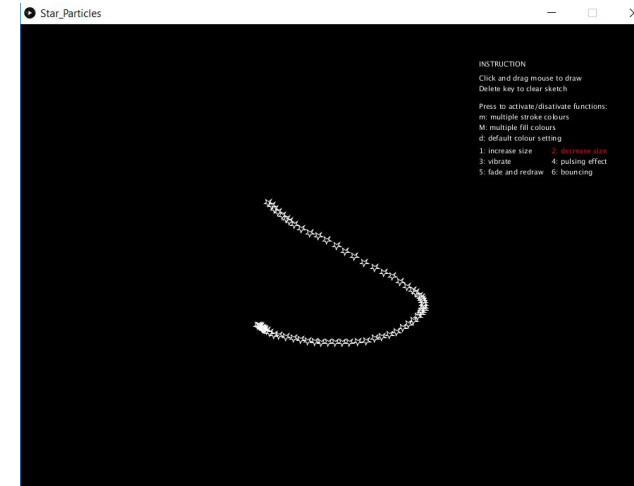
It is activated when the “1” key is pressed. All shapes on the sketch are affected and their size increases gradually. To stop the increase in size, deactivate the function.

2. Decrease size

It is activated when the “2” key is pressed. All shapes on the sketch are affected and their size decreases gradually. To stop the decrease in size, deactivate the function.



Increase size



Decrease size

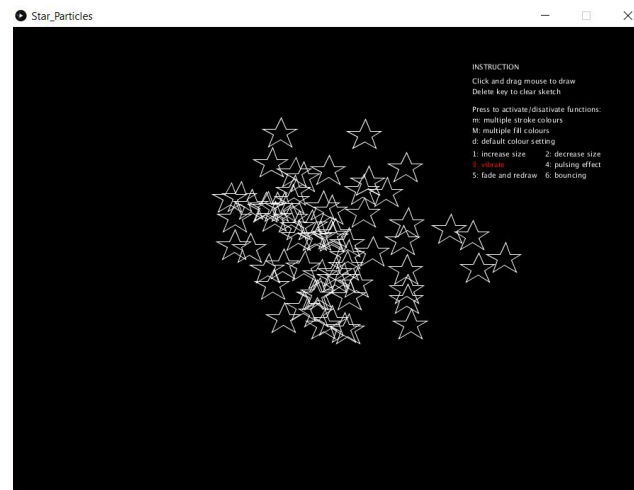
3

3. Vibrate

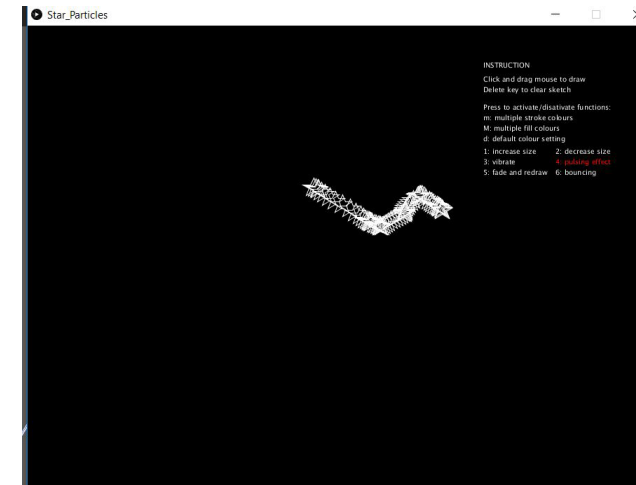
It is activated when the “3” key is pressed. All shapes on the sketch are affected and they will ‘vibrate’ and move slowly randomly. To stop the effect, press “3” key.

4. Pulsing effect

It is activated when the “4” key is pressed. All shapes on the sketch are affected and they increase in size and then decrease.



Vibrate



Pulsing effect

3

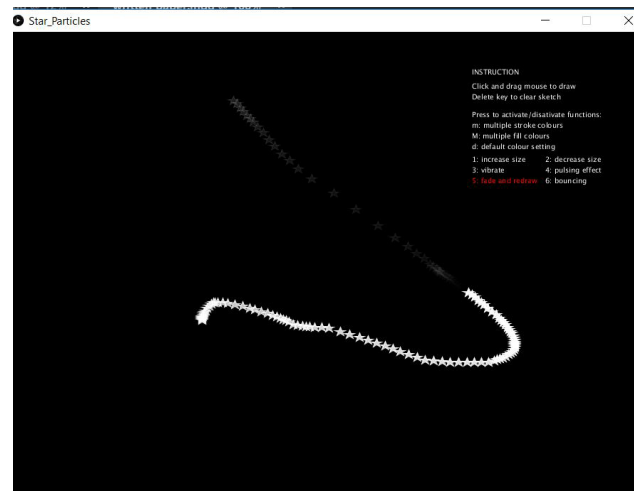
5. Fade and redraw

It is activated when the “5” key is pressed. All shapes on the sketch are affected and they will slowly fade and then redraw as they were.

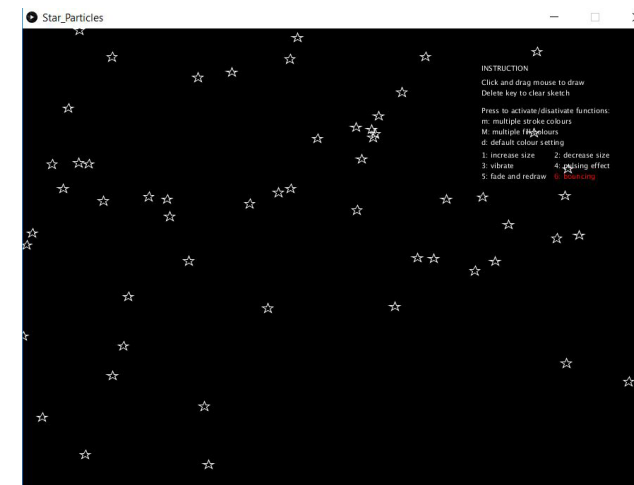
6. Bouncing

It is activated when the “6” key is pressed. All shapes on the sketch are affected and they will start bouncing randomly.

This system of activation allow users to use various functions at the same time.



Fade and redraw



Bouncing

REFERENCES

Artistic Influences

Bouncing ball - Processing example animation. Online source:
<https://youtu.be/6V0vy5SP1wE>

Clouded Mind - Processing Drawing Tool Project. Online source:
<https://youtu.be/awdbuXSwyYk>

Star text. Online source:
<http://www.axpam.com/tutorials/how-to-create-stars-text-effect/>