

# **“STAR WARS OPENING CRAWL”**

**A program that can recreate the opening crawl from the STAR WARS series.**

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*< Note: the comments written in italic blue would not appear in a final document >*

## **Declaration:**

I hereby certify that this material, which I now submit for assessment as part of CS171 Computer Systems module, is entirely my own work and has not been taken from the work of others - save and to the extent that such work has been cited and acknowledged within the text of my work.

Signed: **Colm Mooney**

Date: 24/12/2020

## **Acknowledgements:**

I would like to thank Peter Mooney for suggesting the project idea and John McDonald, Joe Timoney and Stephen Brown for reviewing the document. I'm also going to thank George Lucas, who directed and created the movie, STAR WARS: A New Hope. Disney, for being the owners of LucasFilm, therefore own the right to their logo, shutterstock, for the picture of the stars, Damien Di Fede and Anderson Mills for their minim library and finally John Williams, for his music.

## **Abstract:**

Motivation :I love Star Wars, I have since I was a child, and still do now. Because of my love for the series, I recreated the opening crawl from A New Hope. I approached this project by splitting it into 3 parts. The first part was getting the music to play. The second part, I had to make the Star Wars Logo get smaller and disappear into the distance. This was to make it look like it was getting further away. Finally, the third part was to make the string of text go up the screen. I had to learn how to make my project 3D, following that, I had to rotate the text so it was slowly moving up the screen. After hours of trying to figure that out, I was able to piggyback the crawl going up the screen with the logo, rotating it so it would appear flat on the screen and still going into the distance. In the end, I was able to successfully able to recreate the opening to A New Hope.

## **Introduction:**

The aim of the project is to create the opening crawl from Star Wars, A New Hope. With my code, it is possible to recreate any of the opening crawls from the Star Wars movies by changing a single string. I used the minim library for this project.

## **Specification:**

Music is the first thing that should play, the Main Title theme by John Williams. It takes a few seconds for the rest of the program to load. The background should appear first than the "STAR WARS" logo. Next would be the main part of the project, the string of text dubbed "crawl" should appear from the bottom of the screen and slowly disappear into the distance. The Program was run using these components:

CPU: Intel(R) Core(TM) i7-9750H CPU @ 2.60GHz

GPU: Intel(R) UHD Graphics 630 1 GB, NVIDIA GeForce GTX 1650 4 GB

RAM: 8 GB SK Hynix @ 2667 MHz

Operating system: Microsoft Windows 10 Home 64-bit

Motherboard: MEDION NH55RAQM1 (U3E1)

Audio: NVIDIA High Definition Audio, Intel(R) Display Audio, Realtek High Definition Audio

## **Overview of the Code:**

Line 1: Gets the minim library

Line 11-13: Loads both the music and pictures for this project

Line 20: Size is 1600 X 900 to match the background image size, P3D makes the project 3D. Allowing me to change the angle of how things appear. SEE: Line 29.

Line 21: Every word from the original 1978 opening crawl

Line 22: Plays the music

Line 29: Rotates the text so it can appear angled.

Line 31: Prints the crawl.

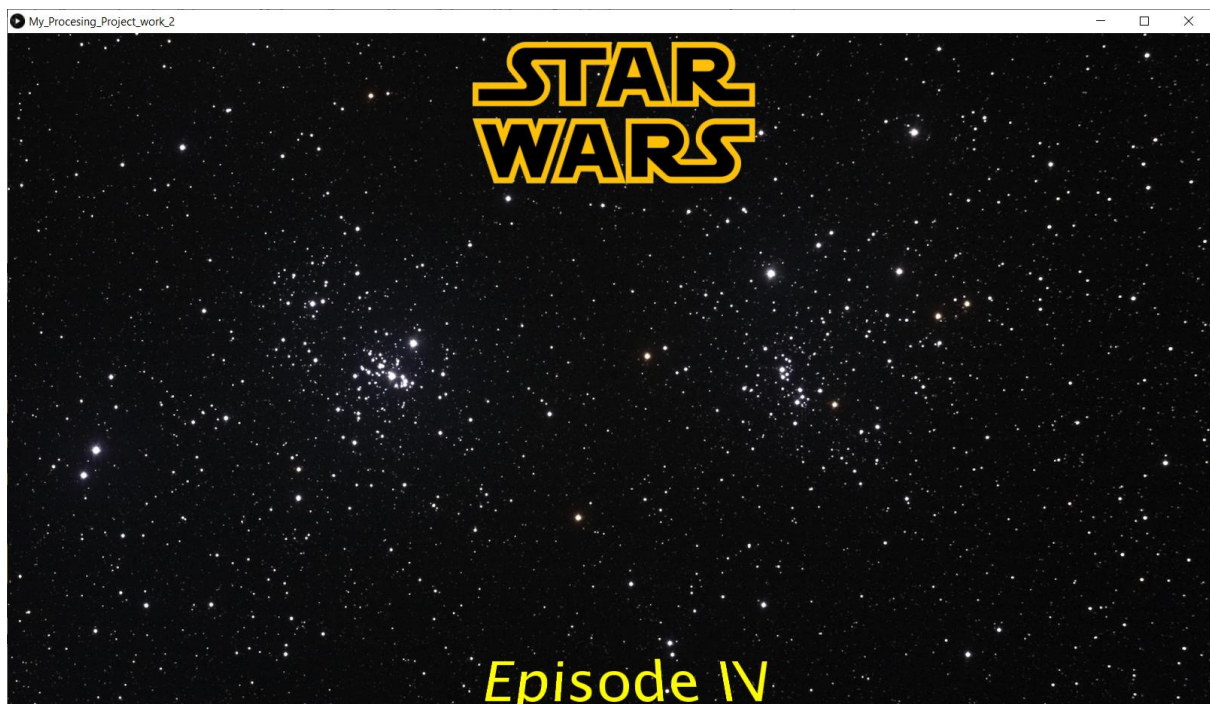
Line 35: Changes the next batch of code to rotate to a flat surface, which involves the STAR WARS title. This code piggybacks from the fact that the words in the crawl go up and disappear.

**TESTING:**

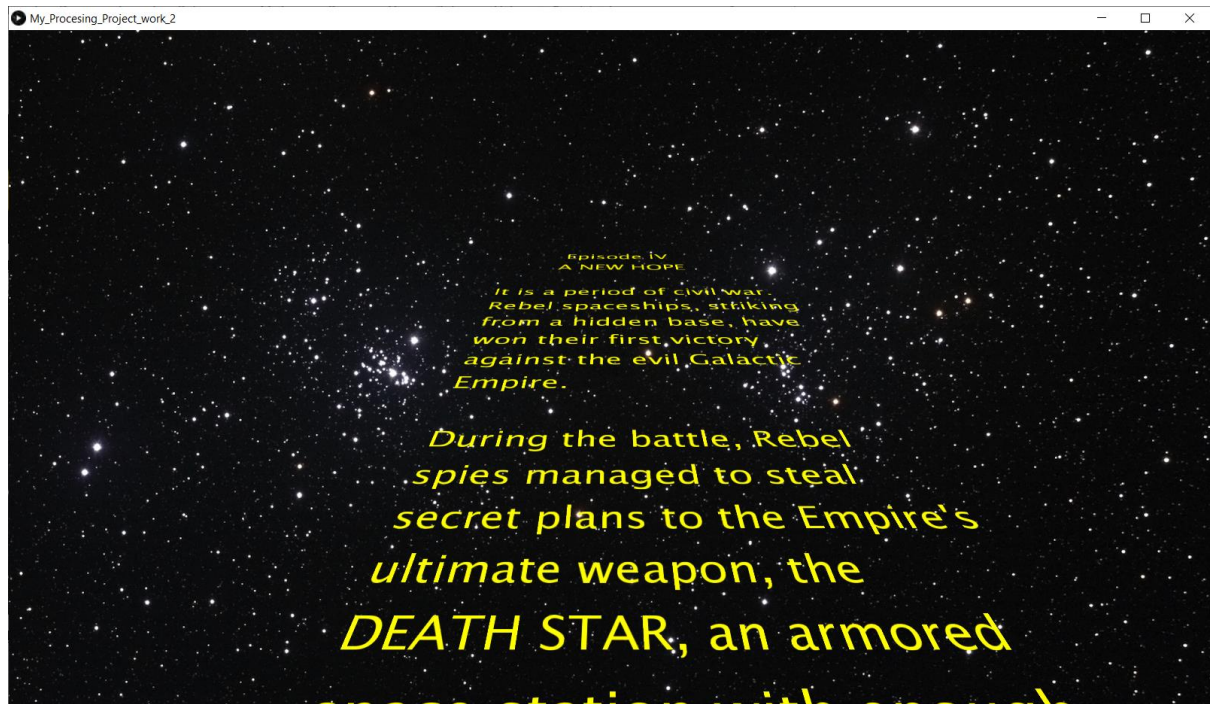
**FIGURE 1:** Close up of the logo



**FIGURE 2:** The logo getting smaller with the crawl showing up



**FIGURE 3:** Mid-way through the crawl



### **Conclusion:**

My project is successfully able to replicate the opening to the movie STAR WARS, A New Hope. In the future, I could try learn how to make words fade, which I could have used on the logo. If I knew how to fade, I would've included the text: "A long time ago, in a galaxy far, far away..." With A delay command, I could have then had the rest of the project play out.

### **Appendix A Source code listing**

```
import ddf.minim.*;

Minim minim;

AudioSample d1;

PImage stars,logo;

int logo_x,logo_y,logo_count, num1;

String crawl;
```

```

void setup()
{
    minim = new Minim(this);

    d1 = minim.loadSample("StarWarsTheme.mp3"); //Gets the music

    stars = loadImage("Stars1.jpg"); //The stars in the background

    logo = loadImage("StarWars.png");

    textureMode(NORMAL);

    blendMode(BLEND);

    noStroke();

    logo_x=450;

    logo_y=450;


    size(1600,900, P3D); // P3D makes it 3D, Had to make the size 1600,900 in order to match
the background size

    crawl = "\n\n      Episode IV\n      A NEW HOPE\n\nIt is a period of civil war. Rebel
spaceships, striking from a hidden base, have won their first victory against the evil Galactic
Empire.\n\nDuring the battle, Rebel spies managed to steal secret plans to the Empire's
ultimate weapon, the DEATH STAR, an armored space station with enough power to destroy
an entire planet.\n\nPursued by the Empire's sinister agents, Princess Leia races home aboard
her starship, custodian of the stolen plans that can save her people and restore freedom to
the galaxy...";

    d1.trigger();
}

void draw()
{
    background(stars);

    fill(255,255,0);

    translate(width/2-400, height);

    rotateX(PI/3.0); //Rotates text to be 3D

    textSize(80); //Size of crawl

    text(crawl, 0, num1, 1110, 3600); //This prints the crawl

    num1 -= 1; //num1 makes it move backwards

```

```
pushMatrix();  
translate(logo_x,logo_y);  
rotateX(PI/-3.0);  
beginShape();  
texture(logo); //This is all the STAR WARS stuff  
vertex(-1600,-1600,0,0);  
vertex(1600,-1600,1,0);  
vertex(1600,1600,1,1);  
vertex(-1600,1600,0,1);  
endShape(CLOSE);  
popMatrix();  
logo_y+/-25;  
}
```