

# *Pixar Parody*

*Georgina Garrigan*

3D Animation Studio 1 - Animation Diary

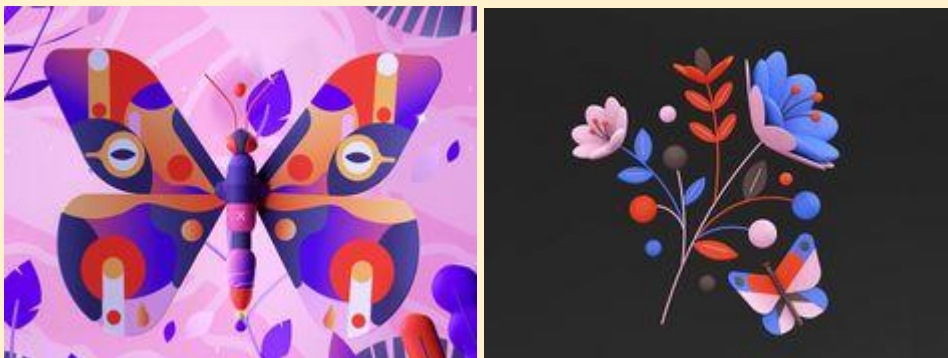
*29th Nov 2022*

Today I fell into a Pinterest rabbit hole and - although I found some very inspiring content - I probably spent far too much time in it. I gathered a large number of images that will act as a starting point for the inspiration for my butterfly and flower designs. I am hoping to create custom illustrations that will act as the base for my 3d models.

At present I am thinking of creating them in a way that is a somewhat geometric interpretation of shapes found in nature. By doing this I hope to simplify the forms of the butterfly and flower into something more visually stylised. Not only might they be more aesthetically appealing, they might be less complicated to model and animate. For example, real life butterflies have a lot of details in their wings that might get lost in the motion of an animation.

Another observation I have made is that butterflies have quite thin wings. I think I will apply some artistic licence and give them some more depth. This will make the butterfly feel more solid and weighty (like the bread butterflies in Disney's *Alice in Wonderland*) and perhaps add a unique flair or appeal to its character. In terms of the flower, I also hope to give it a more rounded, symmetrical and smooth 3D quality.

Lastly, I plan to watch Disney's *'Alice in Wonderland'* and *'Bambi'* butterfly scenes, as well as watching some real footage on youtube of how butterflies fly. Below are some images I curated on Pinterest that might serve as influential starting points for my 3d model character design:



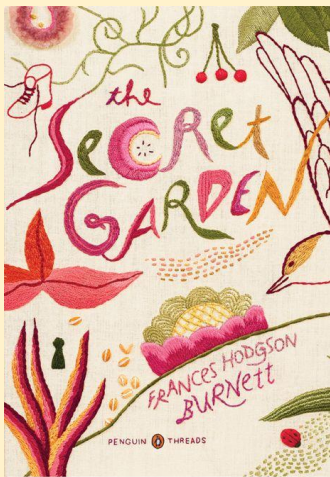




30 Nov 2022

Today I listened to an interview on youtube with Cartoon Saloon and their concept artist (Ross Stewart) mentioned how it is best practice to map out the colour grading for each section of the entire film before commencing animation. E.g. He talked about vibrant primary colours for the happy times of a character's childhood, cool colour hues like green and blue for unnerving dream scenes and strong contrasting reds and blacks for scary scenes. Also in class today we were discussing UV maps and textures. It occurred to me that I really do have full creative freedom and control to choose any colours or level of detail in the images I create with Photoshop for the UV textures.

This made me think about what feeling I want to give my animation through use of colour grading. I definitely want to create a warm, feminine aesthetic to the animation, combined with natural colours from nature. From my previous 'Pinterest frenzy' I selected some images that can act as a guiding light for choosing my own colour palettes for uv textures, letter colours and background/environment design. See images below for inspiration on colour palette:

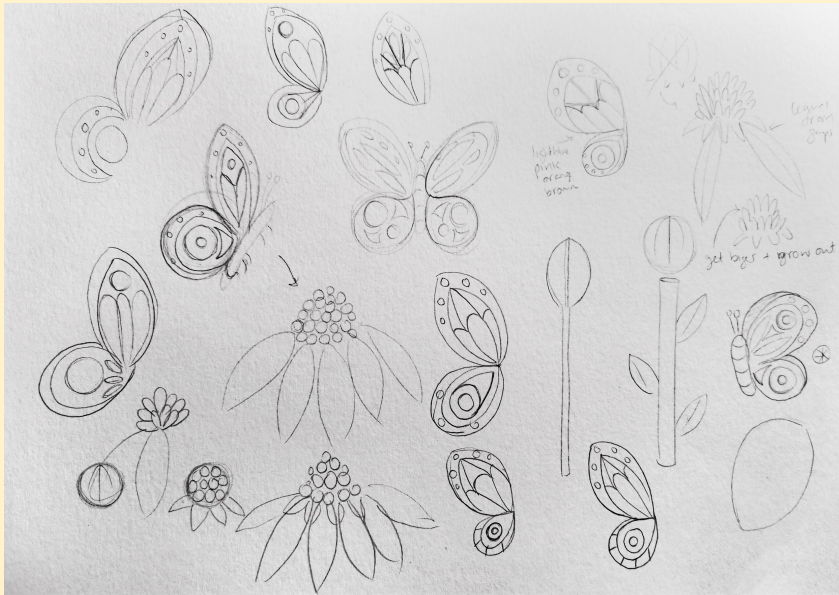


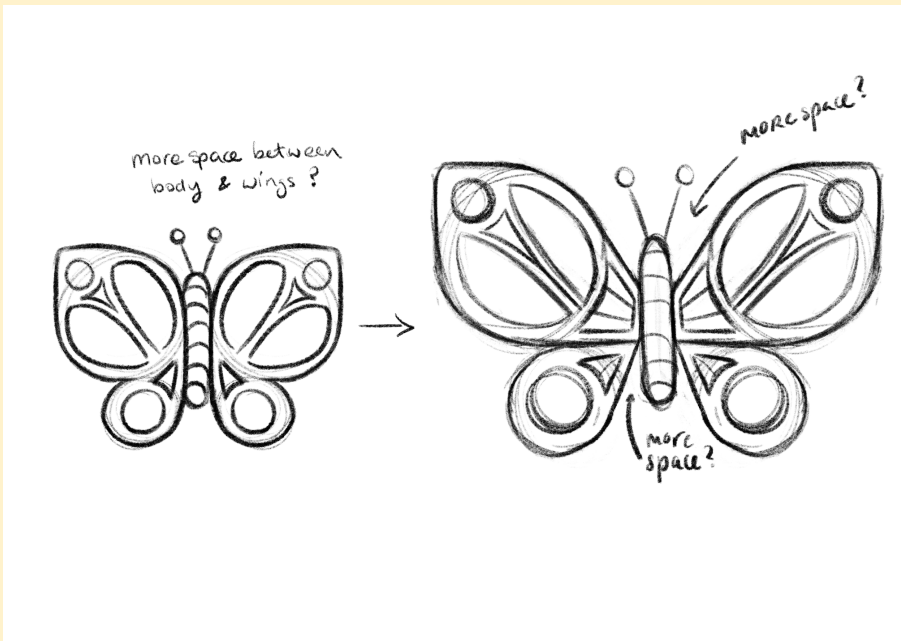
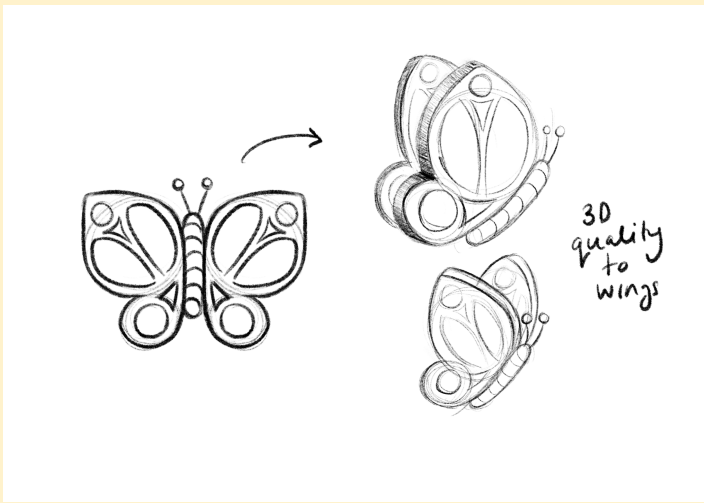
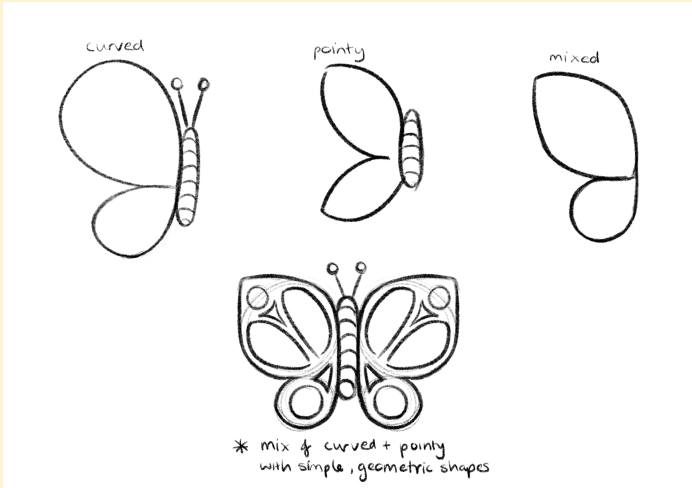


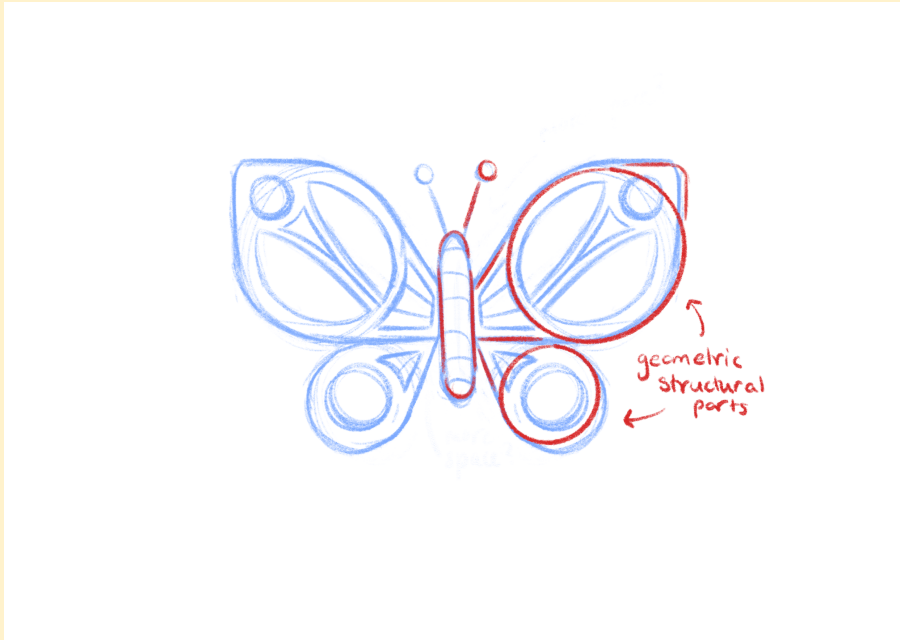
04 Dec 2022

Today I worked on the character design of the butterfly character. Following on from some rough drawings (sketched a few days ago), I refined the form of the butterfly. Hoping to achieve a more dynamic outline to its foundational geometry, I decided that the wings of the butterfly should have a mixture of curved and pointed shapes. I also considered how the wings might look from the side view. The hope is that they will be extruded slightly (like the bread butterflies from Alice and Wonderland) to appear thicker and more solid in 3D. It then later became apparent that the main body of the butterfly might benefit from more breathing space. Therefore, I tapered the wings slightly where they attach to the body, so that the attachment portion of the wings appeared smaller.

The geometric pattern or design of the wings will be created in Photoshop and applied to the butterfly wings UV Map. The colour palette and any textured effects will be decided at a later stage. The main focus for now is creating a grayscale 3D model of the butterfly using my custom drawing and then to move on to the flower forms for the letter 'i' of my name. Once I am happy with the 3d model forms and typography, I will consider the overall colour palette, textures, UV Map and environment.







*05 Dec 2022*

I just realised that I forgot to include the butterfly legs in my previous drawings. I will try to create these in 3D Maya with simple curved, cylindrical shapes. However, if it proves problematic I will work it out on paper and update my reference drawings.

This evening I also had a look at a Youtube video online that shows butterflies moving in slow motion: [Butterflies Flying in Slow Motion](#). It was helpful to see this and observe a slight wave or ripple to how the wings move. They do not simply flap up and down. The front parts move first and then the back parts follow through.

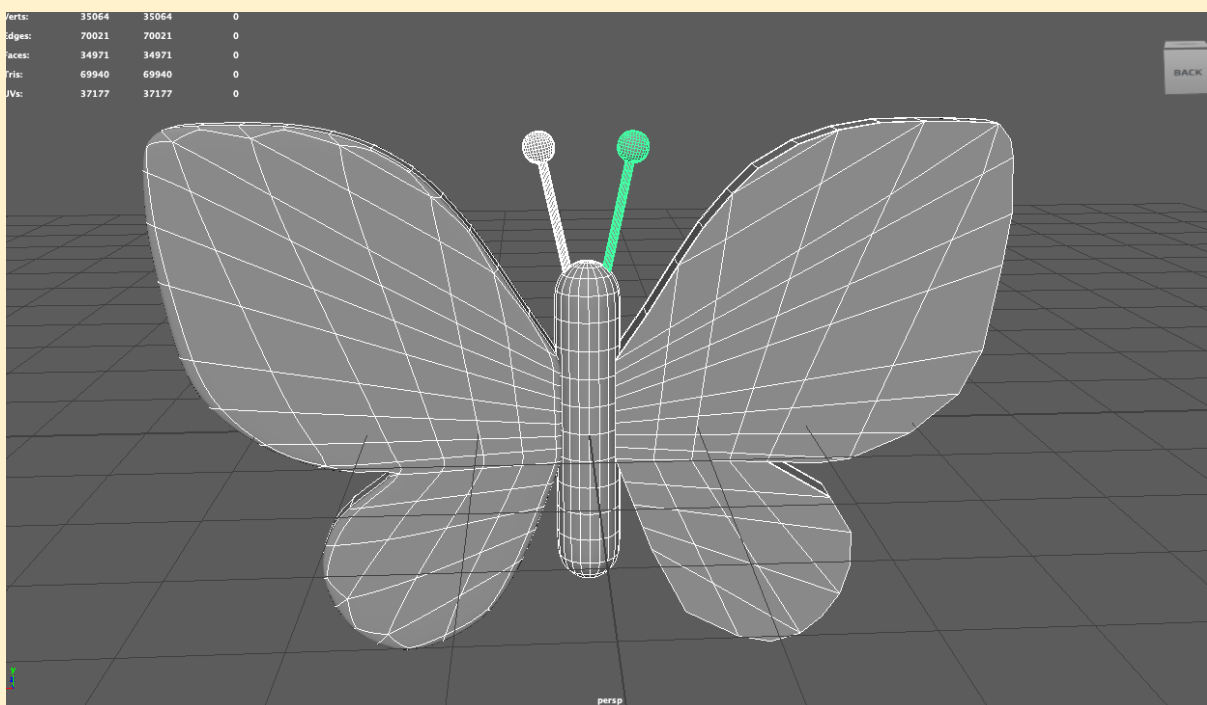
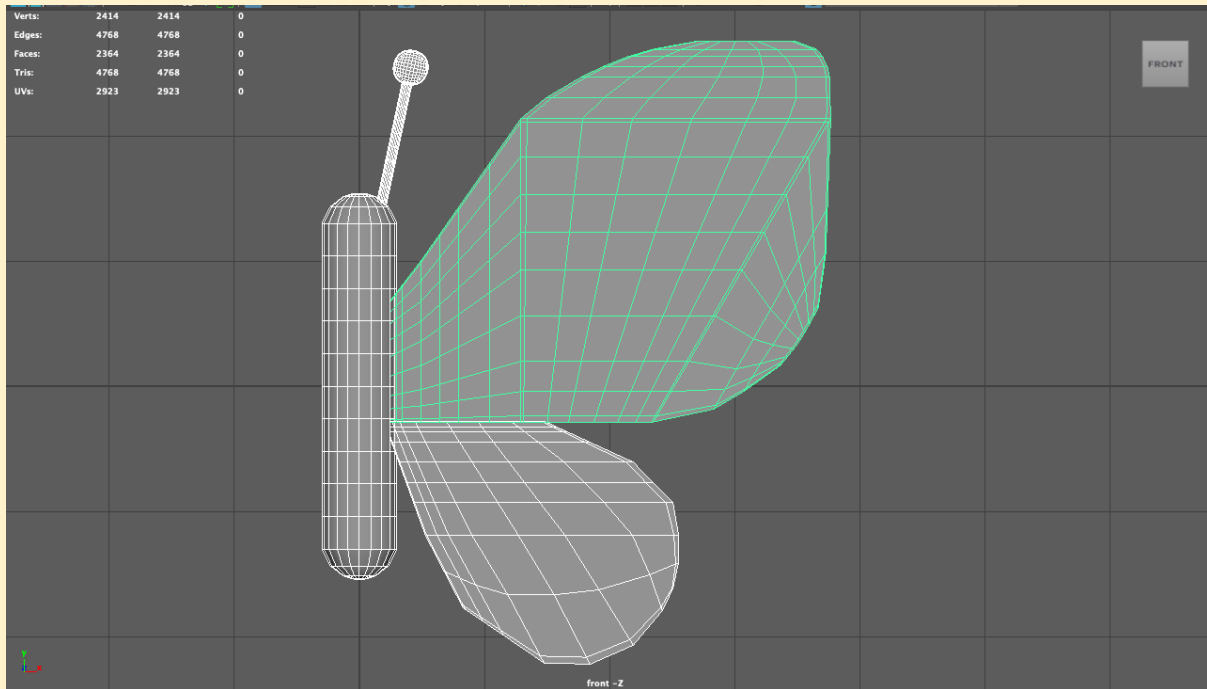
I also discovered a tool called [Workflowy](#) today that I hope to use to stay organised with my project. For example, categorised lists of 'to-do's' for the animation project and 'notes to self' about what to add to this diary.

*28 Dec 2022*

Just over a week ago I completed the 3D Model of my butterfly project. It proved troublesome initially because my first attempt had poor topology and use of edge loops.



The second attempt, although not ideal, was a big improvement. I decided to move on to the rigging stage with the intention to adjust the model later if time permitted.

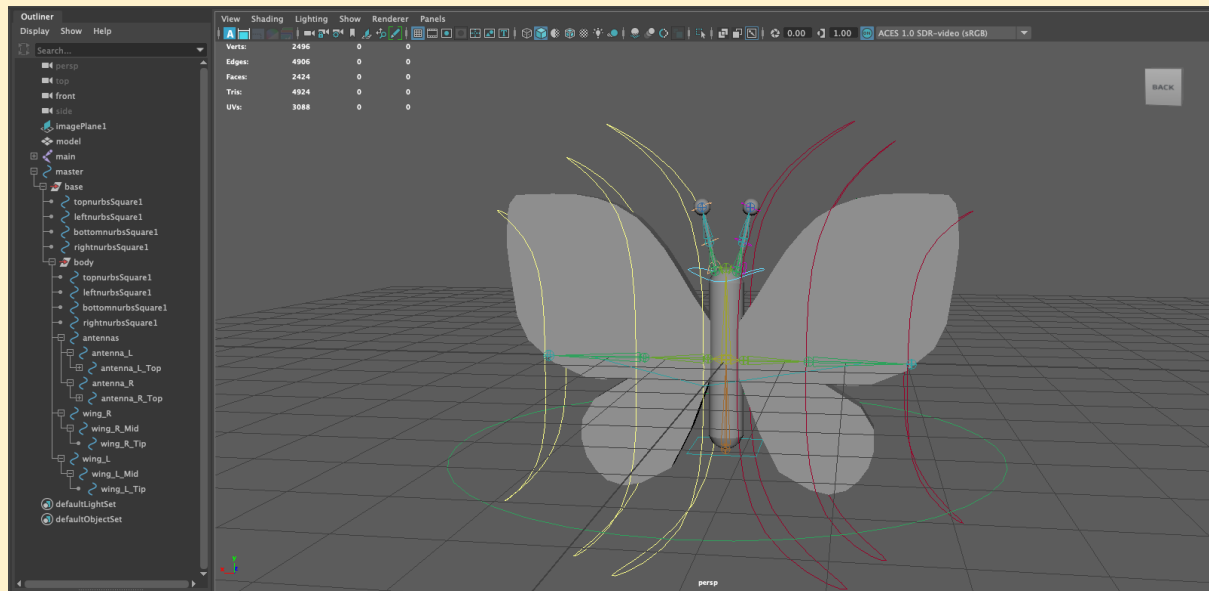


Today I spent 3-4 hours creating the rig for my butterfly character. I placed all the bones, binded them to the skin and then created the controllers that were then constrained to the bones. It was not an easy process and required a lot of revising recorded lectures, critical thinking and problem solving.

The parts of the rig that I am still not happy with are as follows:

- The model warps slightly when moving the controllers.
- More joints are needed for the main body shaft of the butterfly (for more graduated curving or bending).
- Some of the controllers are squares with separate edges that make them impossible to select without using the outliner.

Although I am not entirely satisfied with the rig, it might suffice as a backup for a fairly solid animation later. So I will save it and create a duplicate file to continue with other parts of the project (such as uv mapping, environment, text and the model for the letter 'I' of my name that the butterfly will interact with).



*29th Dec 2022*

On the 28th of December I was experimenting with the type tool. Instead of my full name (Georgina), I will abbreviate the text to 'Georgie'. Although this is not a huge difference in text length, I think it looks more appealing to the eye and will allow for less elements on screen to distract from the butterfly character when it lands. I am hoping to choose a

whimsical, contemporary serif font such as Alice ([open source google font](#)) to create a feminine, quirky style to the text with plenty of extrusion and beveling to the geometry.

According to Google fonts it was designed by Ksenia Erulevich, inspired by Lewis Carroll's novel and 'came out eclectic and quaint, old-fashioned, having widened proportions'. It seemed like it might suit since my original inspiration was 'Alice in Wonderland'.

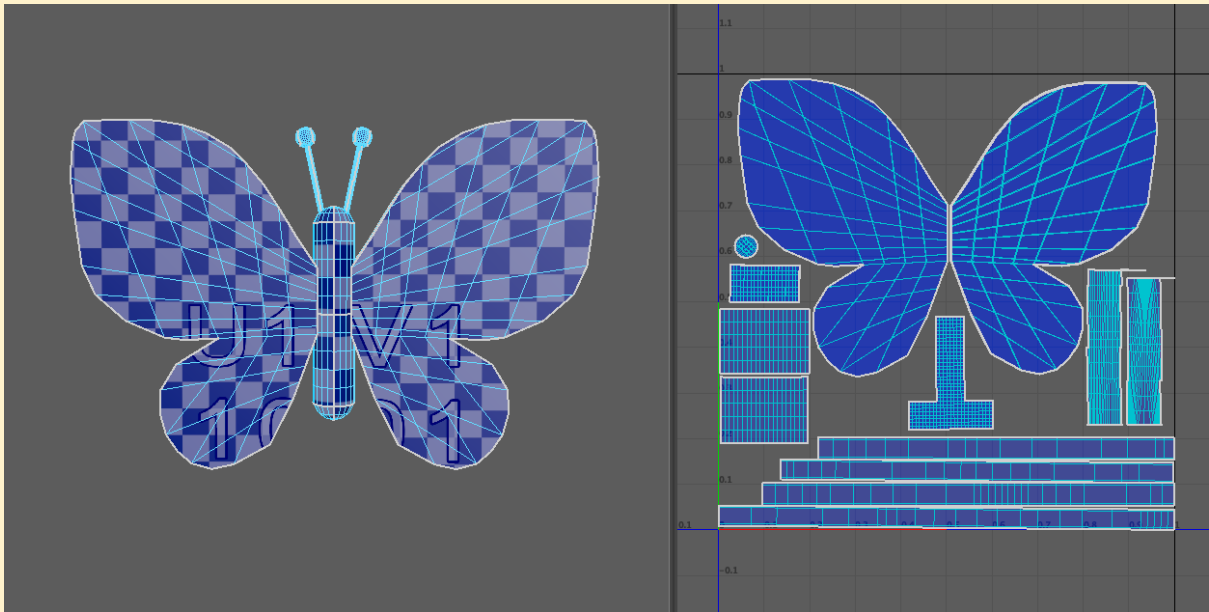
I played around with displaying it with lowercase versus all caps. I thought this might allow for more space above the letters for when the butterfly lands on the 'i' letter (which will later be in the form of a flower). However, the lowercase 'g' does not allow for a lot of rounded beveling because as soon as the bevel goes beyond a certain number, the descender of the letter g starts to clip onto itself. There is more room for a large bevel on the all caps version of the text so I might need to go with this style instead. Hopefully this does not hinder the desired composition of the text and models too much.



*30th Dec 2022*

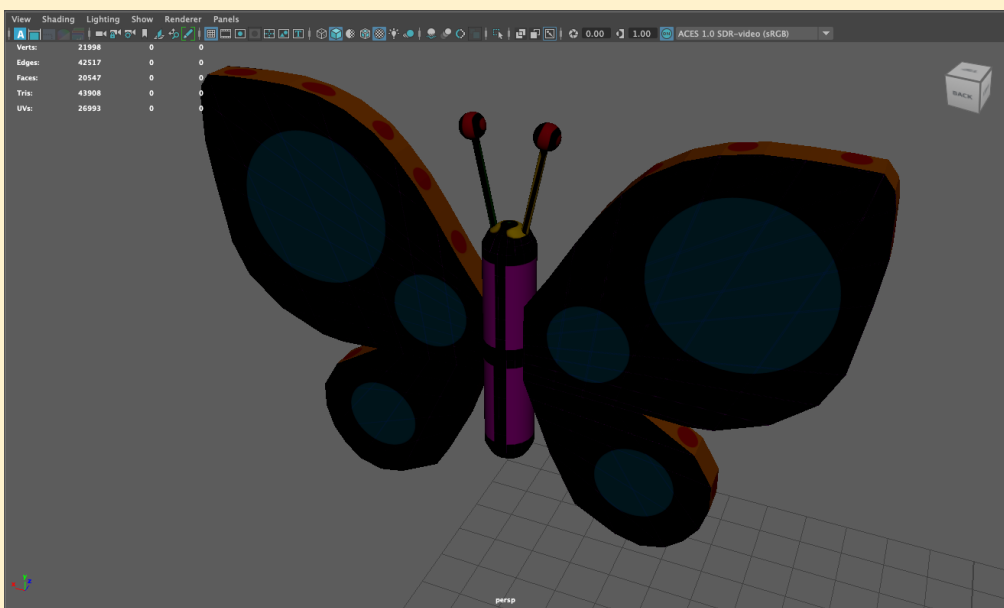
On the 29th and 30th I was working on the UV map. This was far more complicated than I had anticipated. If it wasn't for watching four tutorial videos by Academic Phoenix Plus on Youtube, I would have been completely lost. Her videos are extremely helpful. Hopefully my UV will be adequate and not appear stretched or warped or cause any issues with the rig (since I am doing the uv after rigging).





The next step is to create a test textured version of the uv with some simple colours and shapes to see if there will be any issues. If the test version works well, I will then create the polished, high-fidelity texture. I will be using Procreate on my iPad to create a unique, hand drawn textured uv map.

See text texture below. Upon doing the test I discovered that I will have to rebind my model to the rig and redo the weights again! I had to delete history on the model again! Even though I had already deleted the history and frozen transformations before creating the uv map, the process of actually uv mapping seems to have created more history....such a pain since it took me so long to paint the weights etc. the first time round!



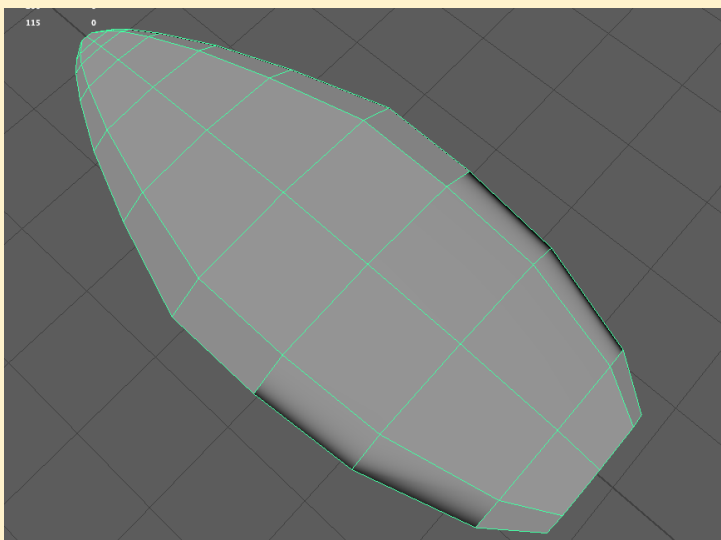
I also made sure to check that changing the texture file for a different test file creates no unforeseen issues. It should be ok to fix the weights now with the test file and then when it's ready I will swap it out for the final texture file.

Next steps are to redo the weights, then to create the flower model for the 'l' that will be using the blend shapes method of animation. Then if I have any spare time I will create some leaves or trees etc. for the background environment. If I have even more time I will create a net that will try to catch the butterfly at the end of the video. However, this is potentially scope creep at this stage and might not be feasible. I'll see how January goes!

*1st Jan 2023*

Today and yesterday I was working on creating the flower model to represent the letter l in my name. The idea is that the dot of the letter 'i' will be the closed flower petals around the pollen bud. These petals will animate open and the butterfly will land on it. The design for the flower was inspired by the Echinacea flower which is popular with butterflies.

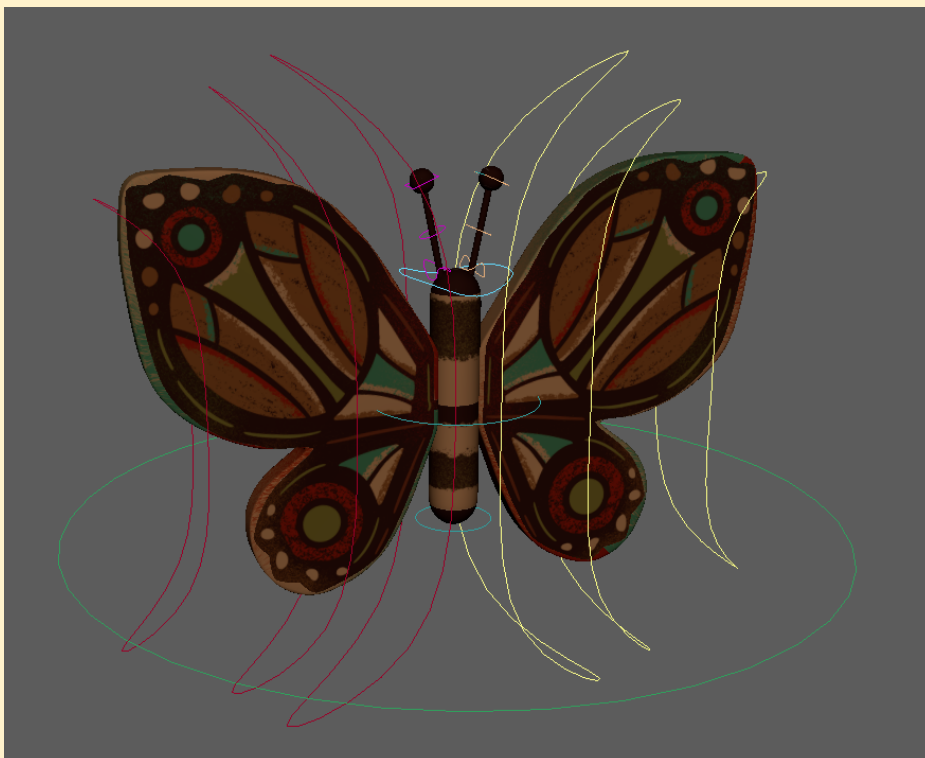
At first I created a petal shaped model. I was initially having issues with creating the petal shape from a square that had been 'smoothed' into a more rounded shape and then extruded. The smoothed portion of the model had a different appearance to the parts that were extruded from it. I couldn't figure out how to fix it, so I had to start again without using the smoothing function.



I then used the bend deformer to manipulate the curvature of the petal shape from an up to a down position. I create a copy of the up and down petals with history deleted and transformations frozen. I then used the blend shapes animation editor to create transitions from the up version of the petal to the down version target. However, this was not as easy as I expected. The petal shape was warped or shrinking and expanding in between the up and down targets. After some research and watching a [tutorial video on Youtube](#), I realised that I could add 'in between' targets to help smooth out the animation and create more of a natural arc shape to the shape transitions.

## *9th January*

Today I worked on rigging the butterfly model again. Since I did the uv mapping after the initial rig, the bones and skin needed to be bound again. So I spent a couple of hours redoing this. Painting the skin weights is very tedious and despite my best efforts and almost getting repetitive strain from clicking and dragging the mouse so much, there were still issues with the wings. When the wings are moved when straight they move fine, however when I attempt to curve and bend the wings whilst moving, this is when issues arise. The shapes get completely warped, pinched and skewed. This is disappointing since I wanted to have the wings look like they were curving upwards and downwards with the effect of the air pushing against them whilst flying.





What's left to do is to add a squash and stretch to the flower, animate the 'i' letter growing into the flower, decide what to include in the environment, animated the butterfly path and explore lighting and cameras

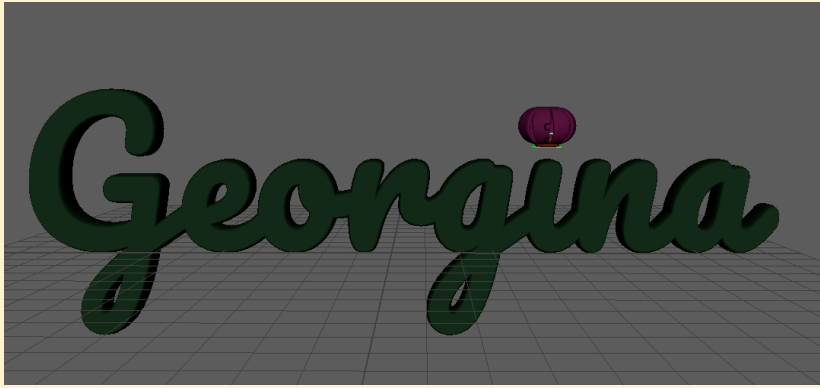
## 10th January

The butterfly has limited movement (only straight wings flapping works) due to some warping issues when moving wings with a bend or curve. I considered starting again from scratch with a different character. I was considering a bouncing bee character. However, I think since so much work has gone into the butterfly so far (modelling, rigging, texturing etc), I think I will keep it for now unless serious issues arise whilst animating.

Despite the concerns over the butterfly movement, I had some success with animating the 'i' shape into a flower. The shaft of the 'i' morphs into a longer stem and the flower petals open up into an open flower. I added an extra petal blend shape to make it offset slight when opening and settling again. Both transformations were done using blend shapes. It was tricky at first to get the desired effect but it's definitely heading in the right direction.

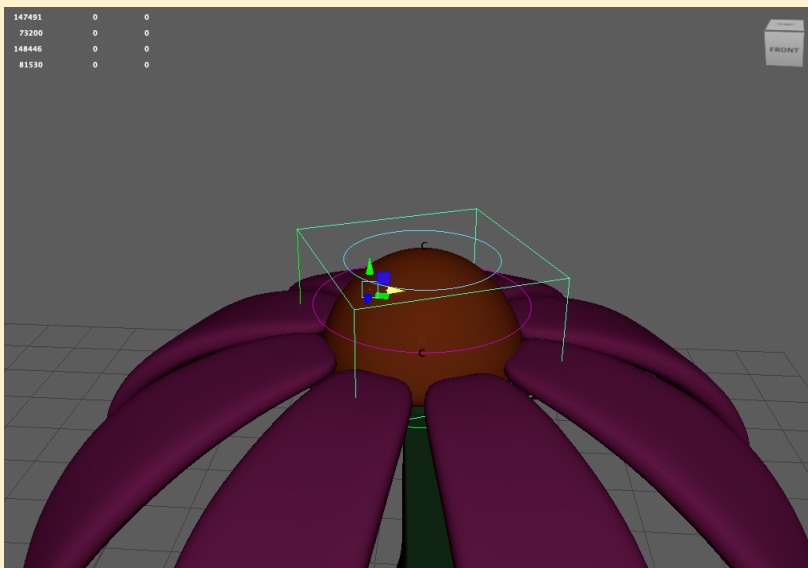


Struggled to find a font that worked. See above (Poetsen one) found on [DaFont](#), still wasn't 'flowy' or natural enough



Eventually I found a font called 'pacifico' ([on Google fonts](#)) and was really happy with the look. It is a more fluid and flowy cursive font. I think it suits the natural, feminine vibe of the animation and character design more.

Besides the font, I also flowed along with the lecture recording of adding a lattice to a ball. I added the lattice to the pollen head of the flower. This way I can add a squash and stretch effect to it when the butterfly lands on it.



*13th January*

I spent quite a bit of time creating the background models for the animation's environment. I created leaf shapes that could be duplicated and edited into different types of leaves and petals (to form a flower head). I also created sloping hill shapes to create some variations

in height for the background models. I tried to keep the background elements minimal, as to not distract from the main characters and action.

I did a simple sketch to imagine the staging of the animation, how the text might interact with the background and space for the butterfly to be seen clearly. I wanted to maintain negative space in the staging so that the text and the butterfly would contrast well against a plain background and not clash at any time with the background elements (hence competing for viewer's attention).



## 22th January

Today I revisited one of my favourite animated films and the original inspiration for my butterfly model: Alice in Wonderland. What better influence for the movement of the butterfly than something that Disney created during the original American Golden Age of animation. Although the animation is 2D, it can still provide plenty of insight into how a butterfly might move in 3D.



I particularly like the bread butterflies because they have some visual weight but still appear very light and move quickly through the air. Below is a gif that illustrates their movement. There is also a lot of butterfly action in the sequence 'All in a Golden Afternoon', found in this link: <https://www.youtube.com/watch?v=aqStR9nMrWU>



I closely studied their movement. I noticed that the butterfly's body keeps the same approx. 45 degree angle, it moves vertically up and down whilst flying across the air, and that the wings flutter very fast in a somewhat erratic manner. They also react slightly to gravity or the force of the imagined air; slower to flap down and faster to flap up. The ends of their bodies also bend slightly in reaction to the up and down movement of flight (secondary action).



23rd January

When figuring out how to animate the scene, I took into consideration the 12 Principles of animation. The following are examples of ones that I used the most:

1.) Squash and stretch:

I created a lattice rig on the pollen head of the flower so that it would be able to squash up and down when the butterfly landed on it. Therefore giving a playful sense of weight to the butterfly and bounciness to the flower.

2.) Staging

I paid careful attention to the set up of the scene. I made sure that all elements were placed carefully to avoid visually jarring overlaps. There is space given to the area above the text for the butterfly to fly in and the flowers and environment below the text acts as a decorative ground level but does not impose on the text. I also used the camera to enhance the staging. At first the camera is zoomed out for a wide shot (so the viewer has time to read 'Georgina' and take in the other elements, then it starts to zoom in and up at the same time that the flower opens up and out. It is important that the camera also zooms up because there needs to be space to see the butterfly fly into the scene from left to right in an up and down motion. Then the camera zooms in further on the flower when the butterfly lands to focus the viewers attention more on this action. There is also a rotation to the right so that more of the butterfly character can be seen from a different angle within the centre of the frame.





### 3.) Straight Ahead Action

I paid careful attention to the set up of the scene. I made sure that all elements were placed carefully to avoid visually jarring overlaps. So there is plenty of space given to the area above the text for the butterfly to fly in and the flowers and environment below the text acts as a decorative ground level but does not impose on the text. I also used the camera carefully to enhance the staging. At first the camera is zoomed out for a wide shot (so the viewer has time to read 'Georgina' and take in the other elements, then it starts to zoom in and up at the same time that the flower opens up and out. It is important that the camera also zooms up because there needs to be space to see the butterfly fly into the scene from left to right in an up and down motion. Then the camera zooms in further on the flower when the butterfly lands to focus the viewers attention more on this action. There is also a rotation to the right so that more of the butterfly character can be seen from a different angle.

### 4.) Follow Through and Overlap

I tried my best to get the body and antenna of the butterfly to move separately to the wings. For example the body reacts to the up and down force of the air (curving downwards whilst going up and curving up whilst going down). I also have the antenna

move up and down after the body lands on the flower as a followthrough of the force of the main action.

### 5.) Timing

It took a while to figure out the timing of the overall animation. Initially the motion path was too fast and the movement of the butterfly was too rushed. Also the timing of the flower opening was too delayed and then the movement itself was too fast. So I found that slowing everything down and working on the pacing of when actions should happen helped a lot. Making things seem almost 'too slow' initially actually worked better because once everything plays out all at once during a camera playblast actually seems to give the illusion of being slightly sped up.

### 6.) Slow In & Slow Out

I tried my best to adjust the graph editor for most of the animations. I was conscious that some actions look better with a slow out and then a fast in. For example the wings going down should be 'slow in' (as if harder to flap down against air) and then 'fast out' (as if faster because of the force of air pushing the wings up). Also I tried to make the butterfly slow initially (slow in), then speed up across the screen and then slow down (slow out) once it lands on the flower.

Applying the 12 principles in reality is much easier said than done though! It took numerous attempts to get something I was at least half happy with! I know how things should look or how I might like them to look, but using the rigs and tweaking the timing of actions of the timeline is very tedious and difficult. It is going to take a lot of practice and trial and error to get to a sense of intuitively knowing what timing to give something or how far to push a movement or how to make things look subtle yet effective.

I think that my animation looks a little clumsy in parts but honestly right now I don't feel confident enough to know how to change it. It is so easy to lose track of the keys set on the timeline and then I get confused. Maybe if I have more time before the submission deadline I will change how the butterfly bounces on the flower to make it look more natural and less like a sticky 'bouncy castle' 😊.

## *24th January*

My original hope was to create an animation based on nature. Personally I find nature to be very relaxing and I'm also a very curious person, especially when it comes to life and biology. So something related to nature with a feminine, graphic aesthetic was the idea. Initially I was thinking of creating an animation with a bird and an egg cracking open. However, based on consulting with Joseph, it was advised that maybe it would be too complicated at this stage of my learning/ability. Eventually the idea of a butterfly was floated during class as a flying creature and instantly I thought 'Yes!'. Perfect.

I've always loved the decorative nature of butterflies and since I was a child have found them fascinating. I also recently had been learning about Maria Sibylla Merian, a female naturalist from the 17th century who had travelled to Suriname to sketch and study insects there. She was also one of the first to observe and prove metamorphosis! So, all in all, combined with my childhood fascination with the surreal flowers, insects and butterflies in Alice in Wonderland, we were on to a winner! Also, from a technical point of view, a butterfly is also a straight-forward enough character to model and rig, with fairly simple movements. So it seemed very achievable. Later, I had the idea to turn the 'i' into a flower, hence there was a way to tie the whole concept together (butterfly lands on the flower).

## *25th January*

Overall, I'm pretty happy with how everything turned out. I really like the design of the characters, the environment, the font and just feel like I did my best with the animation. It could definitely be better (I'm sure with all animation, it could always be improved, but as a beginner I'm delighted). It certainly has not been easy and parts were very challenging. At one stage I didn't even think I'd get everything done on time because it was like taking one step forward and two steps back everytime I sat down at my computer to work.





For example, the most frustrating parts was having to redo the topology of the butterfly, to struggle with the painting weights almost to the point of repetitive strain injury, wrapping my head around the UV mapping (thanks so much to Academic Phoenix Plus, would have been lost without her tutorials), figuring out how to create the flower opening with blend shapes and then just overall getting the timing and movement of all elements to work together. I definitely feel like I would be more confident if i had to do it all over again, so I guess that means I've learn a lot 🤓👩🏻💻.

Lastly, I managed to find time to edit the animation so that the butterfly bounces move up and off the flower, rather than sticking to it in a weird way. So even happier now. Plus check out the awesome renders below! 😊



*The End :)*