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## Blow N Pop

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**Abstract:** I am creating a 3D animation of the abnormal movement of a character using particles and pressure with different environment and materials.

In this folio document I will start with an introduction to what I am making and what led me to this direction. I will show related works of other artist works that have done something similar and that inspired me. Finally, I will show a few tests of experimentation of responses.

**Keywords:**

Particles; movements; materials;  
elements;3D animation

## **Introduction:**

### **What Am I Making?**

I am creating a 3D animation of the abnormal movement of a character using particles and pressure with different environment and materials.

### **Why?**

The idea for this project is derived from my studio 2 project. In my Studio 2 project, I am doing a 2D animation of particles in an enclosed space. I want to explore the negative space of particles inside an enclosed space using the aesthetic of black and white composition.

The images on the right are the screenshots of my animatics for Studio 2 project. My earlier idea was to trap particles inside the jar but then I changed it to an abstract shape.



For this subject, illusion of life, I decided to take the theme of particles and explore into depth with the form of a character.

I chose a character because placing a particle on a character has greater volume and I want to create human like movements through movement of particles. I can explore particles through other mediums besides a character but that would be a 3D version of my AGI Studio project.

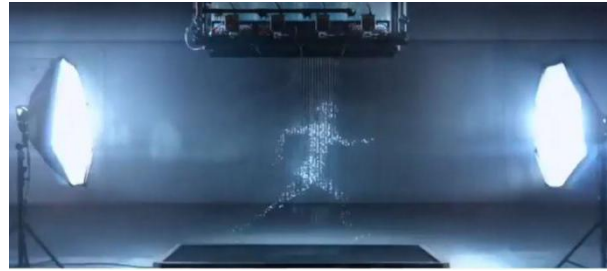
For this project, I really want to focus on the moments of the character and how different elements of particles can flow as a transition.

When particles collide, I want to add a smooth transition from one element to another. I will do a lot of experiments and tests of different elements.

With the change in medium of particles, I can explore the material of the particles. I will have dust particles, water particles, mesh particles and etc. For example, the mesh particles (sphere particles) what will they be made out of? Metal? Rubber?

I will also explore the different movements of a character that can be created to make it look like an abnormal human characters and change the attributes of human.

## Related Works:

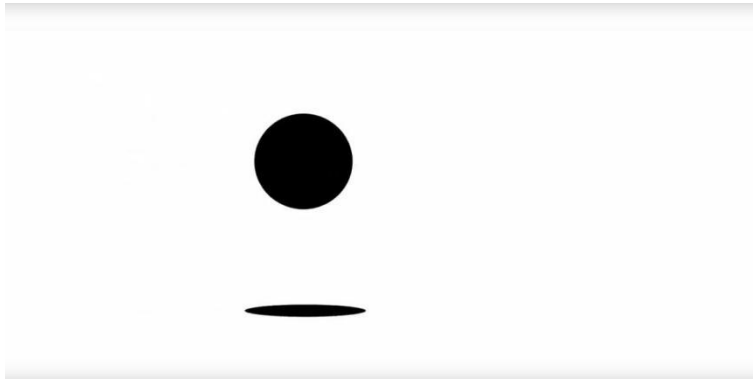


The image above is a screenshot from the making of a Gatorade ad. It utilizes real water and the figures movement is done by motion capture. This idea really inspired me to create something like this in 3D. My first transition could be a character filled with sphere particles.

The above image is a screenshot of a music video by Ryan Woodward. The video is about a dance between a boy and a girl. A boy with shadow and the girl is abstract. She forms into different elements. The animation piece is so beautiful because it's all about movement and there's so many symbolic meanings and feelings all together in one animation.

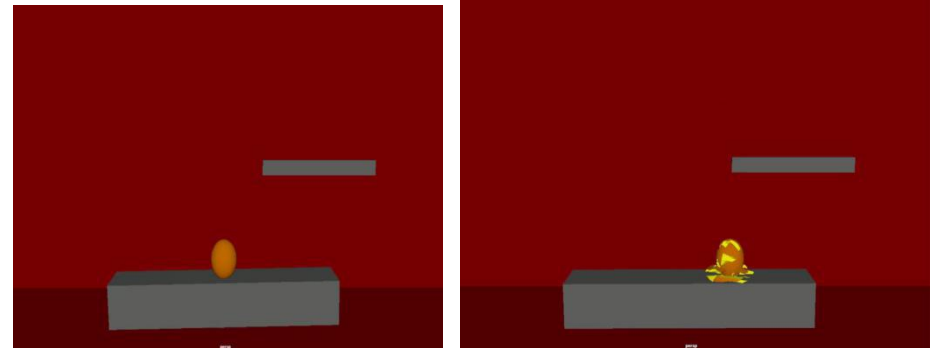
The above images is a screenshot from a CGI software demo: emoflock2 "Evolution" by Eric Mootz. He explores experimental animation of different objects in the form of particles. He experiments with different materials of particles. There's dissolving and fading transitions to signify the movements.

## Tests:



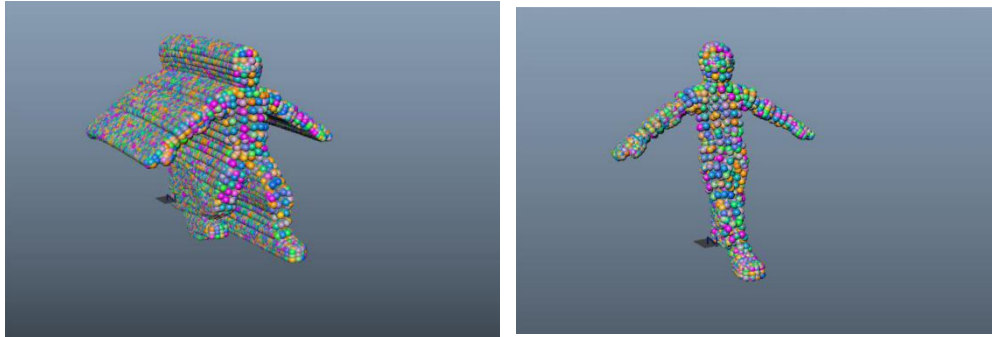
The image above is a screenshot from one of the first class assignments. We were told to think about one adjective and using that adjective animate it in toon boom harmony or after effects. I used after effects because I was comfortable with the software than the other. I used an adjective of confused. I used a two circles. One as the object and other other as a shadow. I animated the circle and made it confused because the shadow was following the circle at a point and then going another way at another point.

This assignment made me imagine what it would be like with a numerous number of circles with shadow going inverse with the object. I thought about using small objects such as circles to do a specific movement around a space. Hence, thinking about particles as an idea in the form of small circles.



The above images are screenshot from the homework exercise. The task was called Synesthesia. The one I did for class was done in After Effects. Later for the homework, I decided to do something in 3D. According to the sound, I animated an egg. It sounded like a crack at the end. For this, I distorted the egg into pieces.

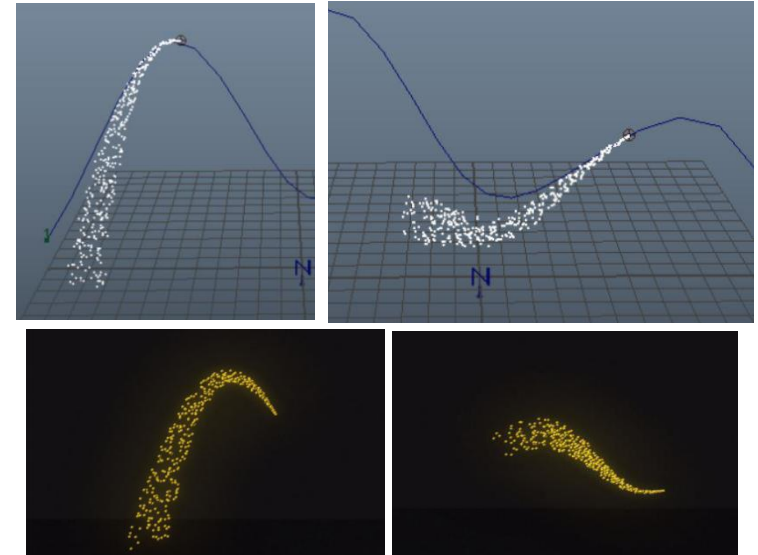
This idea led to my project direction. I thought about doing something with distortion of objects. An object can be filled with particles (small spheres) and then when it distorts, it can distort/break into many pieces. I thought that this can be one transition for my particle to transform into another element.



I tried a test as shown in the images above. My first test was to fill a character with particles and test that if I add a movement, would the particles follow along?

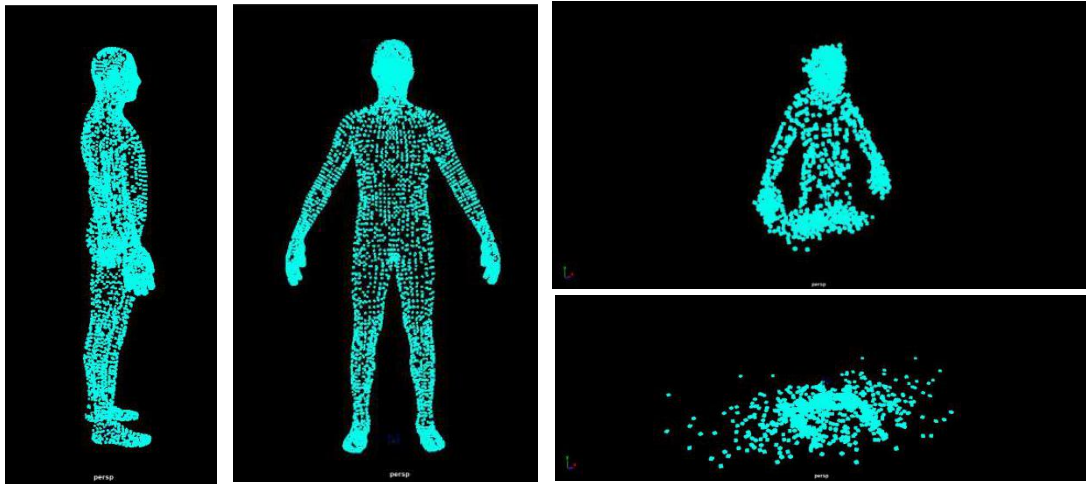
**Method:** I took one of my character models that I modeled for my practice. The model isn't that detailed but I used that model because the features don't need to be visible and it was a low topology polygon which makes it easier to fill particles. I used Autodesk Maya to emit particles. I filled the object with particles. I rigged my character using quick-rig and did a small walk cycle. I tweaked some of the values for the particles so that when my animation moves, the particles move accordingly.

I played with the colors and it was a bit too extra. I randomized the particle colors and it was all colors were mixed automatically.



The above images are screenshots for my second test. I wanted to test the movement of particles in the form of a motion curve. I tested the render as well with colors. This time instead of filling an object with particles, I wanted to create/emit particles from a given space and allow it to move on its own instead of following the movement of the character.

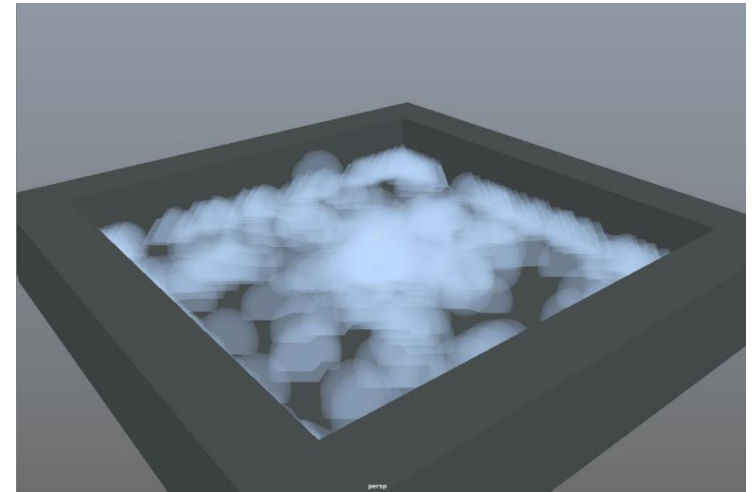
**Method:** I created a curve and attached the particles into the motion path. The render took quite a long time to do because I went on experimenting color and glow. Hence, making it longer to render. I used Arnold renderer to render the sequence so I can achieve this look.



The third test is of particles equally placed in place of the character. I tested particles being around the object instead of filling the object. I looked at many tutorials and finally found a way to achieve these as shown in the images above.

**Method:** I created a MASH particles in Autodesk Maya. I used the character as an input distribute. The particles spread out in place of the character. I hid the mesh of my character so that it looks like the character is made up with the formation of particles. I used the color blue because I want my next transition to be a character filled with water particles. After the character distorts and all the mesh particles are in the ground, it will form into liquid by forming another movement of the character.

This way of placing the particles in this manner is easier so that when I move the character and make it do some specific type of movement, the particles will smoothly flow with the movement of the character. I will do random character movements and each time the character changes its poses, the particles/elements would change.

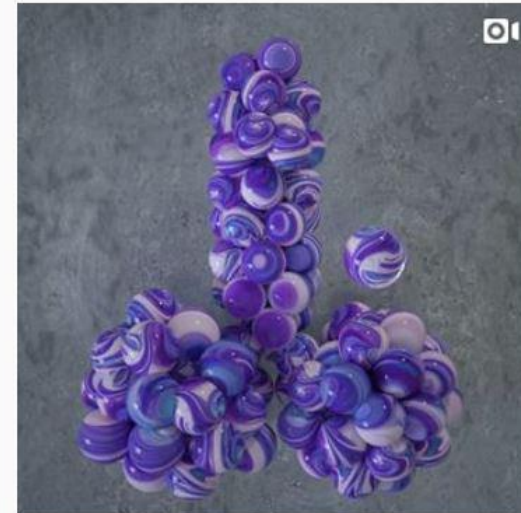
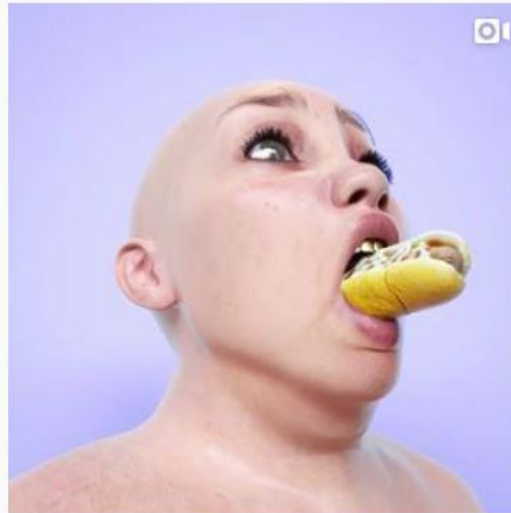
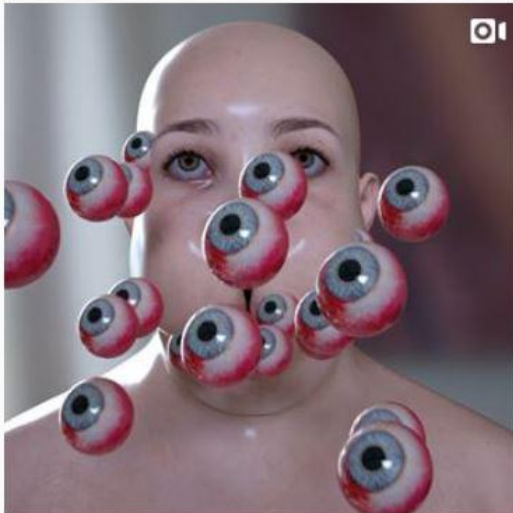
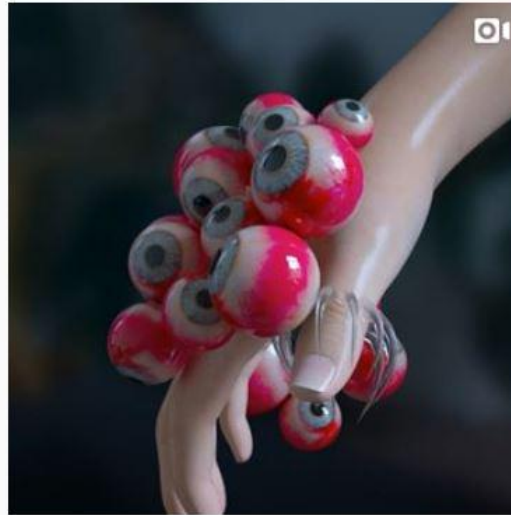


The fourth test is water particles as shown in the image above. The test didn't come out that great because I didn't know how to do it and as I looked at the tutorials, it didn't work out for me. The idea is for the character to be filled with water particles. I decided to first test out water particles instead of taking it in to a character straight away.

**Method:** I created a particle, tweaked values so it looks like water. When I finally rendered it, it came out like the image above. I wasn't really happy with the result because the particles looked realistic with proper render and the water doesn't really look like water, it looks more like some blue gas. But this test, made me think about different materials of particles. I decided I can use a light weighted particle such as gas as a transition for characters movements. It's similar to the smoke effect.



Marc Tudisco- Graphic Designer who does very creepy animation using human characters. I got inspired by the movements this artist creates because it is so satisfying to watch. I would like to create similar type of movements since my project focuses on creating abnormal human features related to particles.



David Lewandowski - film designer who has made two movies called "Late for Meeting" and "Going to the store". He uses live footage and adds 3D characters with very weird movement. It is very funny to look at but surprisingly so interesting how he created 3D humans to move in a particular way. The images below are the screenshot of the video.

I got really inspired by the animation as I really like the movements used.

I like the way the artist uses real world and 3D character. It looks as if it the character is real  
Walking around the streets like that.





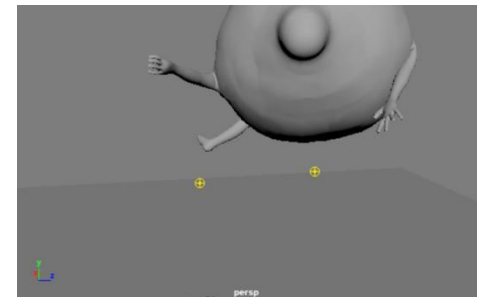
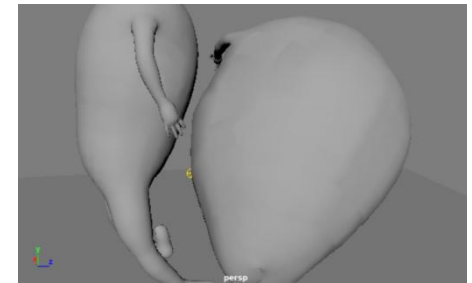
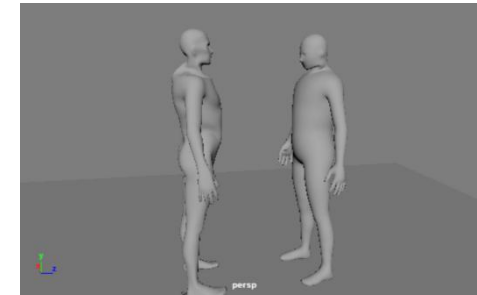
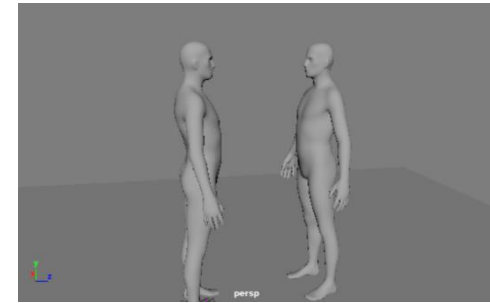
During the mid semester break, I continued to do some experiments. I played with the pressure of a character so that I can make the character do unusual things. For example, breathing. The image on the right is the test of the pressure of a character. I increased the value to 50 and the character expanded in an unusual way. I found this really interesting as this allows me to play with the material of the character. It looked like a rubber elastic material. I tweaked the value to double for the second character to see interesting results and since the pressure was more, I got the character to fly out of the scene. I really liked how movement plays a great role in my practice since my main goal is to do something different than a normal human being. The motion of breathing is very different.

When I showed my progress the next week after breaks, Nick and Fabian gave me a good idea to add texts such as "Hi and bye" because it starts off with two characters side by side and then all of a sudden they burst and fly away. To add this, I decided to have an extra scene before the scene where it bursts to show an introduction of the two characters that will show that they are the only characters visible in the scene and they are breathing abnormally in an unusual scene.

When I showed it to few my classmates they found it really funny because of the way the characters bursted randomly and movement of the characters.

For next week, I will test out camera and the placement of the characters and model a scene where the characters will be placed.

I started thinking about the sound that I need for my scene. Since my scene starts off calm and then the character starts to blow, I thought about having a calm background music to show that everything is normal and there are just two characters standing. I will use calm background music throughout the animation even though when it starts blowing and flying because it will create an effect of this type of world as normal and even though if so much is happening in the scene, it will be calm.



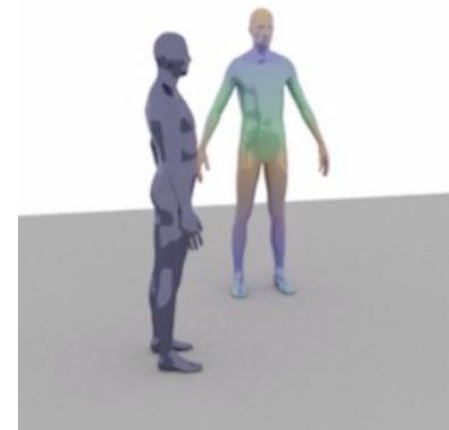
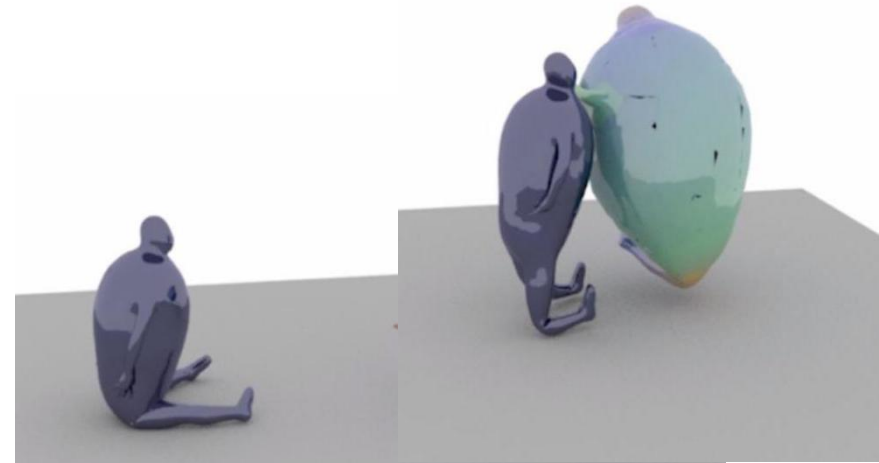
## Character Texture/material

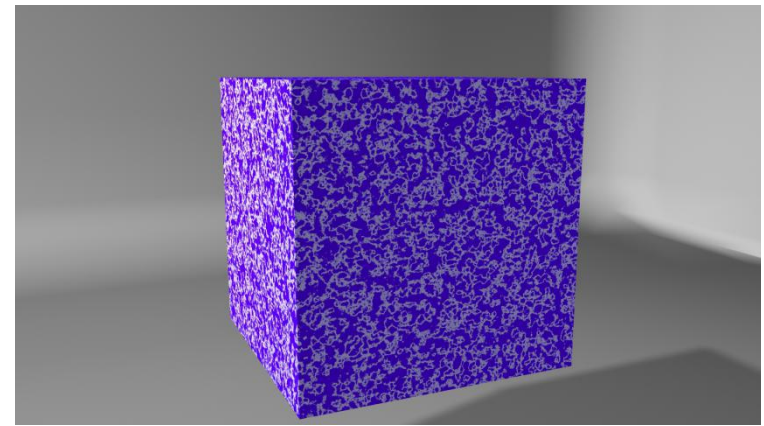
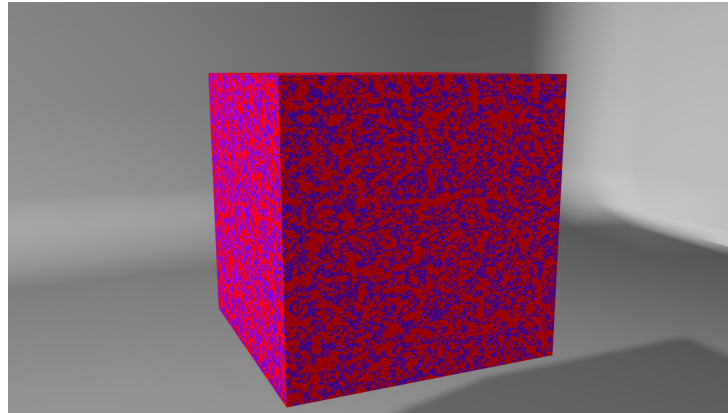
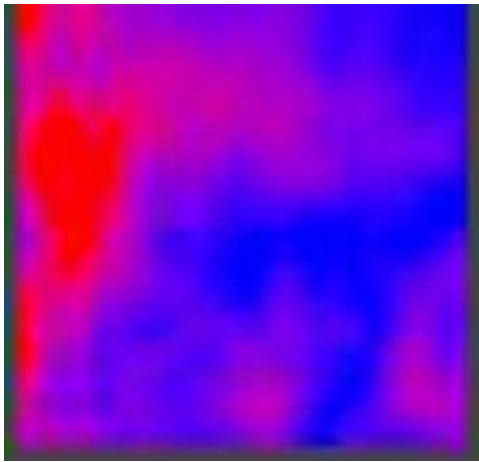
I am using black and white particle aesthetics in studio 2 project because it was about chasing and fighting hence I chose two opposite colors. For this project, I decided to have colored. I chose pink and blue as they are also opposite colors since pink is the universal color for a girl/woman and blue is the universal color for boy/men. I chose these two colors to give a character attribute and it matches the narration of the animation that they both are awkwardly standing and breathing in an unusual way and are waiting to talk to each other.

In week 9, I created the texture using lambert and added stucco texture. I used this particular texture on the characters as shown in the images on the right because the texture seemed a little abstract and the way there's a contrast in the colors, it looks like the character is filled with some particles. The texture included a map of two colors. I tweaked the color for one character so it has more of a pink shaders and the other to blue shaders. The texture related to my studio 2 project since I am doing a 2D abstract animation related to particles.

Since my previous tests involved characters and particles, I thought of a way to include particles in this scene as well because it would complete the ending instead of the character flying out of the scene. It can have an end and show that as if the character have popped because of too much pressure and got formed into small particles that would roll into the scene.

Week 10, class task was about stillness. We were supposed to experiment the idea of stillness or pause. This task made me move the character in such a way that the characters are still at the start and then burst. Hence this task made me take my test further and experiment more.

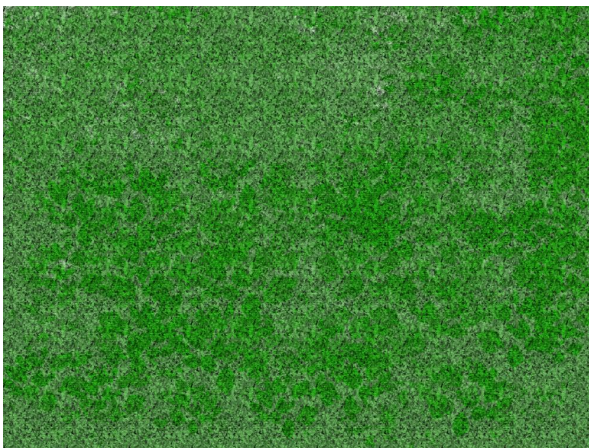
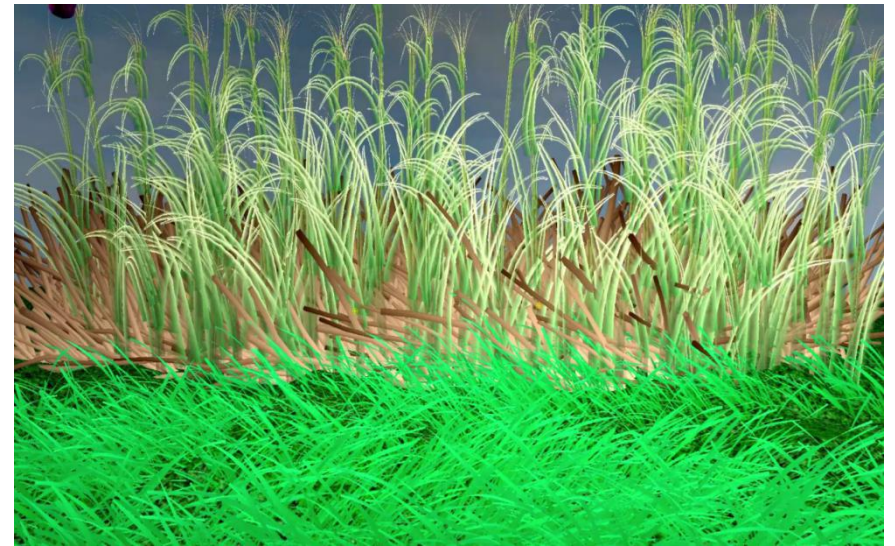




## Environment

In week 10, I thought about the environment design and where my characters will be placed. Since the character burst and flies away, I thought about having an open area like an exterior scene.

I wanted to make it seem like they are situated in an environment that doesn't look normal such as adding different sizes and types of grass.



## Texture of environment

I decided to create texture of the environment by myself instead of taking a map from google.

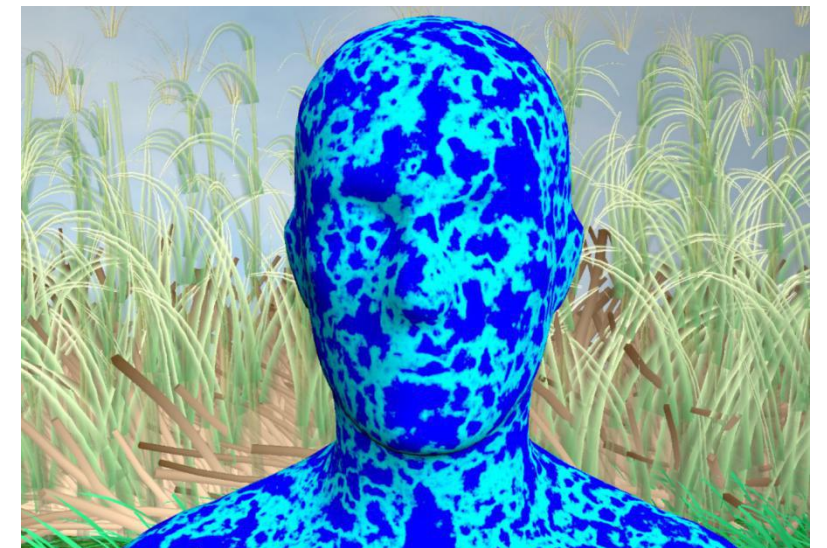
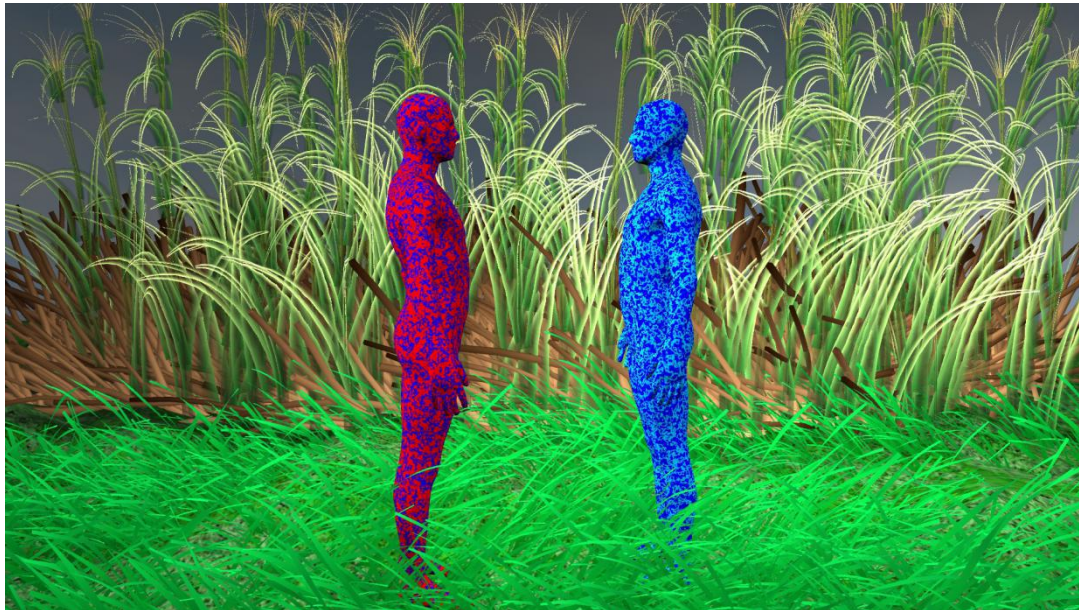
I looked at tutorials and used Adobe Photoshop to create textures as seen in the images on the left.



## Camera/Placement

In week 11, I tested out the placement of the position of the two characters in the scene. Initially I had kept both characters side by side but they seemed disconnected from each other and the world. So I kept both characters in front of each other. This way, I felt that the characters are connected with each other and they are waiting for each other to communicate. They both fit into the same world by their similar abilities.

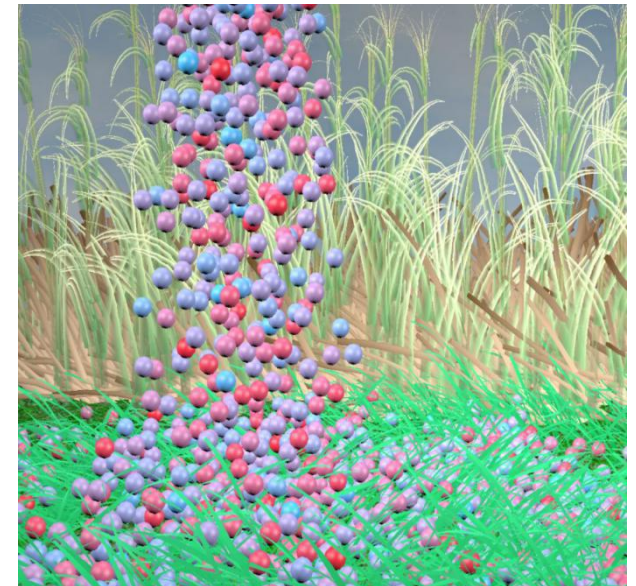
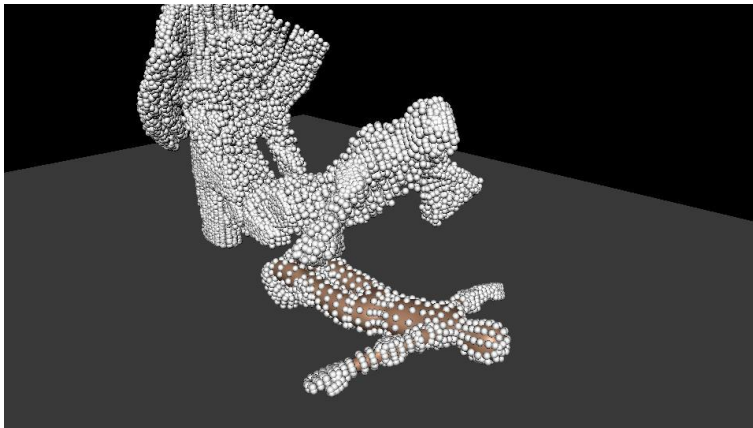
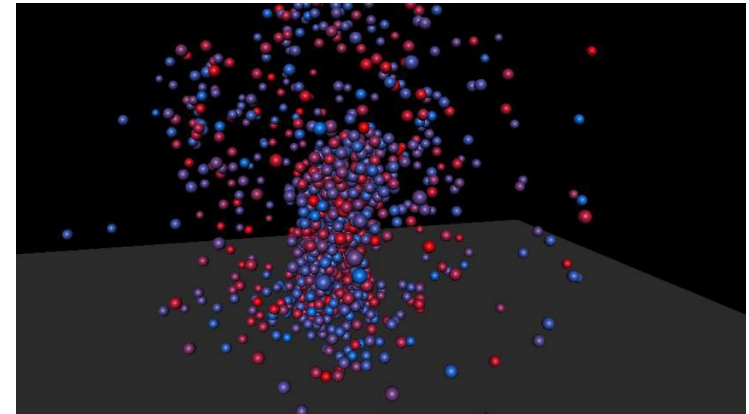
I tested out different camera angles to create a narrative for the animation. I tested one camera that shows both characters full view. I tested another camera that shows only a portrait view of both the characters. I thought to use this camera test render in the introduction scene as it starts out. It will show character profile one by one trying to tell the audience that there will be some communication between the two. It will show a zoom in shot to show the way its breathing so that the audience knows that it is not a normal human attribute.





## Particle test

In week 12, I went back to testing particles to match my scene. My idea is to create particles falling or rolling in once the character pops. I need to test out direction and the type of particle render. In my previous folio, I have already done many particle tests so I can use what I learnt to match this scene.



## Music

I took forest sound effect as it suits the environment. I found some pop and burst sound effects from <http://www.freesounds.org> and <http://www.incompetech.com>

Text

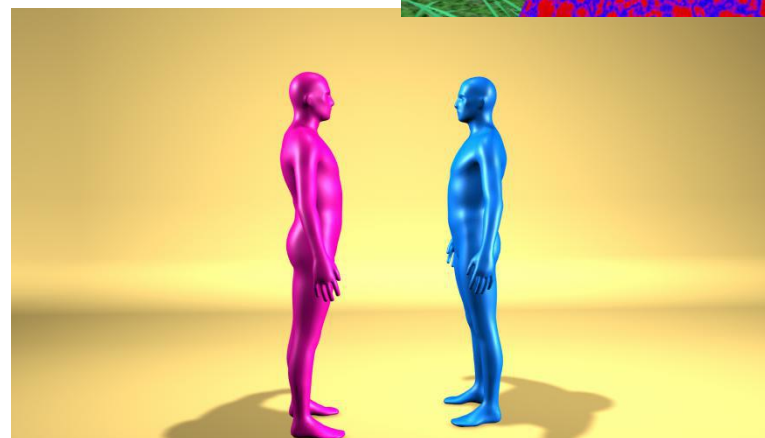
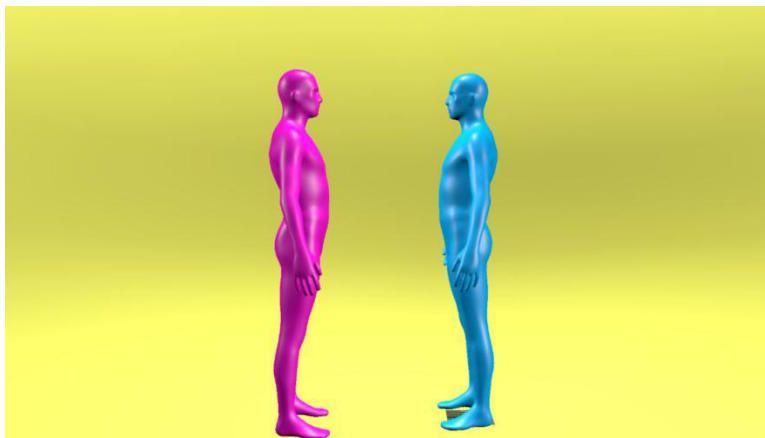
I wanted to add text as a piece of narrative. After my animation rendered, I took the video to premiere pro and added text such as "Hi"

For my next studio project, I would like to undertake and continue this project since I think there is more of development work I can improve. For next time, I will do more tests related to environment and different scenes to make it more interesting.

### **Week 13 Feedback:**

During the feedback, I am happy people laughed at the movement of the character and how it burst. I got a few feedback, to create more environmental designs and to fix the text.

Evan told me to remove it as it isn't necessary as everyone can understand what is happening or leave it to make audience understand what is going on.



## **References:**

Particle Curve 1 <https://youtu.be/RShlgvoS6J8>

Particle Curve 1 <https://youtu.be/TrXf0gmx238>

Particle Walking Man <https://youtu.be/da7u1d-AfN0>

Synthesia <https://youtu.be/6Jvp48suZOg>

Particle test 01 <https://youtu.be/PYqWSWzinzc>

Particle test 02 [https://youtu.be/S\\_OGA9X8pZM](https://youtu.be/S_OGA9X8pZM)

Particle test 03 <https://youtu.be/UkdN9UL4wvU>

Water Particle test <https://youtu.be/19oxEGpFLSs>

Ryan Woodward, Thought of You  
<https://www.youtube.com/watch?v=OBk3ynRbtsw>

G Active, Water Droplets

<https://www.youtube.com/watch?v=ZCEdBfBoIWk>

Eric Mootz, CGI Bros

[https://www.youtube.com/watch?v=Hw89cwVW\\_Lo](https://www.youtube.com/watch?v=Hw89cwVW_Lo)