

# Project Report- Dare to Dream

Group 5-14

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# What is our project?

## Animation

Our project uses 3D-animation to present the story about a boy achieving his dream of flying over a wall to see what is on the other side, and we hope through this we can inspire people with this story.

# Why did we choose to do this?

We wanted to express the school value of 自強不息 through our animation film. Since our story is about a boy striving to achieve his dream, it conveys a message to the audience that no matter what failure to come across, do not give up and continue to strive for your dream, persevere through and you will eventually succeed.

We also did this because we wanted to challenge ourselves as animation goes through a very complicated process and it takes a lot of time. We hope that our project will help to encourage people to challenge themselves and try to make their own 3D animation.

## Why 3D animation?

-3D animation produces a more realistic animation and it is more visual appealing than 2D animation.

-It is easier to animate 3D than 2D.

-2D animation is very tedious and it is very unrealistic.

-3D animation is more advanced and is used for many different purposes such as films, 3D body for doctors and also 3D blueprints

# Research

## Artist Influence

We were inspired by an award-winning 5 minute animated short film 'In a Heartbeat' ,by Esteban Bravo and Beth David, which is basically a boy-meet-a-boy story. We were really inspired by their character designs and since our animation will have no form of dialogue, we want to really use their way of communicating ideas and thoughts in our animation: using different music and visual representations such as lighting, different angles of the camera and different music depending on the mood of the scene.



The film 'In a Heartbeat' has no form of dialogue, instead it uses facial expression to express a person's feelings and the mood of the scene is presented by the lighting, colour as well as the different music e.g. sad, happy. We decided to use this type of animation with no dialogue as it is more interesting for audiences what they think was going to happen in the end may not be correct since there is less information about the story, and this creates suspense. Furthermore, since there will be no form of talking involved, we do not need to animate the mouth movement and this makes animating easier for us since less time will be spent on animating the mouth movements, which is very time-consuming.

# Our Project Journey

## Initial ideas

One of our initial idea was about the theme of bullying with the aim to encourage people to stand up against bullying, and to understand why some bullies bully others. However, we felt that it was too cliché and we wanted to make a more unique animation.

The next idea had the same theme as our final product which is “dare to dream” . The idea was about a student not doing well in his mid-term examinations but studied hard and ended up doing well for his PSLE exams. However, we felt that a story with a more fantastical setting would be more interesting, thus we revised our story, and came up with the one we have now.

## Storyline

Final storyline:

The story is set in a village isolated from the outside world by a tall brick wall. A conservative village that averts innovation and creativity and has a lack of liveliness, it is largely grey in colour, with uniform rows of houses. The film starts with a close-up shot of the boy building his pair of wings on a picnic table on a grass patch. His aim was to fly over the wall and see what was on the other side. After finishing the wings, he brought it out for a test flight which ended in failure as it failed to take off. But he was determined, so he dragged the wings back to the picnic table to fix the wings. This time when he brings it out for another test-flight, he did take off but he crashed into the wall. But still determined to achieve his dream, he drags it back for the third time to fix it and brought it out for the third test-flight, this time, he finally manages to fly over the wall and see what was beyond it, a beautiful oasis.

## Producing the animation

The process of producing the animation consists of designing, modelling, rigging, surfacing and animating.

**Designing:** Creating the appearances of characters and venues, which characterises each character

**Modelling:** Creating a virtual three-dimensional model of a character, object or setting

**Rigging:** Creating joints in the model, which allows it to move.

**Surfacing:** The process of adding textures to the surface of a character or object.

**Animating:** Creating movement in characters and objects. Setting keyframes for different movements and camera angles.

**Camera sequencing and rendering:** After finishing with the keyframing of the movements and angles, we used the camera sequencer in Maya to piece together the animation, allowing for smooth changes of camera angles during the animation so that the animation can be shown through different perspectives and not limited to one camera angle.

We used the software Maya for animation and Wacom for surfacing.

We started off with the designing of the characters, objects and different settings, which can be done through either on paper or on computer softwares and continued with modelling, rigging and lastly, surfacing.

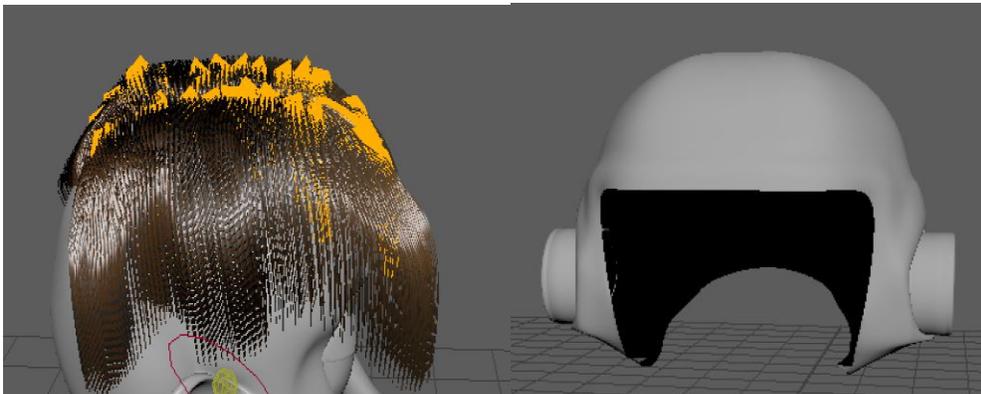
For detailed process please see Annex 1.

# Reflections

## Challenges

Here are some of the challenges we faced. While modelling one of the character, we had some problems with the software and our character ended up not usable for the animation. Unfortunately, we did not save a backup of the character before the problem happened. This resulted in many weeks of modeling that specific character to be wasted. Therefore, we had to remove the character from the animation and improvise by changing the storyline.

We also ran into problems with Xgen, a feature in Maya for hair, grass etc. we found it difficult to control and once converted as part of the mesh, Maya will start to lag because of the huge number of faces in the hair. thus we decided to leave the hair out and substitute it with a flying helmet. Also, the time we took to model everything exceeded our expectations, especially the boy, thus we could not follow our timeline and had to alter it.



## Overall reflection

After this project, we realised that when embarking on doing something new, we should

always do large and adequate amounts of research and learning before starting on a project. If we had done that, we would have been able to save a lot more time on modelling, and would have been able to help create a much more refined animation sequence.

Throughout the journey of our project we came across some really disappointing failures and we were devastated as we wasted much time and effort as a result. However, we continued to work hard and we feel that we have successfully overcome these challenges and we feel that the journey was a really tough one and we are glad that we completed this journey.

## Further improvements

If we had more time, we would definitely improve the quality of our work especially our storyline, as well as other like adding facial expressions to the characters and proper texturing for the models. The rigging of our models could have also been done better.

## Skills acquired

The main skills acquired were the basics to 3D modelling, as well as the skill to present different emotions without using dialogue but instead through lighting, colour and sound. Some other skills include quick problem solving as we managed to overcome some difficulties we came across quickly. We also

## What we learnt about our art-making endeavours:

Some of our endeavours into an unfamiliar medium were made carefully with research. However, some were made without sufficient research and experimentations thus failing at multiple times for example the hair.

# Acknowledgements

Mentor: Mrs Zhou Li Tong

## References

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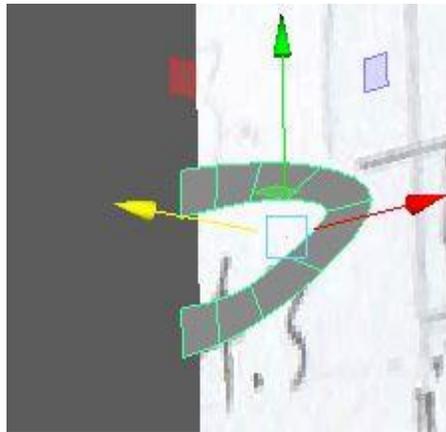
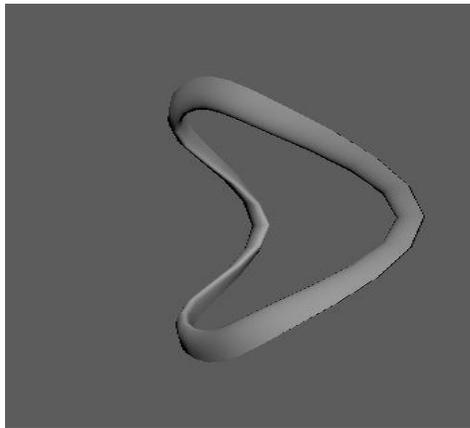
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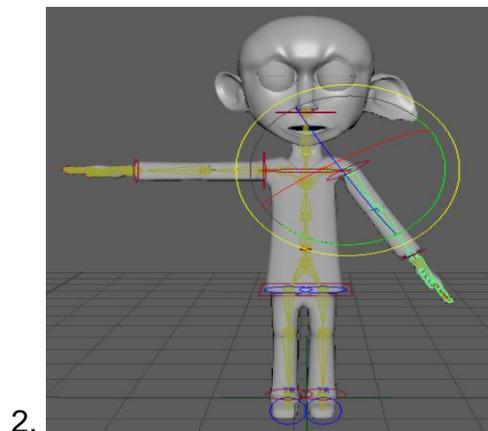
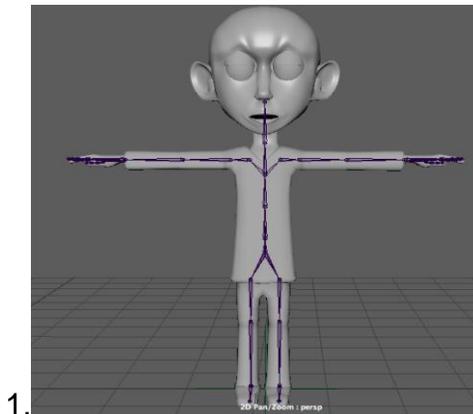
# ANNEX 1

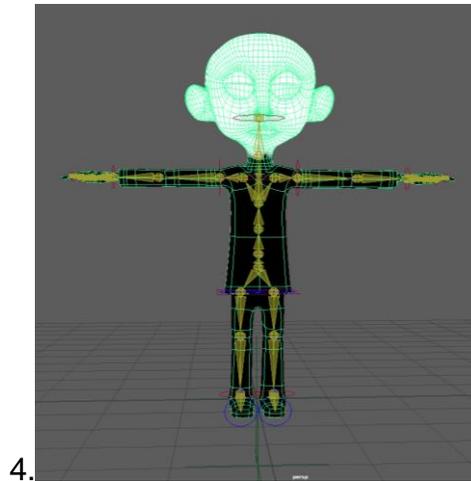
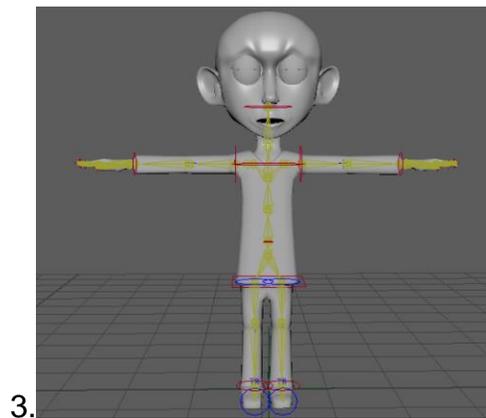
## Process of animating

For the protagonist, first we started out with modelling the eye-rim, then the mouth, and after connecting the two together by modelling a nose, we extruded the different edges out, sculpted it and made the full head of the protagonist.

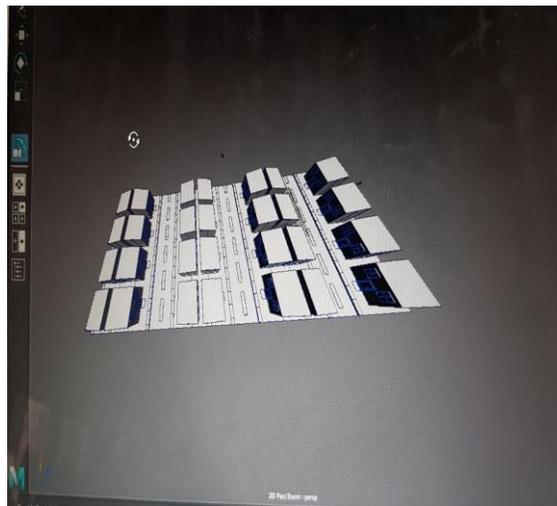
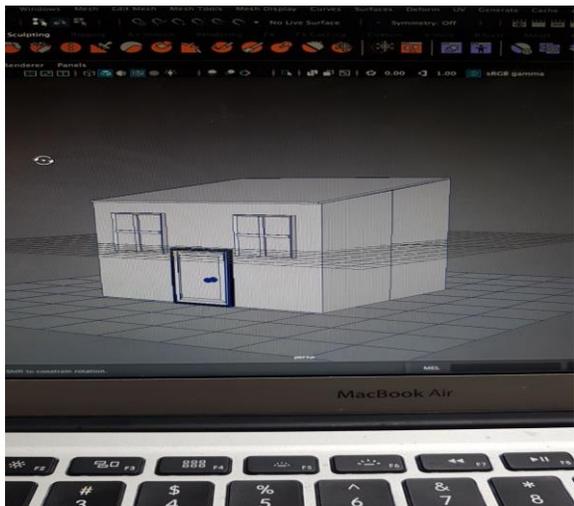


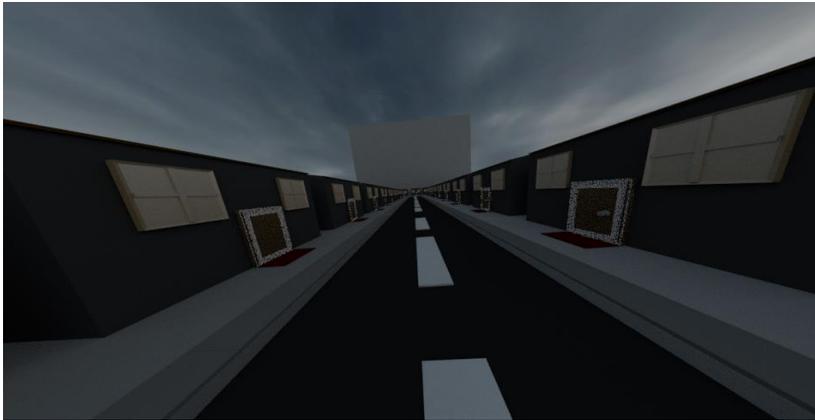
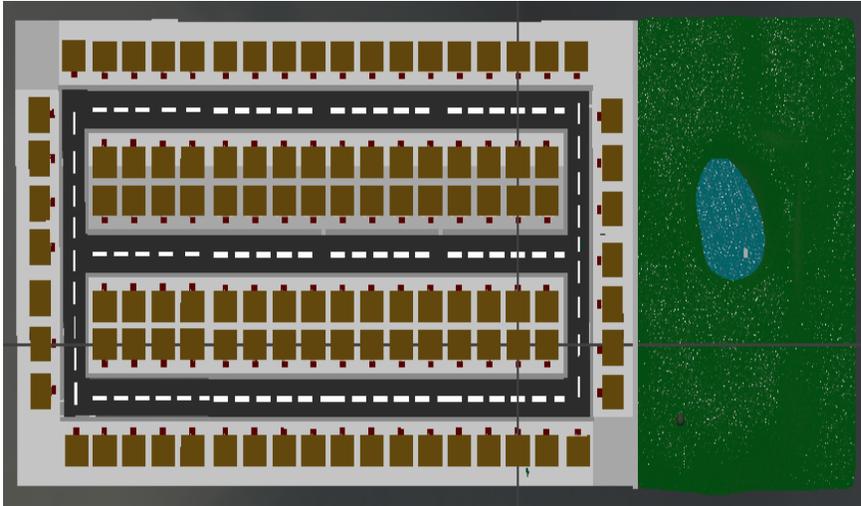
After we finished the full body of the boy, we proceeded to rig the model. Using the Human IK feature, we created the skeleton for the boy, adjusted the joints so that they fit the model, especially the hands. We also binded the skin, which binds the model with the skeleton. After that, we created the control rig for the skeleton to enable the different joints to move.



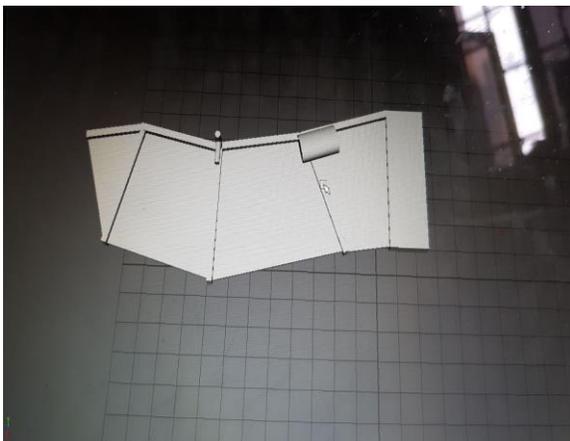


For the town, because we wanted to make the houses uniform in size and shape, we modelled out one house first, then duplicated it to make neat rows of houses and surrounded them with a road, adding more houses along the road. Next, we textured the town to make it look more realistic. For example, for the roads in the town we assigned its material attribute to the “graphite material” to make it seem more genuine and applied the “wood material” for the frames of the windows and doors.

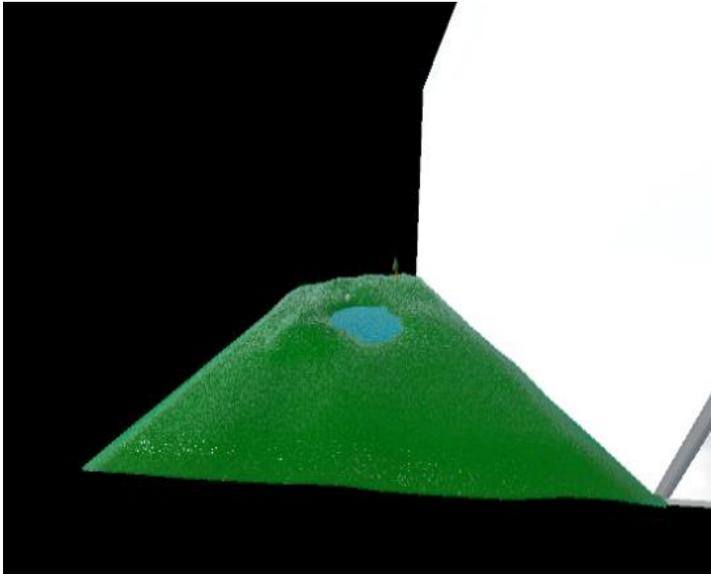




For the wings, we created one side of the wings and mirrored it. After that we rigged the wings and added a wood texture for the frames of the wings and for the flaps we used a cloth texture.



Finally, we created the oasis. We textured the ground with “ocean shader” in the hypershade which creates the unevenness of the ground to make it look natural. Moreover, we changed the material attribute of the ground using hypershade and played around with the colours and contrast to make it look like the texture of grass. We also added a oasis on the other side of the wall to create a sense of liveliness.



Now we will be talking about the process of creating the sky, we first created a “physical sky” using the “Arnold” which is one of the features of the software. After we added the physical sky, we also added a “sky dome” which illuminates the surrounding area. Later, we created a double-sided cuboid and added a gloomy sky texture to it, placing the town inside the cuboid to create the illusion of two different skies.

