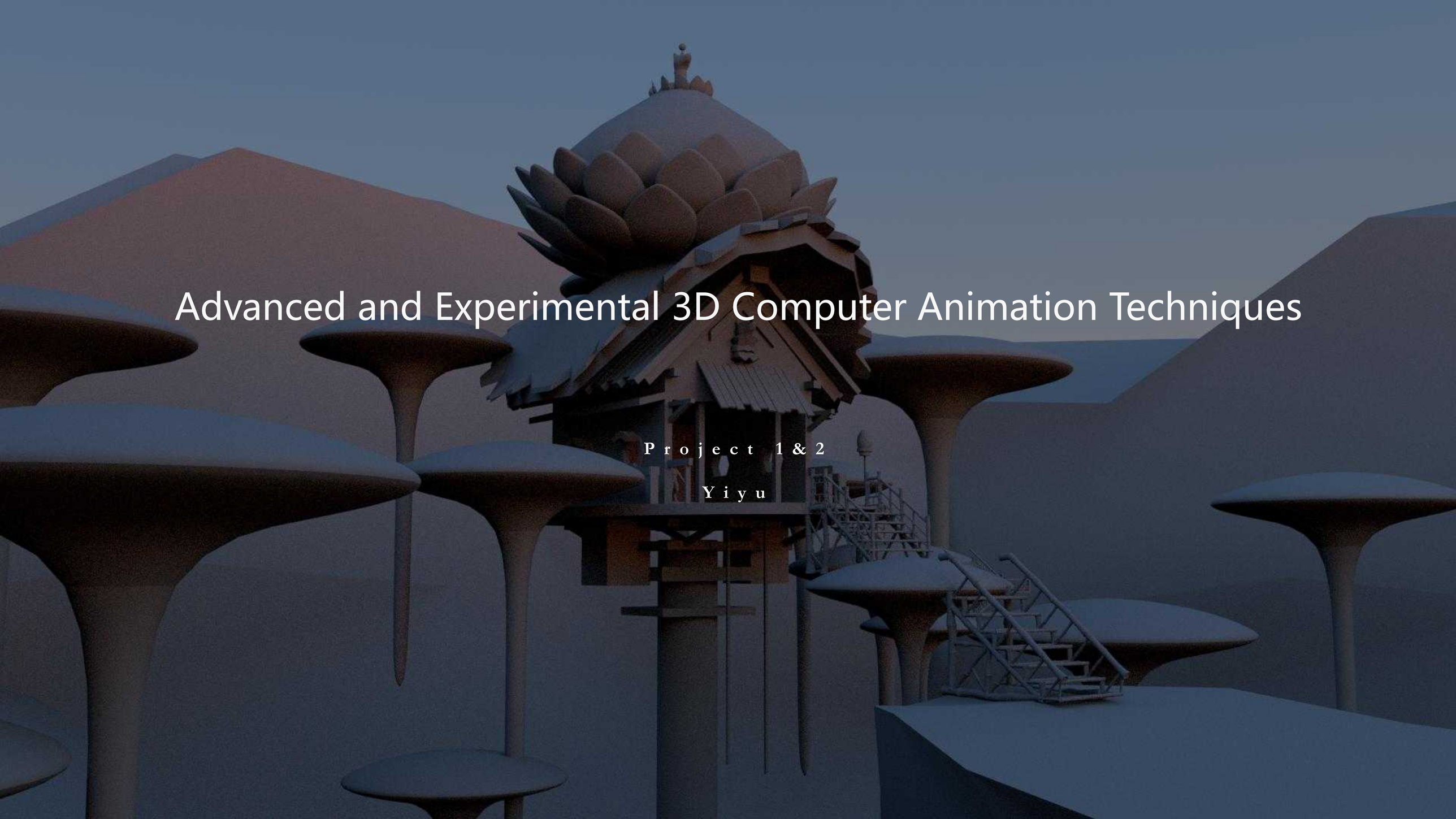


Advanced and Experimental 3D Computer Animation Techniques

Project 1&2

Yiyu

Session with Nick（project 1）
Robotic arm

Summarize Rigging methods

Robot arm modelling - animation - rendering

Video and animation compositing and effects with after effect

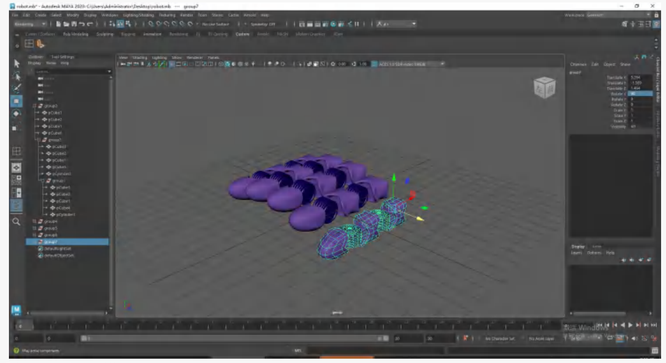
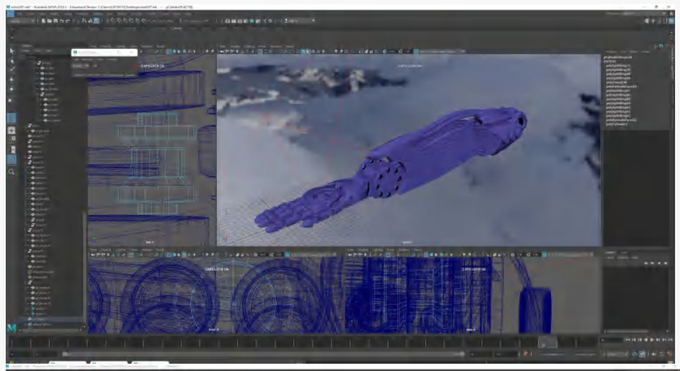
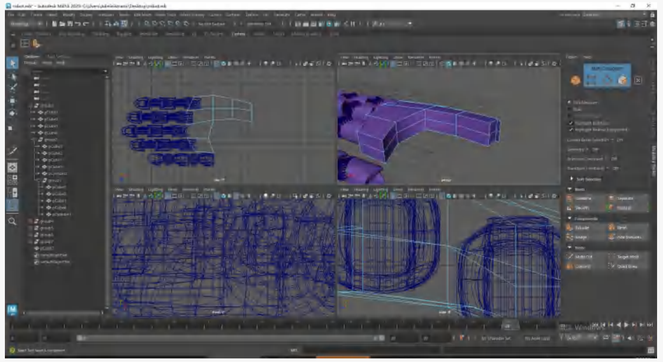
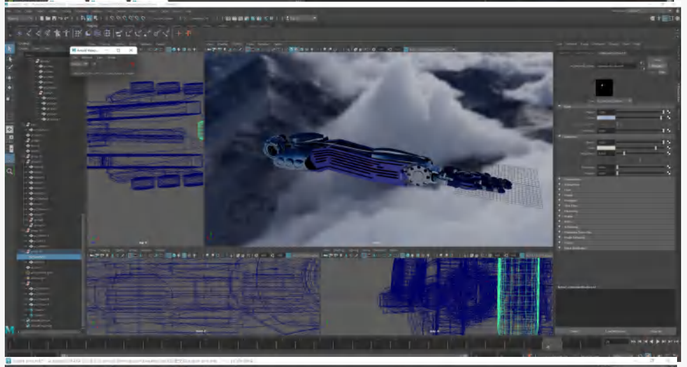
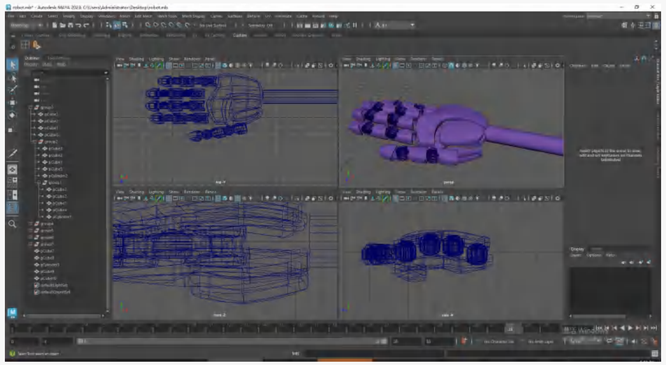
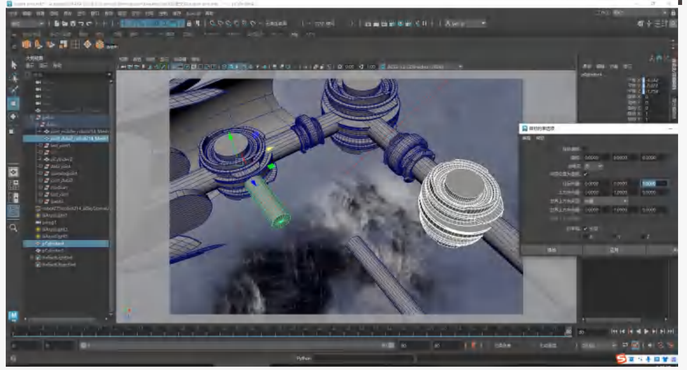
1:Use Joint+IK+Curve & pole vector +point+orient constrain for rigging

2:Use hierarchical relationships and parent constraints

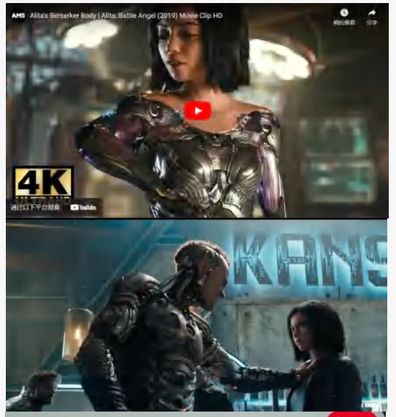
3:Use Node &Python data to establish constraints

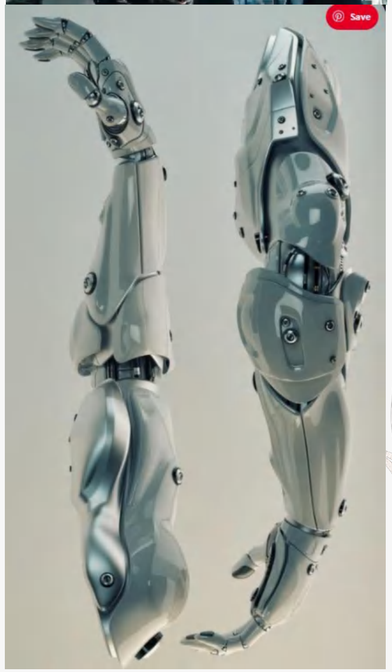
Robotic arm-Modeling process & Reference

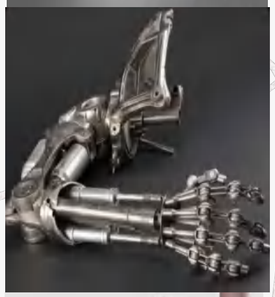
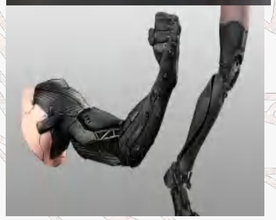
Hand – Palm – Fist – Back of the hand – Knuckles – Fingers – Nail
Thumb – Index finger –Middle finger – Ring finger – Little finger – Finger prints – Finger tips

Alita Battle Angel: Bar Fight Round arm mecha shell

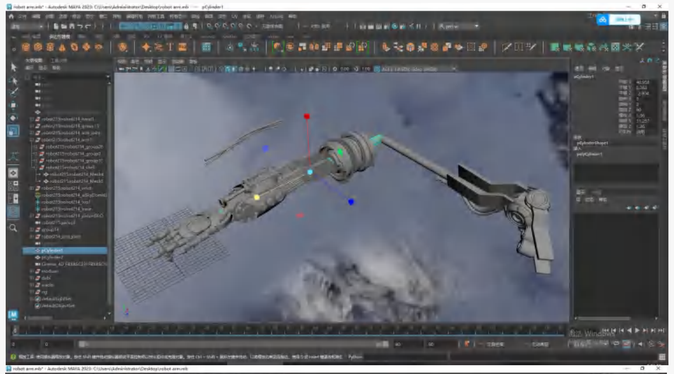


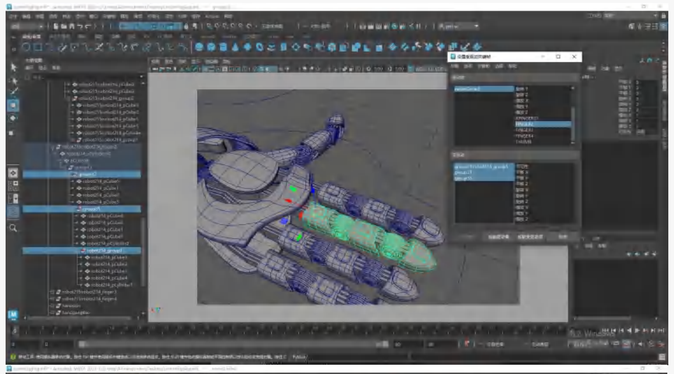


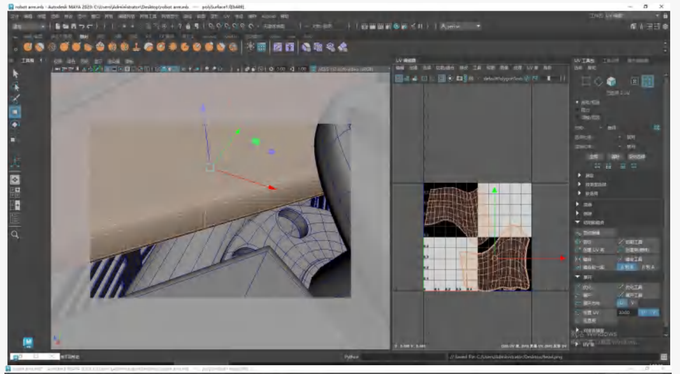



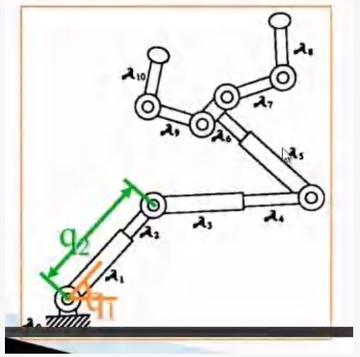
Robotic arm-Arms structure and UV

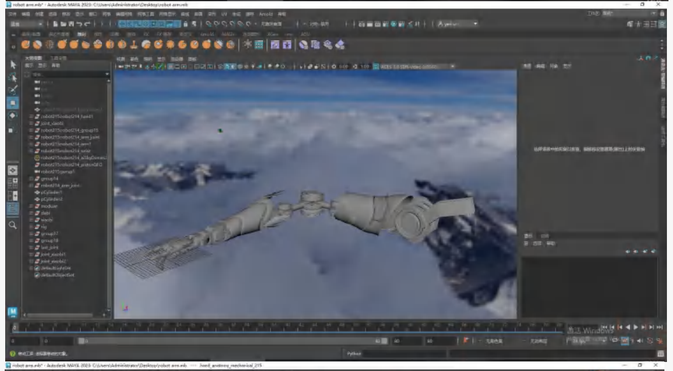
Arm– Forearm – Upper arm – Wrist – Elbow – Elbow joint – Shoulder

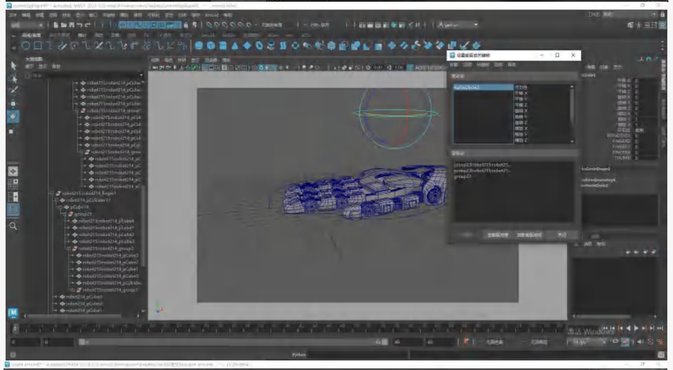


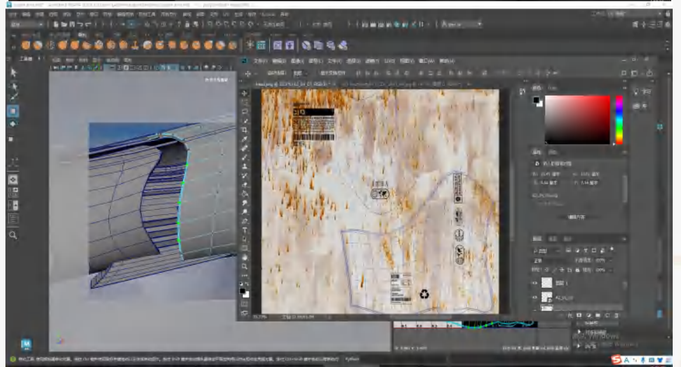


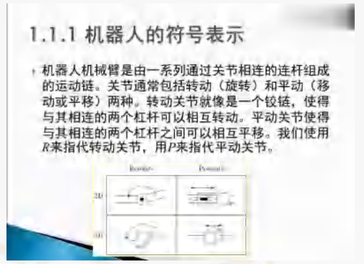


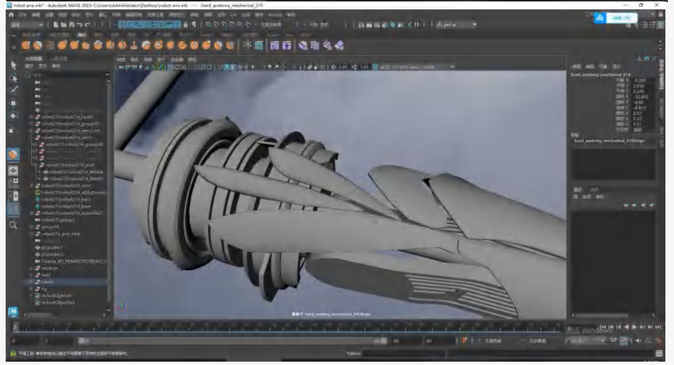


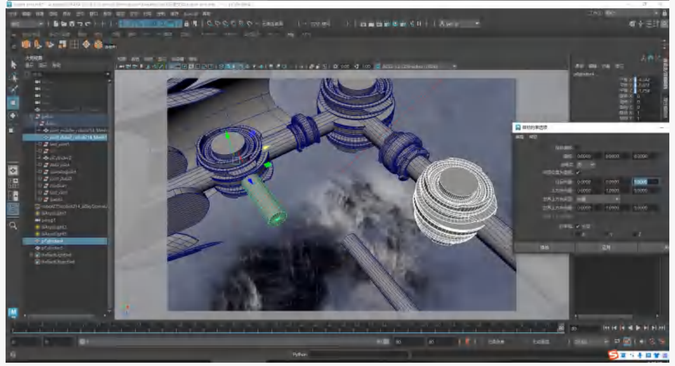


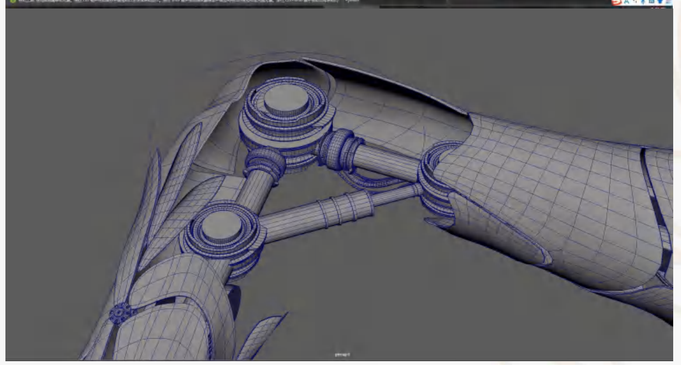


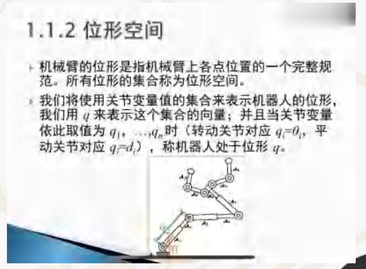






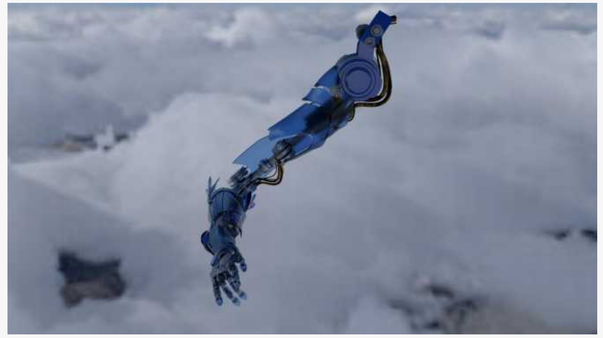


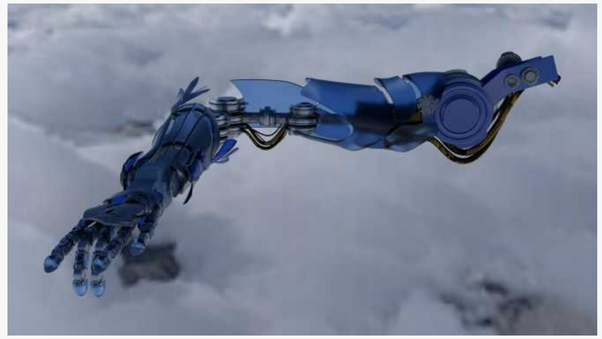




Making model material

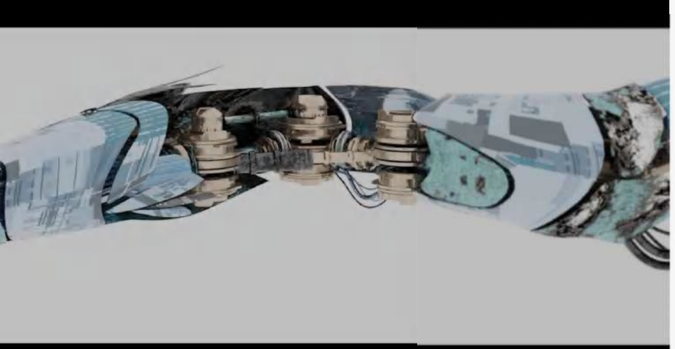
Transparent plastic material

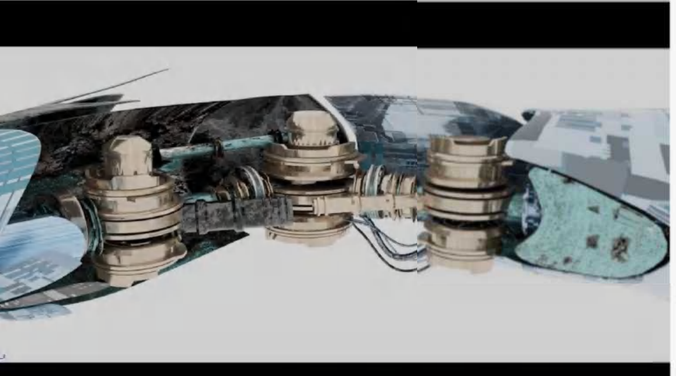


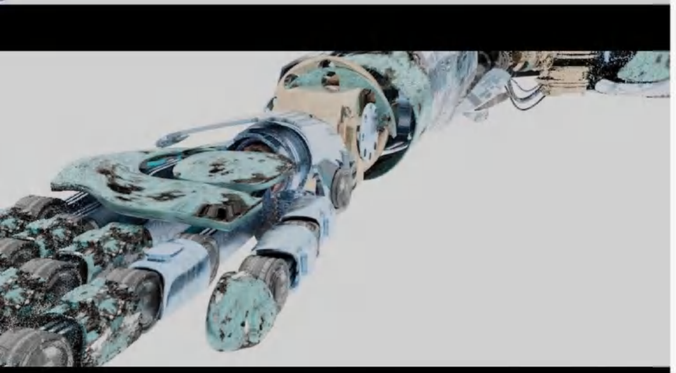


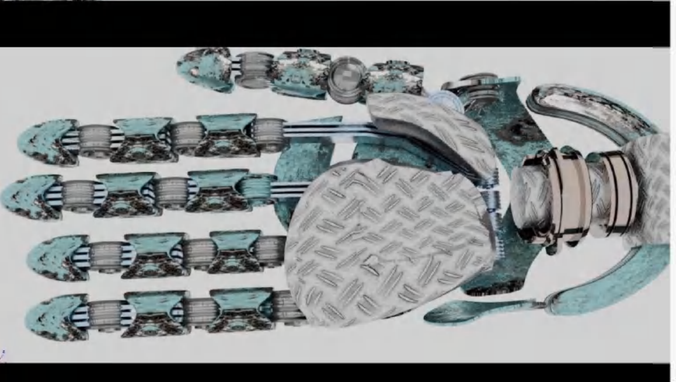
Smooth steel

Final material Rusty iron and metal joints





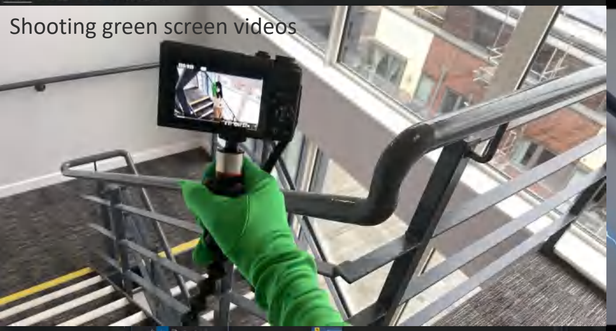


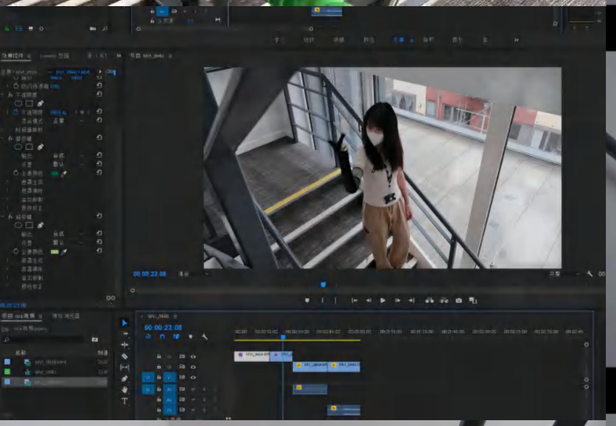


Final material Rusty iron and metal joints

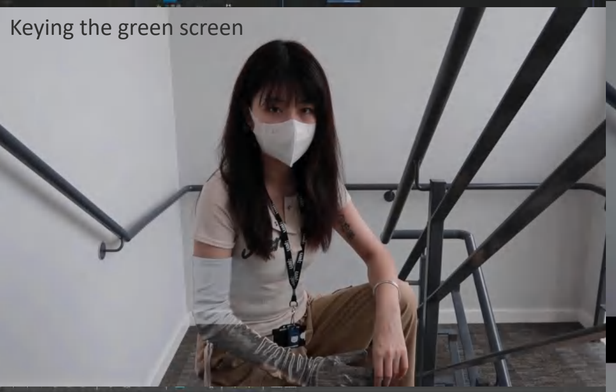
Texturing the palm of the hand with Arnold's mapping/Diffusion/Bump/Displacement/Deformation

Shooting green screen videos

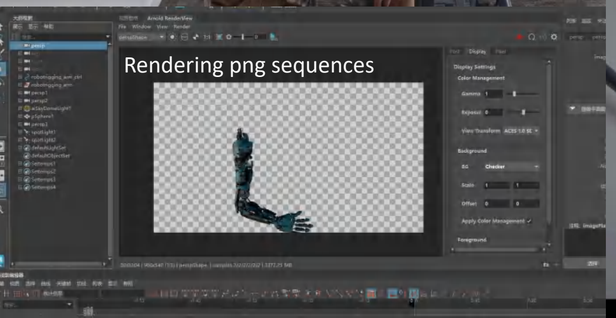




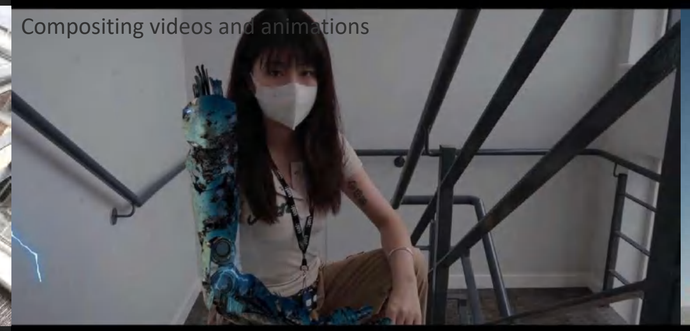
Keying the green screen



Rendering png sequences



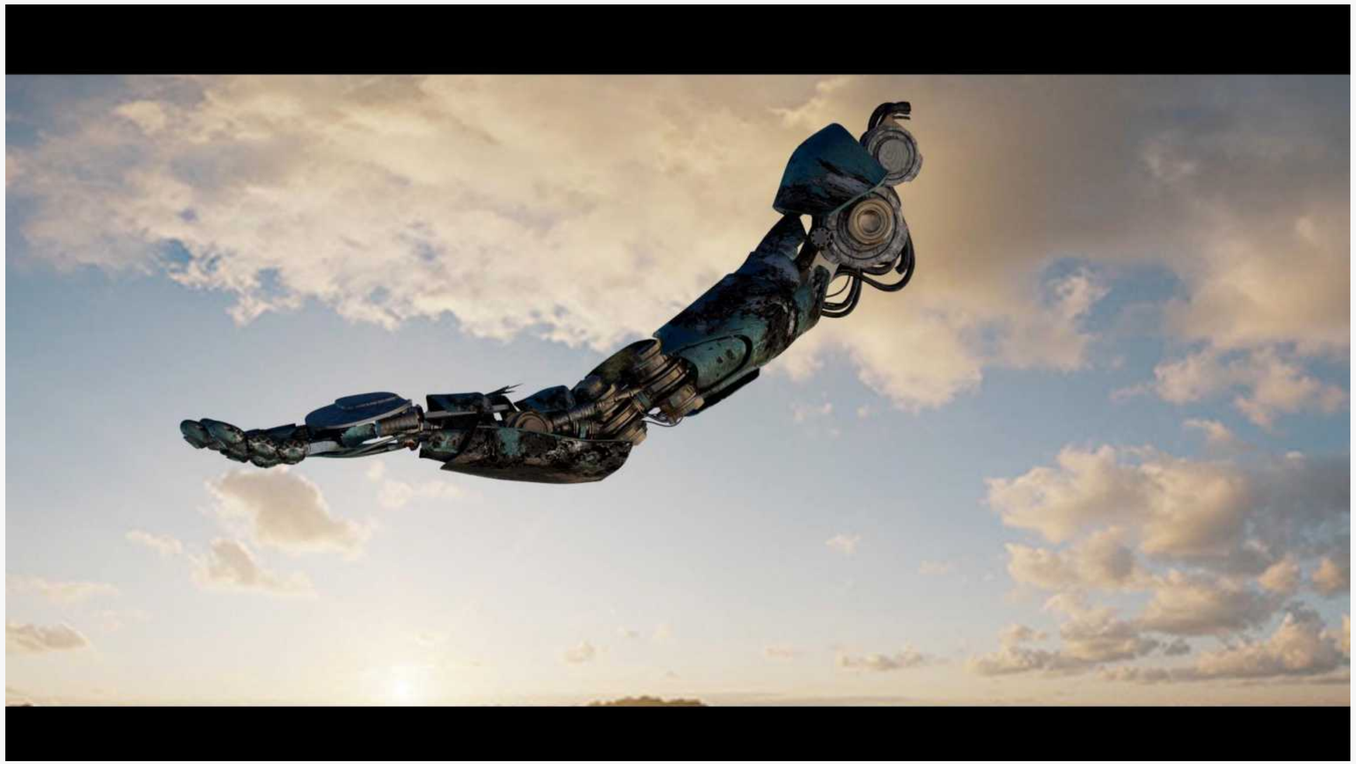
Compositing videos and animations



Creating special effects

final video

https://youtu.be/RvEoQNH8gKo



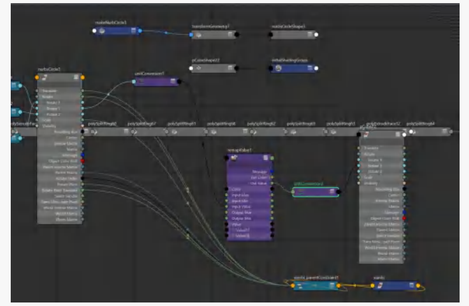
Summarize Rigging methods

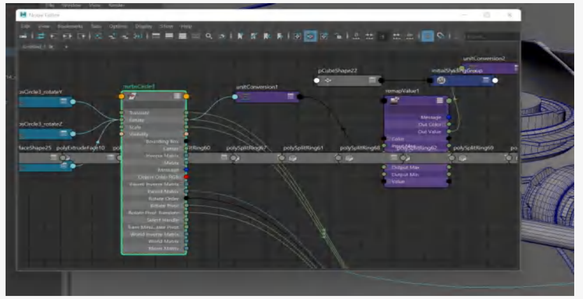
1:Use Joint+IK+Curve & pole vector +point+orient constrain for rigging

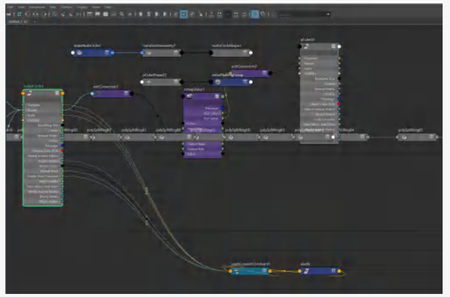
Create Joints – create IK handle – create locator – control knee joint with Twist – connect locator and IK handle with pole vector – create curve – use curve and IK handle to constrain displacement with point – curve lies in the joint of the forearm to establish orient constraint to control rotation -Finish
Use loc to control the joint direction, use curve to control the upper arm and forearm, hand.

2:Use hierarchical relationships and parent constraints

- 1:clean hierarchical relationships
- 2:control the group point
- 3:set curve
- 4:set parent constrain -to every group
- 5:set curve group-to control every poly modeling

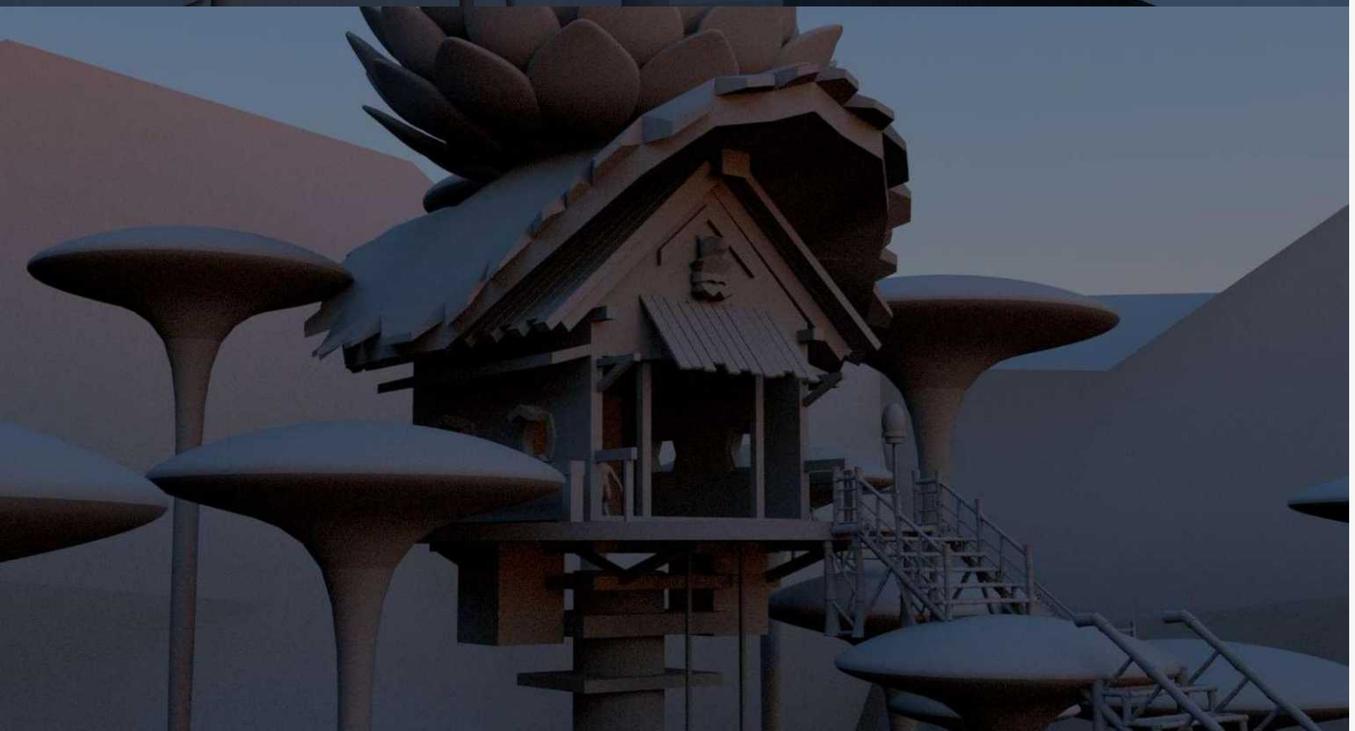






- 3:Use Node & Python to establish constraints

- use the node editor to control the y-axis of the curve and to control the rotation details by adjusting the object's rotation angle and
- inputting and outputting the maximum and minimum values



Sessions with George （project 2）
3 previz ideas

Objective of project 2:

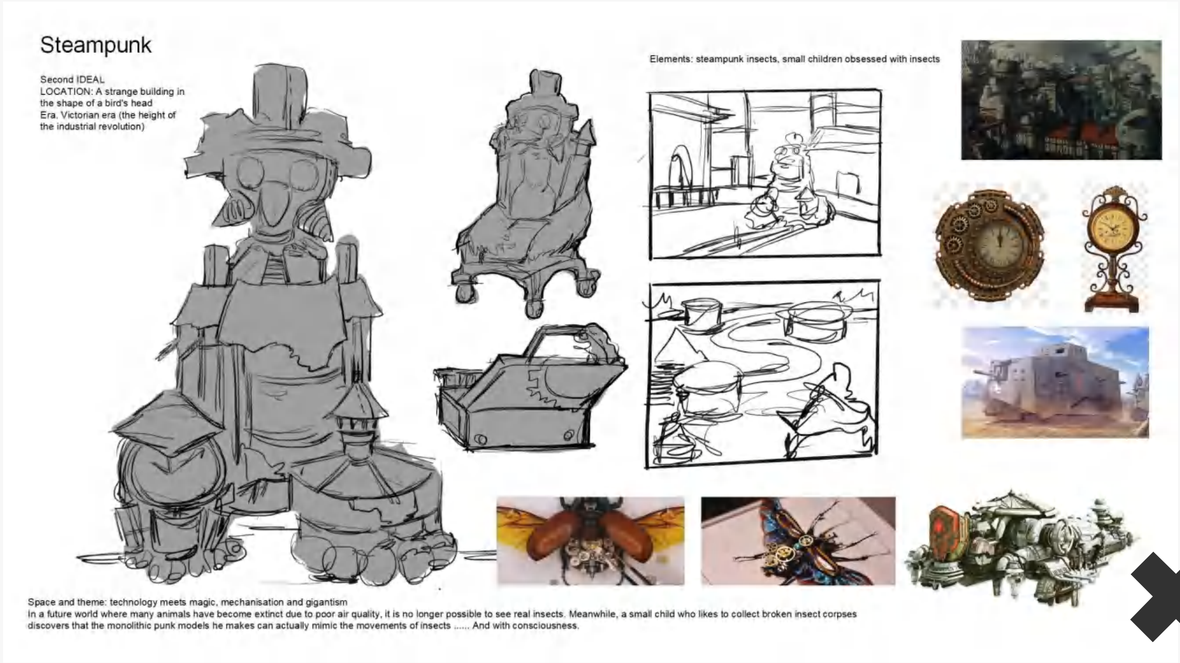
- To complete the animation final modeling\texture\rendering of the scene
- Create a 1 minute animated presentation of the scene
- Revision of character and creature designs and complete model &texture

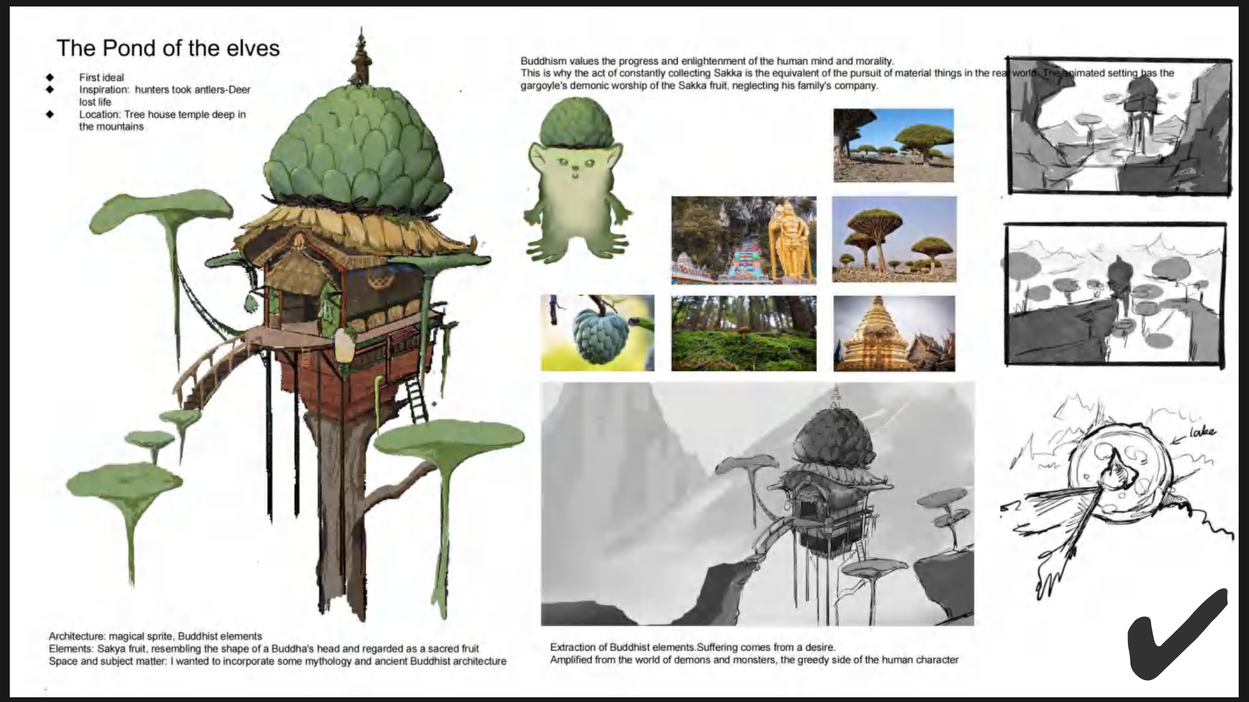
Era: Victorian (the height of the industrial revolution)

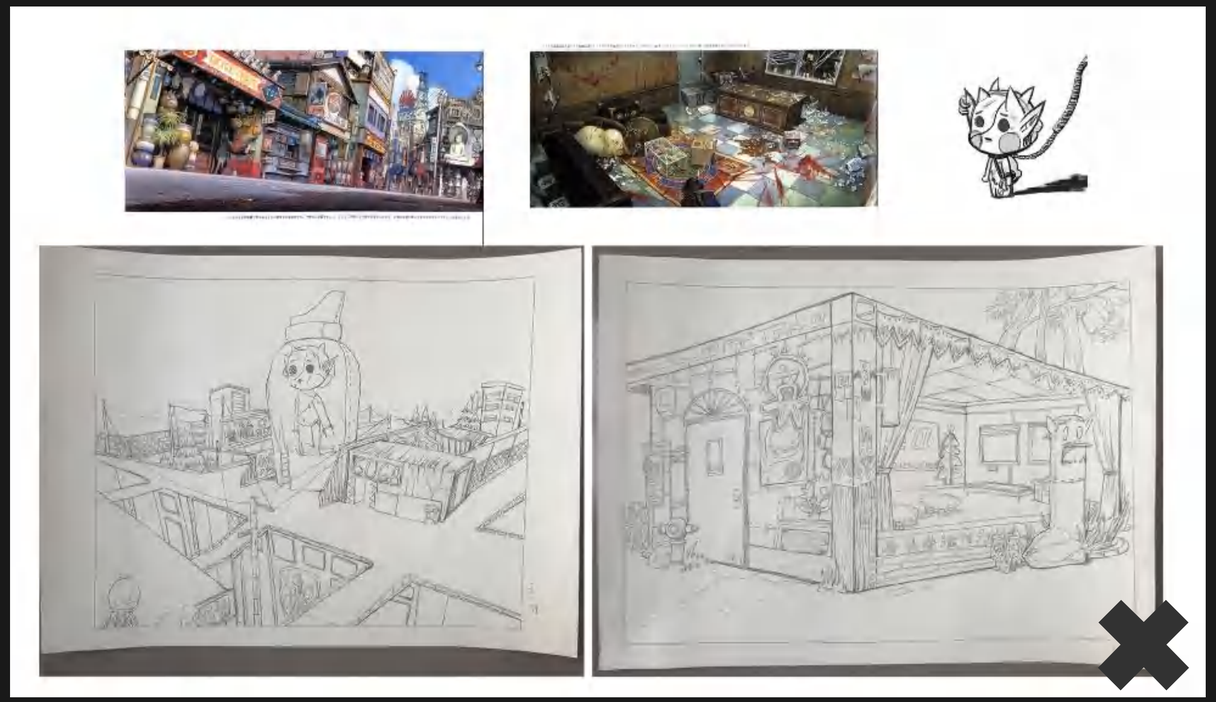
Elements: Steampunk insects,children obsessed with mechanical insects

Space and subject matter: technology meets magic, mechanisation and gigantism

In a future world where many animals have died out due to bad air quality, it is no longer possible to see real insects. At the same time, a child, who is very fond of collecting broken insect corpses, discovers one day that the punk model he has made can actually imitate the movement of real insects… and possesses a consciousness.





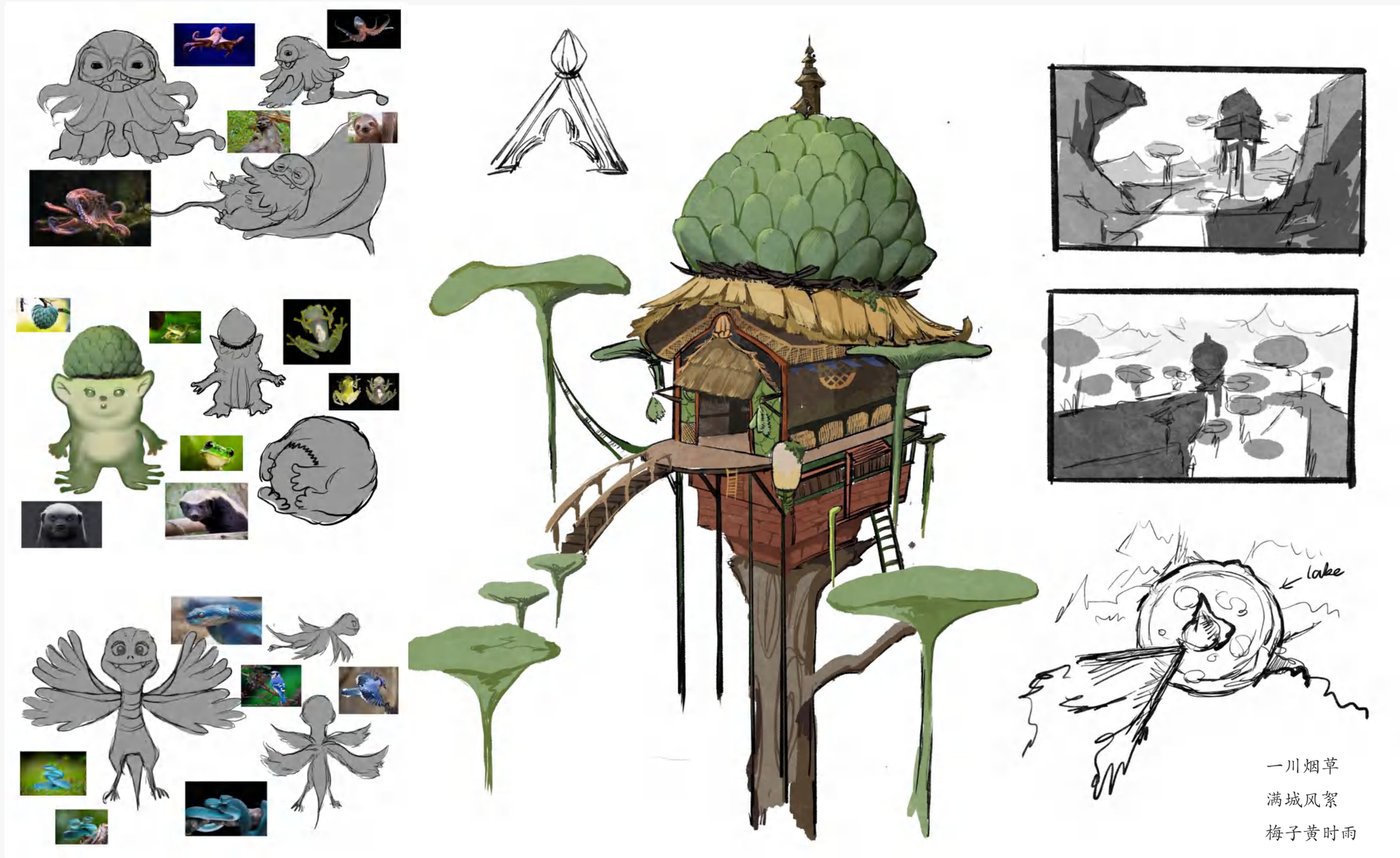


Inspiration & Introduction:

The world is a huge playground for the positive, the more exciting the more fun. For the cowards, it's hell, and you can get hurt anytime, anywhere. So, the kind of world you feel you are in depends on what kind of person you are. By portraying the grey real life and colourful spiritual world of the main character, this story conveys a message that since living by the rules did not bring me the expected happiness. Anxiety and stress were always around me, so why not to break the definition.

Keywords:

Anxiety,Spiritual World, Fantasy Forest, Strange creatures

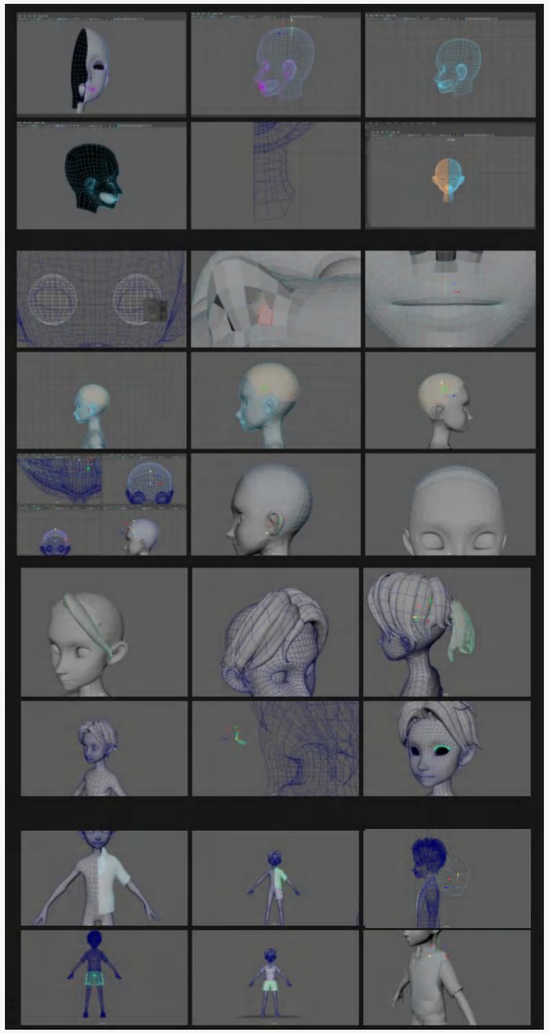


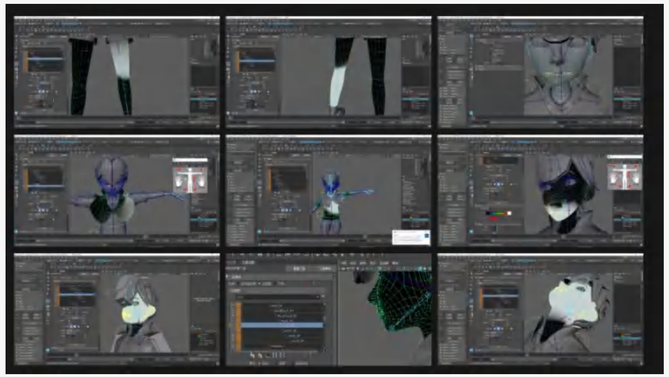
Summary:

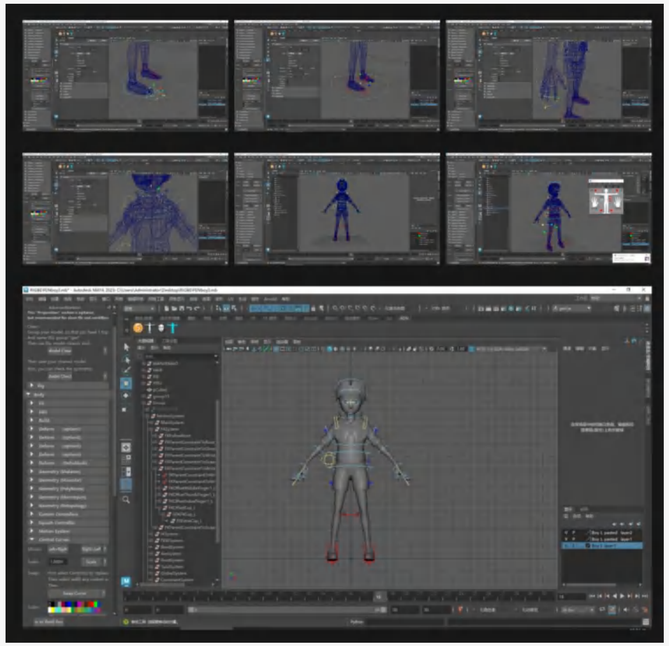
People have so many things that bother them. How talented do you have to be to be considered talented?So I still want this film to be light-hearted, healing, and use lots of strange, cute creatures, play to animation's unique strengths in creativity, and focus on exploring the emotional connection between animation and the audience.

storyline： A boy breaks into a forest. The boy walks carefully in the forest, and suddenly he finds a strange octopus lying in a pond, just then a small flying dragon that looks like a fat panda or cat towards him and leads him deeper into the forest. However, the moment he gets close to the tree house, all kinds of strange little animals approach him, and he has the happiest time in the forest, but will eventually go back to the real world.

Character design-modeling &rigging process

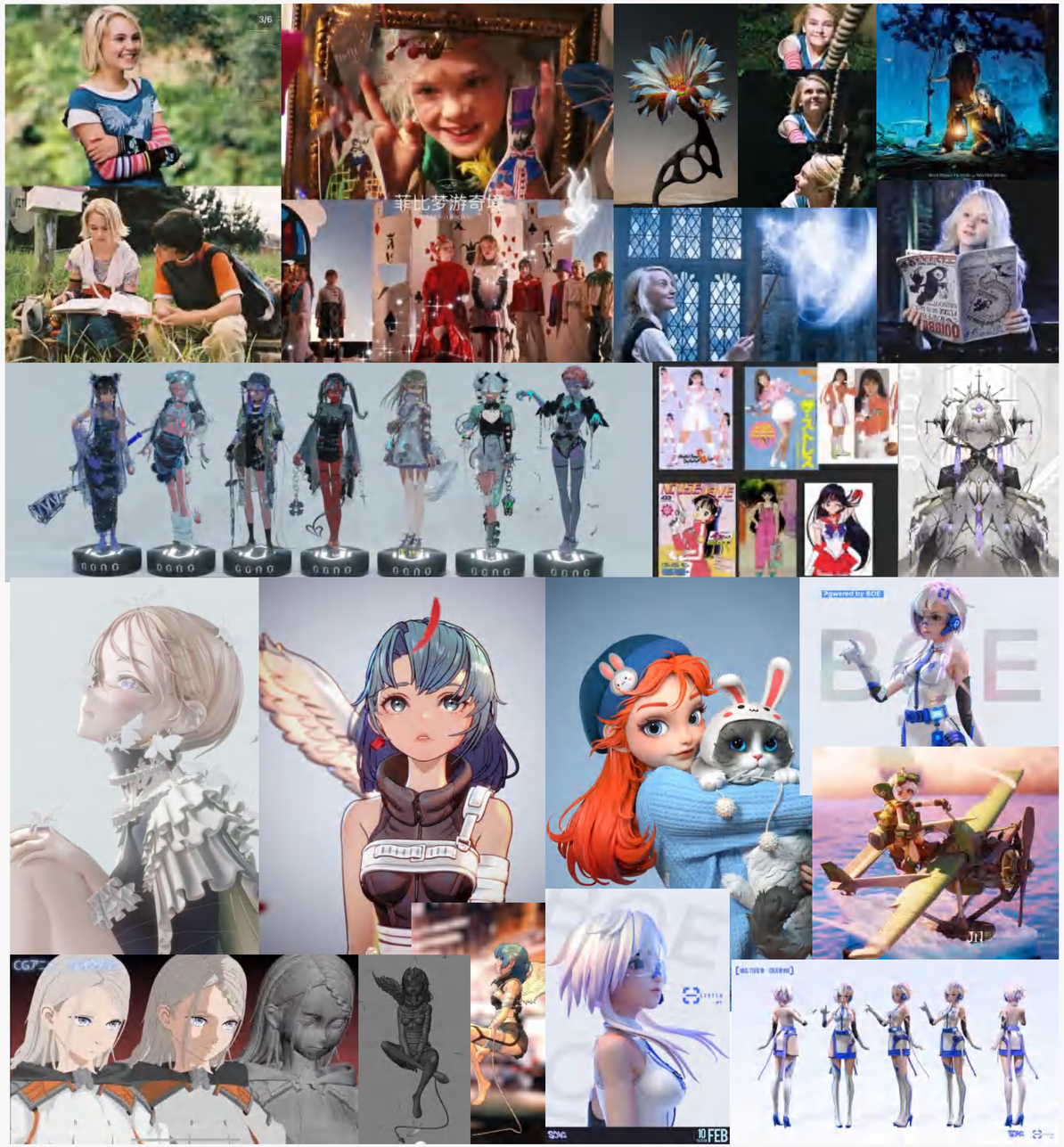




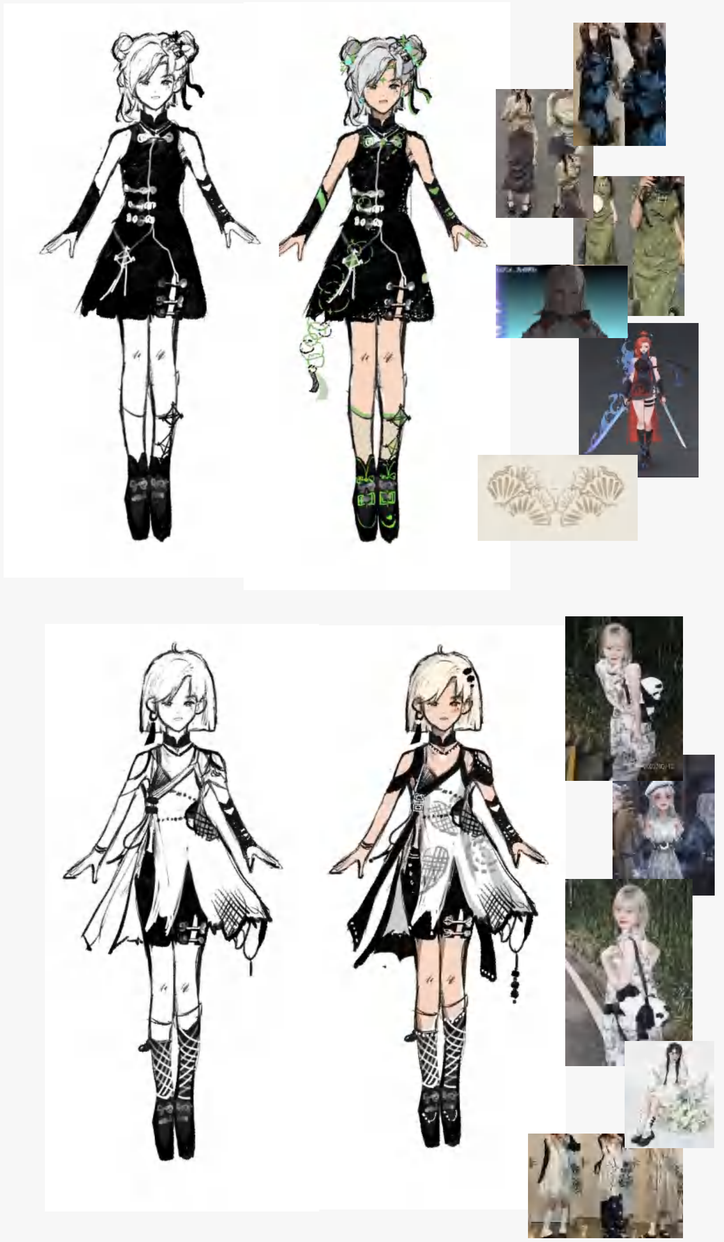


Term 3： Modifications to the character model

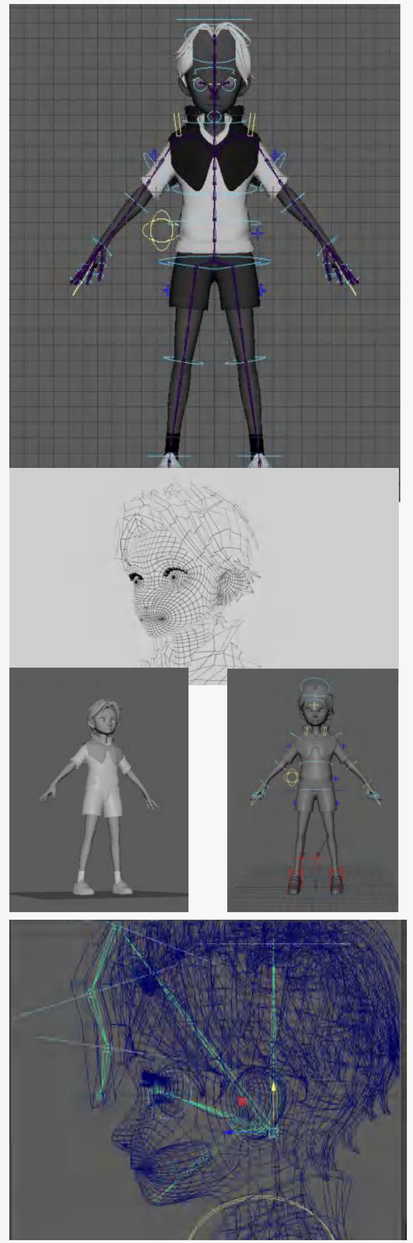
Image reference and two rendered materials (cartoon material for flaky hair, 3D realistic material made with xgen)



Second sketch (not the final design)

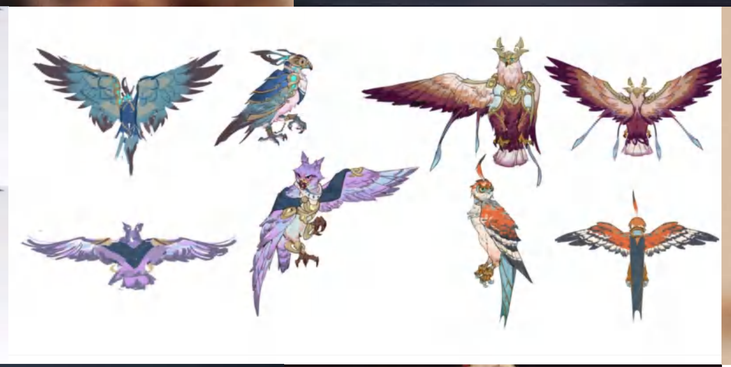
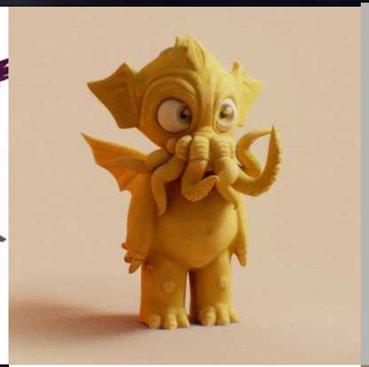


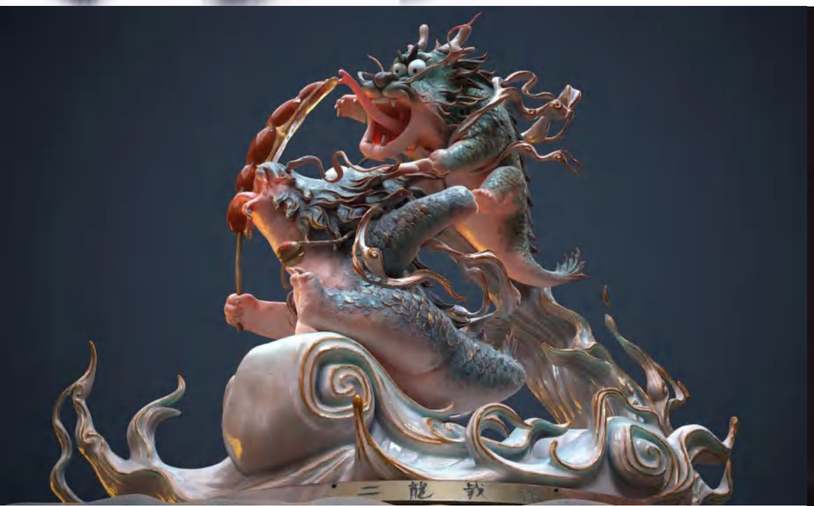
Current model (recreated clothes with Marvelous Designer)

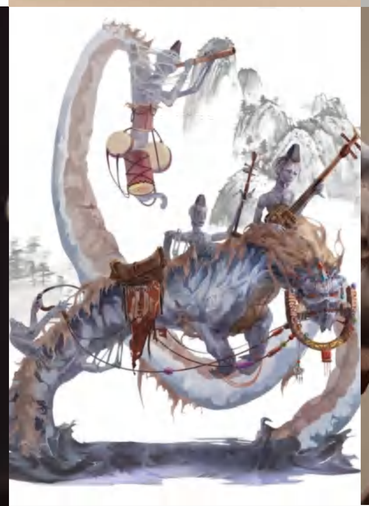
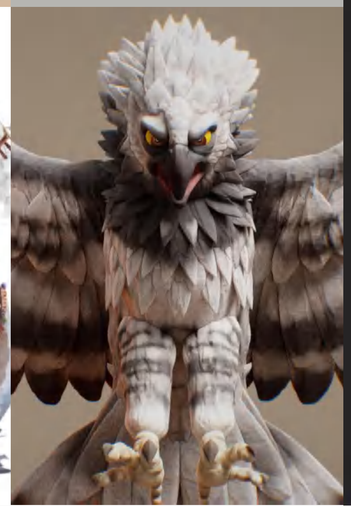






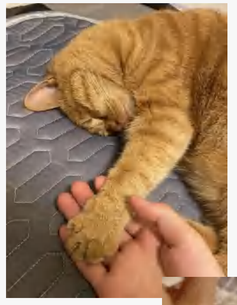



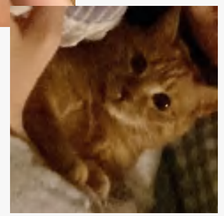



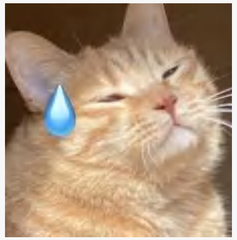



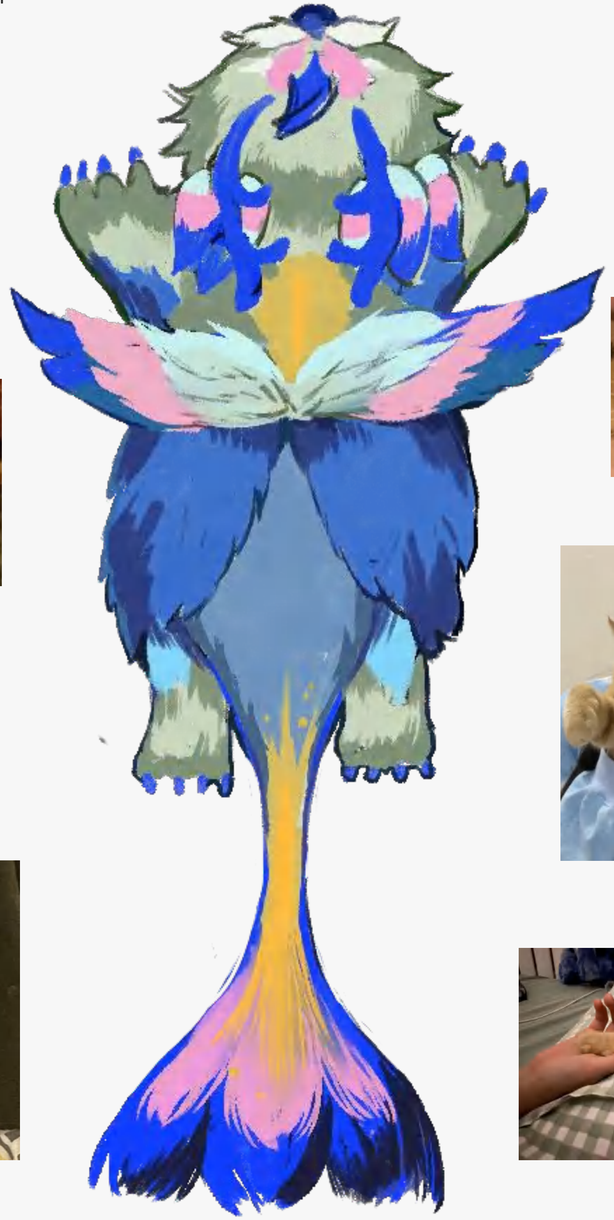
Creature character design

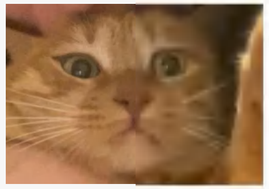
Personality: very lazy but very lively, loves colourful flowers and insects, likes to interact with the main character

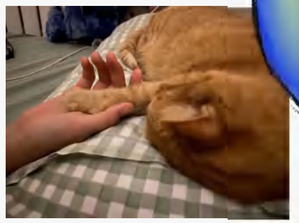






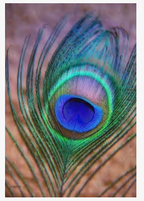


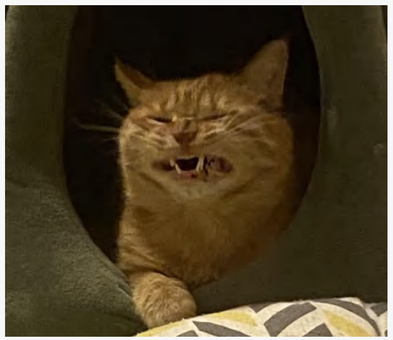


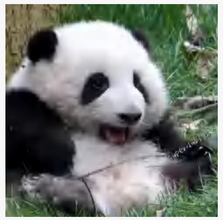


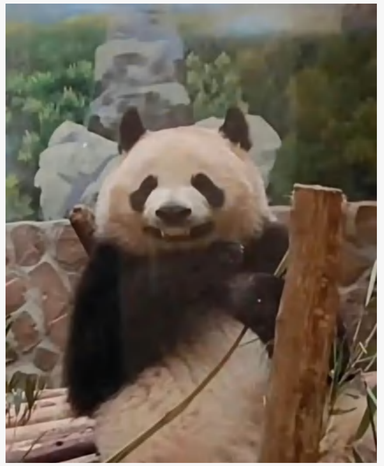
Reference for Creature design

Appearance: Has fluffy fur, looks like a dragon and a cat, a big beautiful tail and small furry wings
Habits: very panda-like, likes to float in the air and sleep often collects pretty flowers to give to people he likes





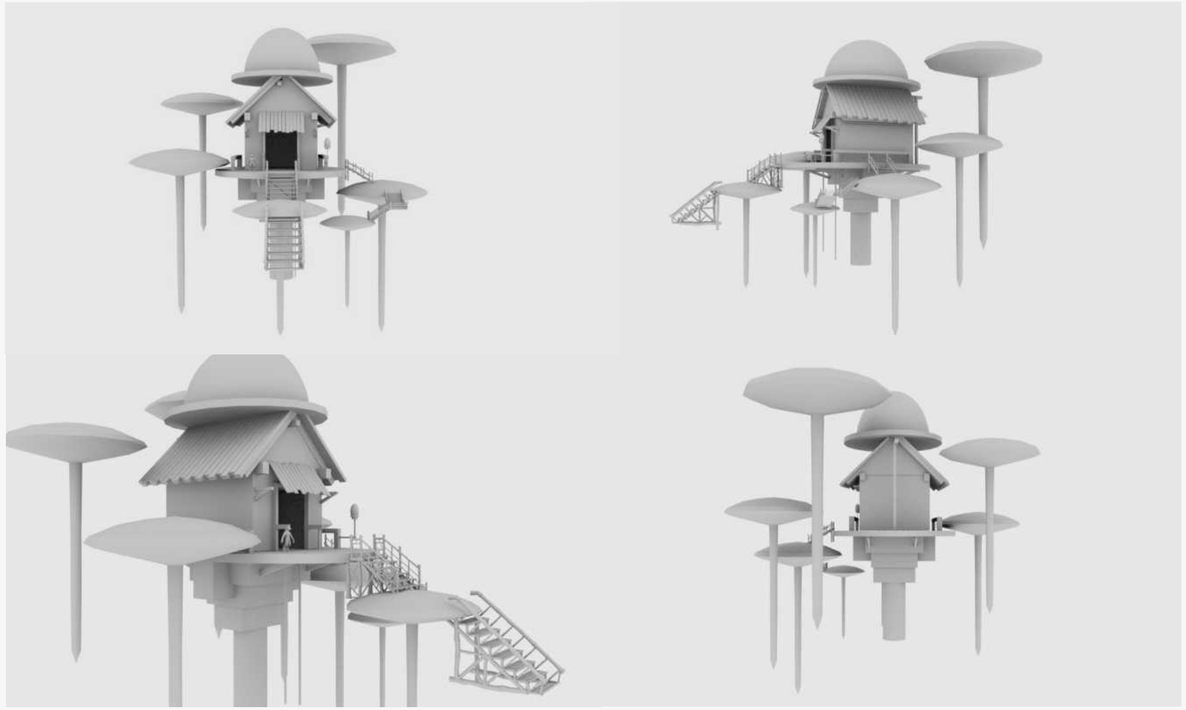


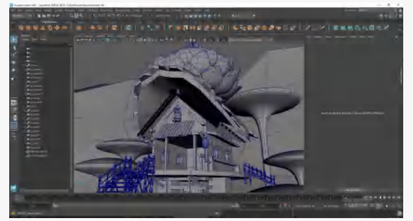


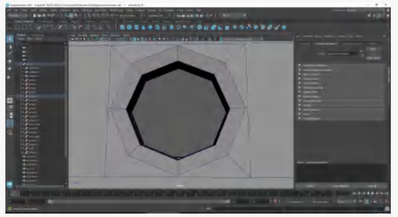
Environmental design

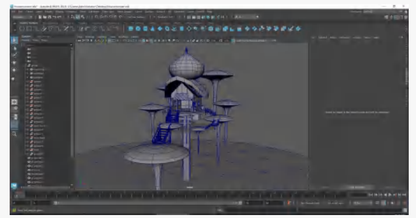
Objective of project 2:

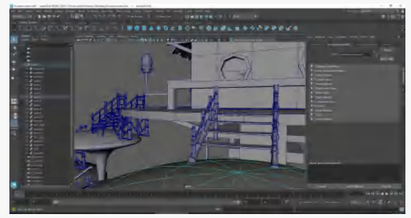
- To complete the animation final modeling\texture\rendering of the scene
- Create a 1 minute animated presentation of the scenery shot
- Revision of character and creature designs and complete model &texture

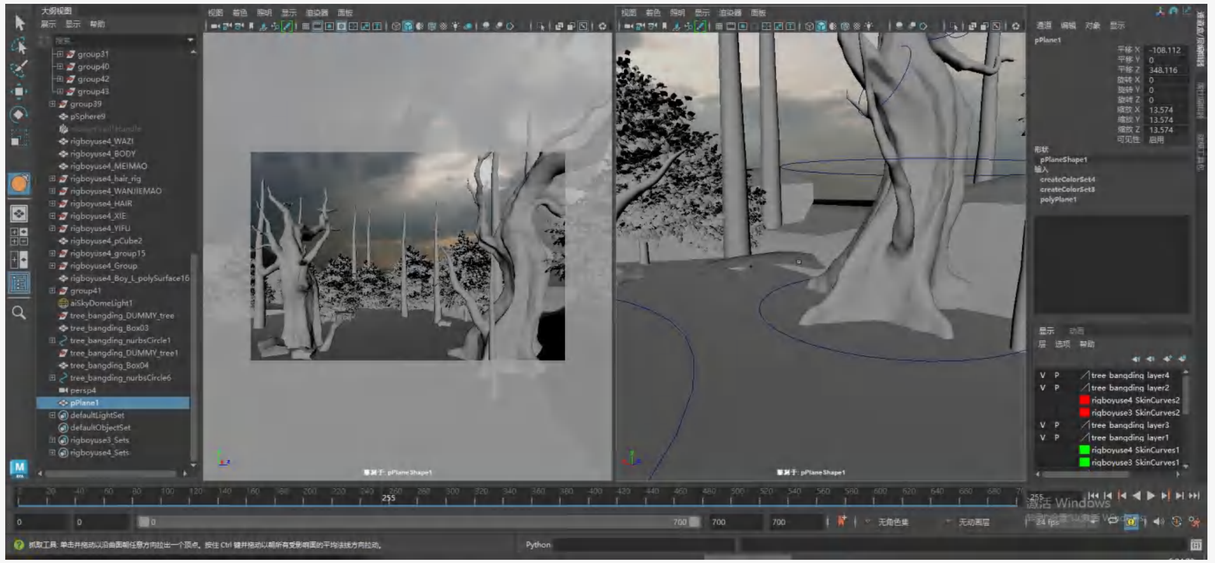


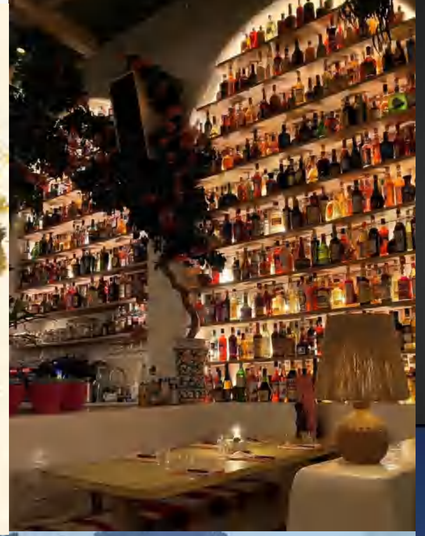













Select an annotation


EVERGREEN


SHOP

https://youtu.be/YipxR3dOTW0