

FPT UNIVERSITY

Ministry of Education and Training
FPT University

Oops

Capstone Project Presentation

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Hanoi, August 2018

Our Team

We are a group of students who are passionate about cinema, especially cartoon. Each member has their own specific pros and cons. In this project, we harmonize these differences to create a unique colorful movie.



Hoang Le Son



Nguyen Manh Phat



Luu Vinh Quang



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Problem Definition

- **Name of Project: “Oops !”**

- “Oops!” in English as well as “Úi”, “Ồi”, “Oái” in Vietnamese is a sound blurted when we get surprised or startled as we accidentally drop something or suddenly realise we have forgotten something.
- “Oops!” is also a short onomatopoeia, which is easy to pronounce and remember.

Problem Definition

- **Problem Abstraction:**

Nowadays, kids have the chances to access many technology products while playspaces become less in quantity and more crowded. The "press press", "poke poke" kinds of stuff provide more entertaining options but limit the kids' imagination in their smartphones or tablets. The current happiness is available things, which do not cost any afford to create their own games and playspaces.

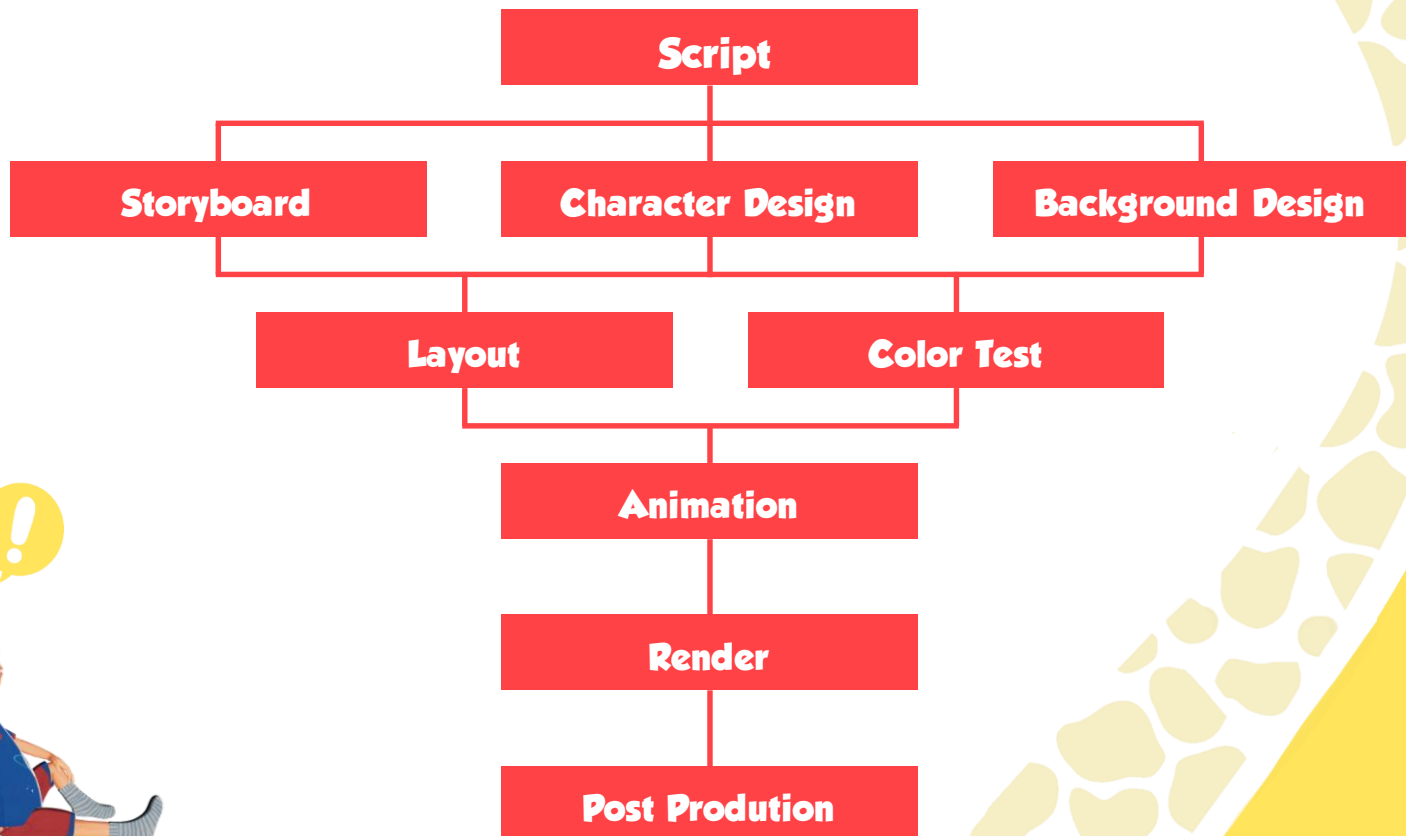
Project Overview

- **Idea:**

- There are 3 keywords that we insist to emphasise: **"Kids"**, **"Toys"** and **"Imagination"**
- "What do the kids have in their worldview?"

Project Overview

- Workflow:



- **Tools of Development:**



Script

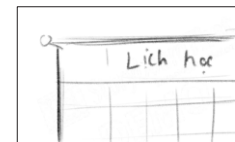
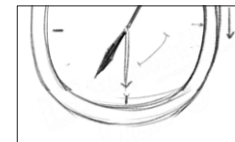
This is a story about Jack and the adventure in his fantasy world.



Storyboard & Layout

Layout 2D: House

In the dull morning atmosphere, the clock took each moment heavily. The light from the window illuminated the framed commendations on the wall.



Jack was struggling with his breakfast when his mom cleaned up the house before going to work. No longer did his mom leave for work than he rushed into his room.



Layout 2D: Kitchen



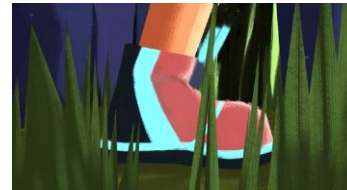
Layout 2D: Desert



That the door disappeared brought Jack to a vast desert of his fantasy world. His adventure began.



Right when he got there, he recognized that his toy, Moemo, was being bullied by an enormous robot. The robot was raising his gun toward Moemo.

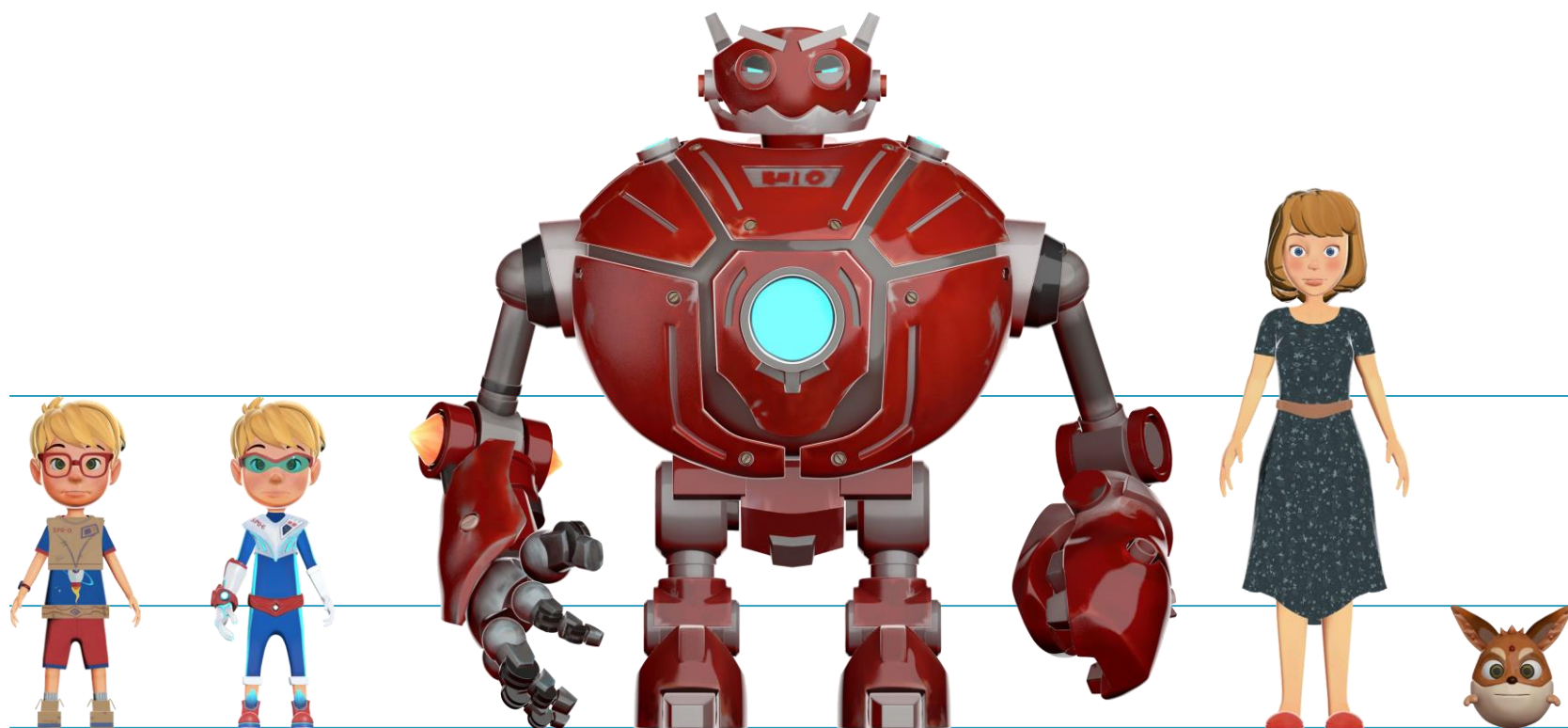


Both felt fortunate for escaping successfully. They ran swiftly through the purple jungle and slipped off the towering hill.

Layout 2D: Forest

Characters **Design**

Size Comparison Chart



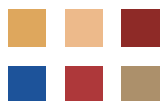
**Jack
(reality)**

**Jack
(fantasy)**

Robot

Mom

Moemo



An illustration showing the hands and forearms of two characters shaking hands. The character on the left has a blue and white robotic arm with a red joint and a glowing blue light. The character on the right has an orange, segmented, mechanical arm. Both characters have blonde, spiky hair. The background is plain white.

JACK

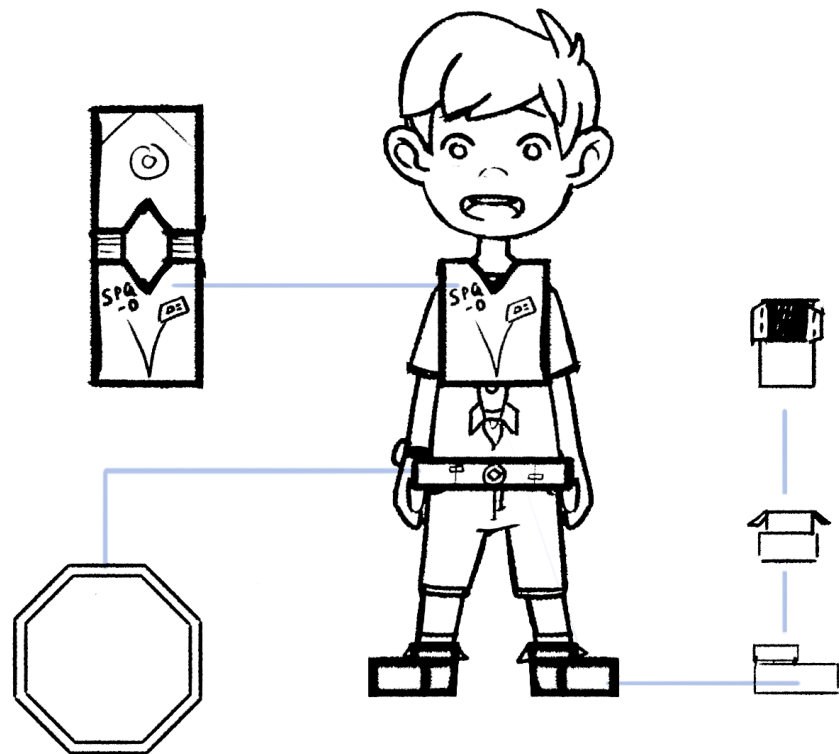
Jack is a playful and adventurous kid. Though, he has to get rid of himself to meet the demand of his family such as education, marks, achievements, etc. The only moment he has a chance to be himself is when his mom leaves him home alone to go for work.



2D concept

Reality mode

Carton armor: A stuff is invented when his mom is not home. It is hidden in the wardrobe. In the fantasy world, it appears to be a luxury armor.



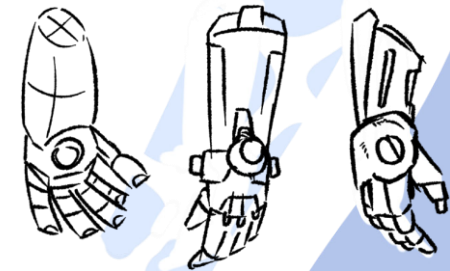
Armor: It is composed of imaginary components. The power flowing inside it not only interacts with the Jack's spirit but provides energy to his gloves and combat boots also.

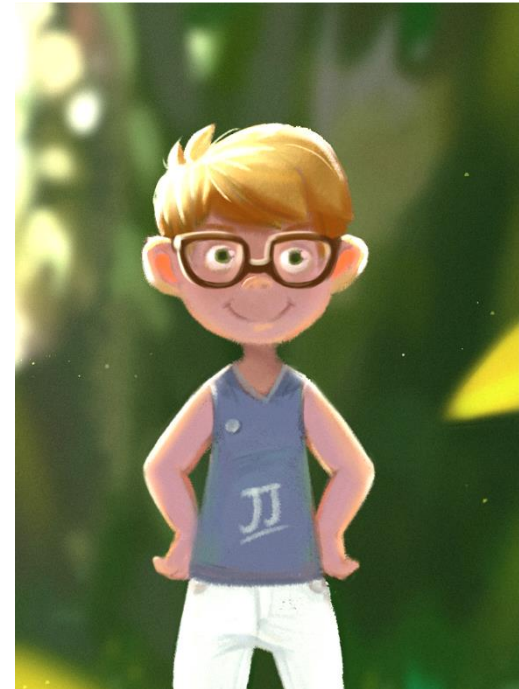
Combat boots: It can speed up when moving and use the energy from the armor to produce extremely high jumps.



Fantasy mode

Gloves: They use the spiritual energy from the armor, which is released by the character's spirit.





INTRODUCTION

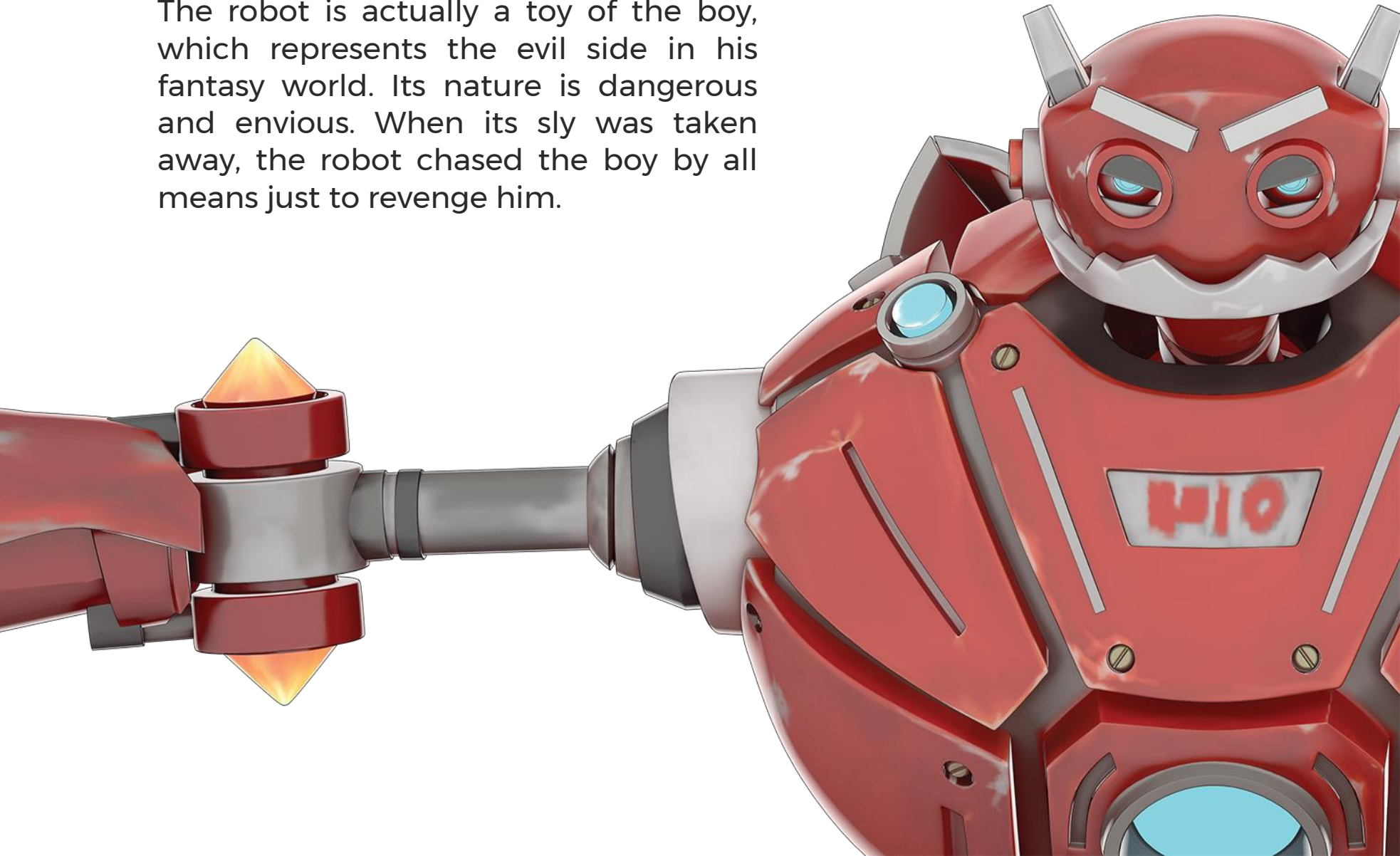
PRE-PRODUCTION

PRODUCTION

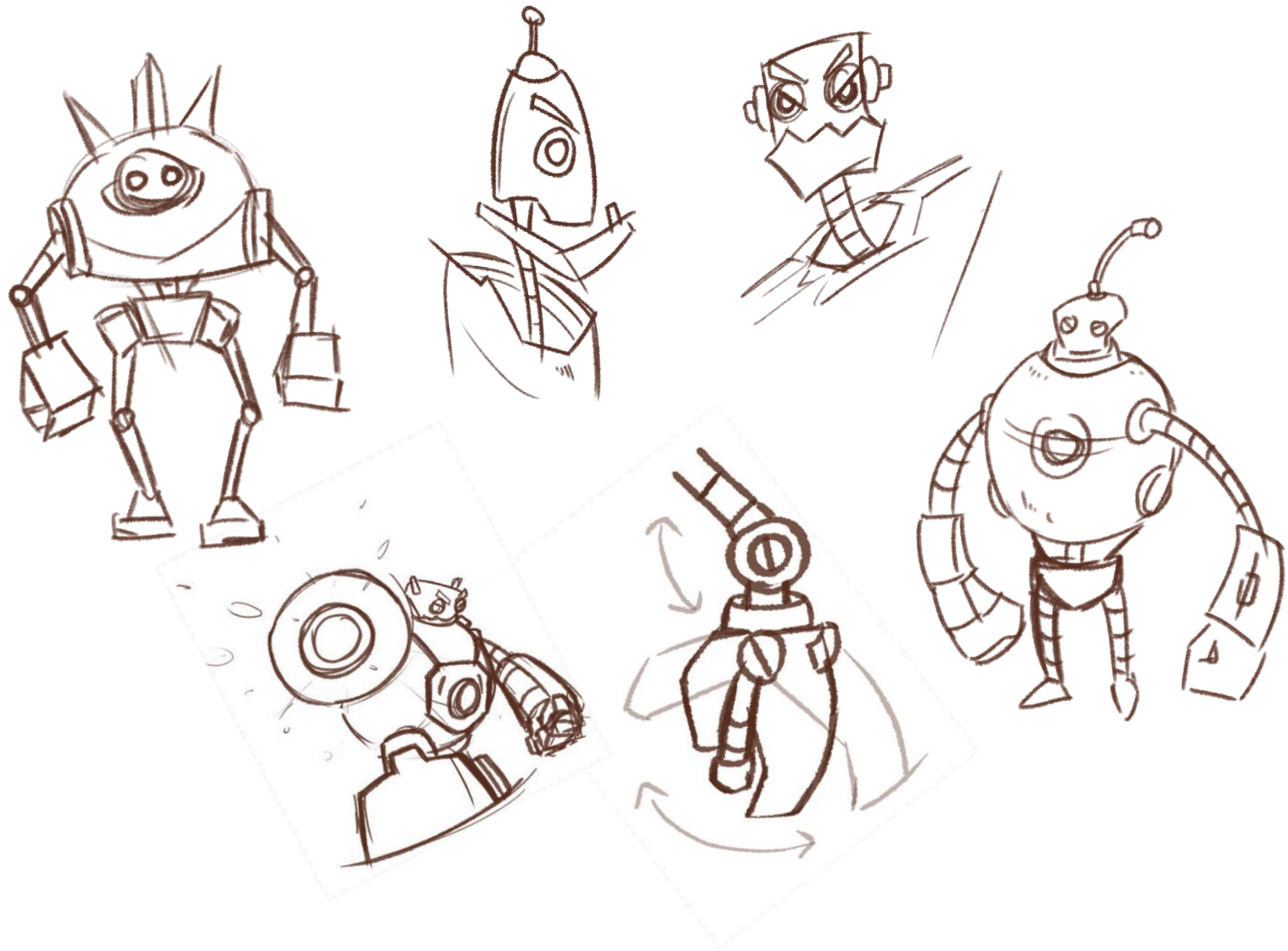
POST PRODUCTION

ROBOT

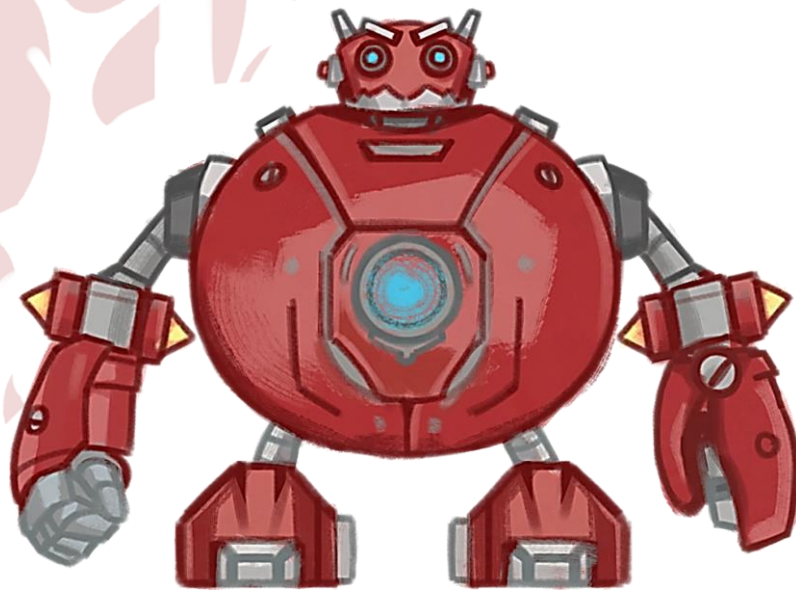
The robot is actually a toy of the boy, which represents the evil side in his fantasy world. Its nature is dangerous and envious. When its sly was taken away, the robot chased the boy by all means just to revenge him.



2D concept



2D concept



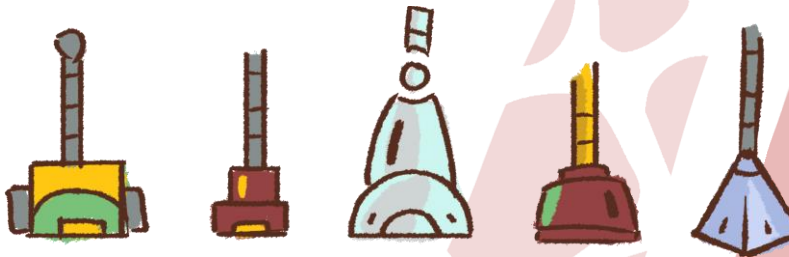
Core



Hand



Foot



Power source: It is rooted from the extreme energy source so that it can work tirelessly.

Right arm: After the other hand was cut, the power is concentrated on his right arm. That makes it extraordinarily powerful.

Left arm: It was cut in a battle then fixed to be a gun-hand which is able to shoot powerful blue ray.

2D concept

MOEMO



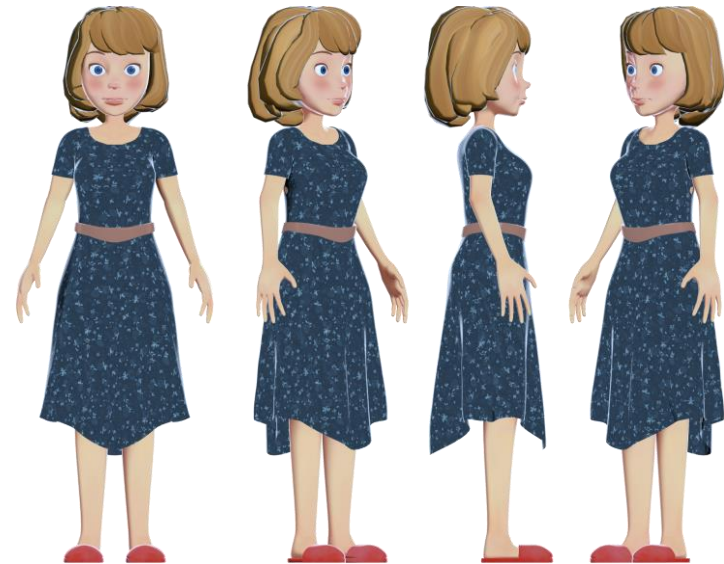
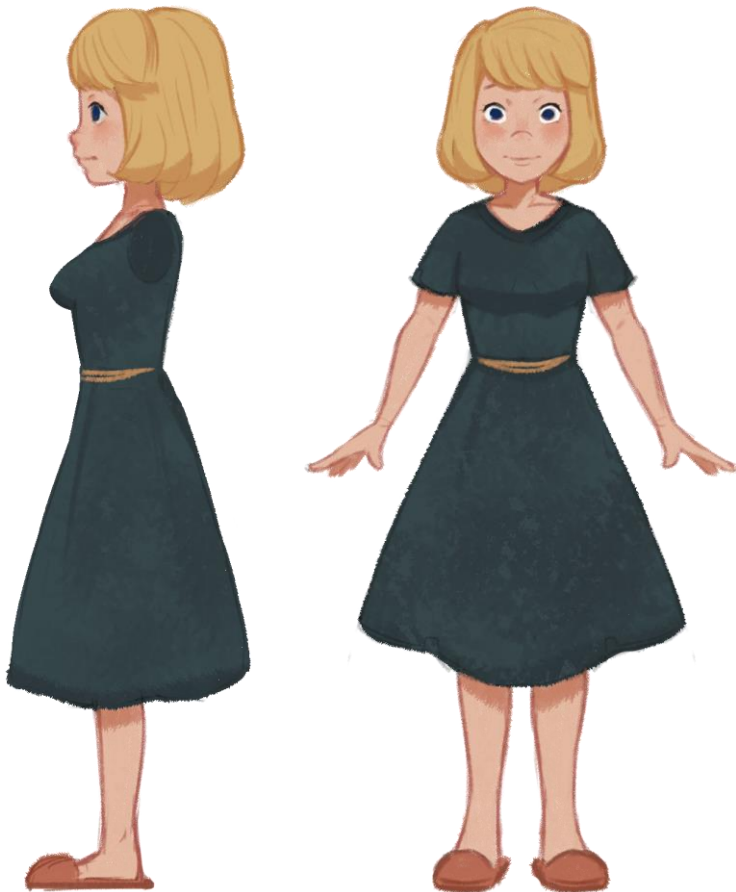
Moemo is another toy of the boy then becomes a character in his adventure. Although its body looks tiny and weak, it has a strong willpower. In the emergency, the tiny creature is willing to protect its master without hesitate.

3D modeling



2D concept

Jack's mom loves him and has many expectations for her child. Although they are all the best wishes for the boy, his mom's expectations are not what he truly wants in life.



3D modeling

“

Animators
can only draw
from their own
experiences of
**pain and shock
and emotions.**

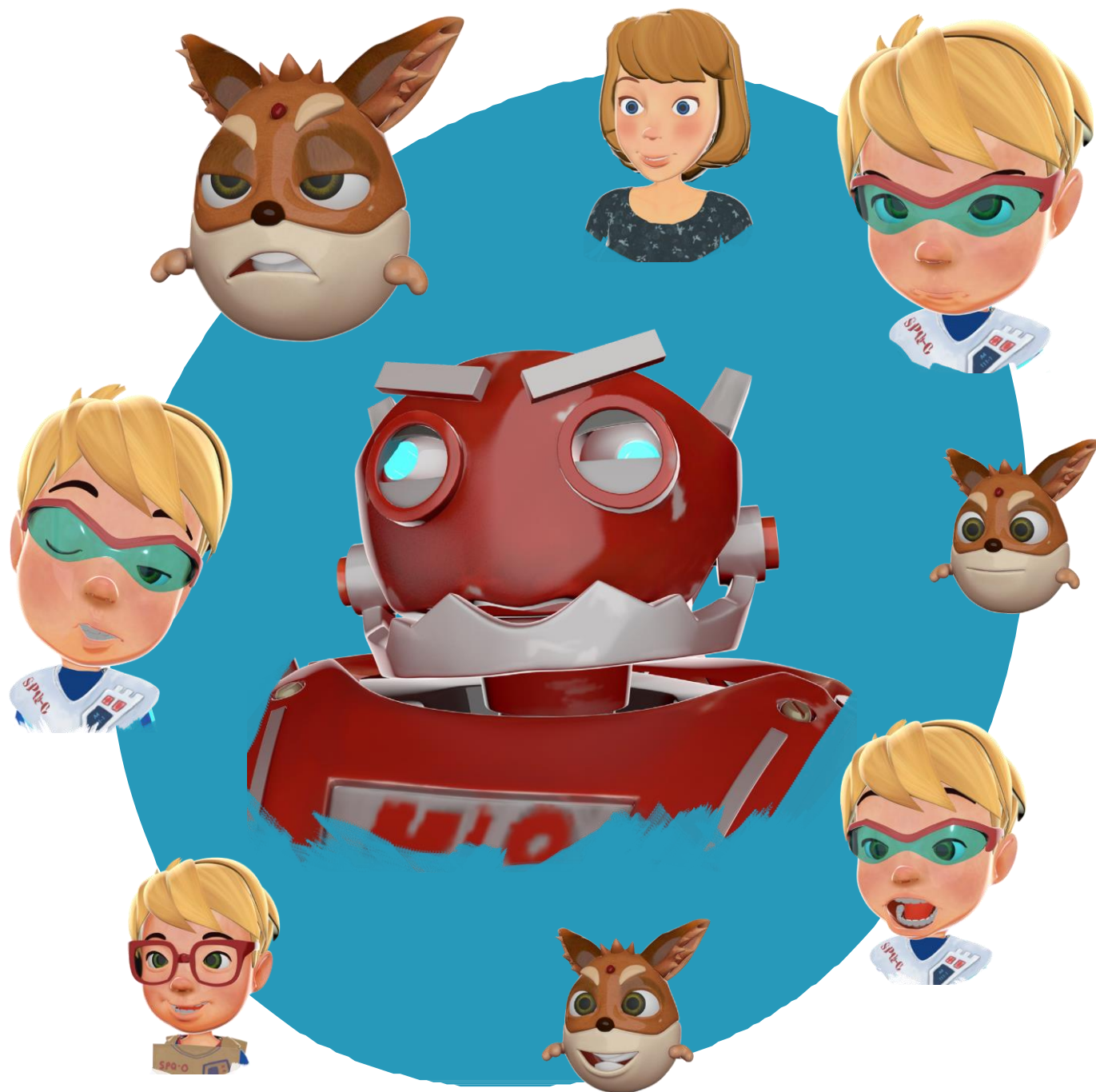
– Hayao Miyazaki –

”

- **Facial Expressions**







INTRODUCTION

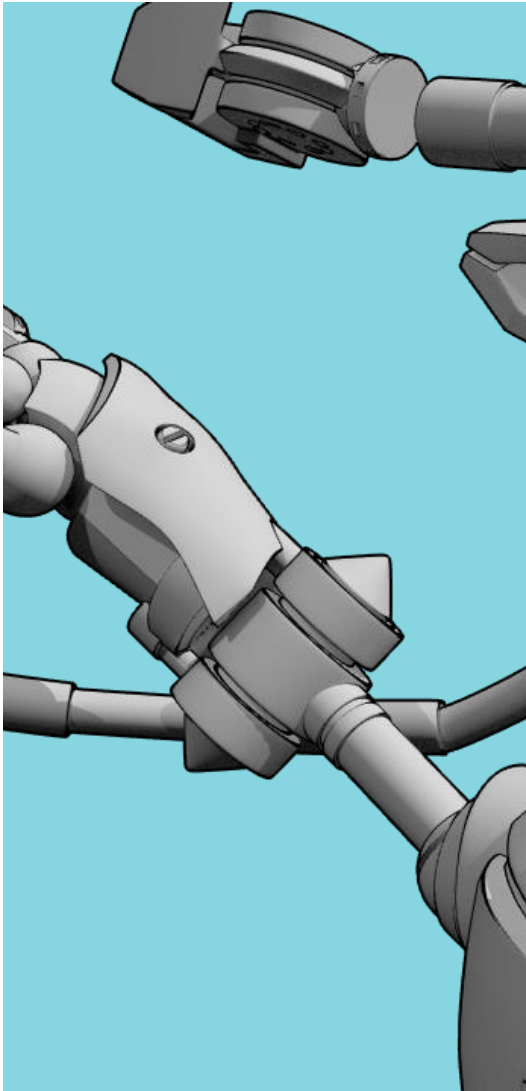
PRE-PRODUCTION

PRODUCTION

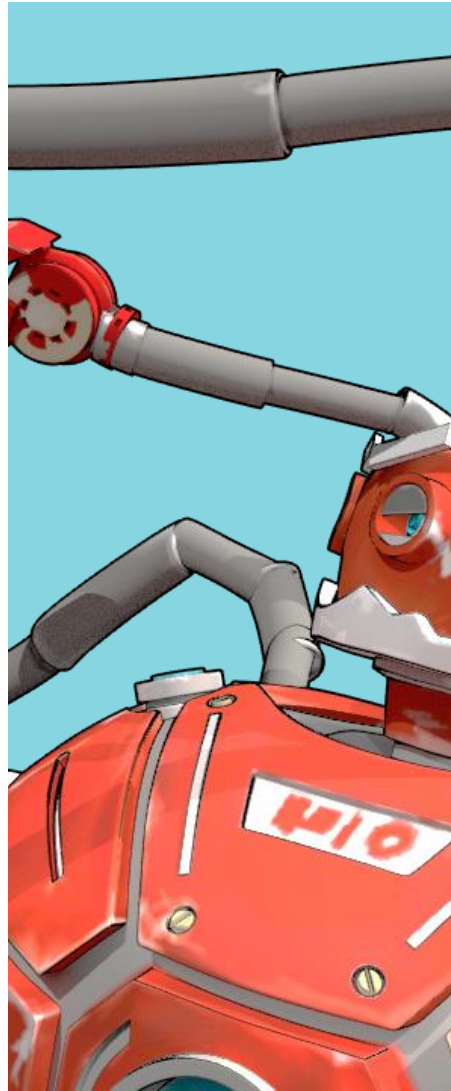
POST PRODUCTION

3D Character

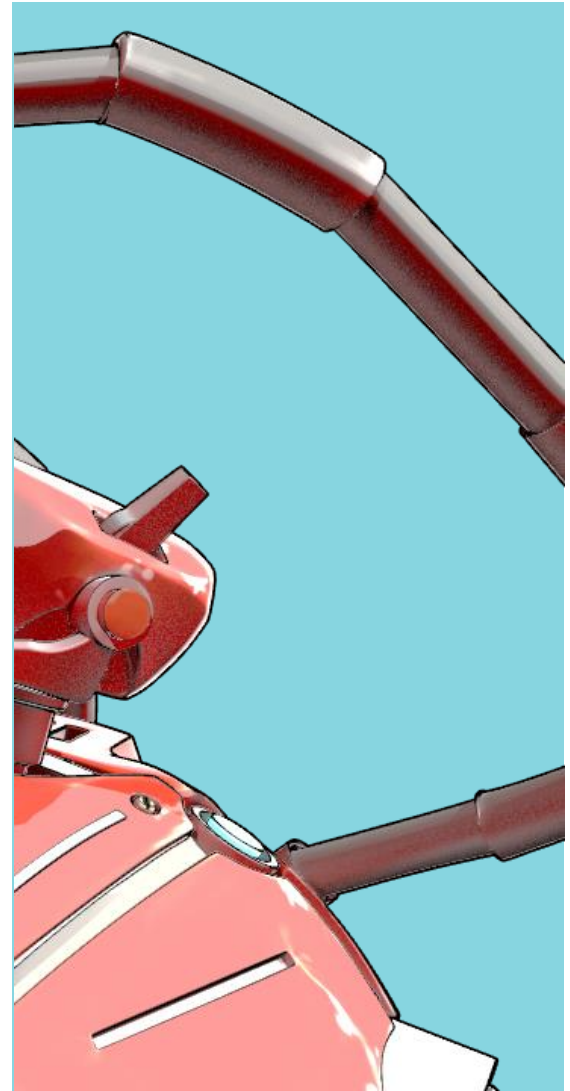




Modeling



Texturing



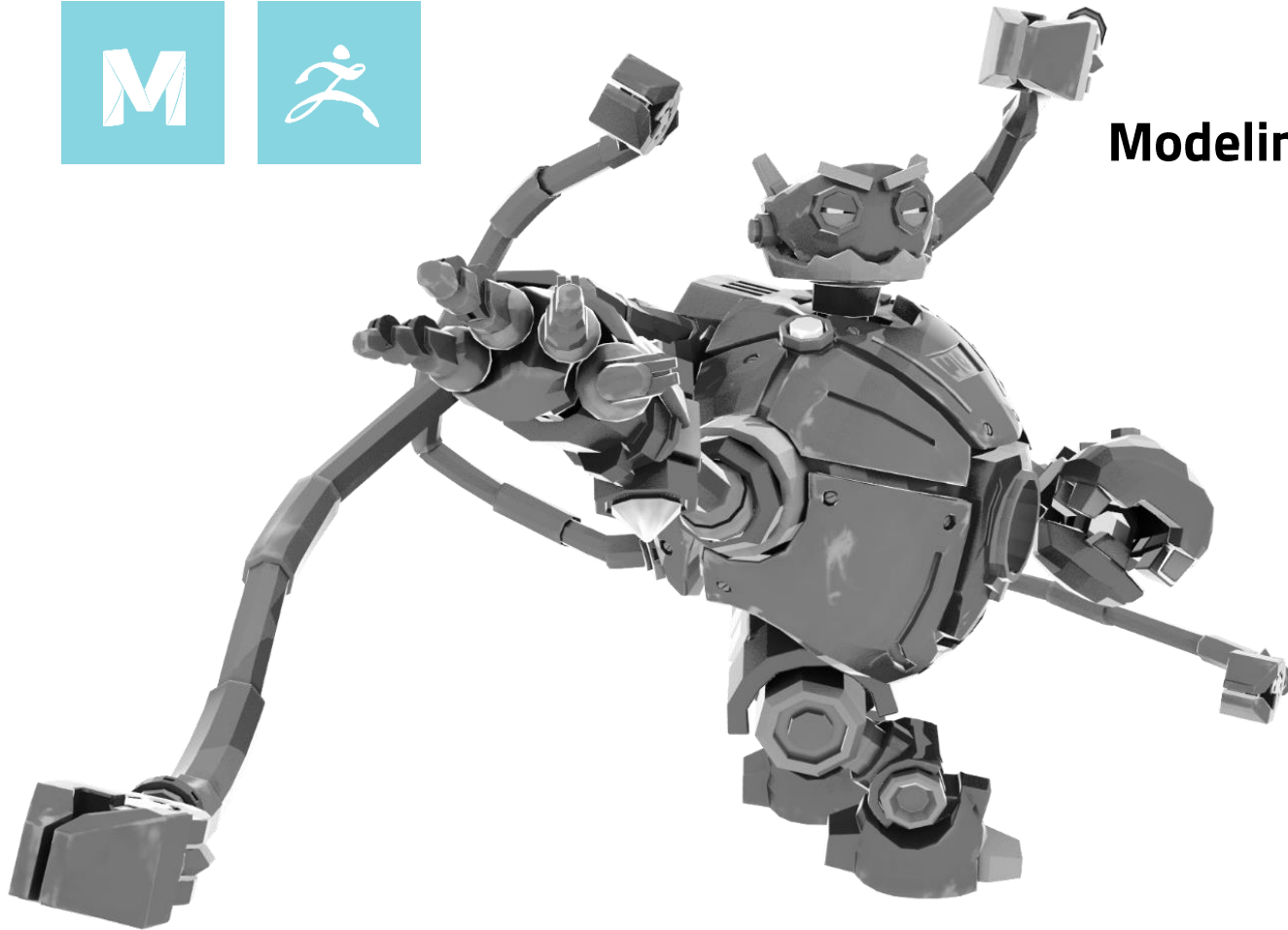
Shading

3D Character

M



Modeling

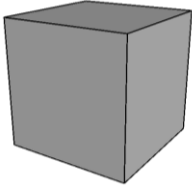
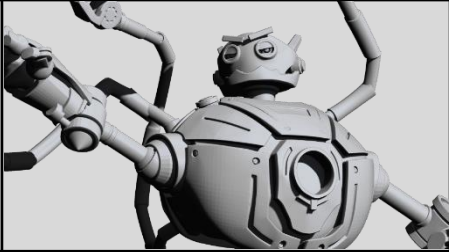
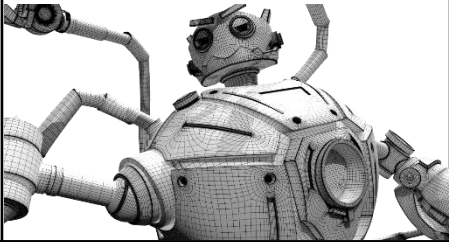
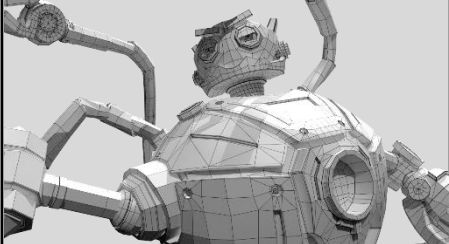


INTRODUCTION

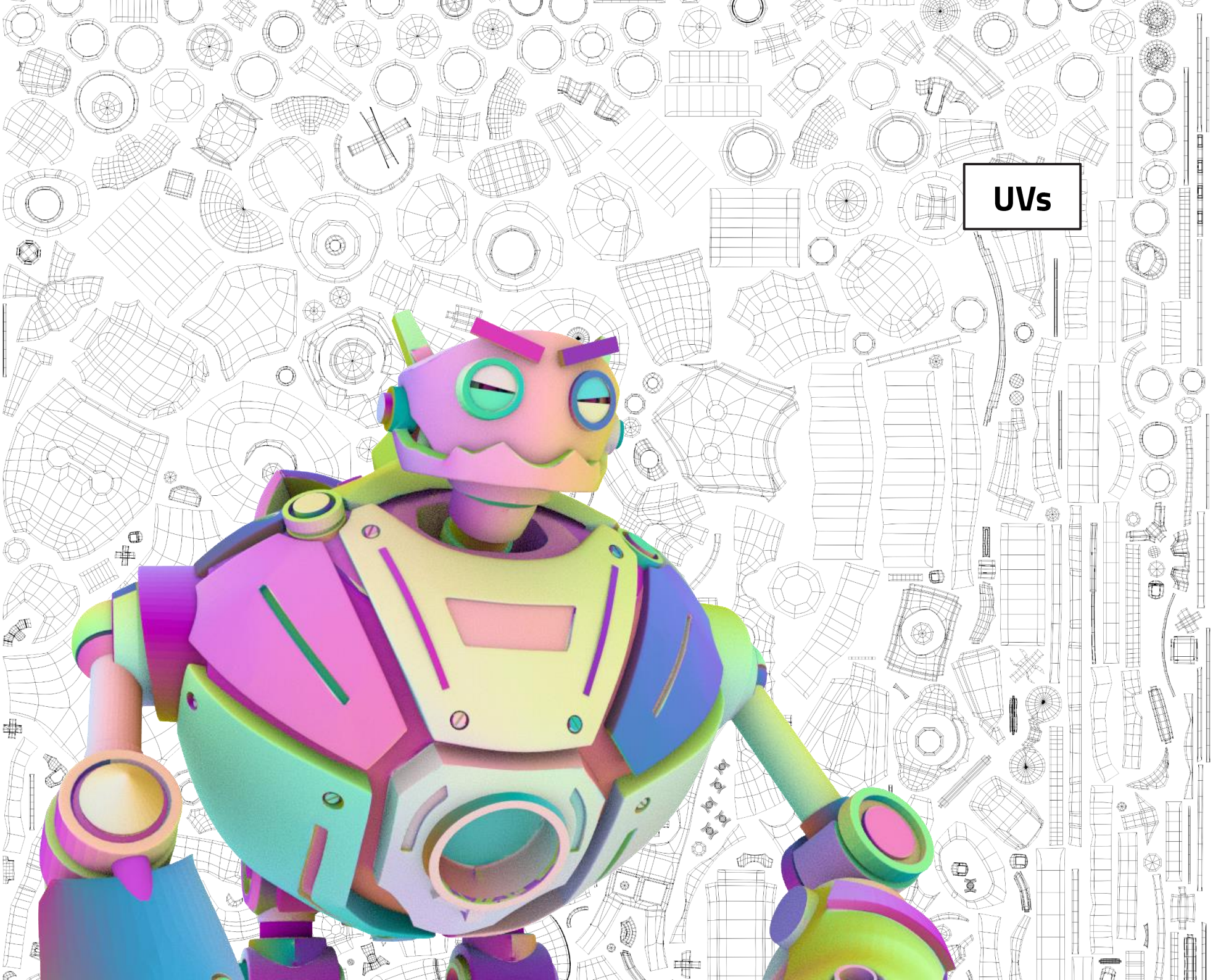
PRE-PRODUCTION

PRODUCTION

POST PRODUCTION

Type	Preview	Vertices	Edges	Faces
Cube		8	16	6
High poly (Zbrush)		2,803,510	5,700,688	2,806,784
Low Poly (Zbrush)		718,853	1,435,688	717,024
Low Poly (Maya)		45,033	90,038	45,198

UVs



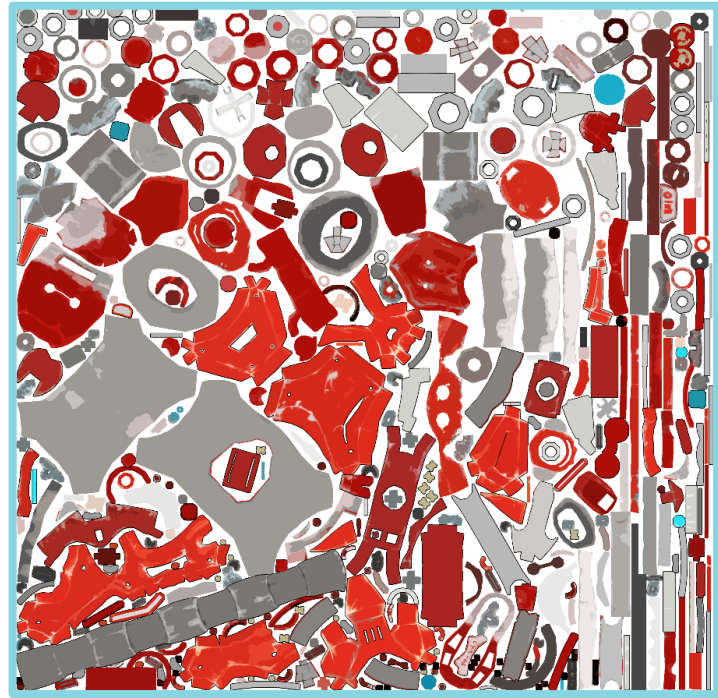


3D Character

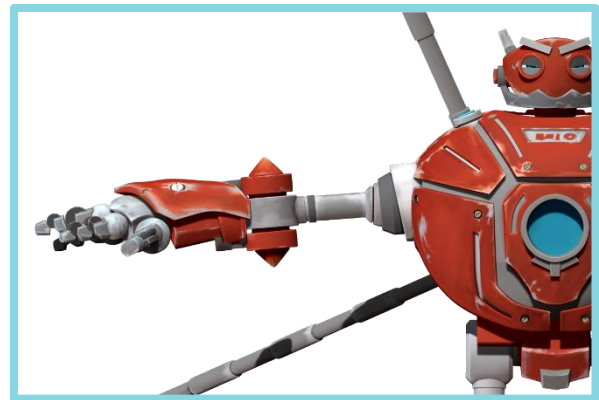
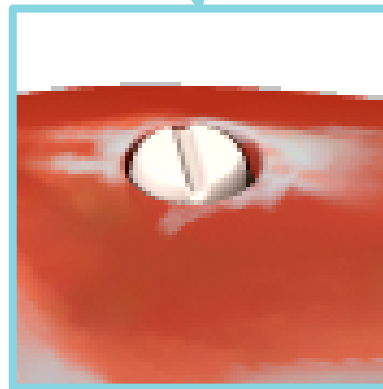
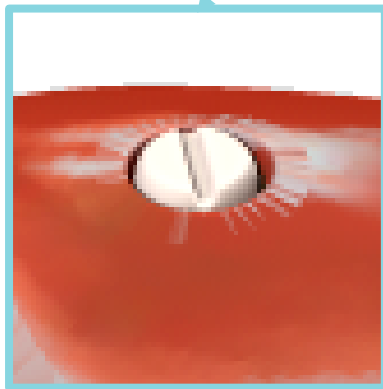
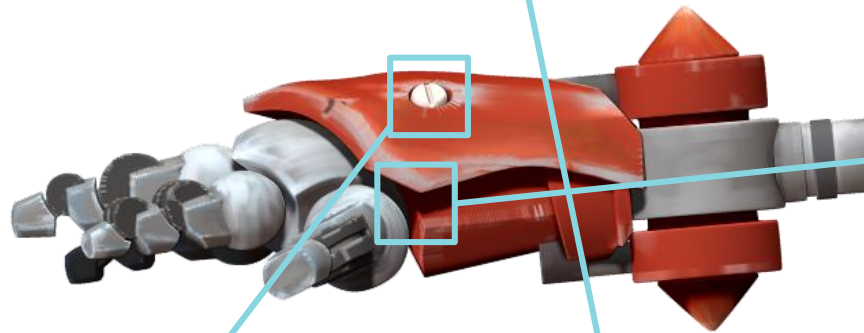
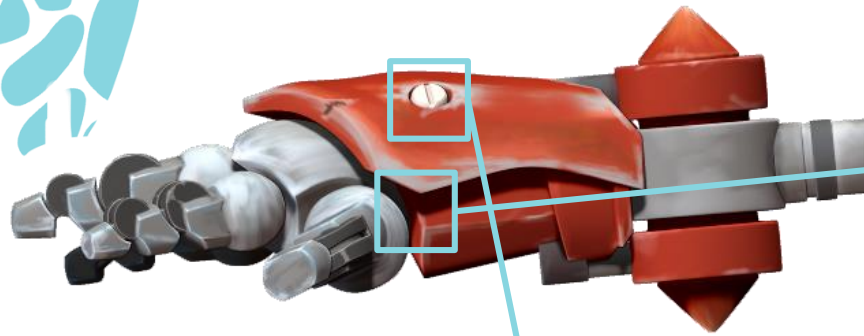
Texturing



Direct



Indirect



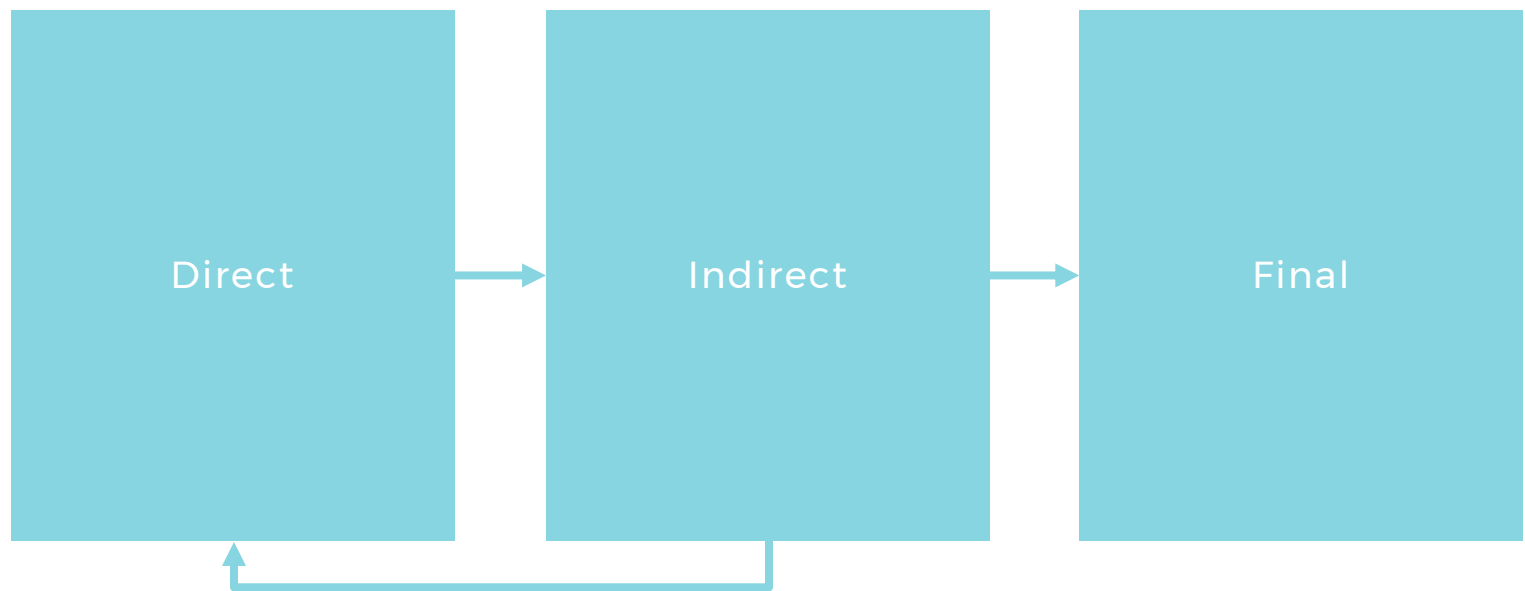


INTRODUCTION

PRE-PRODUCTION

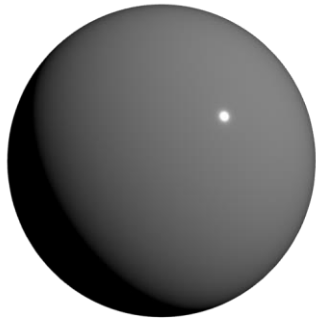
PRODUCTION

POST PRODUCTION

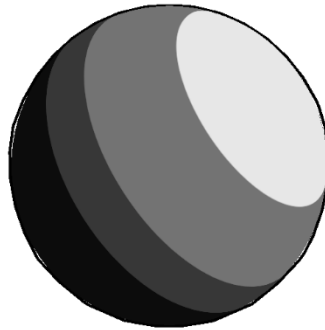


3D Character

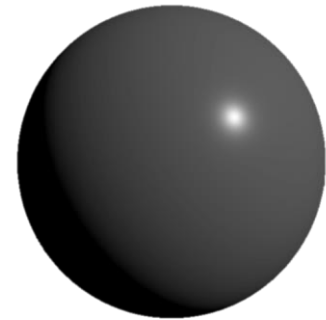
Shading



aiStandard Surface



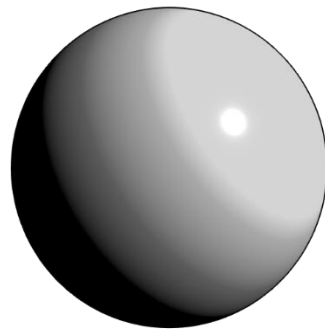
Toon Shader



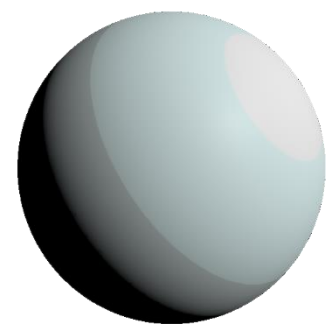
Phong Shader



aiUtility



aiToon



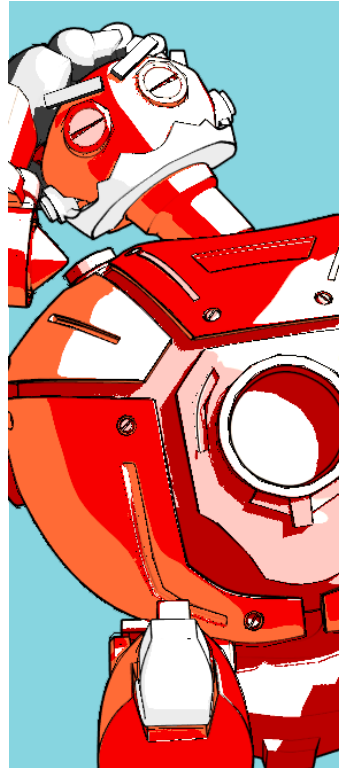
Ramp Shader



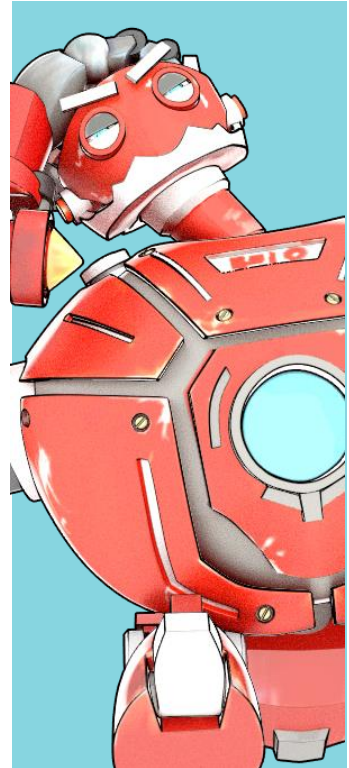
Lambert



aiStandard Surface



Toon Shader



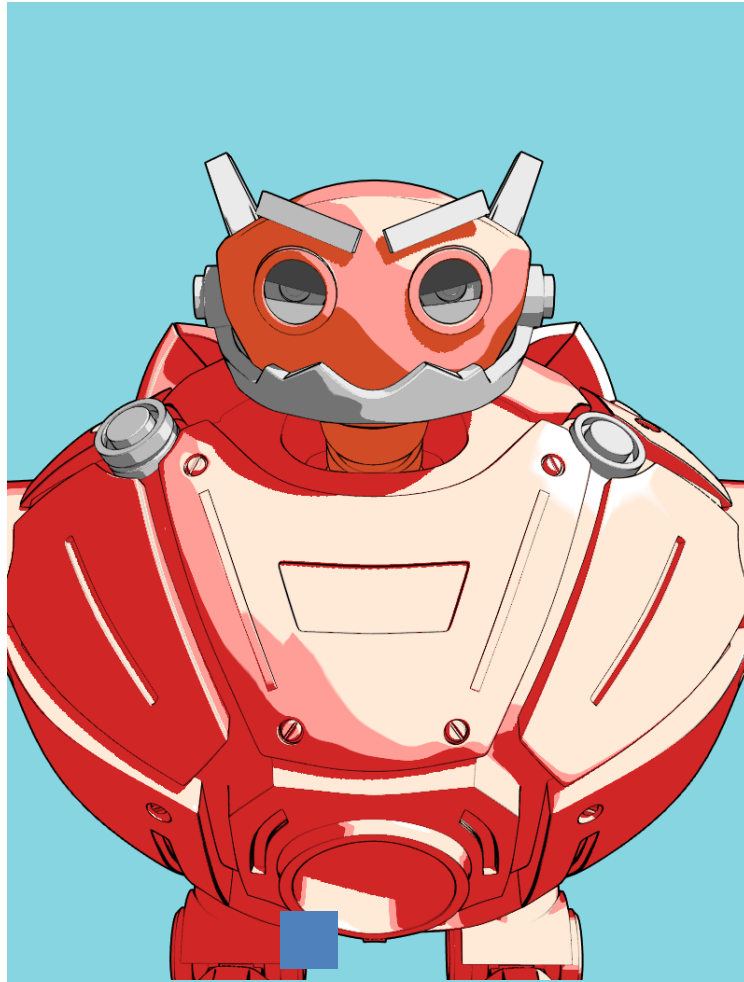
aiToon



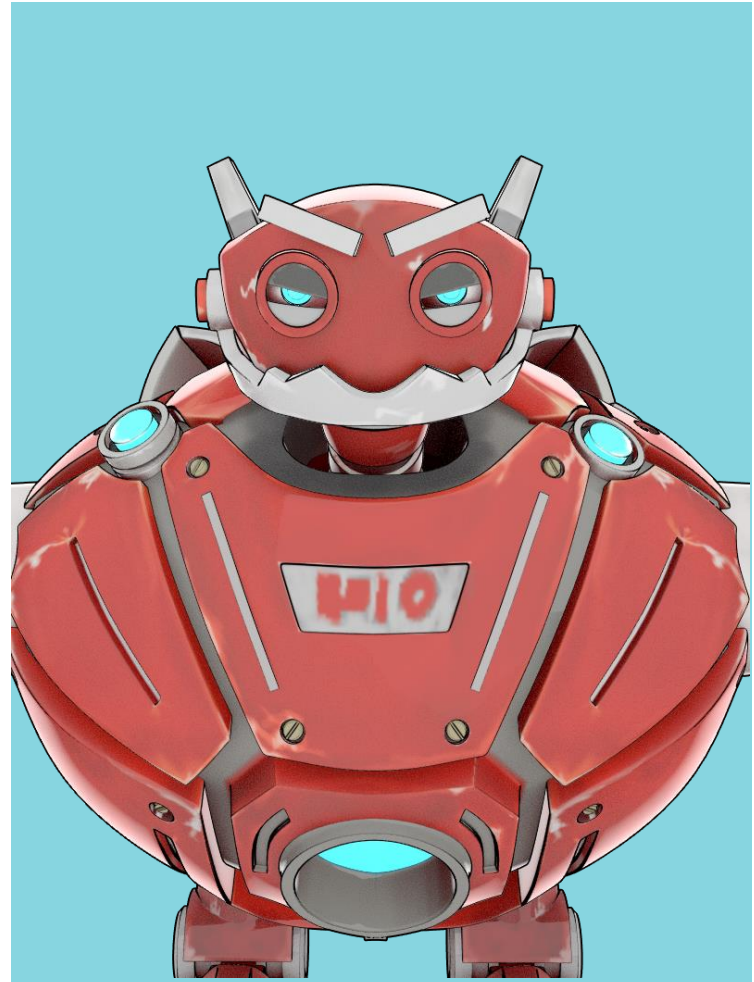
Lambert



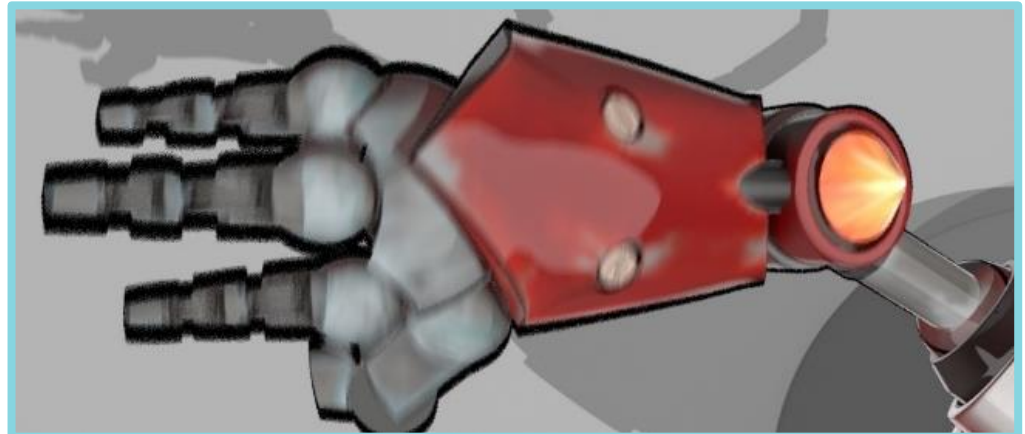
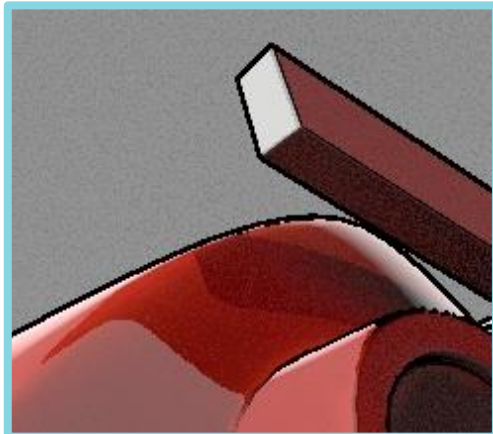
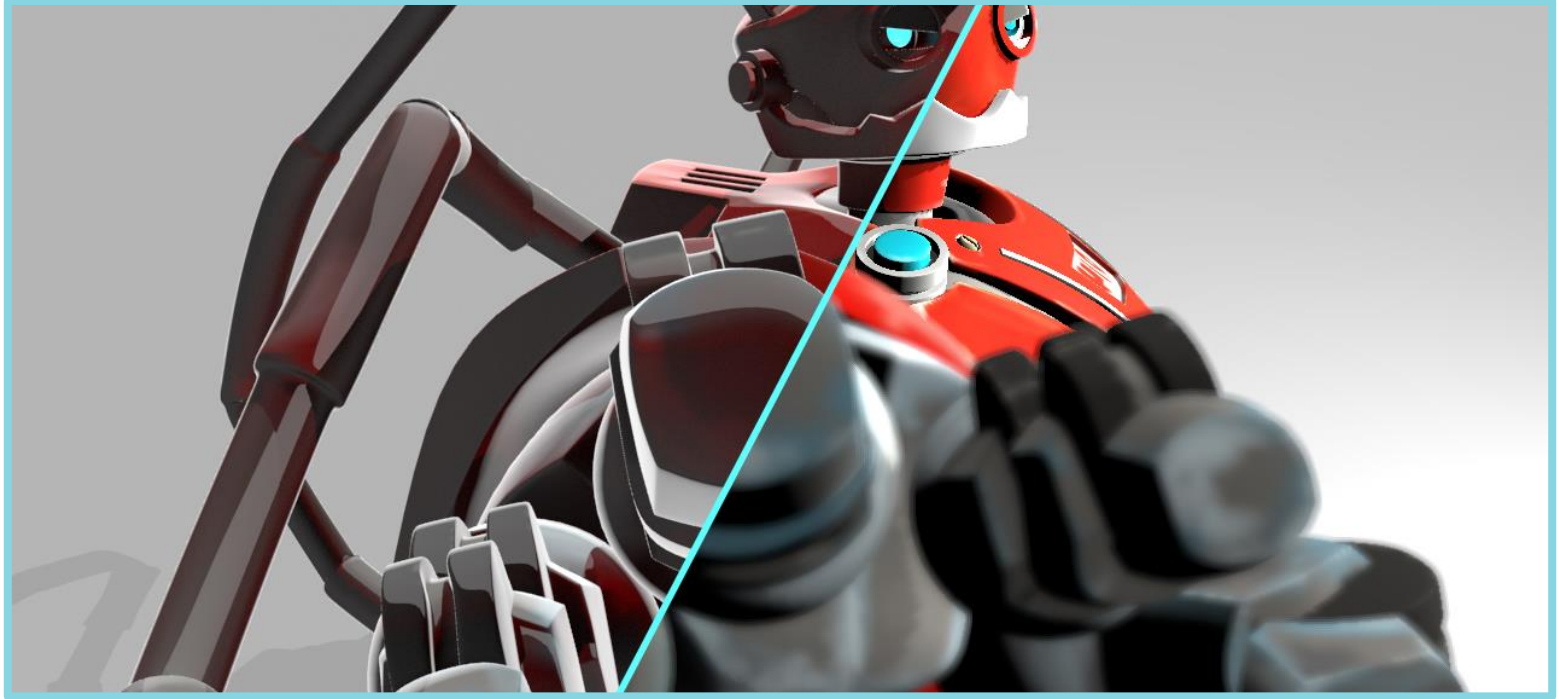
aiStandard Surface



Toon Shader



aiToon



INTRODUCTION

PRE-PRODUCTION

PRODUCTION

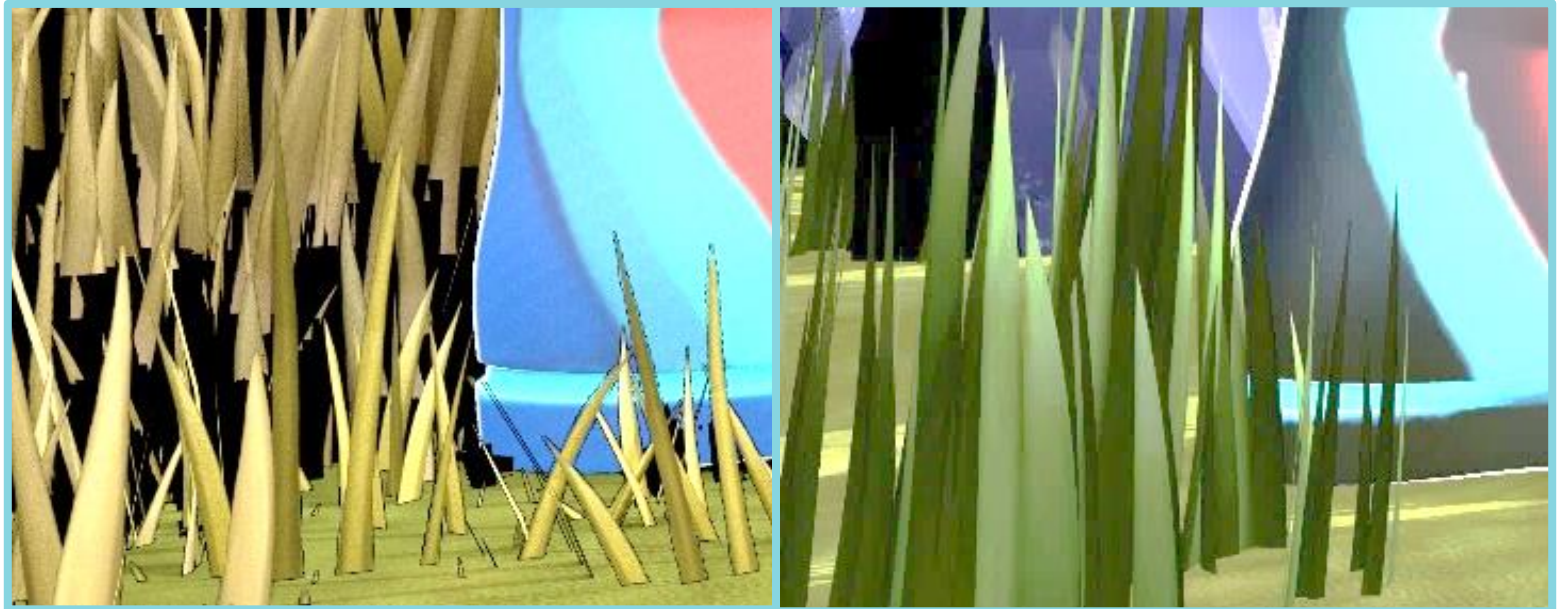
POST PRODUCTION



3D Background



2D > 3D: House

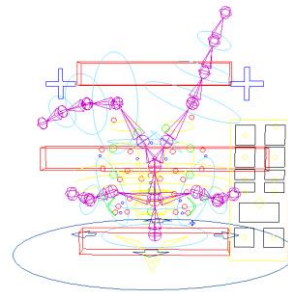
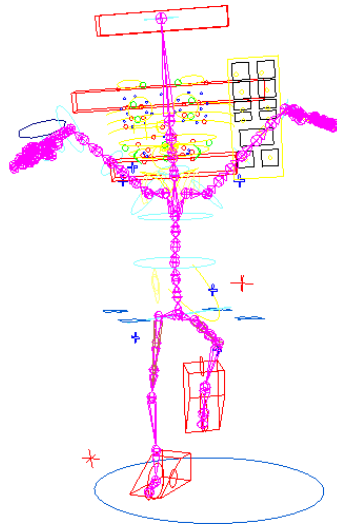


2D > 3D: Grass

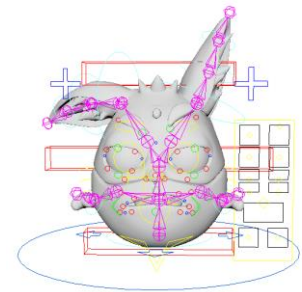
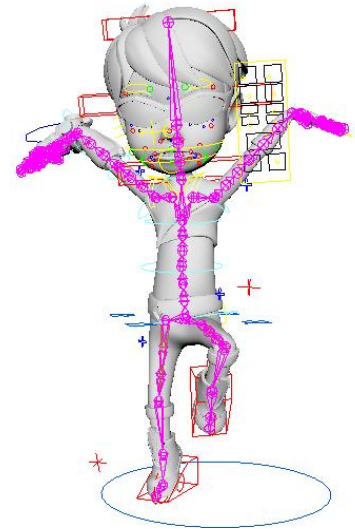
Rigging



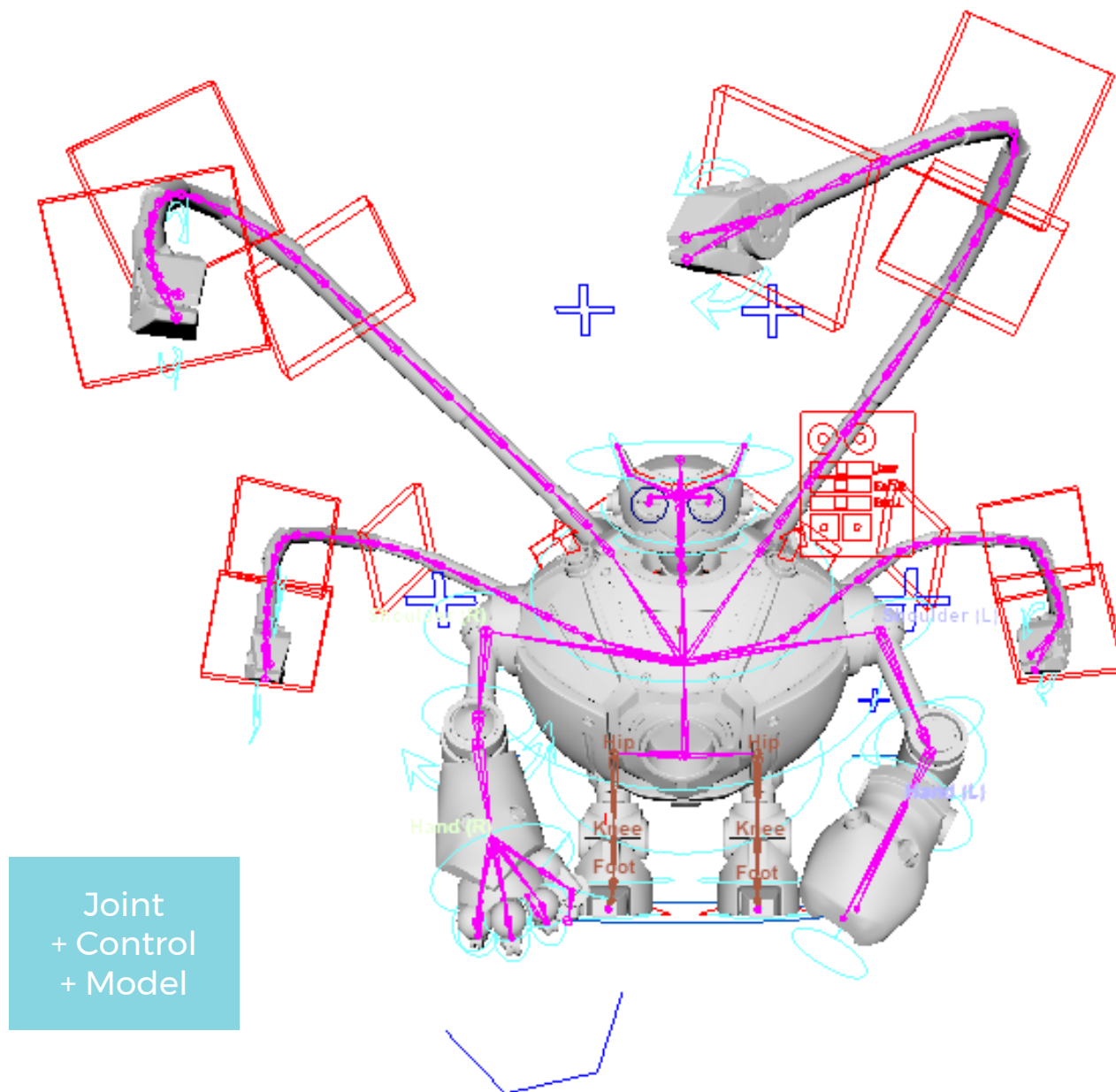
Joint



+ Control



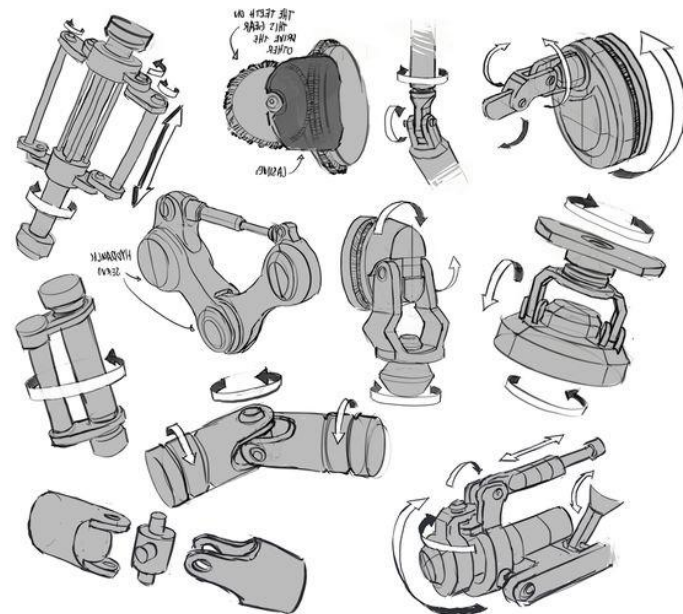
+ Model



Character Animation



Moemo: Squash and stretch

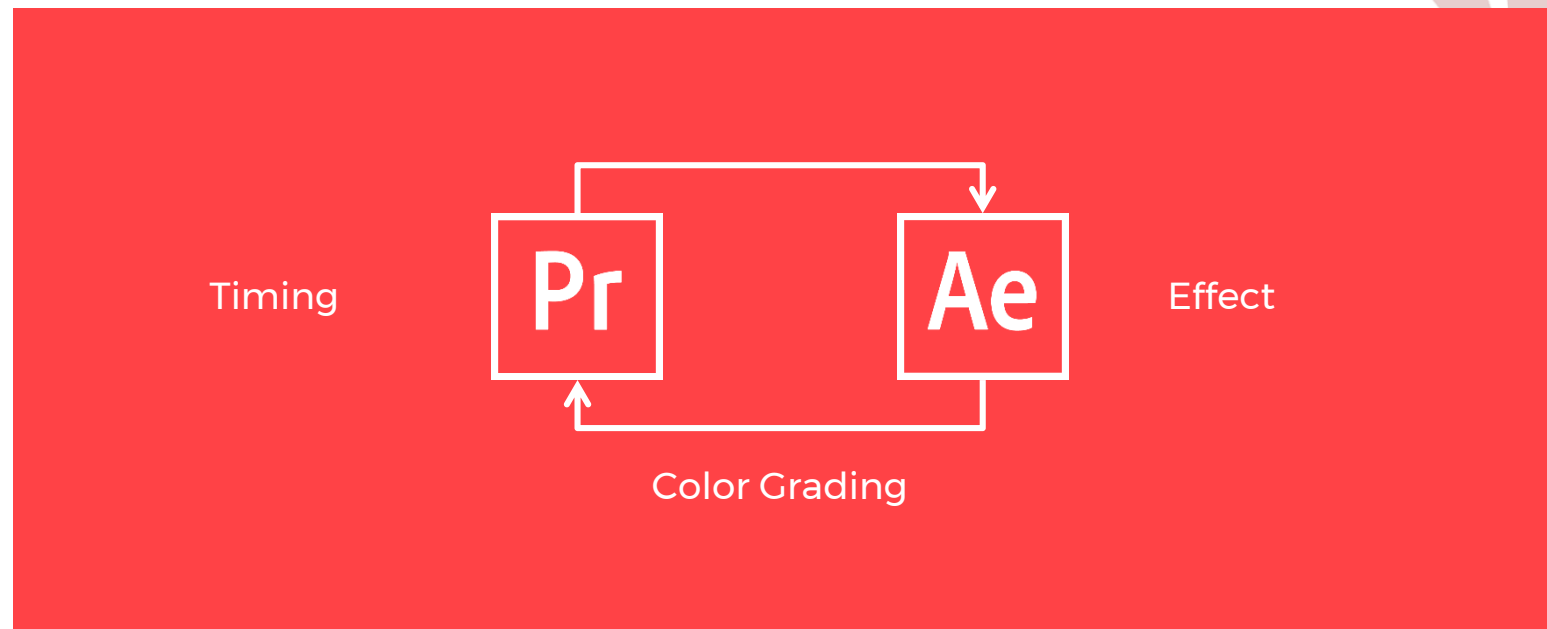


Robot: Acting Reference



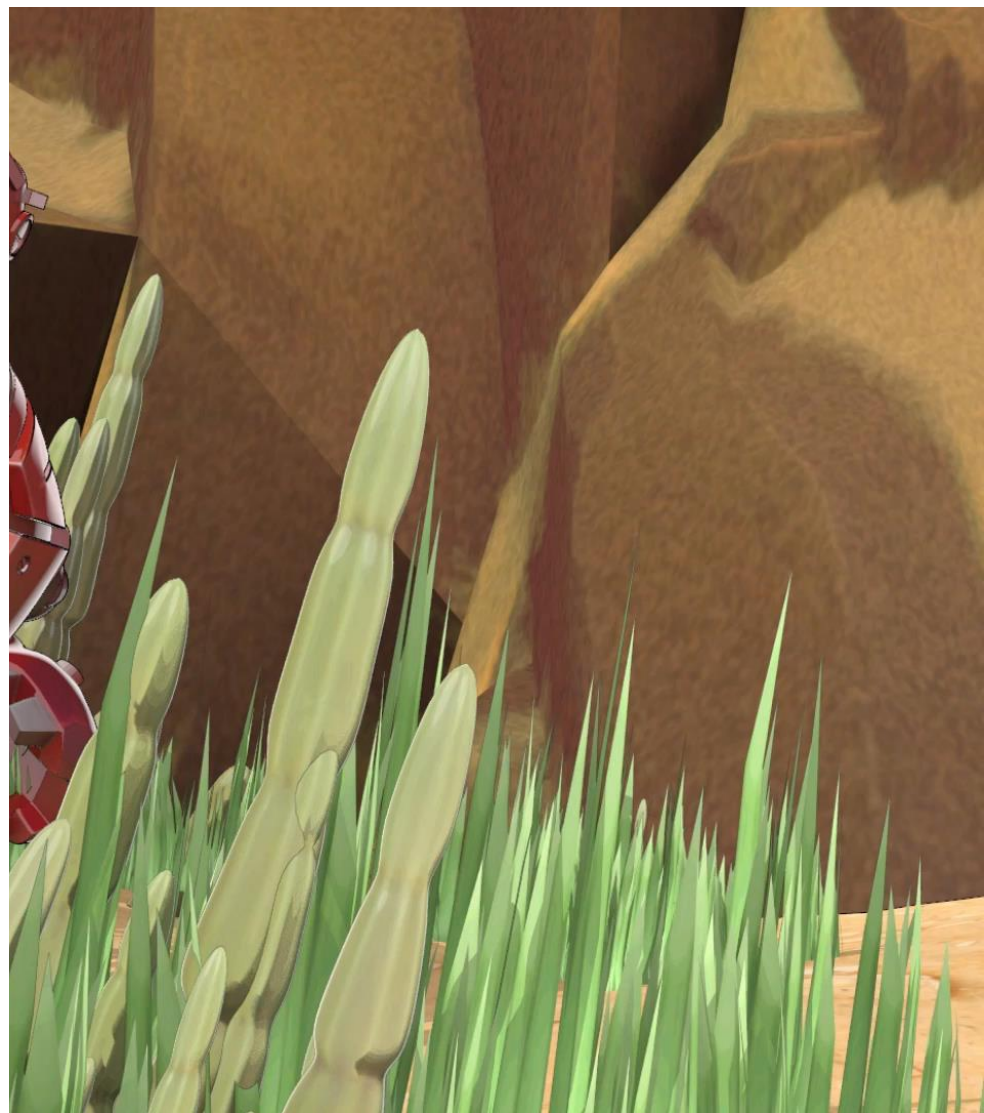
Jack: Acting Reference

Image





Before



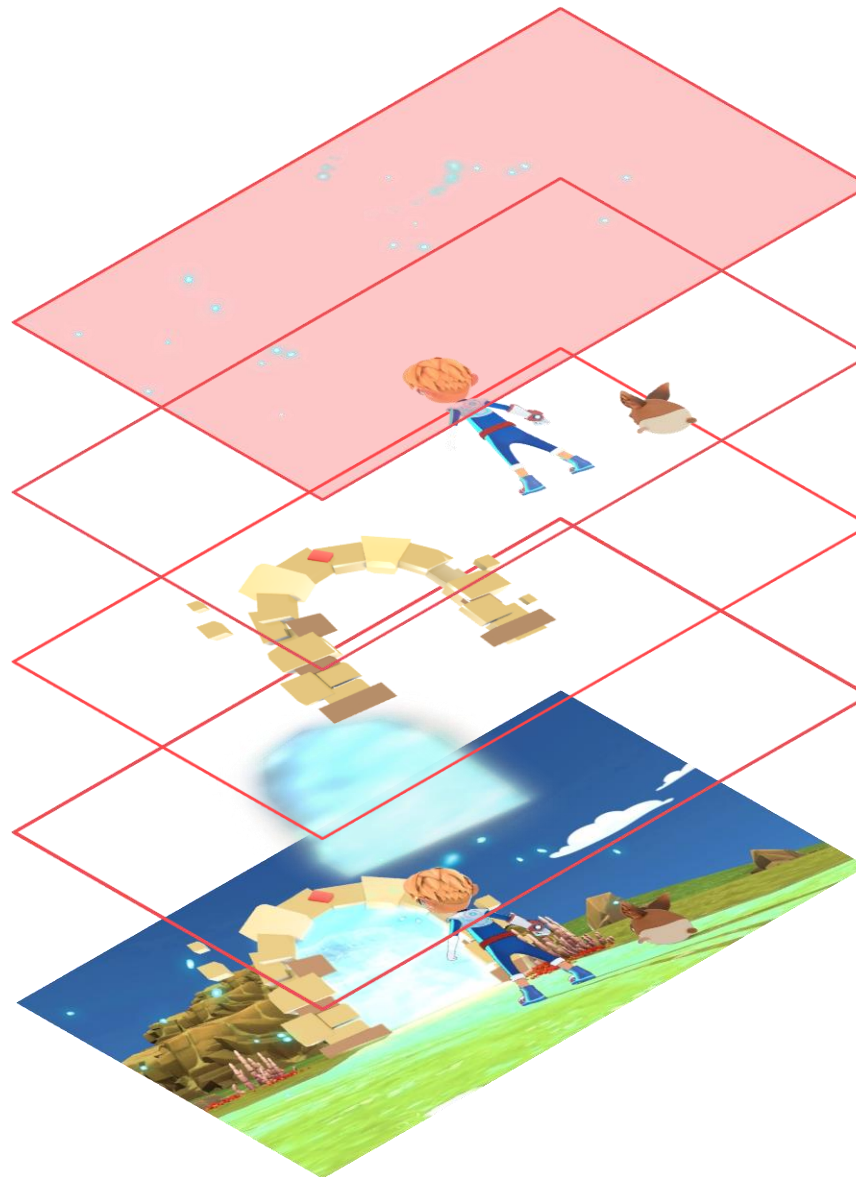
After

INTRODUCTION

PRE-PRODUCTION

PRODUCTION

POST PRODUCTION



| Effect Layer Split



Before ➔ After

INTRODUCTION

PRE-PRODUCTION

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POST PRODUCTION



Without DOF effect



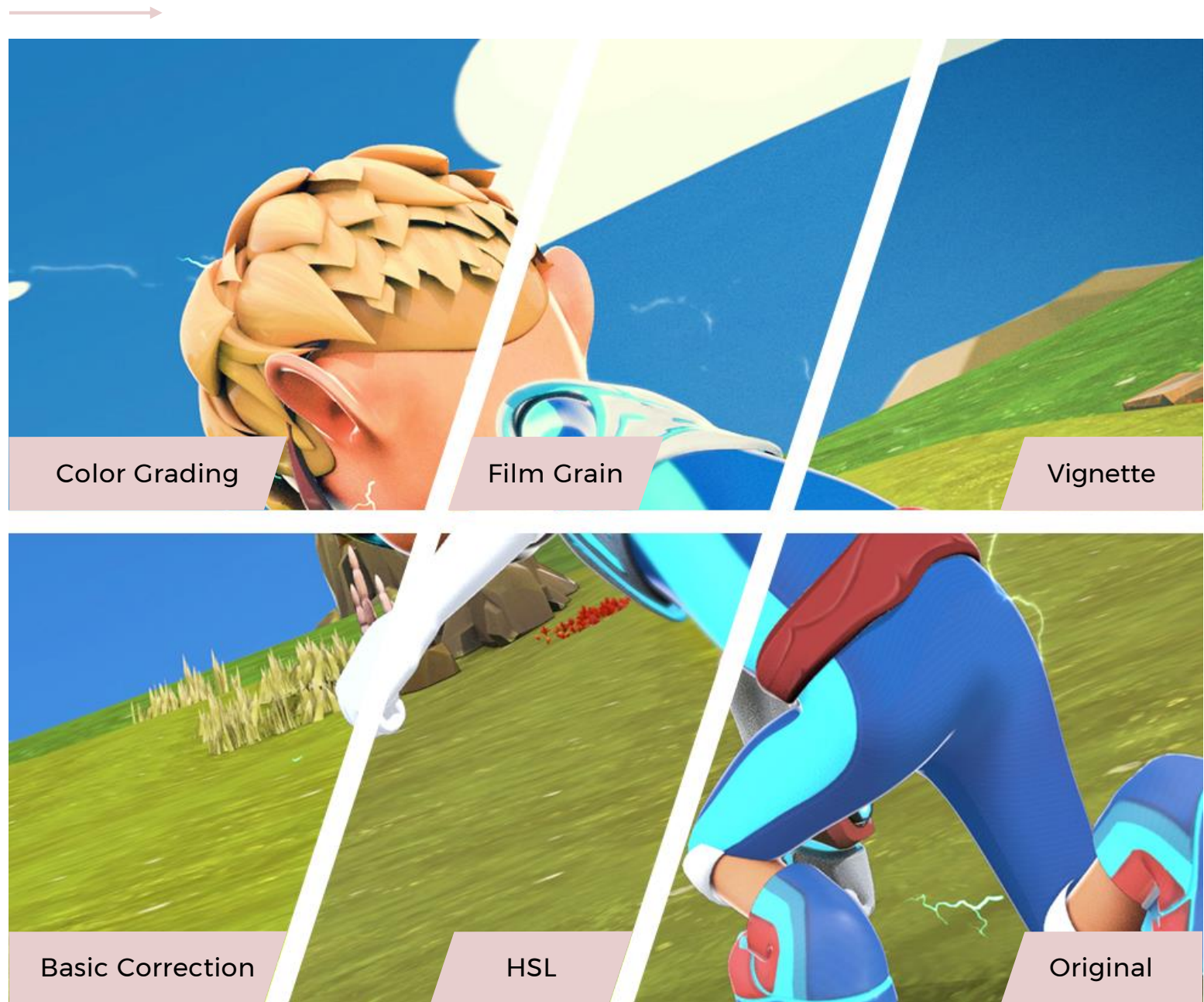
With DOF effect



Without Motion Blur effect



With Motion Blur effect



“Oops!”

VFX BREAKDOWN

INTRODUCTION

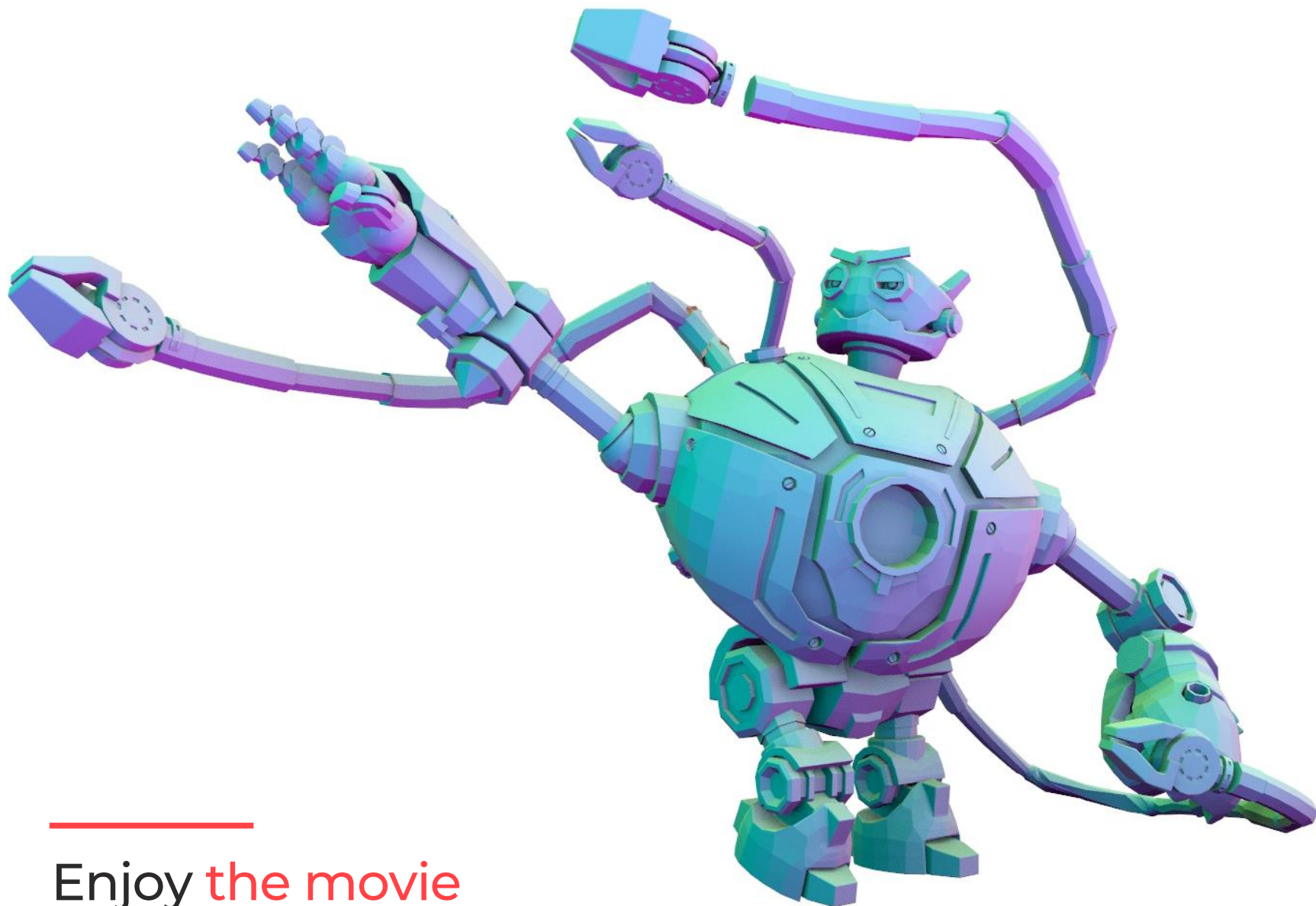
PRE-PRODUCTION

PRODUCTION

POST PRODUCTION

Sound & Music





Enjoy the movie