CHAPTER 3
EXECUTION OF INTERNSHIP WORK

3.1 Position and Coordination

The author is put into a dedicated 3D team where they divide the work into several segments. The author's main role in this project as a 3D modeler whom takes the first step into the building of the project. The responsibilities of a 3D modeler are to create models per requested of the project such as 3D characters or props by using certain techniques to achieve the models in software. In the figure below the author is the first to build the project in the production segment, before texturing and animating.

The workplace pipeline begins from the supervisor giving a dedicated project to a team for example the 3D animating team consists of interns like the author has. From there the producer takes the first step on the pre-production step and the director to create a concept for the project. Once its revised and confirmed by the supervisor the project can go into production where the 3D modeler first work on the base of the model. Then the last two steps of the project are to finish texturing the model and revised by the director again after that is ready to be animated by the animator. The 3D animating team uses varying tools to accomplish their work remotely. Their meetings are coordinated through Google meets. To communicate they use WhatsApp and Discord as their main platform, and documents are shared through Google drive.

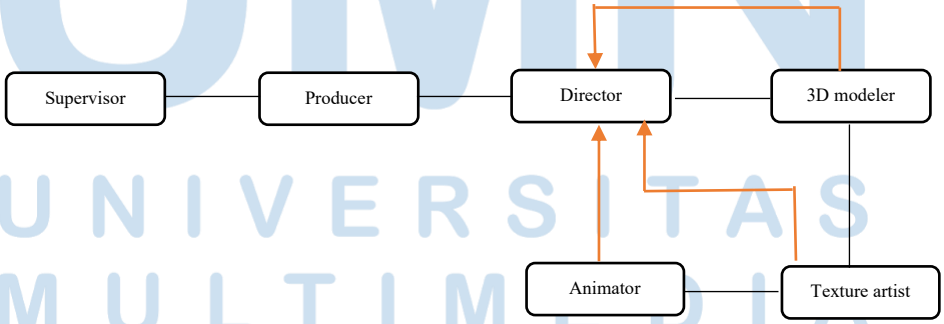

Figure 3.1 Example of a workflow chart

Source: Author's Observation (2024)

3.2 Internship Tasks and Job Description

In chapter 3.2.1 and 3.2.2 has the authors assignment list and description. Authors job desks are mainly in the 3D division where they use Blender as the main software to model the character. The responsibility as the 3d character modeler is to design the model using procreate then carefully model, sculpt, retopologies, and rig in Blender.

3.2.1 Tasks Performed

This section contains the table of the most notable assignments done during the internship program.

No	Week	Assignment
1	1	Character sheet creation
2	2	Character creation Blocking method SubD modelling
3	3-4	Detailed modelling Making details Sculpting
4	5	Retopology
5	6	UV Unwrapping
6	7	Armature rigging

7	8	Rigging Assign skeletal form to empty mesh
8	9-10	Weight painting
9	11	Inverse kinematics
10	12	Turn the character into a model kit as requested for project

3.2.2 Internship Job Description

First step towards creating a character model is sketching the character sheet after provided reference from the director. Briefings are done before starting the sketch and the producer created a timeline and storyboard. Next, the author used a drawing app Procreate to make a symmetrical sketch of the 3D model supposed to look like. From then on it will be imported into Blender.

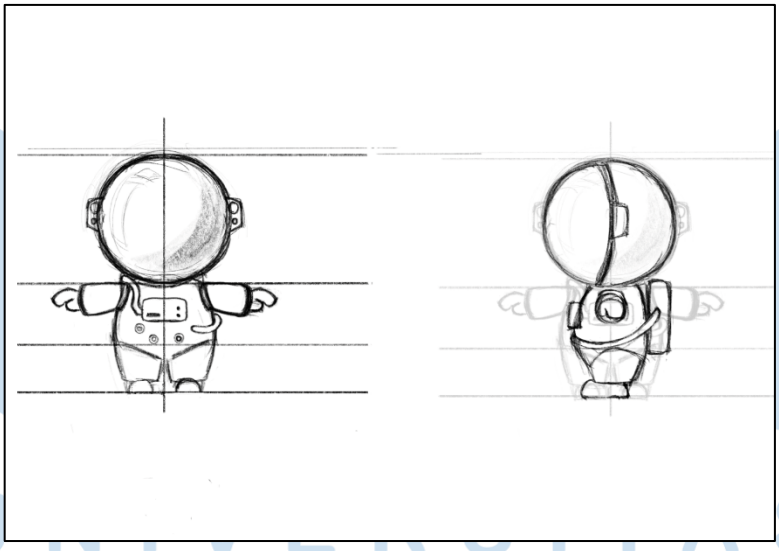

Figure 3.2 Symmetrical Character Sketch

Source: Andrew (2025)

Early steps of character modelling by using a technique called “Block modelling” is essentially Sub-divised cube or meshes to turn it into a rough shape of limbs. Sphere for the head while the tubes are made out of a tube with a curve modifier.

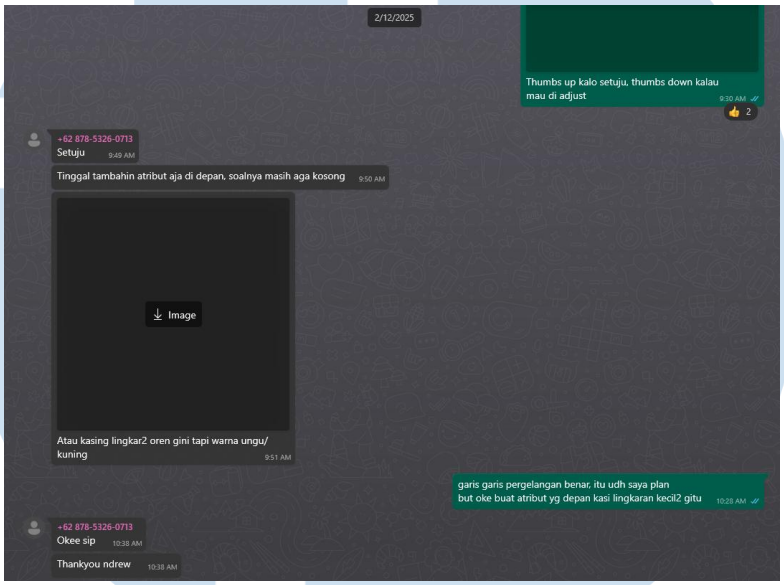

Figure 3.3 Director revising the model

Source: Andrew (2025)

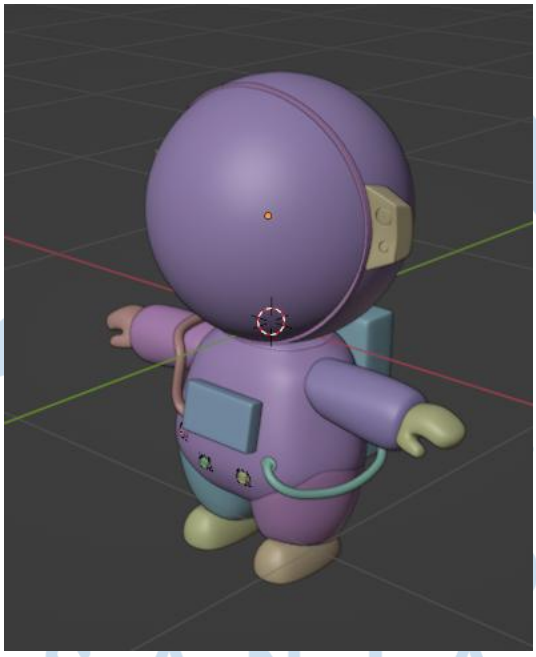

Figure 3.4 Example of Company Structure

Source: Andrew (2025)

Then revising the work to the director what is missing and readjust. The director asks for specific details at the front like the ports and rings around the wrists. After detailing the block model, the blocking step is done. The author does Boolean modifiers to unify and join all the limbs into one body part. Then lightly sculpt around the limbs to make sure its properly joined.

Retopology is one of the most crucial parts of character modelling. It simplifies a models sculpt shape into a smooth and polished meshed that will be ready for animating. For the reason that rigging and animating is not possible with a sculpted mesh that has subdivided over thousands of times.

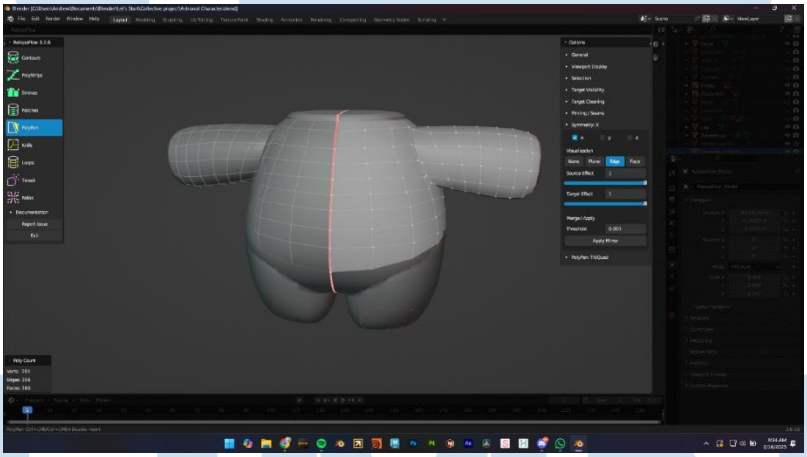

Figure 3.5 Retopology
Source: Andrew (2025)

UV unwrapping is first step to texturing the model, taking all of the meshes of the body and separate each limb and detail into a 2D texture. The texture will be painted on with Substance Painter afterwards.

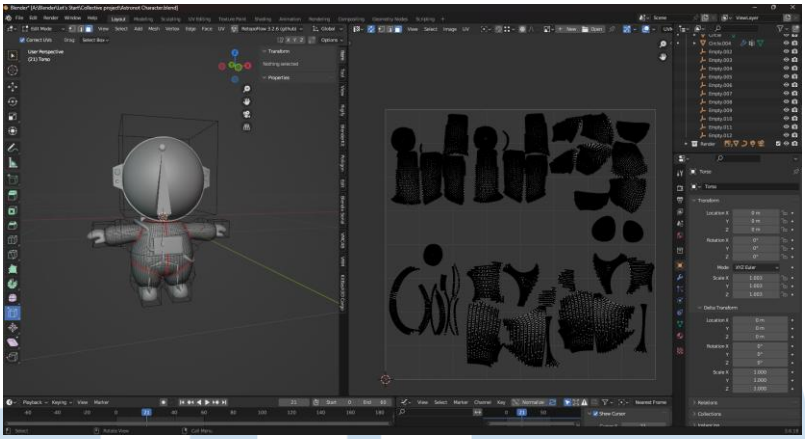

Figure 3.6 UV Unwrapping

Source: Andrew (2025)

Armature rigging is setting up the bones to pre-define each body section of its movements later in the animation. Each bone will have its own rotational values while in the meantime, it is set up to create moving limbs.

Figure 3.7 Armature Rigging

Source: Andrew (2025)

Rigging the model is assigning controllers or empty meshes as the puppeting of the character. This is a method simplifying the animator to do their work by not controlling the bones individually but by controllers.

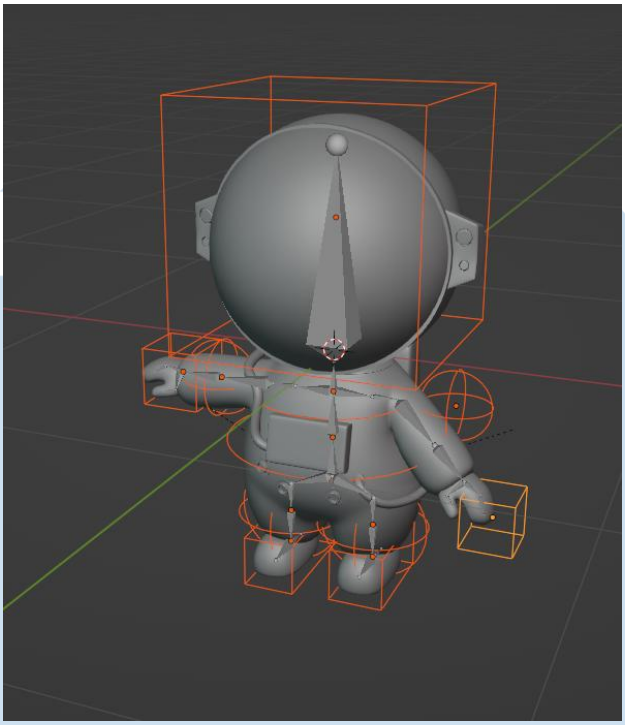

Figure 3.8 Adding controllers

Source: Andrew (2025)

Weight painting is an important step to assign all the bone to the meshes. Before the weights are added the meshes does not correspond to the bone but throughout this step the model can move according to the armature.

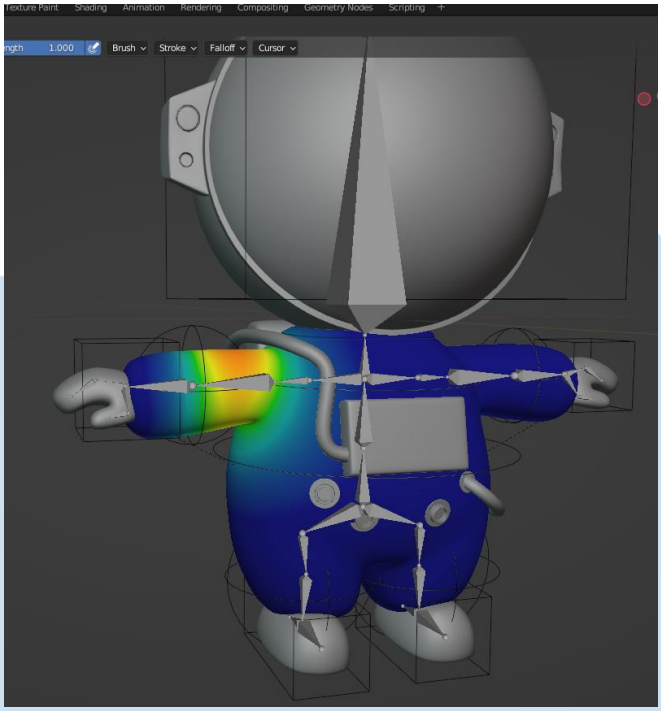

Figure 3.9 Weight Painting

Source: Andrew (2025)

Inverse Kinematics or IK is another process to simplify the animation process through the rigging controllers. This step allows joints to automatically move according to the controller instead of the controller only moving the bones that is parented or assigned.

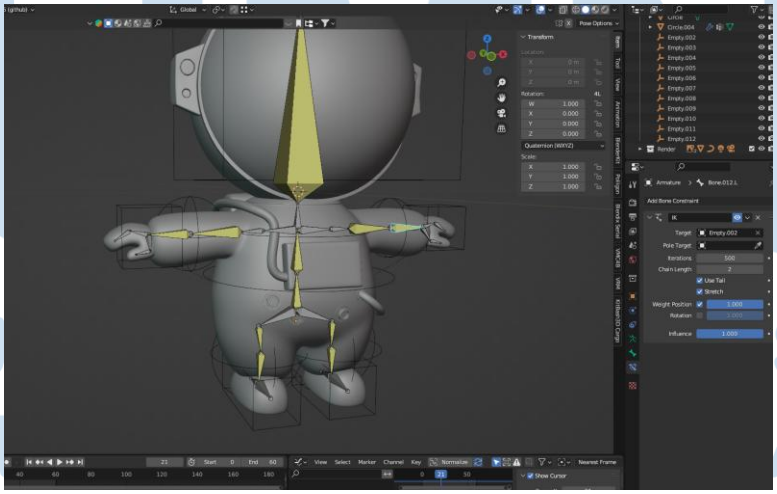

Figure 3.10 Inverse Kinematics

Source: Andrew (2025)

3.2.3 Encountered obstacles

Projects done by the author is definitely not problem-free. The author had encountered a number of issues regarding to the character model they made. Issues found while working on the job desk is listed below. Issues in the form of:

1) Factor of multiple individual working on the shared project file.
2) Team pipeline is slightly messy because of internship recruits including the author.
3) Weight painting and armature rigging.

First factor is more than one or two individuals working on the file given. This creates a lot of feedback and friction. As soon as one workmate is done, the file has to be passed and the previous individual can't make changes. Not just friction, the working system may differ to each individual that could possibly harm the file with different program versions.

The team pipeline is messy because the supervisors are not in direct contact but maintained through the team's upper workmate has to be the middle man which lowers the communication efficiency. Therefor an established higher command should be in direct contribution to be in a seamless communication.

Weight painting and the whole process of manually rigging is the authors operational constraints, includes weight painting and armature rigging. Taking a considerable amount of time without proper company plugin and especially the character style is to represent a chibi style rather a humanoid. The process of character rigging overall takes a considerable amount of time to do, not including where the weight painting has mistaken leaving the models look weird at certain poses or artifacts.

3.2.4 Solutions to the Obstacles

In this section there will be analysis and solutions to the constraints found in the internship. Solutions down below are:

1) Only one or two working on dedicated division of work.
2) Direct inclusivity of a supervisor on hand ready to help when necessary.
3) The company already has plugins to help with non-human rigging in their preferable software.

One or two individual working on the sub-division will enhance the cohesion of the project like one as the character modelling and texture while the other works on the rigging. It reduces the time for the project file hopping around from one to another. Then it reduces the variety of workstyle as more people might turn the work into a different style each time its passes.

Second solution is to get a supervisor to be as the secondary director to help the team while helping the intern director and producer guide themselves. Giving constant feedback will help more than it would have currently.

Third solution is to give a few plugins available in aid for the project. The resources available can help and put the work somewhere instead of starting from scratch is always better in terms of time and quality. The plugins provide artists to start somewhere than from scratch.