

Project title: Cactus and Hedgehog

Team members:

Pengyu Li (301297744)

Qi Yu (301327042)

Xiaohan Leng (301356819)

Xinyu Zhang (301301859)

Yuqingqing Mu (301338501)

URL to team webpage: <https://pengyul.wixsite.com/iat343>

URL to the final video: <https://youtu.be/GSAQWq7zKzs>

URL to the Arnold Storyboard: <https://youtu.be/tLGTxftlHWQ>

## **Introduction**

Our animation “Cactus and Hedgehog” is about a cactus who is a new friend of the garden and is excited to make friends with Sunflower and Dandelion who live in the garden for quite a long time. However, Sunflower and Dandelion are having a prejudice against the Cactus when they saw the spines grown on cactus. And the situation even gets worse as later the flora seeds of Dandelion have been hooked by the spines on Cactus, the cactus, therefore, has been disliked by them. Cactus is hurt and hates the spines, then the Cactus tries to get rid of the spines in order to cater to them but the result is not good that Sunflower and Dandelion laugh at him and the spines will grow back. The story changed until the hedgehog, who is willing to make friends with the cactus, visits the garden and teaches the cactus how to get along with them as well as the fact that it is no need to change ourselves in order to cater to others.

## **Purpose**

Through the story of cactus and hedgehog, our team wants to deliver the information that sometimes, it might be hard to make people around to accept and appreciate you and it might result in self-abasement and questioning ourselves. However, it does not mean that you are not good and you don’t have to let everyone like you. Instead, you will find friends elsewhere that can understand you without letting you change anything of yourself.

## **Project imperatives**

The essential element for our project to finish successfully is team communication. Our team has excellent communication skill, each of our group members is active to provide different brainstorming ideas and willing to help each other when someone faces problems in their own parts. The group chat has offered a place that each of us is able to give useful feedback and suggestions objectively. Good team communication helps us set up the directions of the animation script at the very beginning and also facility us to follow the team schedule strictly so that we can finish our modelling early and have enough time to revise and animate.

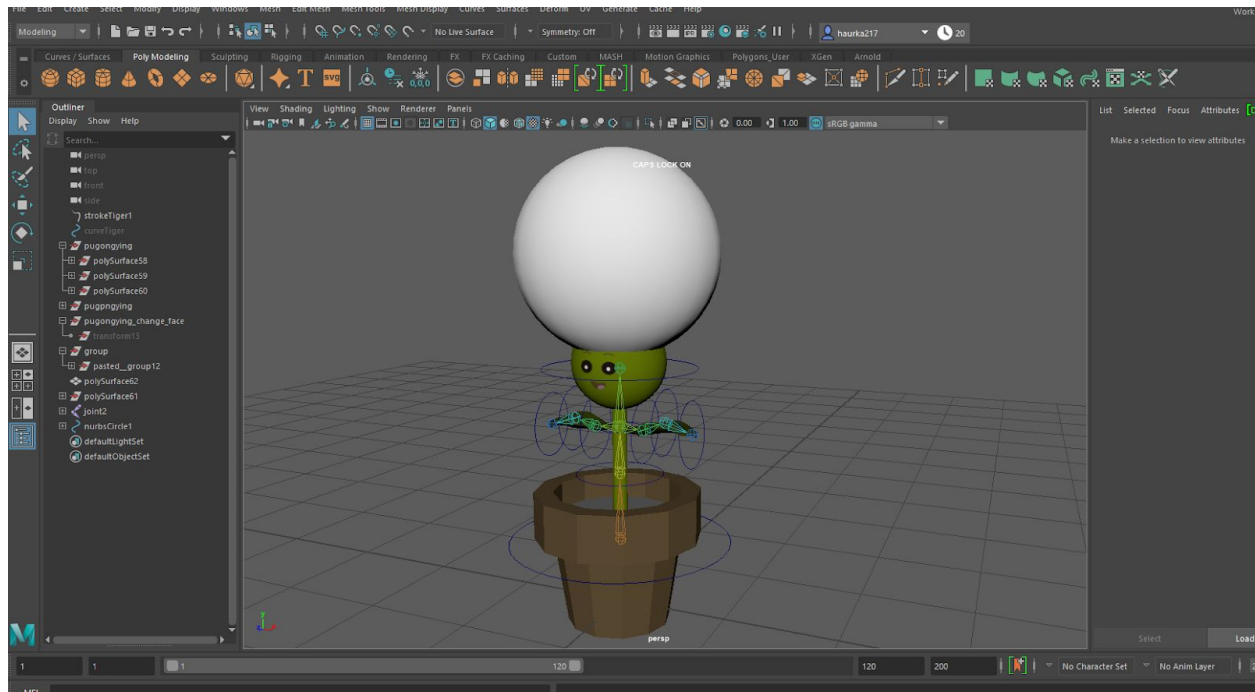
## **Measure objectives and success**

Through the presentation of our final project, we have learned how to model, rig, texture characters and scene in Maya. We have experienced each stage of animation making including modelling, texturing, rigging, lighting, animating, rendering and editing. And each of us has finished nicely and all of us work together to present the final animation. In this course, we have gained the experience of working with groups and found out the process of making animation is complicated and requires collaboration. And teamwork is the most essential element for the completion of the animation.

## Team members

Pengyu Li (301297744)

I modelled, rigged, and textured the dandelion model. For consistency, I used the same method with my teammate who modelled the sunflower, which used the Adobe Illustrator to draw the face of the model, then put the face into the UV map use Photoshop, at the end imported into Maya. I used the method of setting driven keys to change face and posture to make the animation. For the animation part, I animated from 0:00s-0:36s.



Tutorial link:

Intro to Rigging in Maya 2019

<https://www.youtube.com/watch?v=1wvdQy2Fdhw&t=994s>

(UPDATED) Animating Textures using Set Driven Key in Autodesk Maya Tutorial

<https://www.youtube.com/watch?v=CAezbttRTcs&t=212s>

Qi Yu (301327042)

I modelled, textured and rigged the sunflower model. For the expression, I used set driven keys to change the expression, which can help us change the expression quickly when we animate. I designed the expression first in Adobe Illustrator, and then I use Adobe Animate software to animate all expressions and import them to Maya.

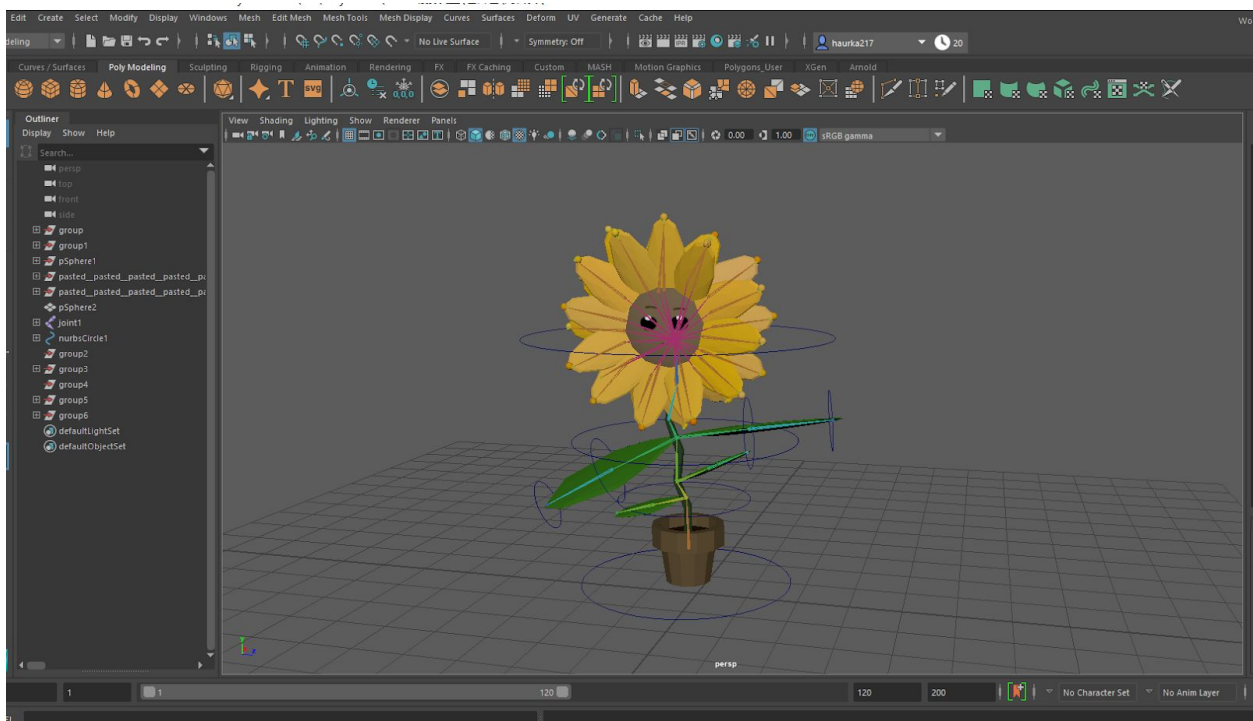
For the animation part, I animated from 1:34s to 2:15s.

Tutorial link:

Animated Textures using Set Driven Key in Autodesk Maya

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

Model present:



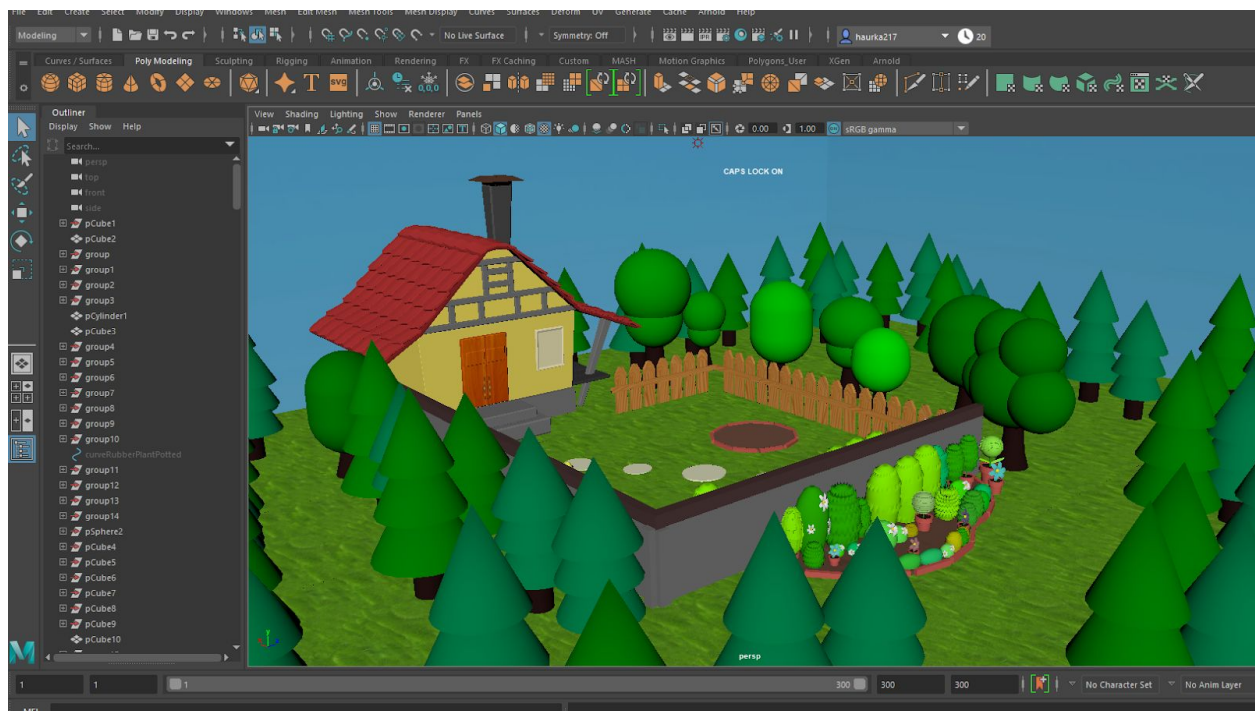
Xiaohan Leng (301356819)

I have modelled and textured the garden scene. I use the sphere, the column and basic geometry shapes in Maya to create different types of plants featured with cute cartoon style by adjusting vertex and extruding faces or vertexes. For the animation part, I'm in charge of the final video editing and sound effects using PR, Arnold storyboard editing and report writing. The tutorial link below is the tutorial I watched that teaches how to create cartoon trees in Maya.

Tutorial link:

Autodesk Maya Tutorial: Modeling Cartoon Tree <https://youtu.be/EHXNONINWU4>

Model present:



Xinyu Zhang (301301859)

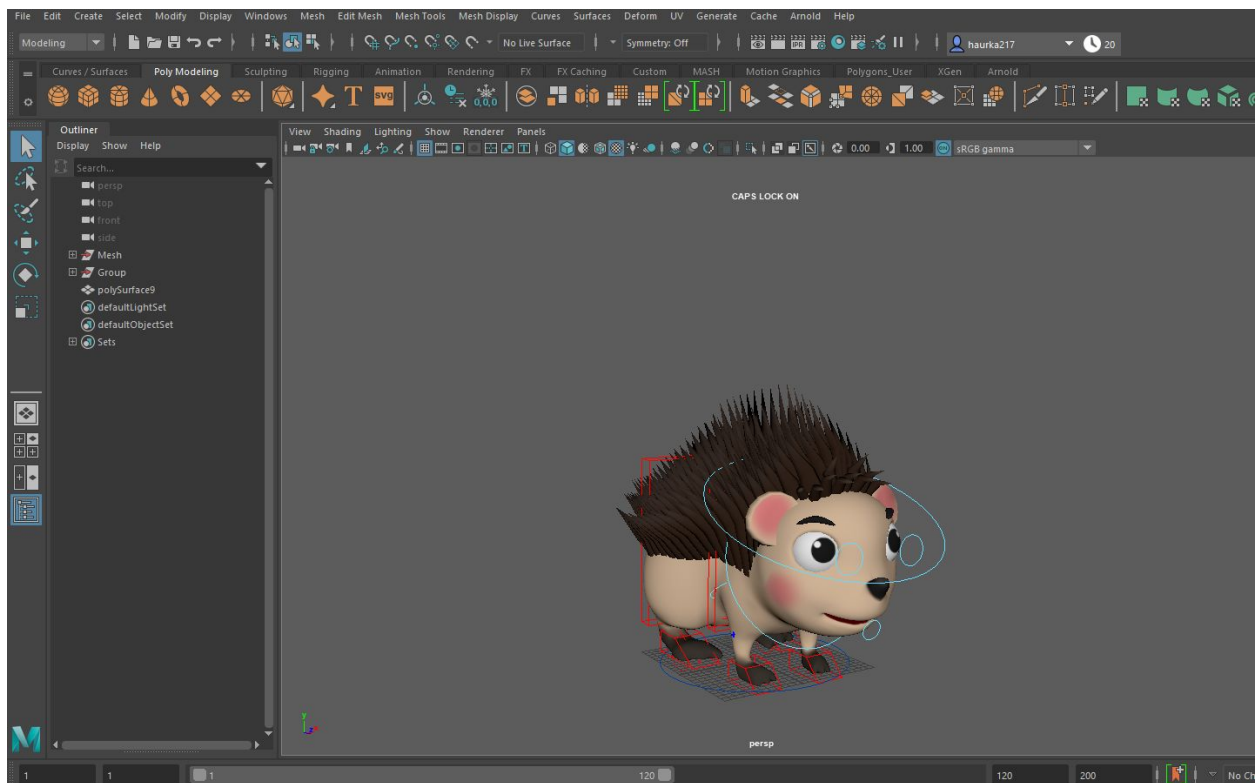
I modelled, textured and rigged the hedgehog model. I used extrude, vertex, face tools etc. for modelling. I used the UV map to apply the texture of the hedgehog drawn by myself. During the rigging part, I used the plugin rigging software called advanced skeleton 5.240.

For the animation part, I animated from 1:08s to 1:33s.

Tutorial link :

<https://www.bilibili.com/video/BV1TE411e7uM?from=search&seid=17019508381342722835>

Model present:



Yuqingqing Mu (301338501)

I have modelled, textured, and rigged the cactus model. I learnt how to set controller, rig, how to set up eyes controllers and changing texture by setting a driven key attribute from *Academic Phoenix Plus*'s Tutorials (Three tutorials in total). For the animation part, I animated from 0:37s to 1:07s.

Tutorial link:

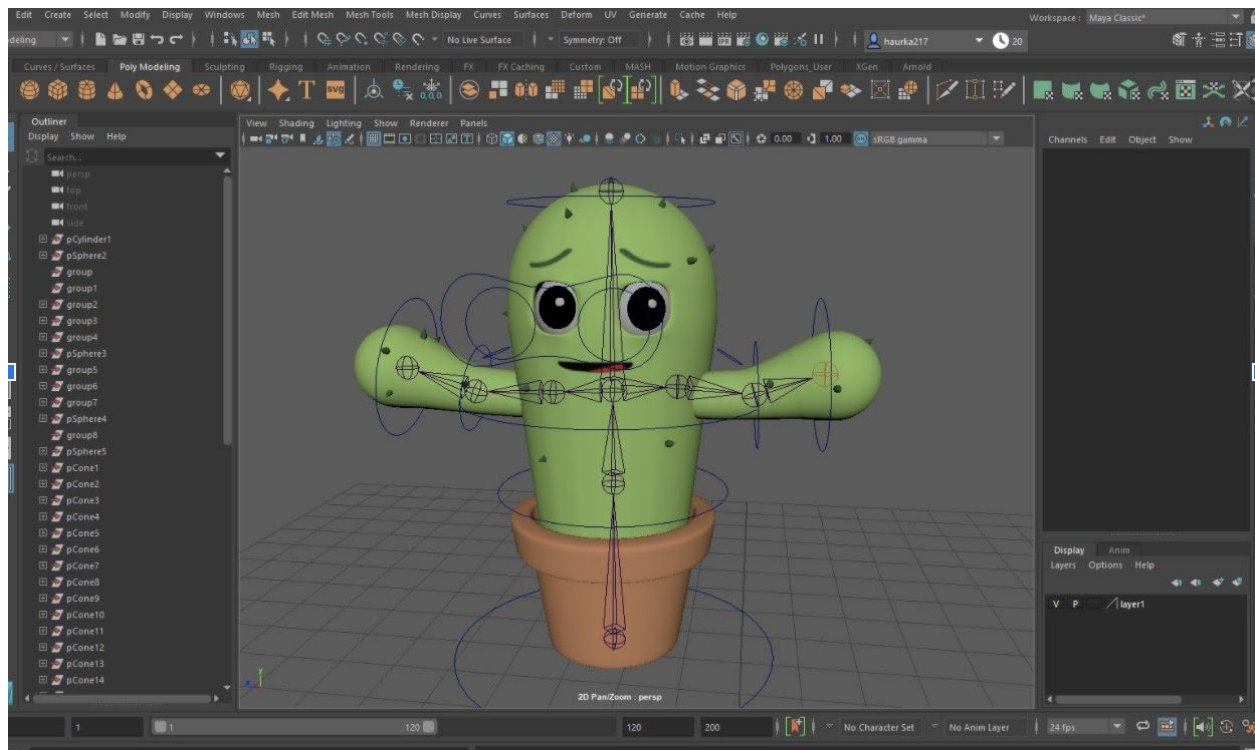
Intro to Rigging in Maya 2019 <https://youtu.be/1wvdQy2Fdhw>

Rigging for Beginners: Eyes and More in Maya <https://youtu.be/4G2ffEOmbuo>

Animating Textures using Set Driven Key in Autodesk Maya Tutorial

<https://youtu.be/CAezbttRTcs>

Model present:



**Camera Animation tutorial link for group animation:**

Maya 2016 Tutorial: Camera Animation. Retrieved from

[https://www.youtube.com/watch?v=ZdiKmm1\\_gu4](https://www.youtube.com/watch?v=ZdiKmm1_gu4)



## Project Description

Our project is a two-mins animation that tells the story between a cactus and a hedgehog in the garden. The story is originated from nominated animation *Pins and Needles* (2018), we have changed a little bit from the original script to make sure it will fit the overall project development. We have split the animation process into modelling, rigging, animating, rendering and final video editing. Each of the group members has assigned their modelling part. So in the early stage, each of us is working on their own model. The animation consists of environment modelling and four character modelling. We have assigned evenly those five parts to our team members. After all of us finished the modelling, we have combined them all in one scene and set up the lighting for the later animation.

## Project implementation process

First, we have created our team website to set up the team schedule and confirm the type of animation we want to make and modify the original scripts. Then, each of the five team members has participated in the storyboard drawing (wk6). (Example is shown in Figure 1.)

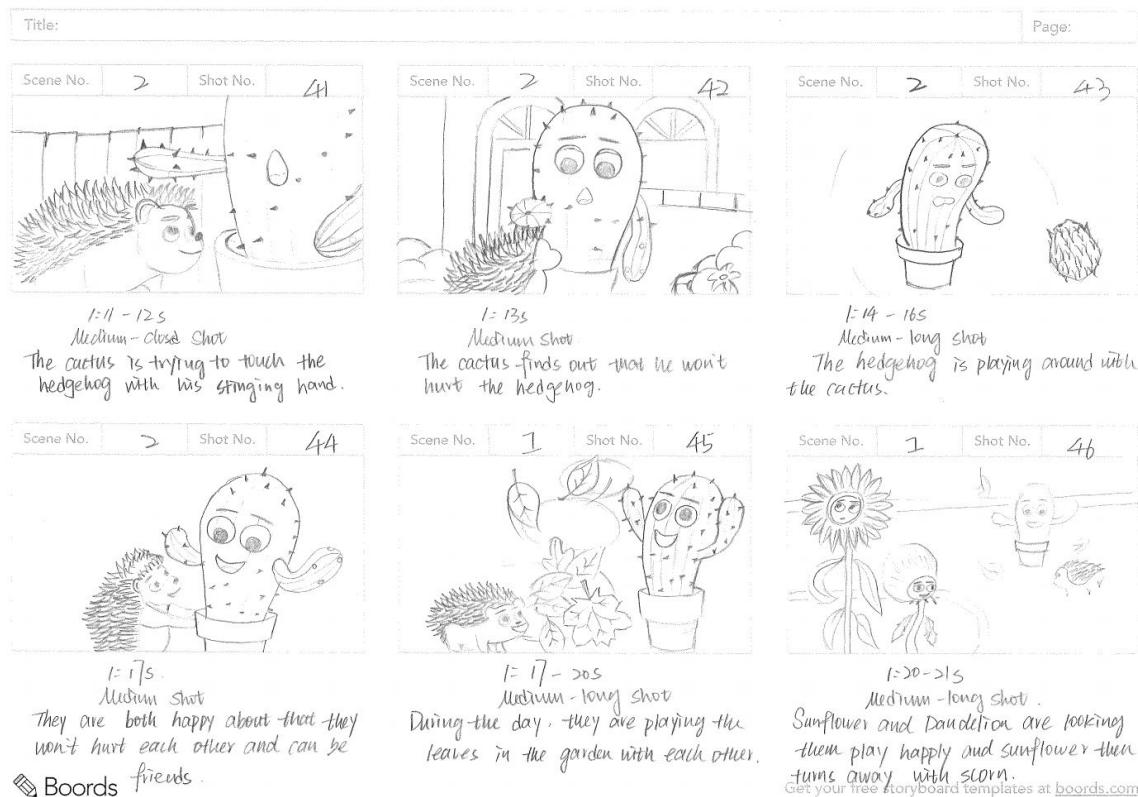


Figure 1. Part of the drawing storyboard.

We have assigned each member to model different characters and objects.

We have stated modelling the characters and scenes from wk8.



We have finished the model making before wk10 (without rigging).

Then we took most of our project time to finish rigging, set up controllers and drawing the animating texture of each character. (By April 14th)

After all the models are done. We have combined them all in one scene and adding ambient light to set up day time and night time. (By April 15th)

Until April 24th, all parts of animations done and playblast video and rendered storyboards are ready for editing.

## **Issues**

When we start to consider the facial expression of each character, whether using changing-texture-based animation or extruding and modelling the eyes, mouth and eyebrow of the character and using a graft editor to control the facial expression has challenged us a lot. We have found that extruding the “real eyes, mouth, eyebrow, etc.” might not meet the aesthetic standard of our animation and lack of the cartoon style that we want. So we decided to use animating texture to present all character beautifully, by drawing ahead all the facial expressions of each character and added them as an attribute of each character so we don’t have to click the UV map window for each frame. And the other challenge is that most of our group members are using a laptop which is not the best choice of running Maya. As we combined all the files together, the running speed for open our Maya file is extremely low. And we have also faced the version problems of Maya. The latest version can not be open through the older version. Fortunately, we have adjusted the assigned work according to each member’s accessibility of running Maya and overcome the version problem by re-downloading the same version for consistency.

## Reference

All the 3D model shown in our project are created by ourselves.

### Animation Script Reference

The script is original from *Pins and Needles* (2018). Retrieved from <https://www.duludulu7.com/2883.html>

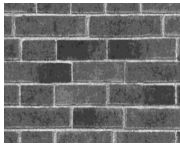
### Texture Reference

Garden texture

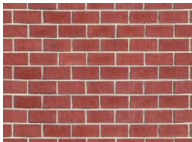
- Wood. Retrieved from <https://jbh.17qq.com/article/skwqhpqy.html>



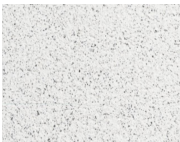
- Grey Brick Texture (House). Retrieved from <https://jbh.17qq.com/article/skwqhpqy.html>



- Red Brick Texture (House). Retrieved from [https://www.pinterest.co.kr/pin/101190322849846579/?nic\\_v1=lahIWQSXC3Xb%2FTRboFCdluUxWaCogfD84yP3eTeeoEDt6X4sT7cNx6uvvo0WXQriME](https://www.pinterest.co.kr/pin/101190322849846579/?nic_v1=lahIWQSXC3Xb%2FTRboFCdluUxWaCogfD84yP3eTeeoEDt6X4sT7cNx6uvvo0WXQriME)



- Grey concrete (Garden Wall). Retrieved from <https://www.rieder.cc/fr/architecture/produits/concrete-skin/>



- Grass. Retrieved from <https://www.freelancer.com/contest/Toon-grass-texture-k-tileable-1437066-byentry-24167705>



- Sky. Retrieved from <https://pngimage.net/sky-cartoon-png-3/>



- Door. Retrieved from Google image. (The image link no longer work)



## Sound Effect Reference

### Background music

- First part music (0.00s-0.35s): 3AM. Animal Crossing: New Horizons Original Soundtrack.
- Second part music(0.36s-1:06s): 12AM. Animal Crossing: New Horizons Original Soundtrack.
- Night background music: Prologue Phase 3. Animal Crossing: New Horizons Original Soundtrack
- Night ambient sound. Retrieved from <https://freesound.org/people/damonmensch/sounds/121511/>
- Last part music(1:34s-2:15s): 12PM. Animal Crossing: New Horizons Original Soundtrack.
- Arnold StoryBoard Day Time music: Happy Sandbox. Retrieved from <https://freesound.org/people/Mativve/sounds/416778/>

### Character sound effect

- Wow. Retrieved from <http://www.aigai.com/view/67961-31387237.html?order=last&page=2>
- HAHABA. Retrieved from <http://www.aigai.com/s?q=%E5%8D%A1%E9%80%9A&type=sound>
- Touch. Retrieved from <https://freesound.org/people/behesht1/sounds/248274/>
- Jump. Retrieved from <http://www.aigai.com/s?q=%E5%8D%A1%E9%80%9A&type=sound#>

- Twist. Retrieved from <http://www.aigei.com/s?q=%E5%8D%A1%E9%80%9A&type=sound#>
- Surprise. Retrieved from <https://freesound.org/people/Taira%20Komori/sounds/213437/>
- Scared. Retrieved from <http://www.aigei.com/s?q=%E5%8D%A1%E9%80%9A+%C2%A0%E5%AE%B3%E6%80%95&type=sound&detailTab=file>
- Hedgehog showed. Retrieved from <http://www.aigei.com/s?q=%E5%8D%A1%E9%80%9A+%C2%A0%E9%97%AA%E4%BA%AE&type=sound&detailTab=file>
- Dandelion wow. Retrieved from <http://www.aigei.com/view/67961-31387237.html?order=last&page=2>
- Dandelion touch Sunflower. Retrieved from <https://freesound.org/people/InspectorJ/sounds/345689/>
- Sunflower yawning. Retrieved from <http://www.aigei.com/s?q=%E5%8D%A1%E9%80%9A+%C2%A0%E4%BC%B8%E6%87%92%E8%85%B0&type=sound&detailTab=file>
- Cactus speaking. Retrieved from <https://freesound.org/people/andrest2003/sounds/380480/>
- Cactus cry. Retrieved from <http://www.aigei.com/s?q=%E5%8D%A1%E9%80%9A+%C2%A0%E5%93%AD&type=sound&detailTab=file>
- Sunflower speaking. Retrieved from <https://freesound.org/people/andrest2003/sounds/380480/>
- Sunflower laughing. Retrieved from <https://freesound.org/people/YYW/sounds/351424/>

#### Other sound effects

- Wind. Retrieved from <https://freesound.org/people/vandale/sounds/379468/>
- Brush. Retrieved from <https://freesound.org/people/PaulOcone/sounds/460236/>