

Rochester Institute of Technology

## RIT Digital Institutional Repository

---

Theses

---

12-2015

### Potter Priest

Tianhe Han  
txh6737@rit.edu

Follow this and additional works at: <https://repository.rit.edu/theses>

---

#### Recommended Citation

Han, Tianhe, "Potter Priest" (2015). Thesis. Rochester Institute of Technology. Accessed from

This Thesis is brought to you for free and open access by the RIT Libraries. For more information, please contact [repository@rit.edu](mailto:repository@rit.edu).

# Potter Priest

By Tianhe Han

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF  
MASTER OF FINE ARTS IMAGING  
ARTS/COMPUTER ANIMATION SCHOOL  
OF FILM AND ANIMATION COLLEGE OF  
IMAGING ARTS & SCIENCES

ROCHESTER INSTITUTE OF TECHNOLOGY  
ROCHESTER, NEW YORK DECEMBER, 2015

# Committee

Signature\_\_\_\_\_

Date\_\_\_\_\_

Charles Bandla, Chair

Lecturer

School of Film and Animation

Signature\_\_\_\_\_

Date\_\_\_\_\_

Brian Larson,

Assistant Professor

School of Film and Animation

Signature\_\_\_\_\_

Date\_\_\_\_\_

Mark Reisch,

Lecturer

School of Film and Animation

# Table of Contents

<b>Abstract.....</b>	<b>4</b>
<b>Acknowledgment.....</b>	<b>5</b>
<b>Artist Statment.....</b>	<b>6</b>
<b>Introduction/Overview.....</b>	<b>7</b>
<b>Pre-Production.....</b>	<b>8</b>
Story Development.....	8
Inspiration and Ideas.....	8
Final Decision.....	10
Storyboard.....	12
Animatic.....	20
Concept Design.....	25
Background Study.....	25
Character Design.....	25
Environment Design.....	38
Pottery Design.....	40
Statue Design.....	43
Color Design.....	44
<b>Production.....</b>	<b>45</b>
Workflow.....	45
Character Development.....	48
Environment Development.....	54
Animating.....	56
Rendering.....	58
Editing and Sound.....	59
<b>Critques and Feedback.....</b>	<b>60</b>
Sofa Screening.....	60
<b>Conclusion.....</b>	<b>61</b>
Experience.....	61
Challenges.....	61
<b>Appendix A.....</b>	<b>62</b>
ORIGINAL THESIS PROPOSAL - May, 2014.....	62



# Abstract

“Potter Priest” is my graduate thesis film. The entire animation including credits was 7 minutes 55 seconds long by the time of screening at SOFA, RIT. The story was developed to show the sublimation of a blind potter’s spirit. He finally realized the true way of following divinity is caring about living things rather than praying to a statue made of clay.

The story takes place in an ancient Pottery Kiln used by the old man as a shrine. A weasel comes in and interrupts the old man’s serious ritual. While teasing the old man the weasel disrupts the balance of strings and get trapped under the statue. The old man breaks the statue he treasured and saves the weasel. While the old man is playing music for the hurt weasel. The weasel becomes the divinity the statue portrays and cure the old man’s eye. The old man opens his eye and see the world again. Back to the weasel form, the divinity lead the old man to the world outside.

“Potter Priest” was created using a number of 2D and 3D software including Autodesk Maya and Adobe Series. This thesis outlines the whole production process for “Potter Priest”.

# Acknowledgment

First and Foremost, I would like to express my gratitude to my committee chair, lecturer Charles Bandla, who has deep understanding of my project and support my idea. Charles is very informative. He lend me books and gave me valuable instructions, helping me reconstruct the story. He also demonstrate how emotions are conveyed through actions, telling me how to revise the animation to make the film more expressive.

I want to express my great thanks my committee members, Assistant Professor Brian Larson and lecturer Mark Reisch. They viewed my documents and looked at my animation carefully, provided tremendous valuable suggestions and gave me clearer understanding of how my film should be.

I would like to thank my friend Chongxiao Ma, who made great sound for my film and provided a lot of new ideas for my film. There were still many of my classmates that gave me valuable feedback and I want to thank all the people who gave me support and concern. Without their help, it would be almost impossible for me to accomplish my thesis movie.

Last but not least, I want to thank my family. They shown the beautiful world to me and gave me the courage to do my best to become a special member of it.

# Artist Statements

I grow up in a warm Chinese family. I was greatly influenced by Chinese culture and is interested in Buddhism and Daoism. I wish I could achieve peace in heart and can accept unpleasant things with a smile. I also believe that God exists everywhere in different forms. It is not just statues, books and pictures, but animals, plants and the theory of the whole universe. We should open our heart and enjoy each spot of sunlight through window and each sound made by wind through trees.

The final destiny of artist is to convey his world to others. I wish I could make effort to help people discover the beautiful things around our life.

# Introduction/Overview

The production of my thesis film started in September 2014 and it was eventually completed in December 2015. It was screened in the School of Film and Animation at Rochester Institute of Technology on December 2015.

Half a year before I started the thesis preproduction, I came up with many stories and finally chose one for my thesis. I evaluated the importance of different shots in the story, making the story better convey my ideas as well as technical achievable in 3D software. It's an honor that my committees support my story and gave me many valuable recommendations.

During my preproduction process, I have drawn a lot of storyboards and separate shots taking other animations as reference. I also preform out the story to made reference video for my animatic. To better design the character and environment to make the story more believable, I studied the history and artifact of Han and Shang dynasty. During my production process, I tried many new technologies for rigging lighting and dynamic. To better control my project, I made a detailed list of all my Maya files and described the structure and relationship between then. During half of my production process, I went back to china on a co-op. I came back to school on august 2015 and finished my film on December 2015.

# Pre-Production

I came up with many stories before my thesis course started. During the preproduction, I chosen the story I like most and keep revising it until all my committee members were satisfied. Then I designed my characters and drawn storyboards. After the whole story was clear shot by shot, I acted out the story and took videos for reference. The final step of my preproduction was making simple model and rigging in Maya and creating 3D animatic.

## Story Development

### Inspiration and ideas

Before the preproduction, I have many ideas and there are three stories I like most:

“Feed on Grass”, “Medicine” and “Listen”.

#### “Feed on Grass”

Inspired by: “The chase”



My Story:

A cow learned a hard lesson of greedy by eating too much grass on a strange stone and finally becomes a new stone.

## **“Medicine”**

Inspired by: “Forrest Gump” “The Monk & The Monkey”



My Story:

A lame child's leg is cured by a divinity which is saved by the child when it is in animal to test human's heart.

## **“Listen”**

Inspired by “Valley of the Wind”



My Story:

A blind old man find his way to the temple on a mountain by listening to sound of potteries along the way. His journey is disturbed by an animal which lead the man to a natural temple and give him the fruit to cure his eyes.

## Final Decision

Rather than chose from those stories, I decided to make a whole new story. Because I like the combination of blind old man, small creature and potteries, I try to make a story with them conveying meanings I like in the previous stories.

The new story:

When the old blind potter is praying to the statue portrays the divinity he believes in. A weasel slipped into the room and disturbed his serious ritual. During the chase between old man and the weasel, the statue falls down which traps the weasel under it. The old potter breaks the statue and saves the weasel. When the old man plays music for the weasel. The weasel turn to its original form which is the divinity the old man believes. The divinity cure the eyes of the old man. Then he turns back to the weasel form and leads the old man to the outside world.

I make a list of three meanings I like and try to express them in the new story. I also evaluate how important they are and what is the crucial part.

### 1. To save other is save yourself

Story: Old man tries to heal his eye by pray to the statue. His eyes are healed after he saves the creature by breaking the statue.

Needed shots: 1.Healing procedure during praying. 2. Healing the little creature. 3. Break the statue and see the world.

2. Don't close your heart.

Story: Old man close him self in the house for peace. He learned to enjoy the natural sound outside after interacting with the creature.

Needed shots: 1.Blocking the hole on the wall using potteries. 2. Locking the door. 3. Driving the creature out of the room. 4. See the world and hearing sound.

3. To follow divinity, it is more important to care about the living things rather than pray to the statue.

Story: Old man tries to call god by praying to statue. But god appears when he breaks the statue and save the creature.

Needed shots: 1. Old man prays to the statue. 2. Breaking the statue. 3. Old man cares about the creature. 4. Old man feels the world outside.



# Storyboard

## Storyboard first version





## **Storyboard second version:**

To better tell the story, I read “Grammar of The Edit” borrowed from Charles and taking notes. I also studied some animations I like and take snapshots.

## **Important knowledge I learned in “Grammar of The Edit”:**

The purpose of the edit is to provide enough information for the audience. A good edit should tell the story clearly as well as concise and tight pacing. Different type of shots will provide different kind of information. The motivation of the edit is very important. The motivation could be a new sound, a need for composition, or the result of an action. A good edit should make the audience keep thinking about the story and guessing what will happen next.

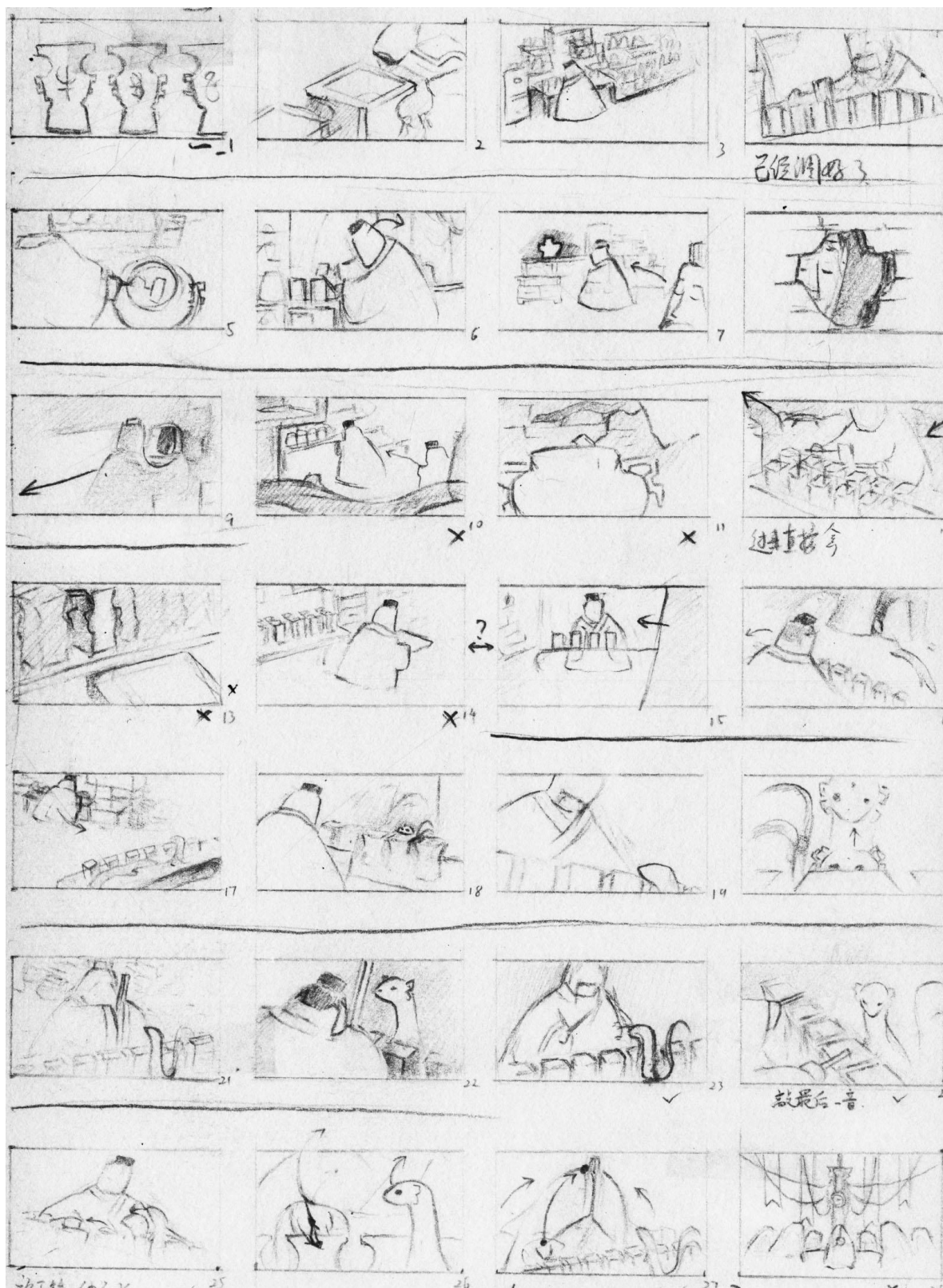
To make shots cohesive, there are several rules to follow: 1. The focus point of audiences' eyes should be driven on the screen smoothly. 2. The camera should follow the direction of the moving object to make the object going out of and coming into the screen in the same direction. 3. 180 and 30 degree rule. 4. Matching angles and matching eye-lines. 5. Continuity of action and sound.

## **Tips of edit I learn during study and practice:**

1. For character with different size we use different focal length to keep them occupy the similar size in the screen. 2. The screen should not cut the face of the main characters. 3. Cut into other people and show their respond while the main character is speaking. 4. Cut should not be bound to dialogue. 5. Three people talking. Should not cut from two people to two people. 6. In close up. It is better to

show most of the face rather than have the face blocked by something or the character's hand. 7. To cut into the same character. It is better to change both camera distance and angle. 8. When tilting the camera, it is better to keep the eye of the character in the screen as long as possible. 9. The movement of character should be slower than the same movement in longer shots. 10. Follow shot is better than the zoom. 11. The movement of the camera needs the motivation of the movement of the character. 12. Pan and Dolly need enough lead room. 13. Pan and dolly should start from and stop to static frame. 14. In talking shot. Two people should in different direction in the screen. 15. If camera is moving with moving character, cut in shot should not be a static one. 16. When an object is the interest of the audience. Two shot should not show different part to make the audience feel it is separate. 17. After to many close up, there should be a wide shot. 18. When a new character need a close up first time enters the sense. 19. Entering a new sense, there should be an establishing shot. 20. During action edit, don't cut from wide shot to close up. 21. To start a cut, let sound driven the image. Before the film start, use sound to evoke imagination. 22. Use music to finish the last part of film. 23. After finishing edit, wait for days and then look at it again. 24. Keep the close up in the important shot. 25. When character turn to look at something, cut to it quickly. 26. Cut at loud sound because loud sound cause blink. 27. Make use of natural wipe. 27. Not cut between pan and tilt with different direction. 28. In action cut. Character's movement should be a few frames after the first shot because cut will cause the feeling of time passing by.

# New storyboard-1

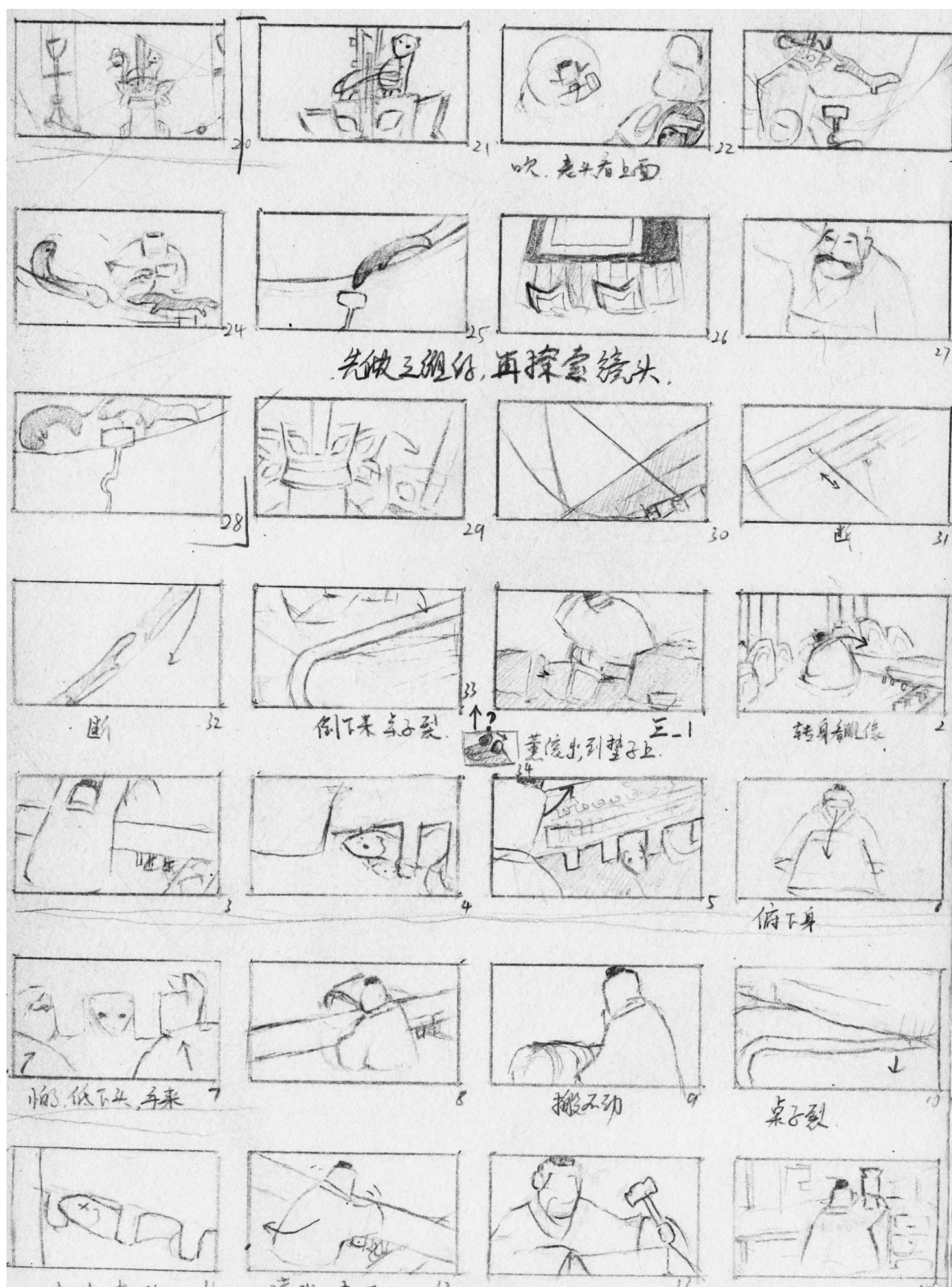




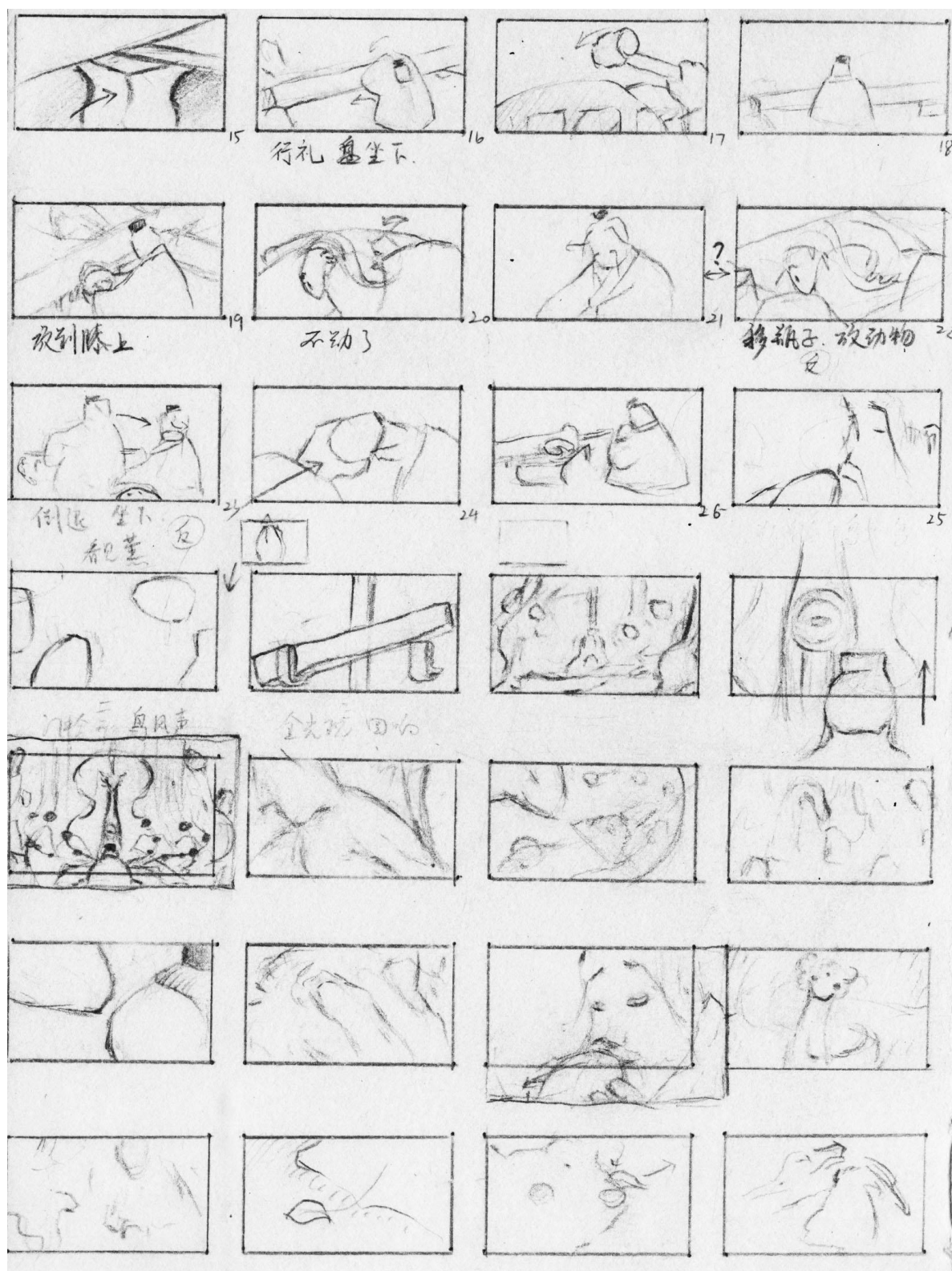
# New storyboard-2



# New storyboard-3



# New storyboard-4





# Animatic

## Reference video

Before I make the 3D animatic, I tried to act out the whole story, record it and make a film as a reference. I had a hard time at first try to act in front of the camera. I also feel it is very difficult to act out naturally. It is very easy to be nervous and think too much which makes my action slow and machine-like.

To solve the problem, I read some books about acting and learned a lot from the book "An actor Prepares". In the book says to act is to experience and the basic of acting is to control the unconscious natural behavior consciously. When you make an act, what motivates you movement should be the cause of certain reaction recorded in your mind. One can evoke emotion and really merge into the story by doing small task by task in logic order, concentrate on the other character's action, and observing the environment around you and try to attract other actor's attention.

Other tips of acting I get from this book:

1. It is very important to study and remember daily live. It is very effective to take notes of the cause of each action and the reaction in mind.
2. To merge into the story is to experience it. To act like real is not to imagine how to act but to really thinking about the solution for the task in the story. All your thoughts should be honest. Each meaningful movement build up the meaning of the whole story and makes actor go into the story.
3. Try to relax. Take the stage as your home and be credulous like a child.
4. There will be coincident happening when acting. Make use of those unexpected event will help to relax and to create the story.

5. To bare the main task in mind. When we really know what is our purpose and problem to solve in the story, every small task have its meaning and each action will be natural and meaningful.

I also realized that stage property is very important. If there is nothing to interact with, I have to think about the story and act as if something is there which will cause a slow movement. The props can be anything of the similar size in the story. I can take them as the real thing when acting. The props will create a space and environment to bring the story to life.

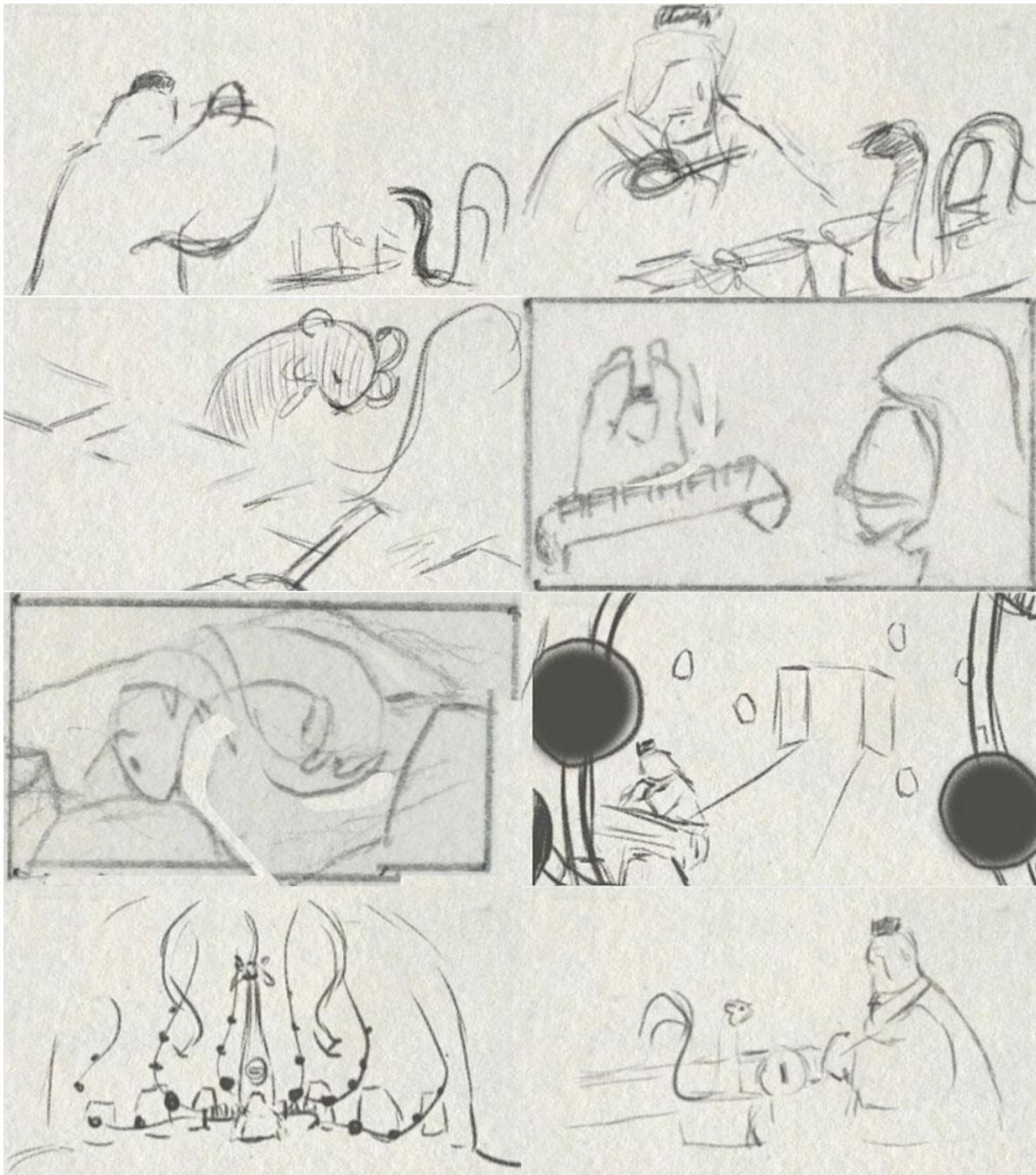
Picture sample of my reference video :



## 2D Animatic

I import my storyboard pictures into After Effect and make the first animatic. The 2D animatic is actually made before I record the reference video. The main function of the reference video is to help me adjust the sequence of movements and make the whole structure of the story clearer in my mind.

The 2D animatic is on vimeo: <https://vimeo.com/145642853>



### **3D Animatic**

After I made the 2D Animatic and recorded my act, I had a good sense of the story and the timing. Then I started to build simple environment and low poly rigged characters. While doing modeling work, I thought more about the relative size between characters and environment. I also thought about where different actions take place and how much space is occupied. The 3D animatic is made of a sequence of still shots tightly followed the storyboard.

Because in 3D space I have more freedom to test different camera angles and make more interesting shots. I spent a lot of time adjusting camera to create the most expressive shots. I found that the space of the house is limited and the composition of some shots in 2D storyboard will not achieve in 3D space. The hardest part is to keep the two characters have similar size in shots, because the weasel is much smaller than the old man and the distance between them is very close. I find it is very useful to change character size by changing the focal length, but the width of the camera should be 120 degree in most of the time. Because 120 degree is similar two human eyes and will make the animation look real. As I change the shots, I keep adjust the story to better fit in the 3D environment.



The 3D animatic is on vimeo: <https://vimeo.com/145642966>

Sample of the 3D animatic:



# Concept Design

Because my story happened in ancient china, I studied a lot about Han dynasty and Shang dynasty. I also study the arts in Mogao Grottoes and make a combination of several representative art style.

## Background Study

In ancient china, Pottery is the most important part of people's material life and worship is the most important part of people's spiritual life. Bronze is very valuable. Except for making weapons, they are also made into bronze wares which are owned by wealthy people. Bronze wares are used for celebration, worship and emperor meetings. For ordinary people, they don't have the access to bronze ware. Potteries are often made into the shape of bronze ware. They are used for drinking wine, cooking food and worship god. From Shang dynasty to Han dynasty, the technology of making pottery keep developing and pottery is in the middle of become ceramic.

## Character Design

### Blind old man:

The old man cannot see things. He is very conservative and stubborn. But he is very sincere and kind-hearted. I searched for many picture about blind person. I also find many pictures about old Chinese soldier that best represent sincere and hard-working people who had gone through the hardest time of china.

Old man reference I found online:



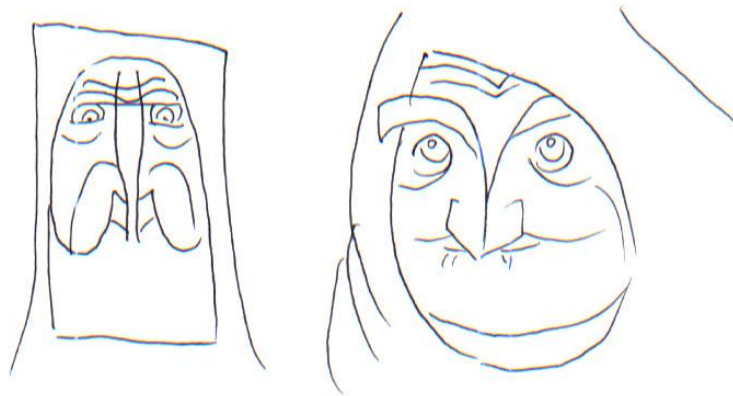
I also found the design of old man in “up” works very well. According to this design, I decided to make the old man’s face more like a square. He will have a pouting mouth that show he is a stubborn people.



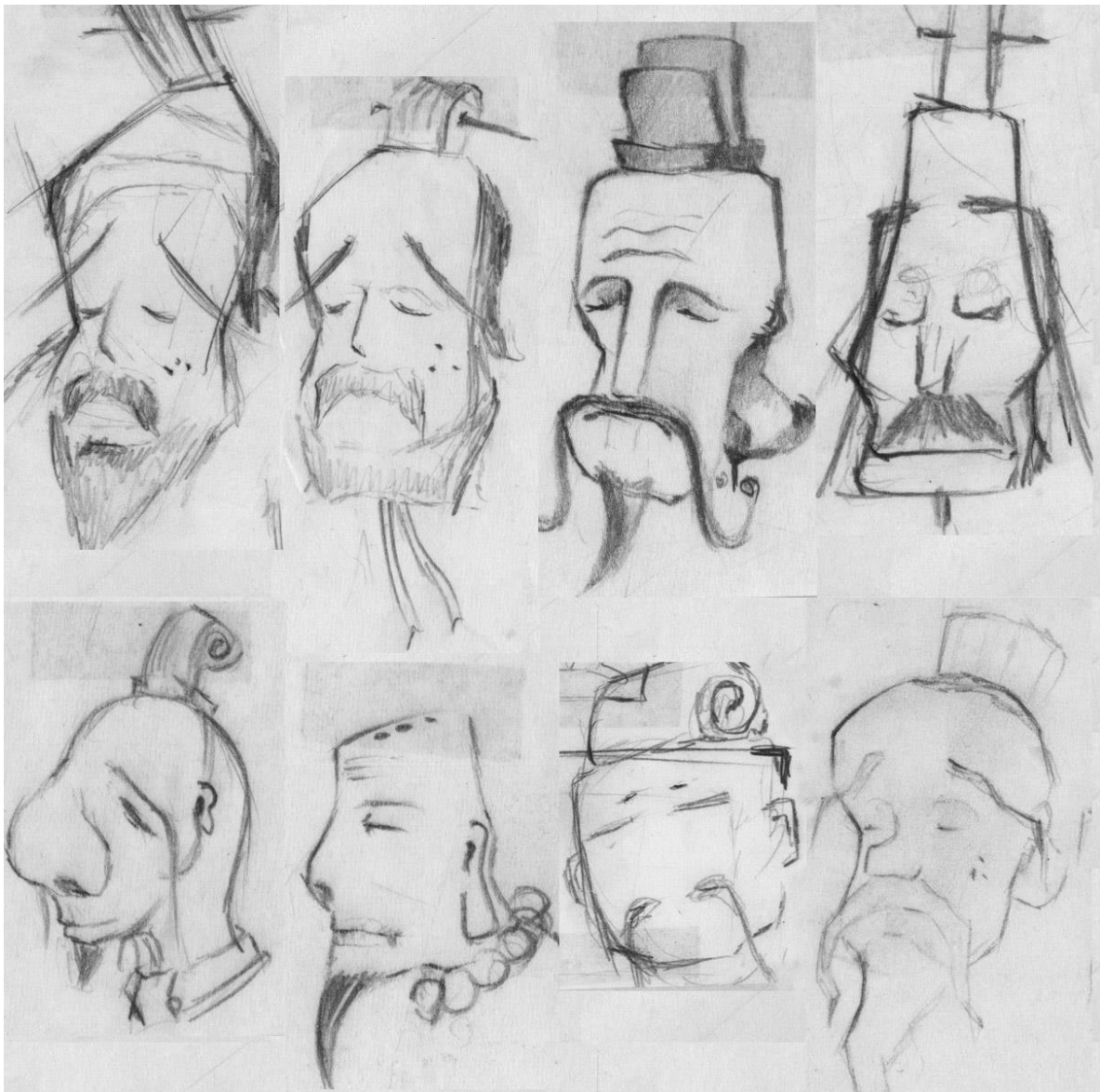
Because the round nose is funny and clown like. I did not follow the design of the old man’s nose in “up”. The old man has tight self-discipline and noble faith for god, which reminds me of “The Secret of Kells”. So I use the nose design of the main character’s uncle and teacher.



Sample of the uncle and the teacher:



I made some attempts in of different face structures:





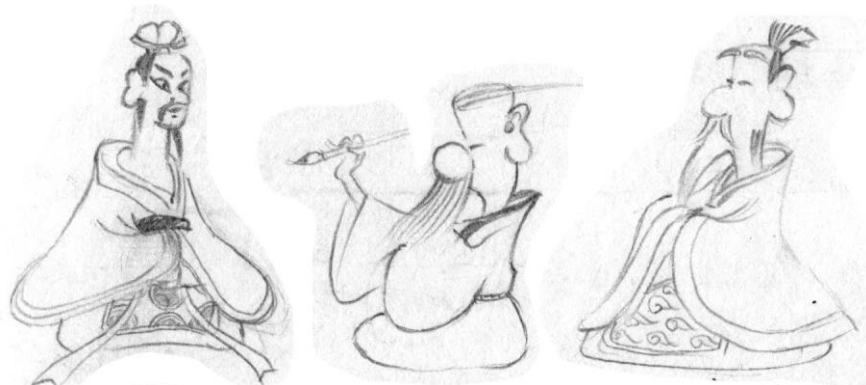
I chose the design I like best and make several adjustment:



The old man is featured for his eyebrows, beard and mole. I first tried to make him looks not happy and distressed like a curmudgeon. Then I tried to make some exaggeration and made him stranger and more stylistic.

After satisfied with the facial design, I started to design the body of the old man. Because he stay in the same place for long time and is very hard working, I gave him short legs but long arms. I also read a very famous educational cartoon series by a Chinese cartoonist and study his designs.

Example of my copy of the design:



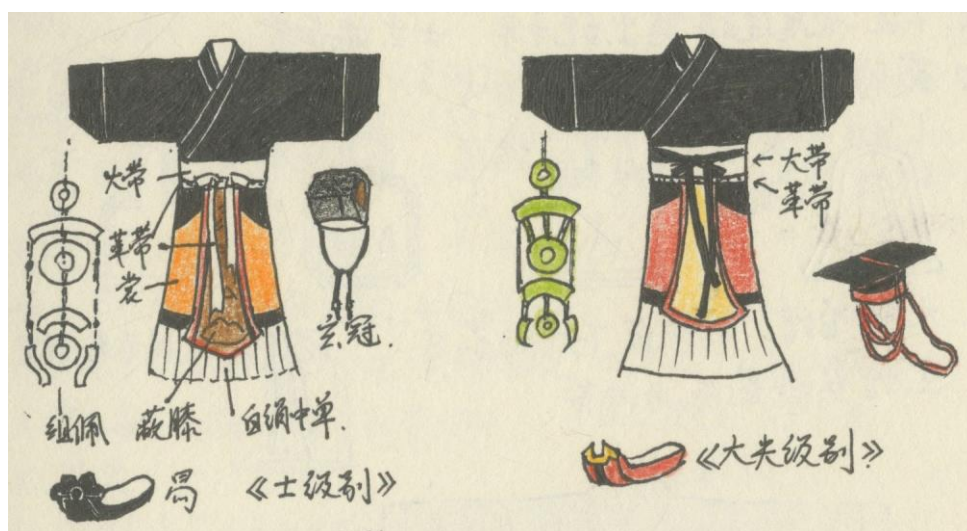
Example of my copy of the design:



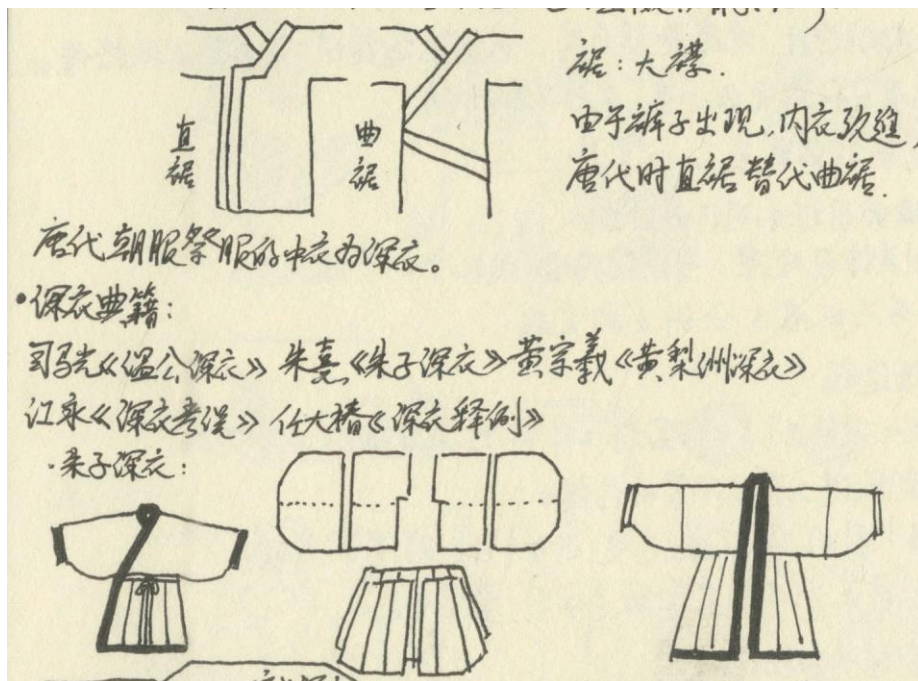
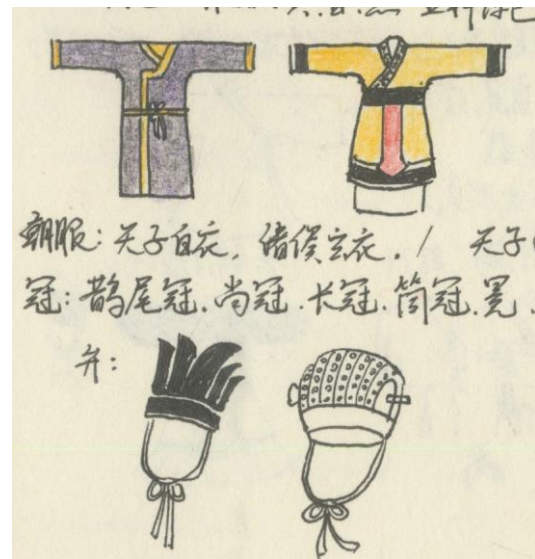
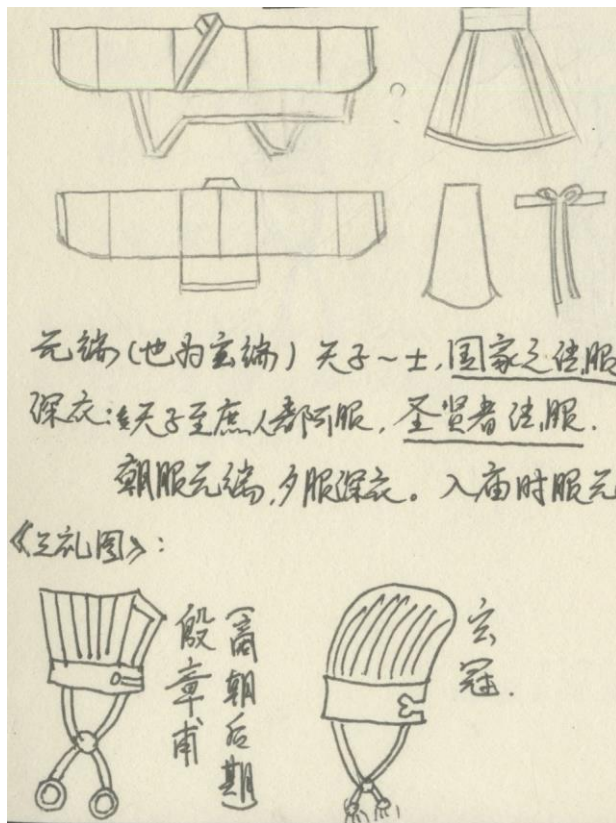
The cloth is called Han Cloth. The design started at Zhou dynasty, developed in Qin dynasty and mature in Han dynasty. I read books about the cloth design and search online for picture reference.

The most famous Han Cloth is Xuan Duan, which is the main cloth in Qin dynasty. At that time, the emperor, officials and other stuff have the similar cloth. The difference is in the hat and symbol patterns.

The design of Xuan Duan I copy from online picture:



Different parts of Xuan Duan:



There are many more designs in hat. Actually in each dynasty, there are many different kinds of hats. Yes, people wearing many different hats.



## Han Cloth for different people



Though Han cloth look sick and cover too much of the body. It is actually very suitable for wearing during summer. The cloth will prevent a lot so sunlight and the texture and space inside the cloth will create airflow which cool down body.



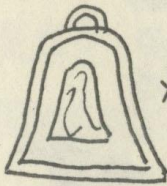
Other sample of my notes:

周制玄端复原图 (来自百度玄端吧)

一. 垂胡袖 (圈袂) 二. 衣在裳外, 续衽, 衣领与衣同色 (无白线)  
三. 下裳 长度过膝 露出白色中单 士玄端黄裳.

四. 蔽膝 商代为斧形 周代为方.

《三礼图》同裳色, 黑边.



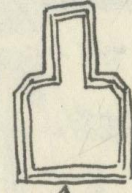
天子  
火龍直



諸侯  
火山



大夫  
山

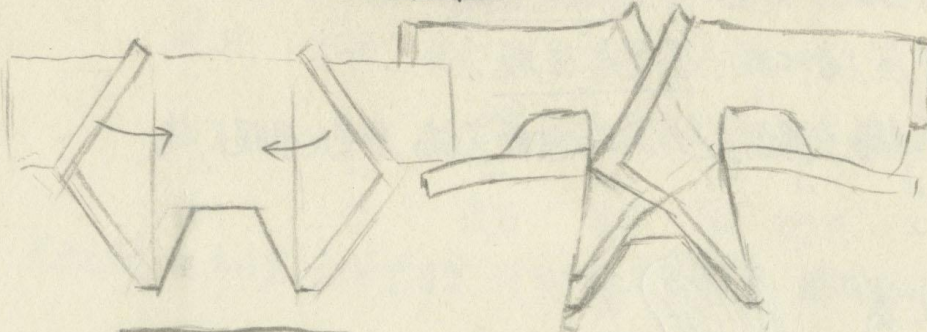
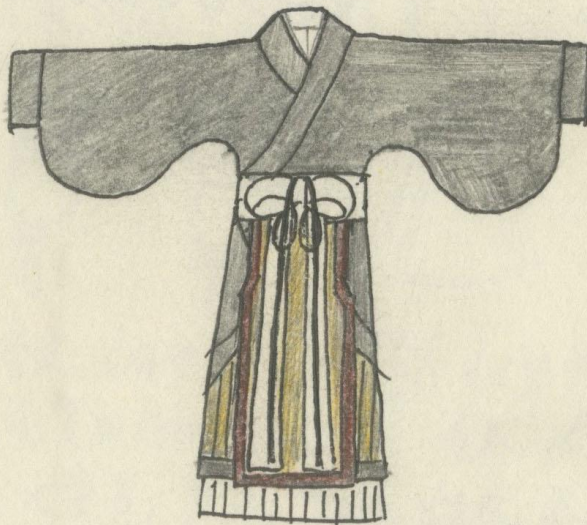


士  
正.

五. 大带 白缙. 蝴蝶结下垂伸与蔽齐.  
黑缙丝绦装饰, 与伸齐



暗赤色, 近黑.



下裳前三后四.

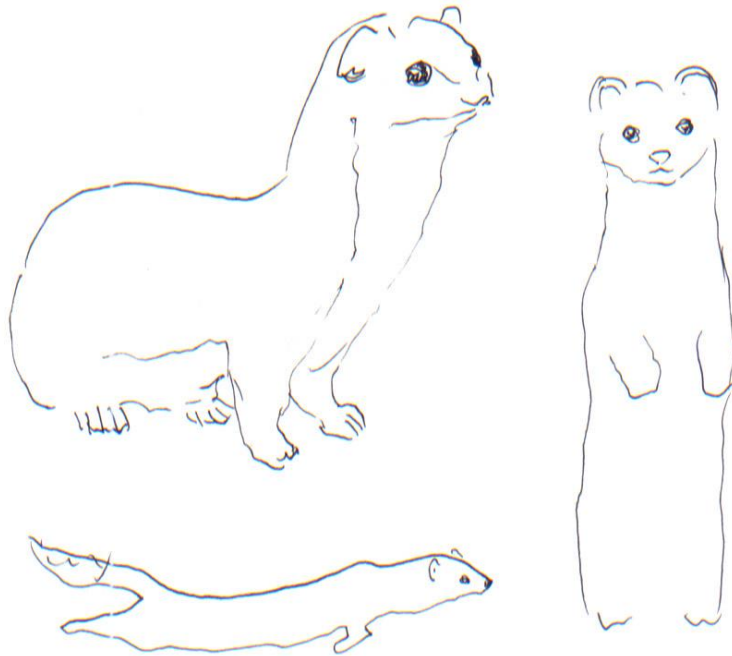
Emperor and officials have different pattern on their cloth which has meanings:



The dragon represents ability to change. Peacock on behalf of cultural truth. Stars means wisdom. Hill represents what human admire. Phoenix represents the sun. Rabbit moon. Ax representatives decisive. Fire represents the light. Monkey-tiger represents filial loyalty. Rice represents breeding. BA represents goodness.

## **Weasel: The messenger**

I use weasel as the prototype of the creature in the story. I searched online for picture and video reference.



Because from these pictures we can't see how long the legs and necks really are of the weasel. I also search for the skeleton of the weasel. It is very important because I have to think about how to rig the model and know the movement limitations of the character.





I tried to design different kinds of weasel. I use different size of head and body. I also use different kinds of tails and ears to make the weasel look unusual.

Weasels I designed:



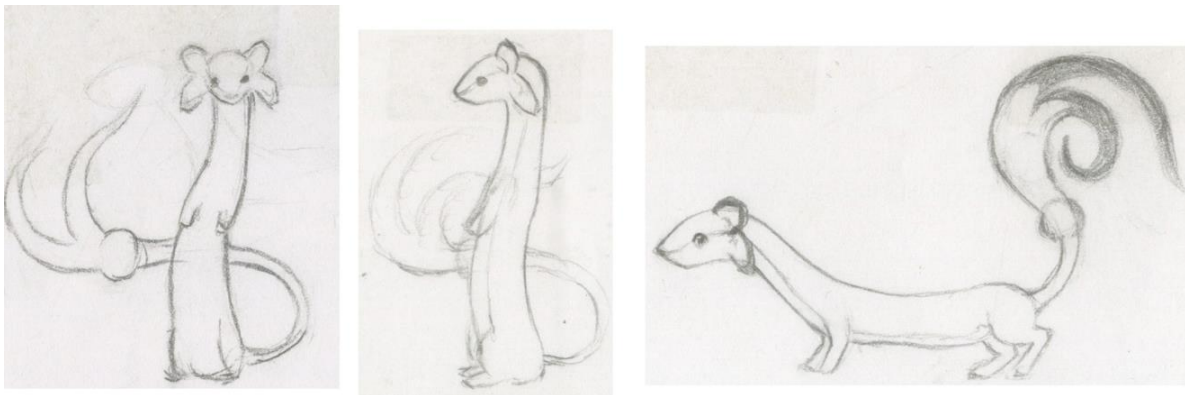
During the design, I had a hard time to make the weasel not looks like a rat as it has thin tail and big ears. The crucial part is the size of the head and the balance of front and back legs.



I also have other drawings that try to make the weasel more stylized:



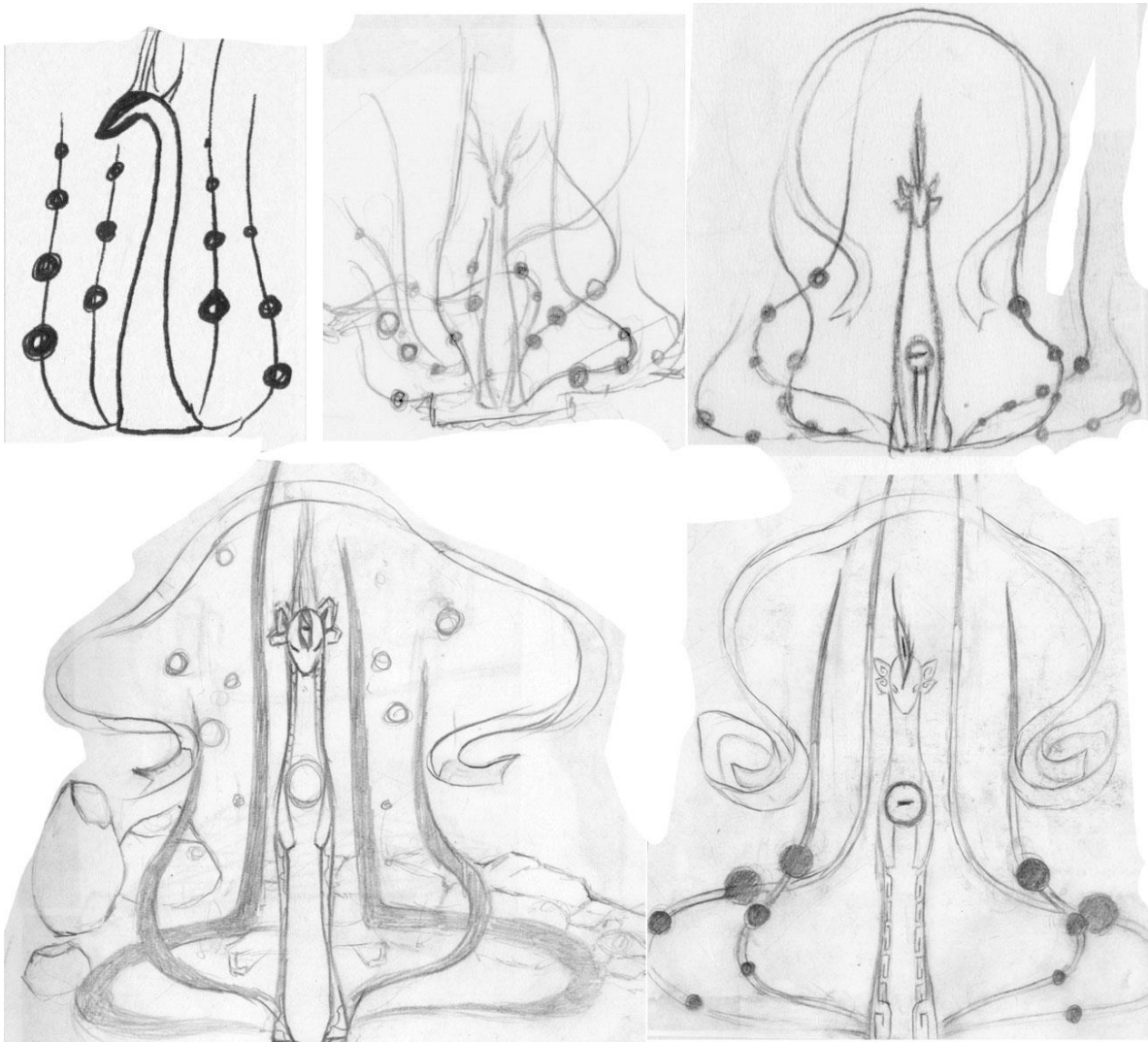
I found the shape of weasel bound my creativity. I try to make some exaggeration. But they don't look cute. Also because my story is more realistic, I finally chose one of the previous designs and keep developing it as drawing different poses of the weasel:



## Divinity

The divinity is the evolution form of the weasel. So they will have the similar look. It has ribbon and floating tails. As well as a floating fur above head which has the shape of the word sun in Chinese.

Development of divinity design:



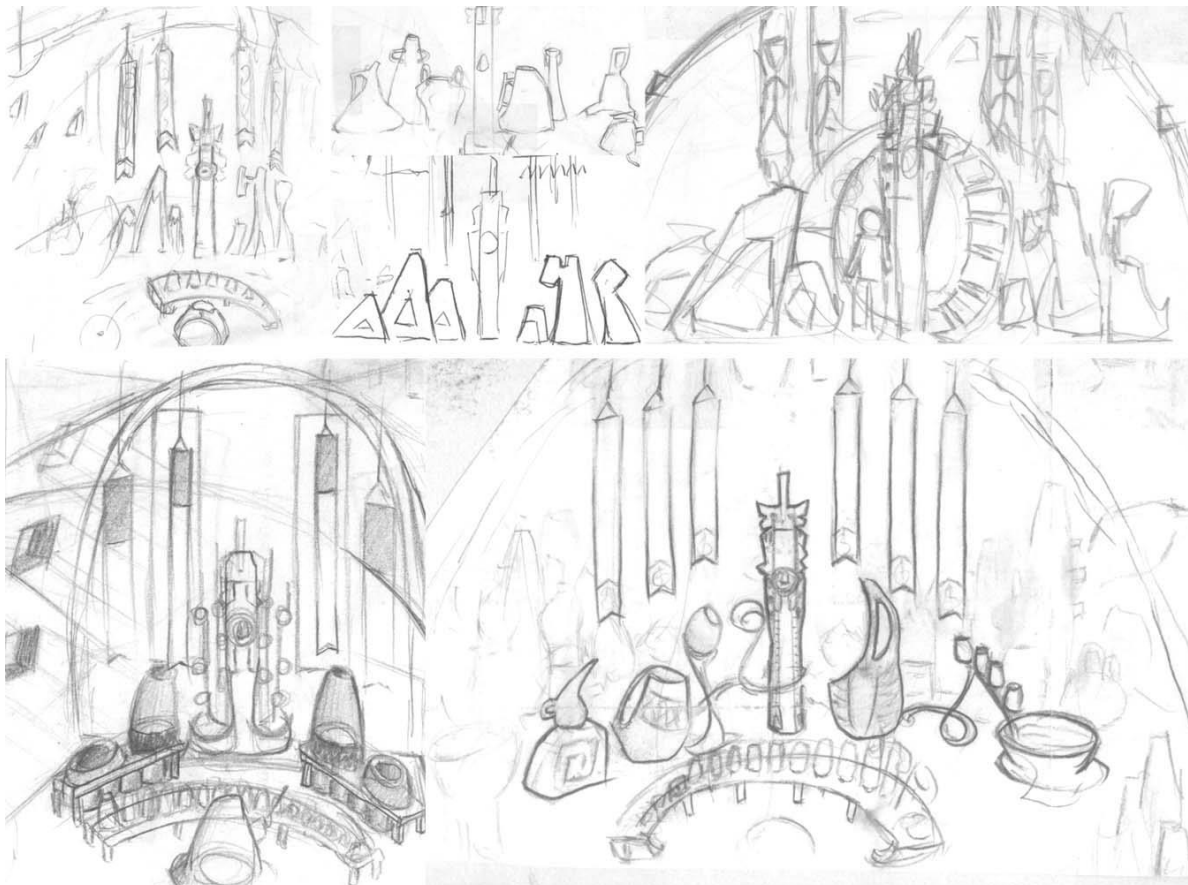
The final model is not the same as the design above. During modeling, inspiration came and the new god looks cool in 3D space.

## Environment Design

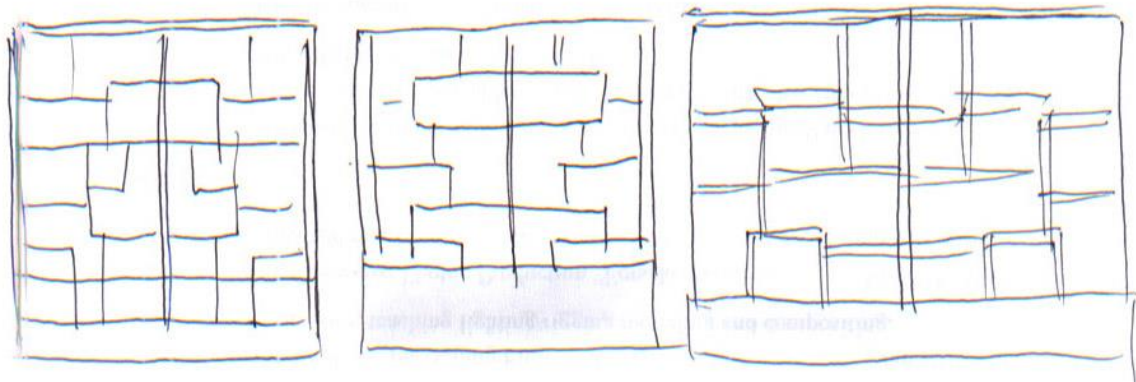
The story happens in Xian, which is the former capital of china for thousands of years. A typical kind of building there is Yao Dong. Potteries are also made in the similar buildings, which is the best place the story happens with a lot of potteries. I searched for many reference of Yao Dong in Xian. I also read books about Mogao Grottoes and study its buildings.



Taking arched design into consideration, I design the settings in the room:

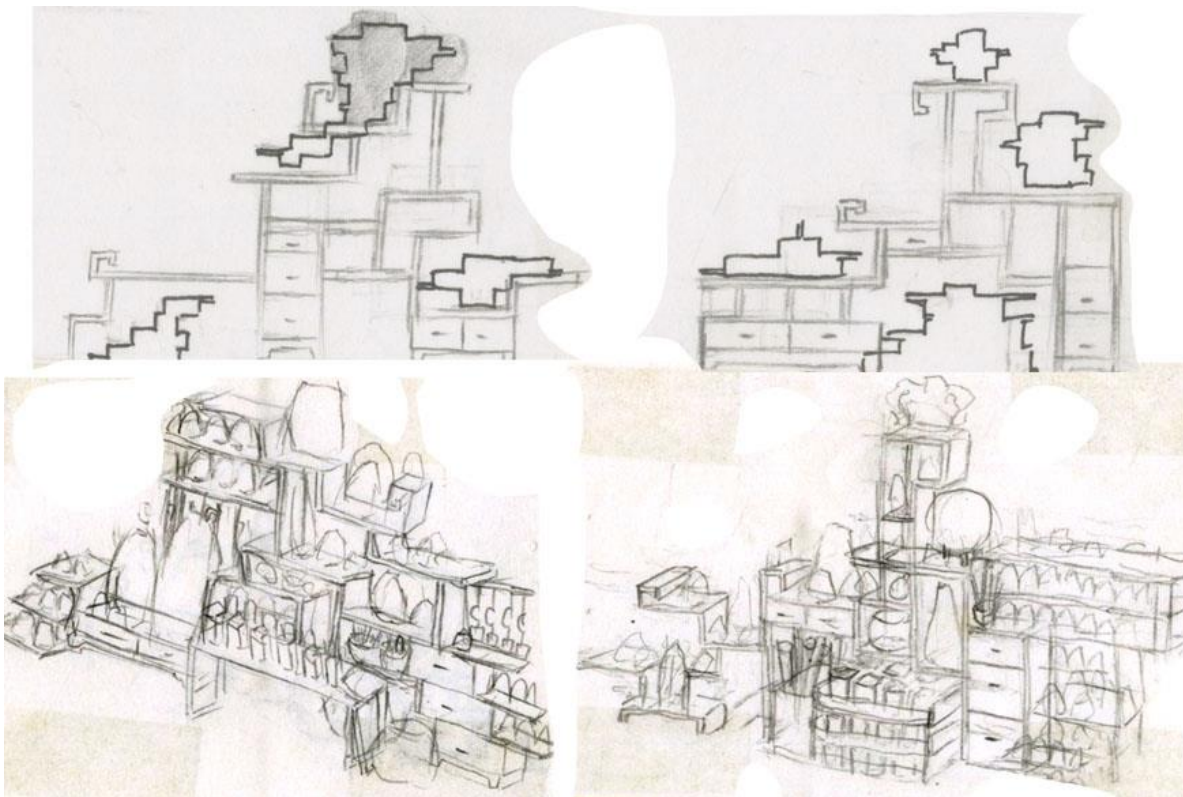


China has very unique antique shelf. So I used it to design the shelf which support a lot of potteries in the room. Here are some reference pictures:



The shelf I designed:

I try to make it more strange and stylized. Because the potteries block holes on the wall, I also had thought about how the shelf supports the potteries to cover those holes and looks natural.

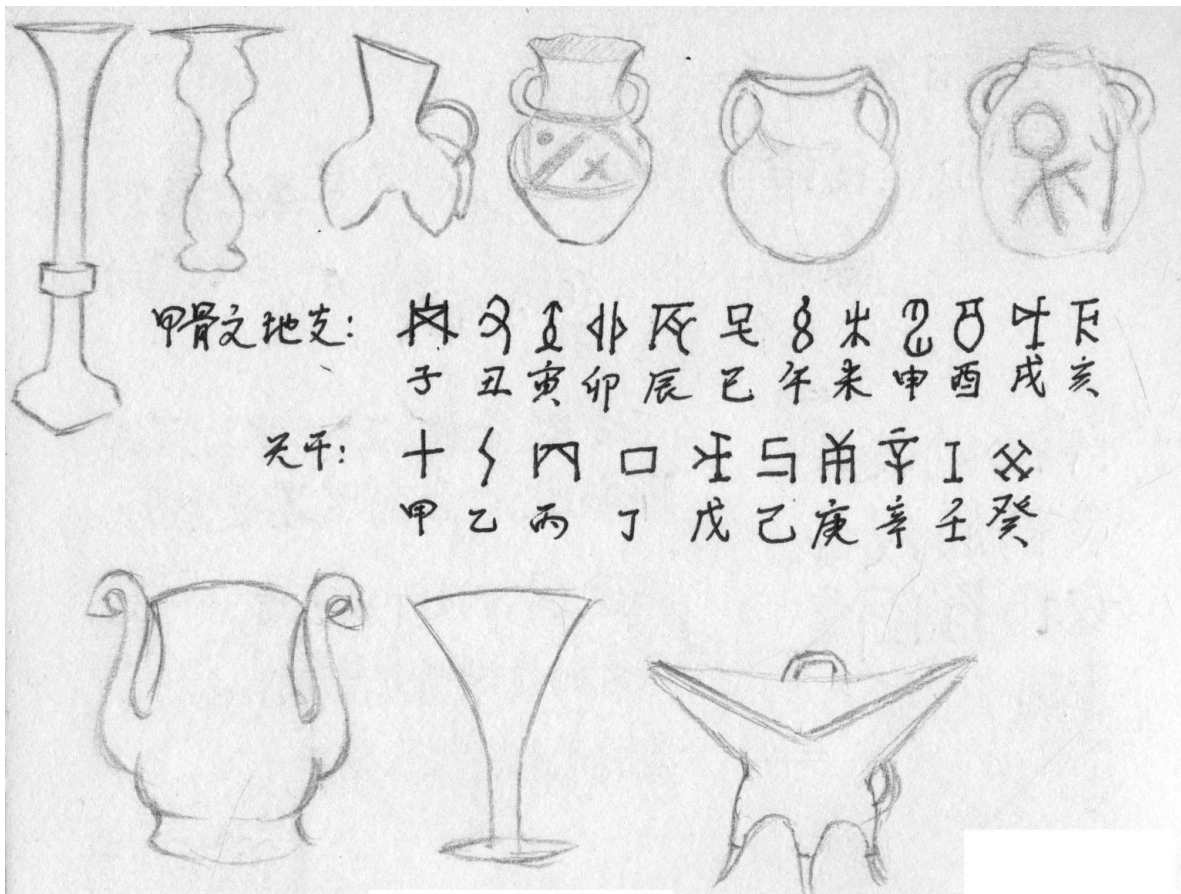




## Pottery Design

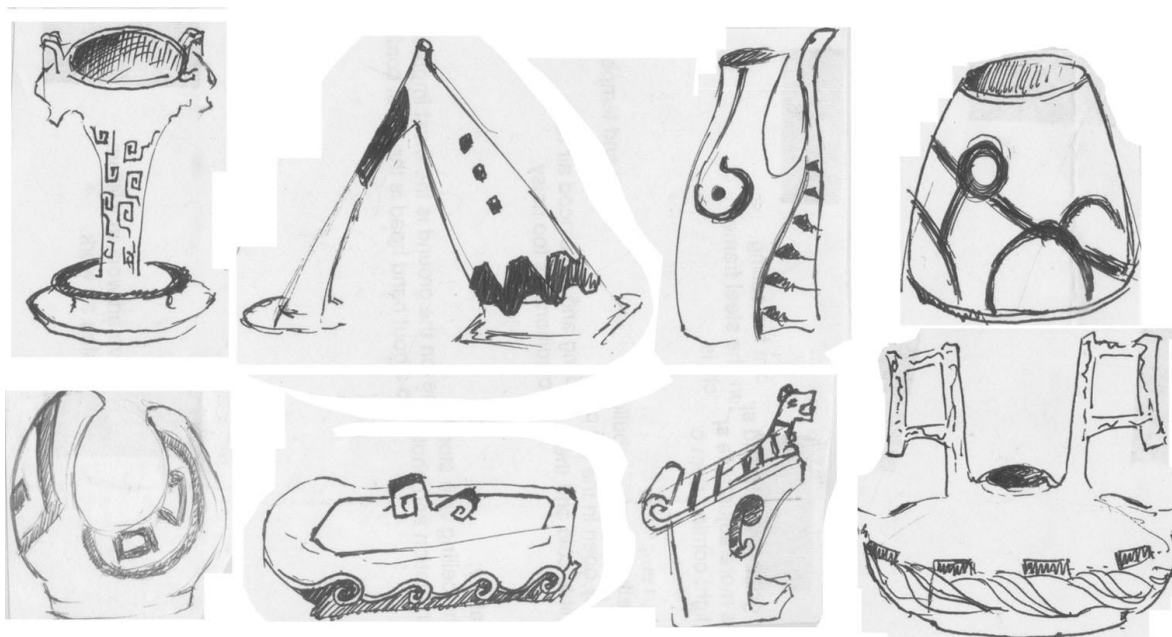
I was fascinated by the pottery in a period and place of china called Yangshao. The potteries at that time have very strange shape and image on it. I also study the bronze ware in Shang dynasty and Sancai Pot in Tang dynasty.

I draw some picture about pottery in Yangshao period:

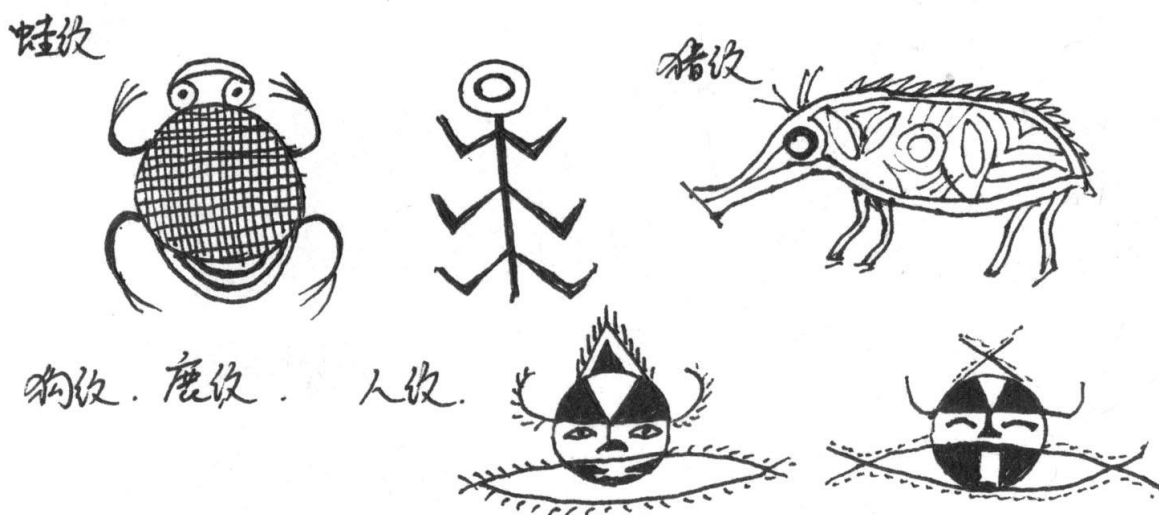


According to these potteries, I tried to design potteries by myself. But the Potteries I design is too complicated and do not looks very ancient. During the design I found the ancient texture and pattern is relatively simple and made up of many primitives.

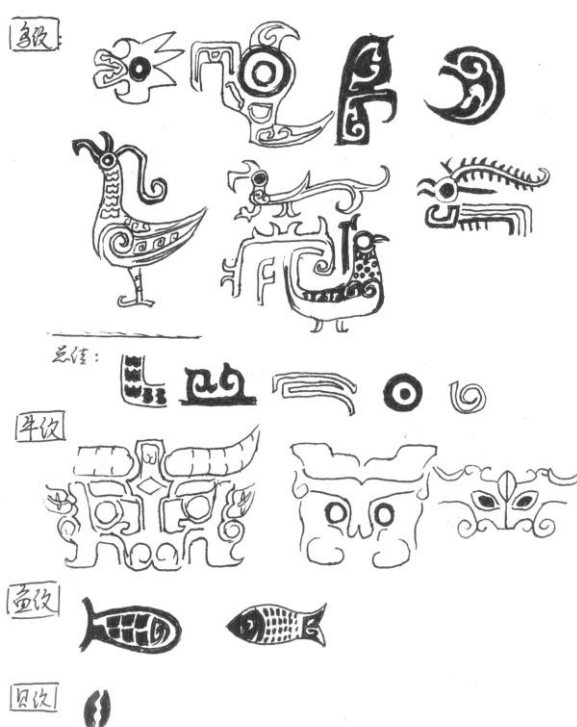
Potteries I designed:



I started to study about the patterns in ancient potteries. I read books and take notes about the combination of textures. Some texture a closely related with daily life such as human, pig and bird. Some are very abstract like modern arts.

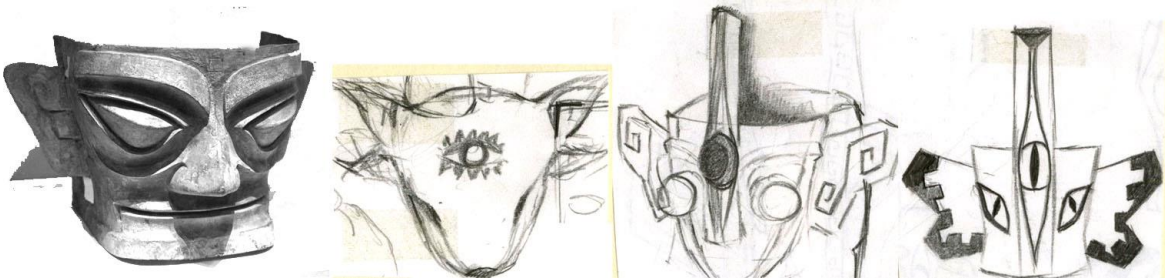


I also studied bronze ware. Because potteries are often mimic the shape of emperor's bronze ware. I also studied the texture of bronze ware.

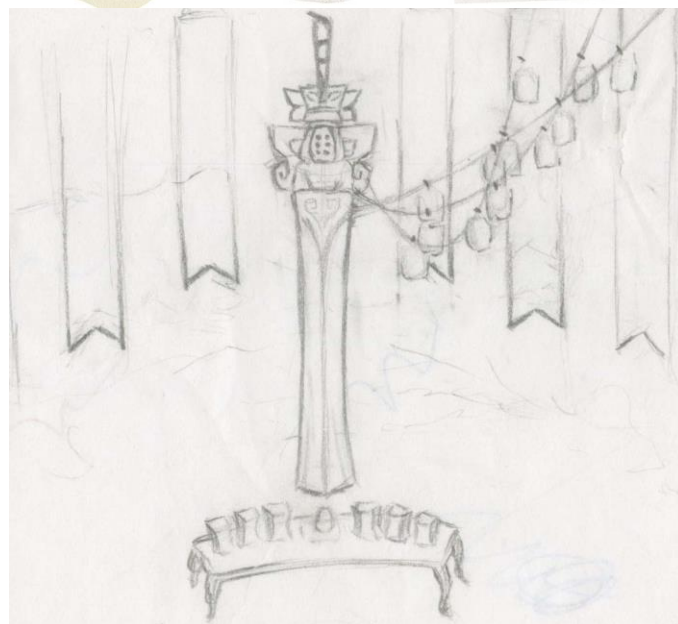
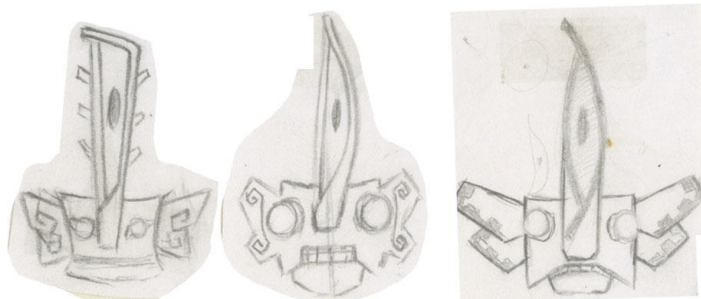
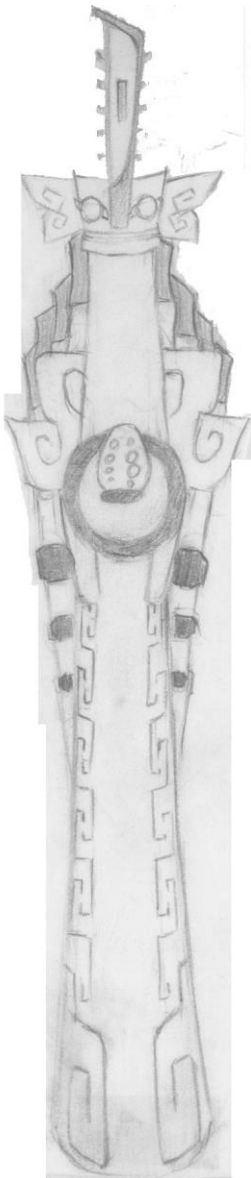


## Statue Design

I use the bronze mask in Yangshao period and the god as the prototype to design the statue's face. I should look strange and scary but have some similarity to the god which make people think the god appeared is what the statue stands for.



I designed several statue head. And chose one that is well balanced.





## Color Design:

I like the style of many art works. Because this story happens in a room with dark environment, I want to achieve the light feeling in Rembrandt's paintings. The story is about faith and I want to mimic the style of Buddha art. I also like the peaceful feeling from Chinese painting and water color. So I try to make a combination.....

Though a lot of adjustment, I finally made this:



# Production

The production of my thesis animation takes a year. After I finished the pre-production at school. I went back home to do the production of my film for half a year. Then I went back school again and use another half year to finish my animation. As an independent 3D animator, I take the responsibility of the whole producing process using 3D and 2D software.

## Workflow

### Production procedure

8 minutes animation is a huge task even for a team. Because I am an independent animator, I should take more effort to make a well structured plane that will help me to finish the task. Before I make the plan, I make lists about technology may be required for different shots in the story. I also do many simple tests to see whether some new technology could be used and whether certain workflow works well in different environments.

The main process of the production is: 1. Modeling 2. Rigging 3. Animating 4. Texturing 5. Lighting 6. Rendering 7.compositing.

For the need of the story, I do some research of new technology. I studied Xgen in Maya. It is a plugin for making fur. It can create fur better than Shave & Haircut and is supported by school computer. However, I did some practice and find the render farm at school does not support it very well. Also the render speed is very slow. I also try different cloth system and dynamic system.

这时。

< Reference 结构 >

Amesh - Weasel

2012 Arig - weasel - ver1 ← Arig - Weasel Tail - Ver1

2012 Arig - weasel - ver 2 dyn ← Arig - Weasel Tail - ver 2 dy.

2015 Atexture - Weasel - ver... (x Gen Shader) 2012 Arig - weasel - ver 3 dyn... ← Arig - Weasel Tail - Ver 3 dy.

Arig - Statue ← Amesh - Statue Amesh - GoodBody

Arig - Good Body

Agather - Good

An Cloth - Good Hair ...

An Cloth - Good Tail ...

An Cloth - Good Ribbon ...

2012 Amesh - Oldman

2012 Arig - Oldman

2012 Acharacter - Oldman

2012 Acollector - Oldman

2014 Aqualoth - Collision Calculating (export Cache import Clips)

2014 Astage Mesh - xxx ...

2014 Aqualoth - Oldman

2014 AnCloth - Oldman

2014 Agather - Stage Mesh (不破前, 不破后?)

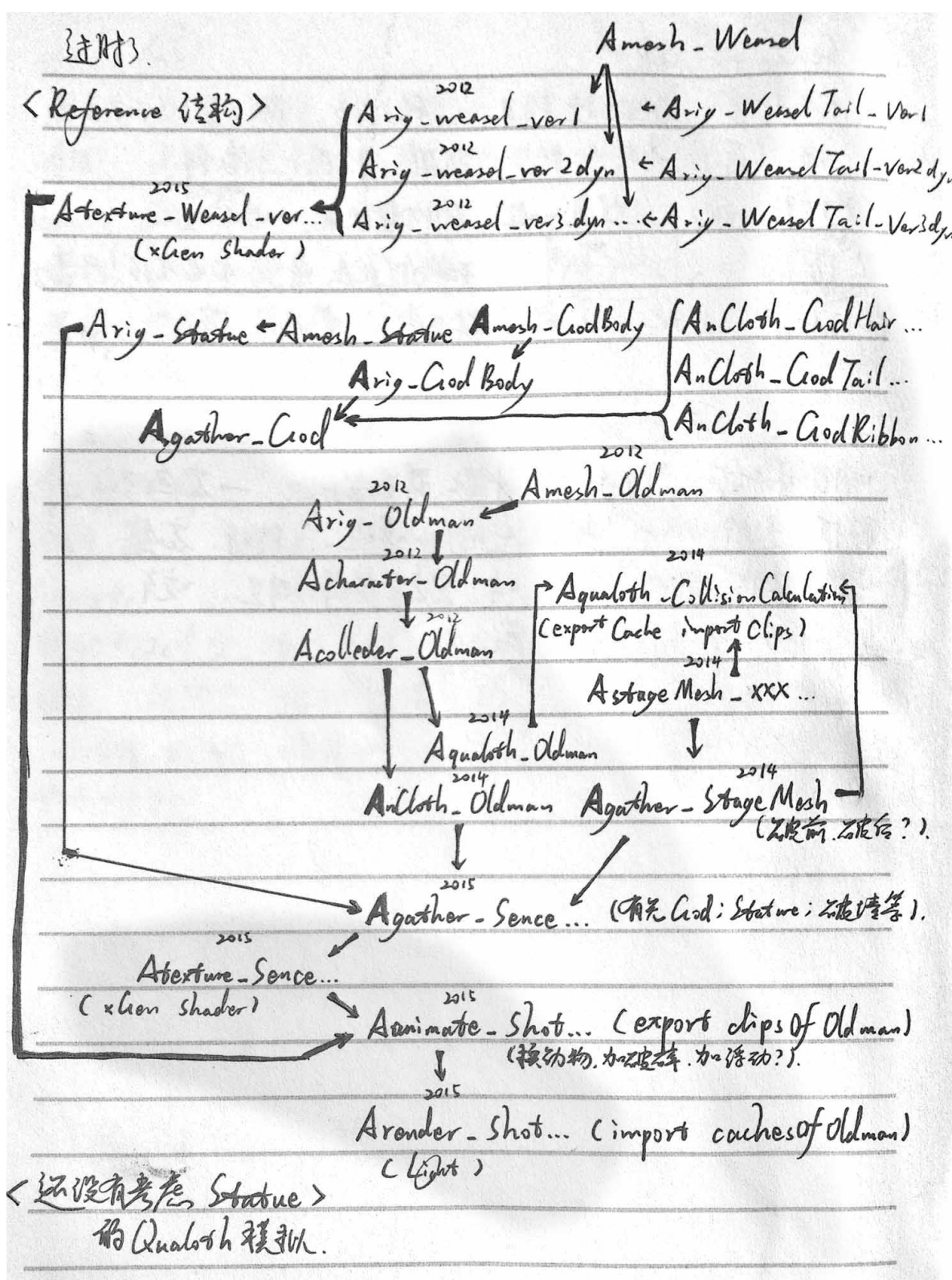
2015 Agather - Sence... (有关 Good; Statue; 不破墙等).

2015 Atexture - Sence... (x Gen Shader)

2015 Aanimate - Shot... (export clips of Oldman) (换动物, 加建筑, 加活动?)

2015 Arender - Shot... (import caches of Oldman) (Light)

< 还没有考虑 Statue > 的 Qualoth 模拟。



## **Software**

The main 3D software I use is Maya. Because the need of different plugins, I use Maya 2012, 2014, 2015 and 2016. I use Zbrush for modeling, advanced skeleton for rigging, qualoth for cloth, photoshop for texturing, Mentalray and Vray for rendering, After Effect and Premiere for editing. I also tried Perforce and Github for version control and try to create some plugin using mel and python in maya. I also tried Xgen for the fur of the animal and Arnold for the character rendering when the render farm does not support my old version maya file very well.

# Character Development

I first made simple model of the three characters in 3D animatic. During this stage, it is important to transfer the style of 2D design into 3D space. I created many polygon primitives to feel the big shape of the character. I used different materials for polygons made up different parts of the body. After I finished the look development of the simple characters, I combined all the polygons as one mesh and rigged it using the basic tools in Maya.

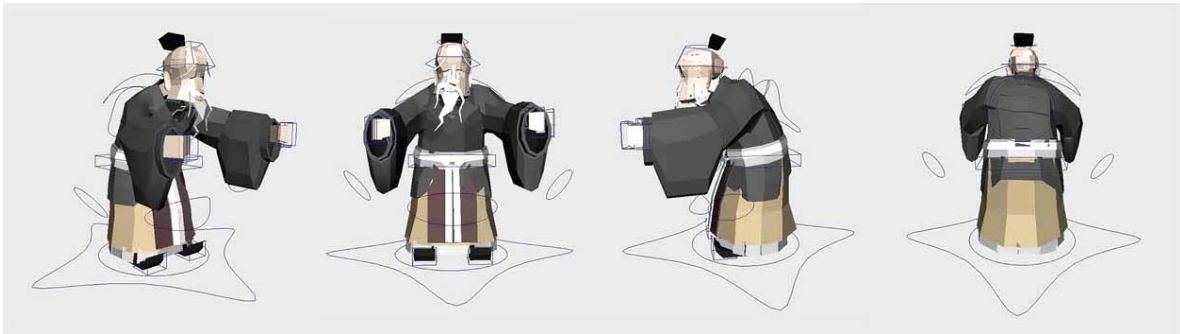
After the animatic was finished, I used the draw mesh tool in Maya to create low poly characters with clean topology. Draw mesh tool has the function attaching polygon point to another mesh, so I used the models in animatic as reference meshes. After the low poly characters were created, I imported them into Zbrush to sculpt detailed model. Using Zbrush, I exported normal mapw of the characters and did UV layout. To speed up the rigging process, I studied a Maya plugin named Advanced Skeleton. It was created by a rigging master who wants to make animator's live easier. I also learned another Maya plugin named qualoth, which is a great tool for cloth simulation. I also studied hair system and ncloth system in Maya and tried different ways of driving the god's tail.

After rigging, I searched online for a lot of cloth and fur images and used Photoshop for texturing. It take some time before all texture looks cohesive.



## Old man

Simple rigged model of old man used for animatic:

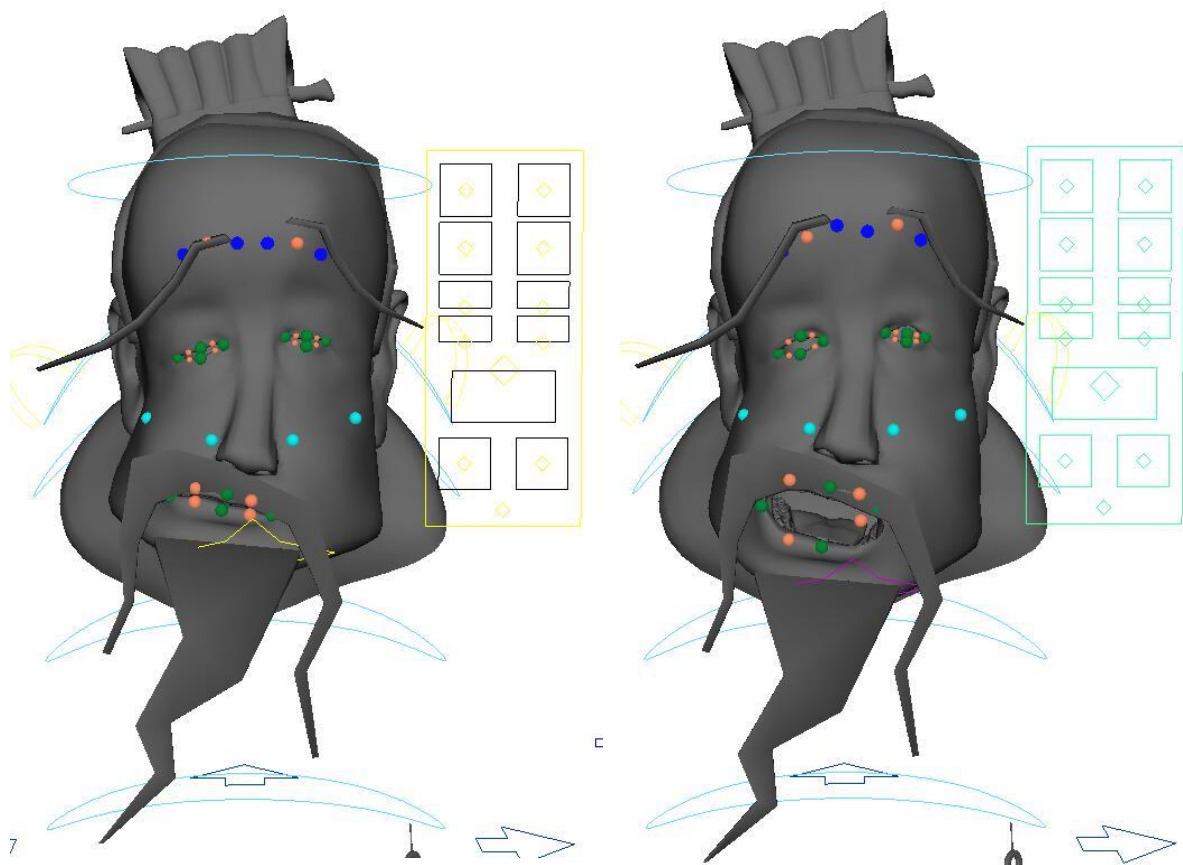


High poly model in Zbrush:

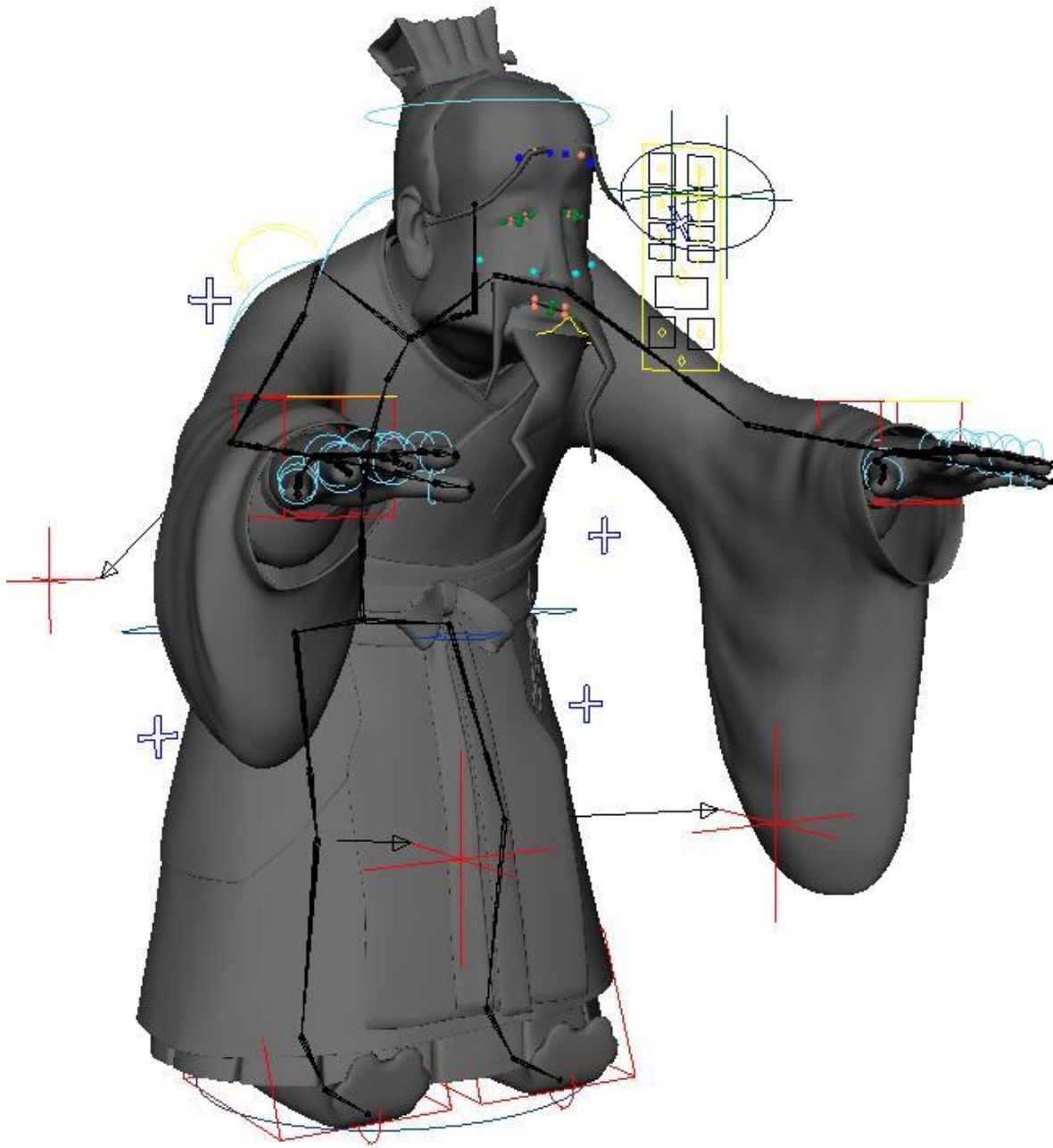


To create the dynamic of old man's cloth, I use the Maya plugin named Qualoth. It create much realistic cloth movement than nCloth because the air drag and stretch of the cloth is more physical based. But the problem is the render farm of RIT does not support qualoth. I have to figure a way to make it work. I first use qualoth to calculate the movement of the cloth and save in a cache. Then I make a copy of the mesh and set it as an ncloth. I make the ncloth attached to the qualoth mesh with cache and then create another cache for the ncloth attached to the qualoth mesh. I use the ncloth as the movement container for Qualoth and use it to render in school's render farm.

I use Advanced Skeleton to rig characters. It is a node based tool to create rigs for creature with any structure that controlled by bones. It also provide a very effective build-in tool for ordinary facial rigging. It creates different face pose and use cloth system to create in between movement of the face. I also use advanced skeleton to create rigs for the tail of the god. But I find it has to many controller and it take a lot of calculation when I use it in combination of the ncloth system. So I use other rigging method for the tail of the god.



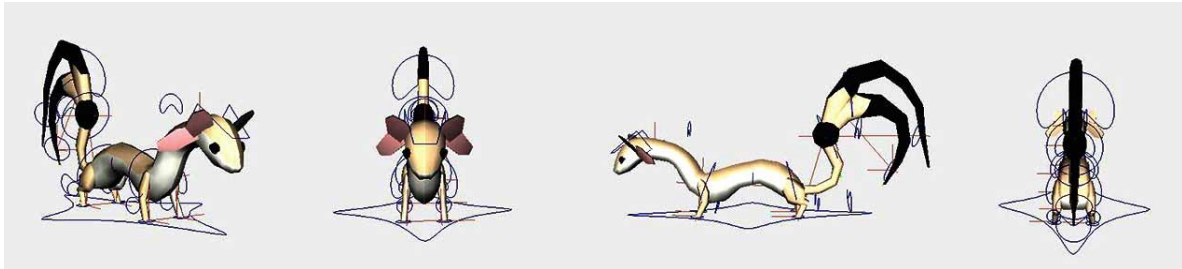
### The final rig of the old man:



During animating, I find the arm is a little too long. Also, the calculation of qualoth will break from time to time if the movement is fast. So I give up the dynamic of the cloth system. The good thing is the facial rig works great and the weight of bones works fine with the big cloth old man have.

## Weasel

Simple rigged model of weasel used for animatic:

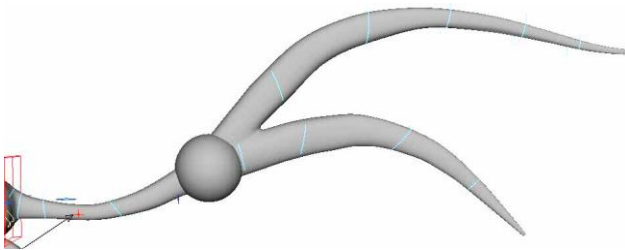


High poly model in Zbrush:

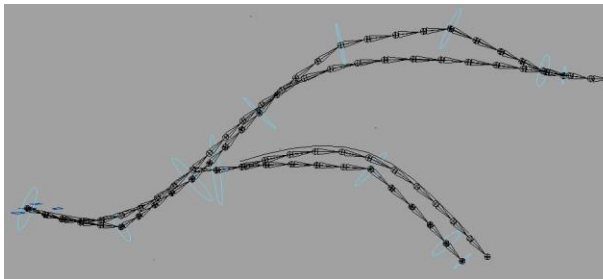


To rig the weasel, I use three different ways for the tail. 1. Spline controller. 2. Rotation controller combined with dynamic. 3. Spline with dynamic. I finally use the third method, because it has fewer controllers to animate and is not too hard to control the pose of the character.

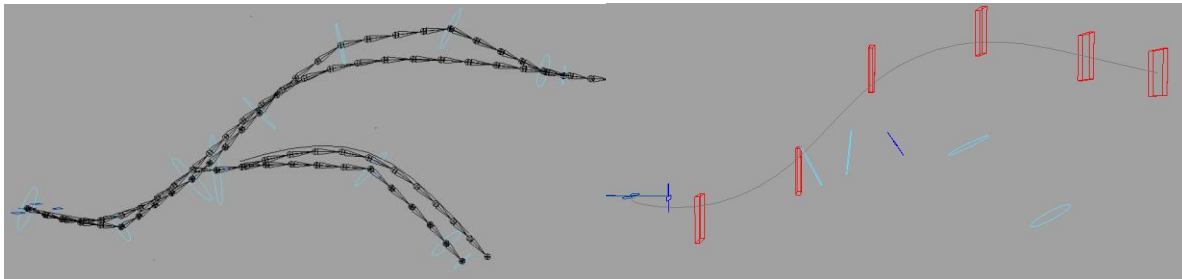
Only rotation:



Rotation with dynamic:

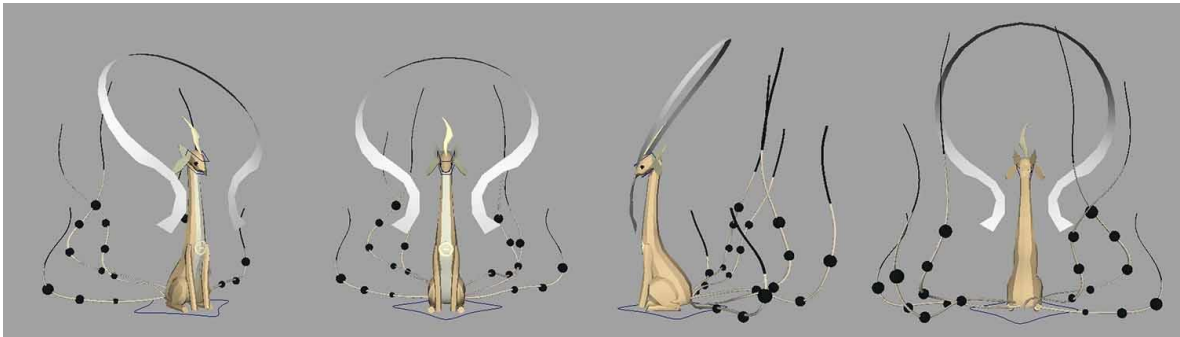


Spline with dynamic:

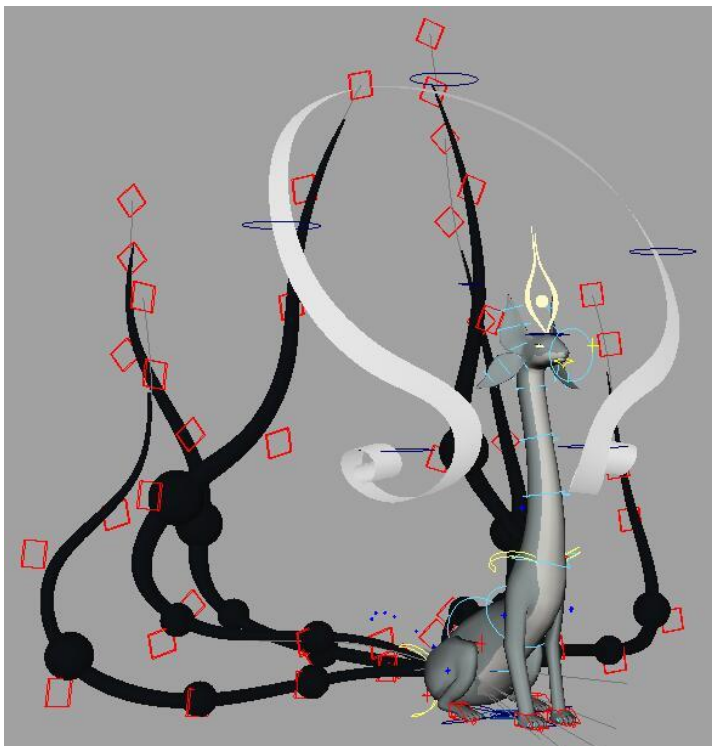
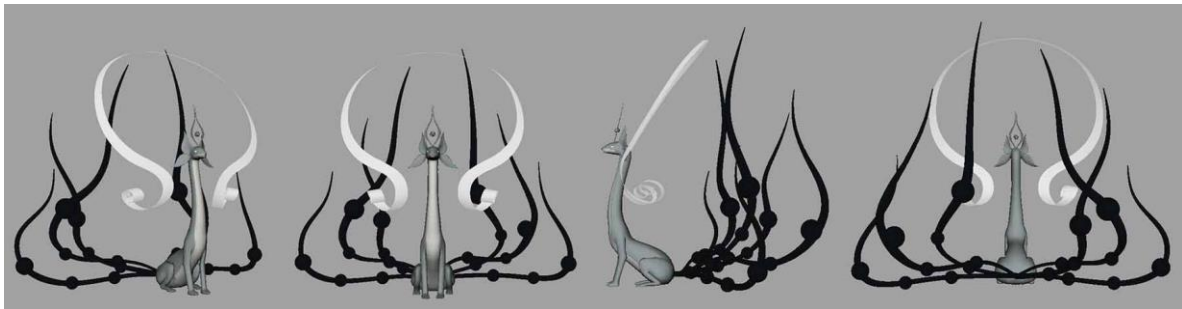


## Divinity

Simple rigged model of god used for animatic:



Final Model of divinity in Maya:



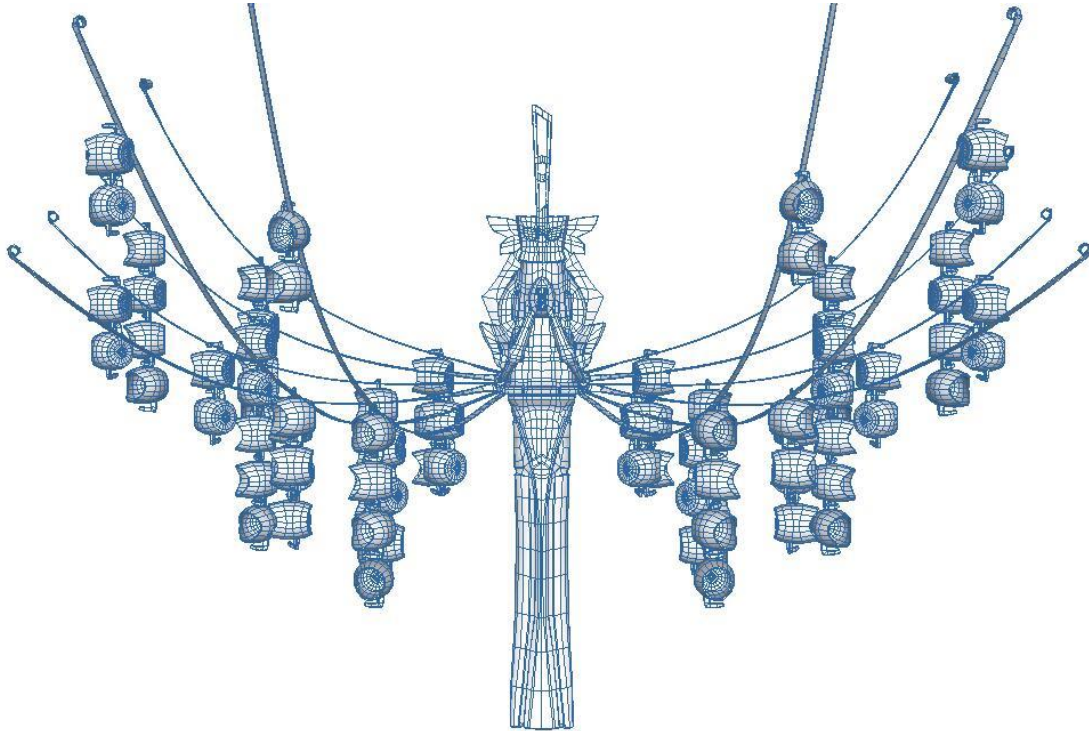
Hard part of rigging the god would be tail hair and ribbon. I use nhair for tail and hair, nCloth for ribbon. I also try to use nCloth for tail but it runs too slow and hard to control.



# Environment Development

## Statue

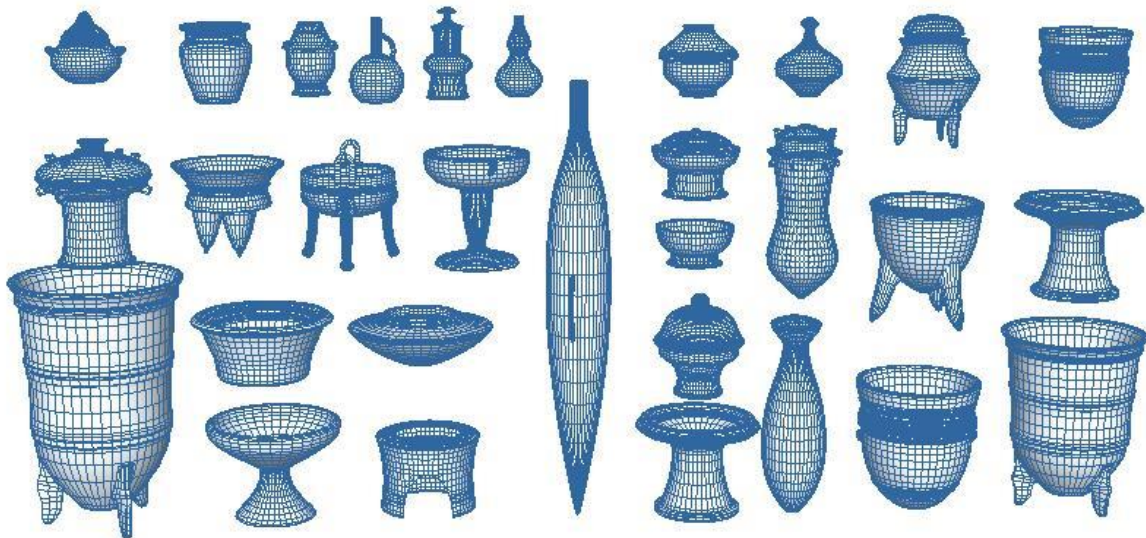
I finished the modeling of the statue quickly following the design:



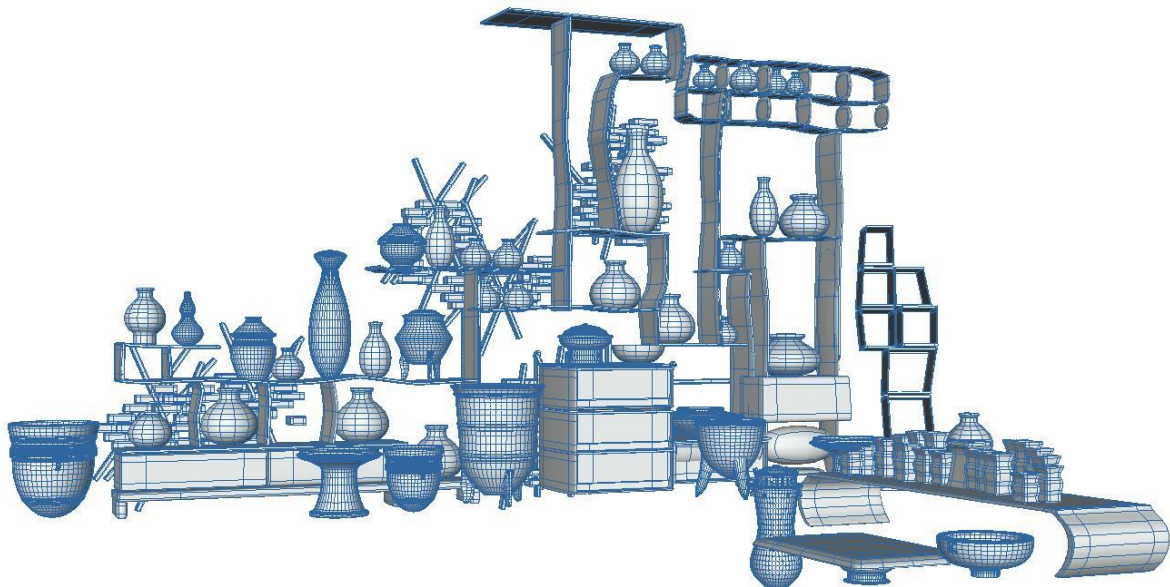
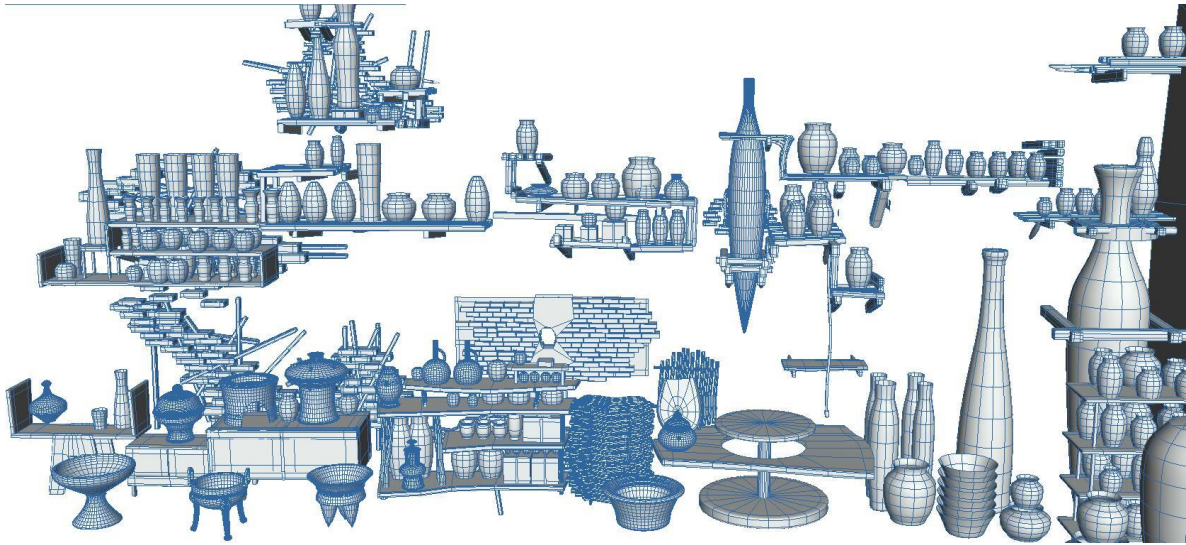
## Pots

The main work to create the room is to model the potteries and wood shelves.

Potteries I created:



I make the shelves and tables based on the holes on the wall and pots size. I create them as moving things around.



# Animating

## Study about blind people

I was curious about how different the moving habit is between people can see and people cannot. I tried going around my room with eyes closed and walking outside with friends leading my way. It is really difficult to do almost everything that you never thought would be a problem. I visited a group of blind people living together. They had hard time going outside and by food for themselves. There are some wrong thoughts about people that cannot see. For example, we think blind people will lean one ear forward when there is a sound. Actually, they will face the direction of the sound source as if they can “see” it, because human have two ears and use them together to find the direction of the sound. Another example is how blind people walk. We think they will always put their hand forward to touch things while walking step by step. Actually, in place they are familiar with, they will be more relax than we think would be. At home, they can find their way without using their hand and walk naturally around. For them, it is important to remember where everything are put. If visitors help them put things in order kindly, they unconsciously create problems for blind people.

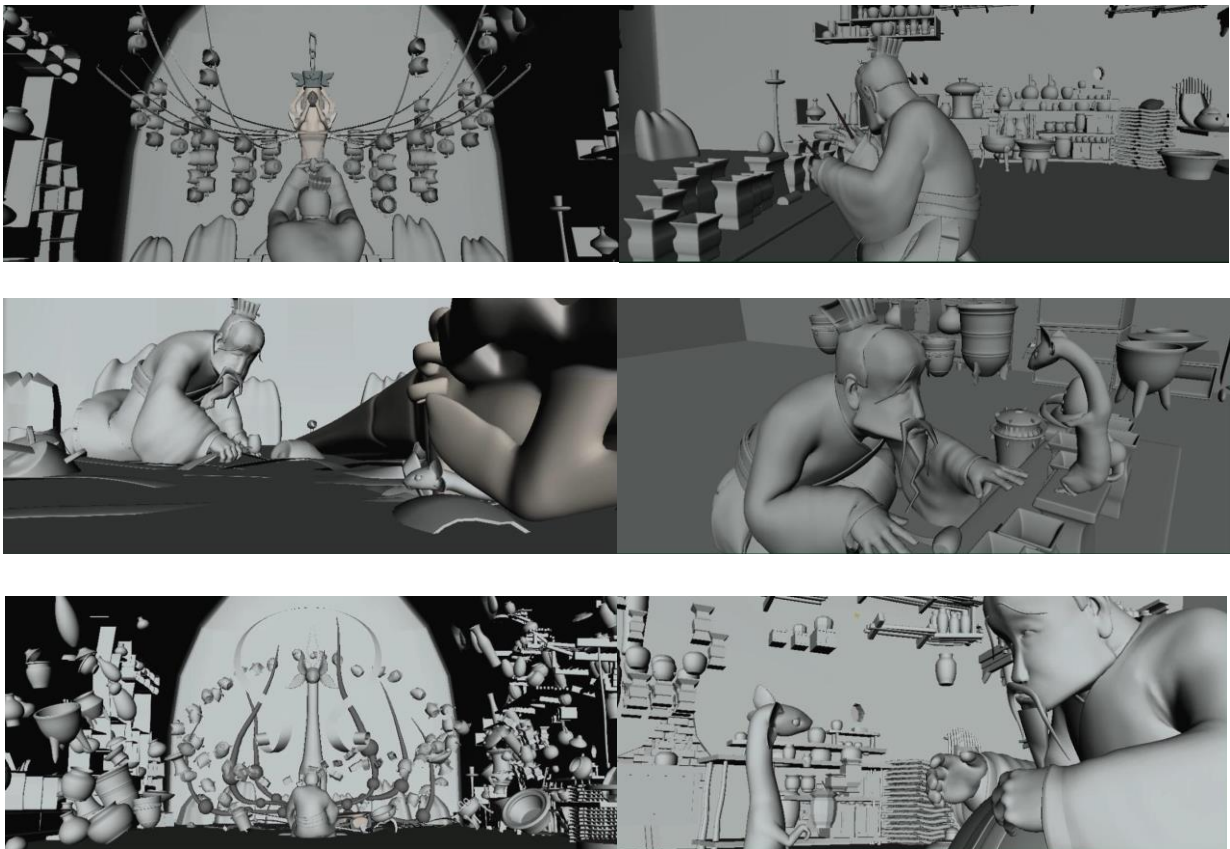
During the visit, I find those blind people are very optimistic. They live together helping each other and enjoy their lives. Their spirit lightened my soul. I wish our society would concern more about this group of people.

## Key framing

I use the video reference to determine the pace of character movement. But after I made all the key framing and export the video, I found the movement is too slow. Because the animation is lack of many detail and information in real live, the real-pace movement does not actually seems real. So I tried not bound to much by the video I recorded and make the animation faster.

The animation is on vimeo: <https://vimeo.com/143957408>

Sample of shots:





# Rendering

## Texturing

I created textures and adjust them according to the color design.

I spent a lot of time make the texture look cohesive.



## Lighting

The room is dim with soft light. The whole environment is blue. I use sky system in maya for the environment light and volume lights for statue and holes on the wall.



But the render farm of school does not support old version maya very well. There are problem with mentalray. I learned Vray at last month and redo all render job.



## Edit and sound

Because I followed the storyboard tightly, the main edit I did is to change the pace of the movement. I then import the video back to maya again and change the speed of key frames. To refine the look of the animation, I use some color correction and lens blur.

My friend Chongxiao Ma makes the sound. I discuss the music with him and we decide to use an ancient music called Shen Ren Chang. It describes how people are living happily with god. I made the final cut before rendering and send the movie file to him. He finished the sound the same time I finished the rendering, and the last work is to combine them together and make the final film. My friend use mixer to create the sound of the weasel. He record his voice and adjust it in audition to make the sound of the old man. He use the sound in his lab to make the music and other effects.

# Critiques and Feedback

## Sofa Screening

My film “Potter Priest” was presented at Sofa Screening on Dec 14<sup>th</sup> 2015. Professor Charles Bandla was my respondent. He has deep understanding of my thesis film and made a comprehensive and instructive analysis.

Although I spent a lot of time into my project, because the problem of the render farm in the last month, the final film didn't meet my expectation. I was a little worried before screening. But everything turns out to be fine. Although many people pointed out that my animation is a little slow and the action of characters looks stiff, they said it is ok because the whole mood of the film is ease and clam. Some student said they like my design which looks unique and mysterious. I am glade that many audience understand the story and some of them even get the idea the film is trying to convey. I am very happy to hear all the interesting and creative ideas from other students. I also appreciate all the constructive feedback from faculties.

Overall, I think the screening was successful. Audience enjoyed their time watching animation and I got a lot of useful advice to make improvement in the future.

# Conclusion

## Experience

The thesis project gave me the opportunity to learn more about the culture of my country. I find some ancient china culture that many Chinese people aren't familiar with are so beautiful and fascinating. During the process copying the old drawings, my aesthetic reached a new level and the way I appreciate things are changed. I also feel great honor to meet the group of people who do their best to live happy lives when they can't see things. They lost color, but get bless from god.

Recording the reference film, I learned a lot about acting. I find the principle of how to relax and how to control oneself in acting is also very useful in daily life. It makes me more confident and braver.

## Challenges

The first challenge is to come up with the story. I find it very hard to create a meaningful story which is new and interesting. I read book "Story" and learned that good story comes from the observation of life and continuous writing. I keep taking notes of every flesh of thought and develop them into different stories. Fortunately, I "find" the story I like.

Other challenges are more about technic. The rig may run slow and fur may not work. And the most scarring challenge would be the rendering fail near thesis deadline. Thanks to my previous experience, I was able to learn Vray fast and finished the work on time.

# Appendix A

## Original Proposal

---

# Pottery of Old Blind

By  
Tianhe Han

THESIS PROPOSAL  
For MFA in Film and Animation  
School of Film and Animation  
Rochester Institute of Technology  
Rochester, New York  
March 2014

Approved for Submission by:

Charles Bandla, Thesis Chair  
Skip Battaglia, Thesis Advisor  
Tom Gasek, Thesis Advisor

School of Film and Animation

Date: 22 April 2011

---

# Pottery of Old Blind

Producer: Tianhe Han  
Advisor: Charles Bandla  
Medium: 3D Animation  
Budget: USD  
Time: 10 mins

## Synopsis:

In a dilapidated house full of all kinds of pottery lived a blind old man. Every day, he prays to the big pottery statue of god using complex ritual worship. One day a little ferret run into the room. He is light-footed and plaid a lot of mischief on the old man. The ferret found a pottery music instrument on the ancient Idol. He takes it and play with it. The old man heard the ferret blew out sound. Very anxious the old man tries to get the instrument back. In the chase, a lot of potteries fall down and shattered. The big statue also rolls down and the little ferret is trapped downside. The old man wants to save the ferret but he can't move the statue. He uses a hammer to break the statue and rescue the ferret. Ferret becomes gods and kisses the forehead of the old man. The eyes of old man are healed and he can see the world again.

## Statement:

Believe is an important part of all the people in the world. Some believe in money while a lot of people believe in their religion. No matter what the god is like, they all teach people to live a happy life by loving the world and caring about others. Real action is much important than ritual and idol, which, are just tools remind us to become a better person

I have been interested in Buddhism and other religion. My goal of life is conveying my thought of life to the whole world. In this story, I put the old man in the situation of trying to choose from idol and real live, just as some believers do in their lives. I want the audience follow the old man to explore their heart, and finally realize something.

3D method is mainly used to create my thesis animation. I will focus on lighting and texturing to create peaceful and appealing sense. I will also try to get the subtle emotion of main character through movement and shots. Two difficult parts I need to work a lot on would be how to create unique style and how to make pottery broken using dynamic system.

## Story:

This is an old house piled of old blue bricks. The house is full of jagged wooden shelves. On those wooden shelves there are all kinds of strange shaped ancient potteries. The house has some open windows. But because the window places many potteries, only some thin sunlight enters the dark room. In the dim light, an old man is pouring water into several ceramic cups carefully. His eyes are closed. It seems he is a blind person. He taps the ceramic cups using a small wooden hammer while pouring water in.

A small weasel slipped into the room form the window. This weasel is very cute. It has long neck , bushy tail and golden fur. Its movement is swift and light, making no sound. Its eyes are clear and bright in the dark room. The weasel shuttles between the potteries. It keeps looking around curiously. It come out from the side of a big statue and meets the old man. The weasel tries to hide from the old man. But it finds the old man cannot see. The old man is doing final adjustment to the amount of water in the cup. He uses a small ceramic tool to put water into the cup drop by drop until satisfied with the sound. Using the small wooden harmer, he plays a very short music. The old man gets up to get something. The weasel begins to drink water in the cup.



The water is cold so the weasel put the cup on a little ceramic brazier. The old man come back with a plate of herbs and put it on table. The weasel grabs some herb and put it into cup quietly. The old man begins to tap those cups again. The weasel put the cup back to its place as soon as the old man finishes the last sound using tapping the cup. However the cup makes strange sound and the old is surprised. He plays the music again. The weasel pours the water of another cup into the last cup while the old man tapping cups. The old man is satisfied with the last sound this time. He put some herbs into the brazier and holds it up to worship the statue.

The weasel noticed a ceramic musical instrument on the big statue. It climbs up the statue, take the instrument and begin to play with it. The old man put the brazier aside, leans over, spread hands, bows down and kisses the feet of the statue. Suddenly there is a sound of the instrument. The old man is surprised. The weasel stops quickly. The old man waves his arm and begins salute to the statue harder. The weasel is interested. It plays with the pottery music instrument happily while squeaking.

The old man notices the weasel's voice, very angry. He stood up, chased the weasel holding a duster. The weasel jumps between potteries. Many potteries lost balance and fell to the ground, broken into pieces. The wooden shelves holding the statue tilted, slowly the statue fell to the ground. The statue traps the weasel downside just as it tries to slip past it. The old man stands in front of a weasel angrily, listen to the painful whine of the weasel under the statue. The angry expression on the face of old man gradually smooth down. His salute to the statue then leaned over trying to move the statue. But the old man is not strong enough, the statue remain motionless. The old man thinks for a long time, and then walks away. The weasel looked down, stop whining. The shadow of the old man's body fell to the weasel again. Weasel looked up. In the shadow on the wall, we see the old man praying. Then he lay on the statue, got up, turn back his face. Trembling he raised hammer and smashed the statue using all his strength.

The old man rescue the weasel, place it on the prayer mat. He sit slumped on the ground, hands touches the ceramic instruments on the ground. He picked up the instrument and holds it in hands. Slowly, the old man began to play old songs. The pottery fragments in the house gradually rise up and float in air. White hair ribbons and gold appears among the debris. The old man's face is illuminated. A huge, solemn god stands in front of the old man. It bows his head to kiss the old man's forehead. Dazzling light lit every corner of the house. The old man raises his arms over his eyes. Light fades, the old man opened his eyes. Surprised, he stares at his own hands, then looks around, and finally sees the lovely little weasel sitting on a mat in front of him. Rotating, a primrose flower drift into the room and landed on a small weasel's nose. Wind opens the door. It let the flower flutters in the air. Chasseing flower, the little weasel ran out of the room. The old man looks through the door, stands up, and slowly walks out.

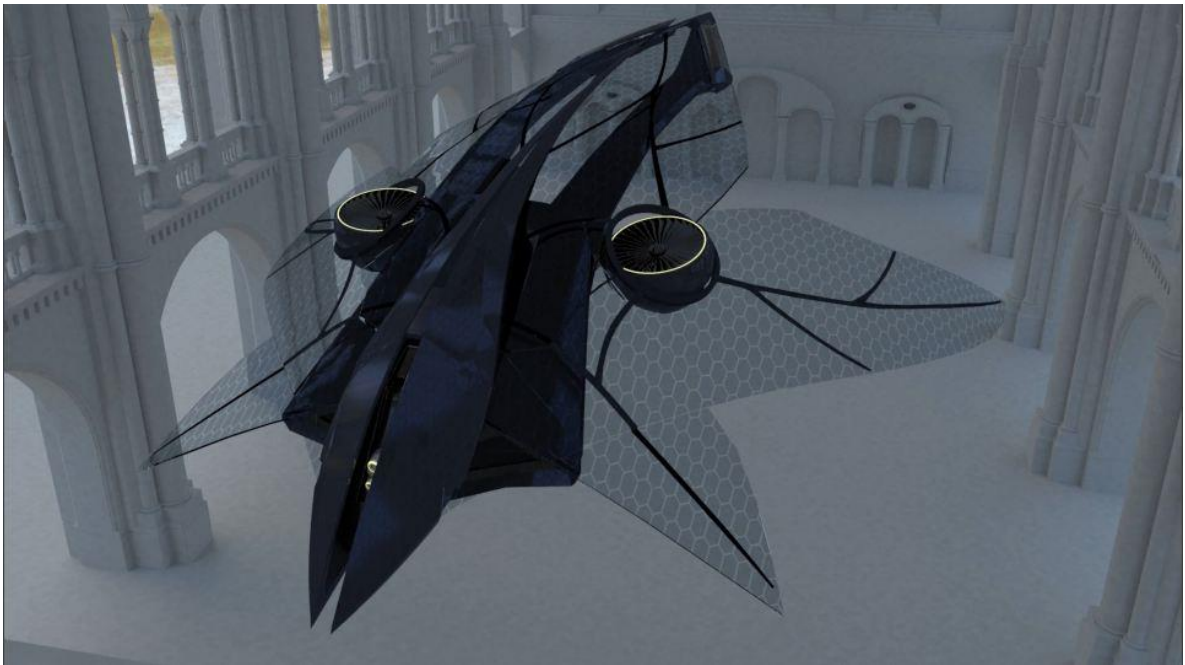
## Visuals:

This film will be a 3D animated film primarily done with Maya.

I will achieve realistic rendering while create unique style by traditional Chinese shape and color.

Some examples of my former render work:





## Budget:

	Description	Cost/Unit	Total
<b>Pre-Production</b> Director Producer Script Papers/Pens/Pencils Research and Development		In-kind In-kind In-kind \$50 In-kind	\$50
<b>Production</b> Modeling Rigging Texturing/Lighting Animation Rendering Computer Hardware Computer Software	Desktop Computer	In-kind In-kind In-kind In-kind In-kind \$1000	\$1000
<b>Post-Production</b> Compositing Editing DVD	For Festival	In-kind In-kind \$20	\$20
<b>Sound and Music</b> Composer Recording Fee Foley	Student composer  instrument	\$1000 In-kind \$100	\$1100
<b>Miscellaneous</b> Festival Fee Shipping Snack	Without box sending fee ship things from china for peoples help me	\$200 \$100 \$100	\$400
<b>Total</b>			\$2470
<b>Contingency</b>		10%of total	\$247
<b>Grand Total (USD)</b>			\$2717

## Time line:

### **March:**

- Treatment
- Script

### **April:**

- Character design
- Set Design

### **June:**

- Thumbnail storyboards
- Thumbnail animatic

### **July:**

- Modeling
- Rigging-body

### **August:**

- Rigging Facial
- Rig test
- Animation blocking

### **September:**

- Screenings Blocked Animatic
- Revision

### **October:**

- Final Blocked Animatic

### **November:**

- Splined Animation

### **December:**

- Play blast Animation

### **January:**

- Refined Animation
- Screenings

### **February:**

- Texture

### **March:**

- Lighting

### **April:**

- Rendering
- Compositing

### **May:**

- Color Correction
- Foley
- OST



Copy of Reference Pictures:

