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**ROCHESTER INSTITUTE OF TECHNOLOGY**

A THESIS SUBMITTED TO THE FACULTY OF  
THE COLLEGE OF IMAGING ARTS AND SCIENCES  
IN CANDIDACY FOR THE DEGREE OF  
MASTER OF FINE ARTS

TITLE

**THE ART OF FACIAL MAKEUP IN CHINESE OPERA**

By

**Hsueh-Fang Liu**

AUGUST 28, 1997

# Approvals

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DATE

Dedication to:

My husband, Wei-Chang Chung  
who have supported me in my graduate studies, especially in my thesis  
work.

Special thanks to my thesis committee:

Nancy Ciolek,  
Jim Ver Hague,  
&  
Patrick Byrnes  
for all of their knowledge and assistance...

Robert Keough  
for being very helpful in many ways...

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## **THE PURPOSE OF THIS THESIS**

I would take advantage of the computer as a tool to arouse viewers' attention by providing various video clips, interactive multimedia, sound effects or animations to define, explain, and compare the facial makeup, a special art in Chinese operas, which distinctly shows the image of certain roles by means of artistic exaggeration combining truthful portrayal and symbolism.

## **I INTEND TO**

- define, explain and compare the facial makeup in Chinese opera
- present the history and evolution of facial makeup in Chinese opera
- provide an in-depth explanation and evaluation of facial makeup in Chinese opera
- explore its relationship to previous forms of masks throughout the course of history
- discuss facial makeup as it is appreciated not only as a special means of artistic portrayal, but also as an art of ornamental design with a recognized place in the realm of art.

Chinese opera is a theatrical art in which music, song, dance, speech and acrobatics are woven together to create a unique form of drama. Chinese opera draws the raw material for its stories from historical records, popular legends and folktales. Chinese opera is more than just an amazing show - it is also a window opened wide onto Chinese culture.

### Origin

The art of facial makeup in Chinese opera has a long history. Its origination is believed to have close association with masks. According to historical record, people in the two kingdoms of Wu and Yue, two warring states in the lower reaches of the Yangtze over 2,400 years ago, dyed their faces and skin with various colors, wore animal hides and birds' feathers, and some even blackened their teeth. These primitive decorations evolved into masks worn at war or at festivals to worship gods or drive away monsters. During the first century A.D. during the Han Dynasty actors wore beast-head decorations in operas. From the 3rd century to the 6th century (the period of the six dynasties), the Sui and the Tang Dynasties, dancers wore a variety of masks. It is believed that these varied sources form the origin of facial makeup in operas.

During the Tang Dynasty, performing skill in operas improved and the historical record indicates the continued use of masks and facial makeup. For example, there is evidence of masks being applied in comical plays and of actors sometimes dyeing their faces in the portrayal of images of super-human beings. In the Song Dynasty, two basic categories of "clean-faced" makeup and "colorful-faced" makeup came into being so that image and emotion could be vividly illustrated. In operas of the Yuan Dynasty, there developed a clear division of character roles among actors, and the facial makeup of those *jing* (males with heavily painted faces) and *chou* (clowns) developed from plain monocolour to more striking colors, enabling the audience to immediately recognize the categories the actors or actresses belonged. This kind of colorful facial makeup became, to a certain extent, the base for facial makeup in later operas.

In the Ming Dynasty, division of roles among actors became more marked, and facial makeup in the various major operas was somewhat standardized. In the early years of the Qing Dynasty, there was little change in the pattern and coloring in the actor's facial makeup. Only after the reign of emperor Qian long (1736-1795) of the Qing Dynasty did the theater develop vigorously, particularly Beijing opera. the art of facial makeup was increasingly perfected, and three basic facial makeup patterns were formed, namely, the "old-man face", the "three-tile face", and the "quartered face" Towards the end of the Qing Dynasty, there emerged new patterns, and facial makeup for the different categories of characters became standardized. The sketching and painting of facial patterns are not only a kind of makeup in a simple form, but are also a highly symbolic and typically Chinese art, giving prominence to the disposition of the character and hidden identity. The art of facial makeup in modern times, while retaining its traditional characteristics,

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has become more refined in taste and greater in variety.

Two remarkable characteristics make the Chinese opera a unique art - Simplicity and Symbolism. One goes into the theatre, takes his seat, the curtain is drawn aside to reveal---nothing. In a completely "off-hand-fashion", the property men make their appearance; they arrange and rearrange a table and two or more chairs. Indeed, the setting of the Chinese opera stage is as simple as that. Even the props needed to sustain actions or represent scenes amount to only about two dozen. Most of them are used in a symbolic sense, just like the actor's stylized movements.

Another characteristic of the Chinese opera is its synchronization. Each single movement---pointing of a finger or stamping a foot--- is done in harmony with the music, and each new stance requires the rearrangement of the furniture or the costume or another property. In other words, actors, musicians and property men must work as a team. They all know each cue and are familiar with stage conventions.

Though singing is the most important element in opera, Chinese opera demands more of its performers than western pieces.



## *Historical Development*

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Although Chinese opera as performed today is largely a product of the Ch'ing Dynasty (1644-1911), its origin can be traced back to a very ancient time. The following is a chronological survey of its development:

### **Ritual Dance of the Chou Dynasty (1122-256 B.C.)**

The Chinese were people dedicated to rites and music. According to *the Book of Rites*, children at the age of thirteen learned to dance and sing. There were many kinds of dances for ritual ceremonies of which the feather dance is still performed on Confucius' Birthday. During the Han (207 B.C.-220 A.D.) and the Tsin (265-420) Dynasties, new types of dances were introduced. Gradually dancing became an artistic achievement enjoyed in the imperial court and by high society.

### **Pear Garden of the T'ang Dynasty (618-906)**

Ming Huang, the Brilliant Emperor, of the T'ang Dynasty, enjoying a time of peace, acquired a concubine name Yang Yuhuan who was beautiful and intelligent. She soon learned to dance many delightful pieces, such as the "Rainbow Skirt and Feather Garment song". The Emperor then decreed that a group of boys be trained in the Li Yuan, the Pear Garden, of the inner court, to do choral dances with girls from the palace. Hence, the name "Li Yuan" was used to refer to the theatre, and "Children of the Pear Garden" has become the general name for actors and actresses. The Emperor himself is worshipped as the patron of Chinese opera.

### **"Miscellaneous Plays" of the dynasties of the Sung (960-1280) and the Yuan (1280-1368)**

It was in the reign of Chen Tsung of the Sung Dynasty that the name Tsa Chu, "Miscellaneous Plays" was listed in the program of royal entertainments. Little was known about the content of the plays; so it remains doubtful whether they were the pioneers of the "Miscellaneous Plays" of the Yuan Dynasty. When the Sung capital moved south, to the present Chekiang Province, scholars began to compose plays in the southern dialect. They were called Han Hsi, Southern Drama, from which was derived the "ch'uan Ch'i" of the Ming dynasty (1386-1644). The Yuan Dynasty, which succeeded the Sung, was the golden age of the "Miscellaneous Plays." A collection of one hundred plays has been preserved to the present. Many of them furnish plots for present-day operas.

### **"Romances" of the Ming Dynasty (1386-1644)**

The literal translation for the "Ch'uan Ch'i" is "Narration of Wonderful Things." Since the wonderful things are mostly love affairs, I prefer to call this type of drama "Romances."

The differences between Ming "romances" and Yuan "Miscellaneous Plays" are as follows:

### **"Miscellaneous Plays"**

1. Each play has four acts and each act has one main character singing one tune throughout the whole act.
2. P'i P'a, the melon lute, and other string instruments are the dominant musical instruments.
3. Using every day speech, the style is lively and vigorous.
4. In the script, the entry of characters is designated by their own names such as "Enter madam Cheng."

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## **"Romances"**

A play may have many scenes. No limitation of singing by one character or of one tune in each scene. Ku, the drum, Pan, the wooden clapper and Ti (flute) are the chief musical instruments. Using scholarly and literary verses, the style is refined and polished. Characters are designated according to the class each belongs, such as "Enter a sheng, a male role."

Both the Yuan "Miscellaneous Plays" and the Ming "Romances" contributed to the shaping of the present opera, but the division of scenes and the classification of characters in the present opera derive directly from the "Romances" rather than from the "Miscellaneous Plays."

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**Rise and Decline of K'un Ch'u** As "Romances" reached its height in the middle of the Ming Dynasty, there sprang up several local dramatic schools of which K'un Ch'u was the most popular. This new type of drama was sung in the dialect of K'unshan, a town in Kiangsu Province. Because of its elegant written style and the melodious accompaniment of the flute, K'un Ch'u soon won the patronage of the early Ch'ing emperors. Masterpieces such as "The Palace of eternity" and "The Peach-Blossom Fan" were composed in the reigns of K'ang Hsi (1661-1722) and his successors. The great interest of the imperial family, however, was generally believed to cause the decline of K'un Ch'u. When the public found that the prosody of K'un Ch'u was too difficult to appreciate, they turned to other local dramas, of which the Hui Tiao (tunes in Anhui dialect) and Han Tiao (tunes in Hupei dialect) became dominant.

### **Birth of Mandarin Opera**

In 1790, when Emperor Chien Lung celebrated his birthday, local players, notably of the Anhui and Hupei schools, went to the capital, Peking, to give performances. They stayed on after the celebration. Gradually, there emerged a new type of play, the mandarin opera, which contained the good qualities of all other local plays as well as the dramatic elements from ancient ritual Dances and other forms throughout the Ming "Romances". But K'un Ch'u did not die out. some of its songs are still sung on the opera stage today.

Because the new opera was first performed in Peking, the capital of the Ch'ing Dynasty, it was called Ching Hsi, drama of the capital, (Ching and King are different romanizations of the same Chinese character.) When the name Peking was changed to Peiping, it was called Ping Chu (Chu has the same meaning as Hsi). Now it has been officially named as Kuo Chu, National Drama, because it is a genuine Chinese art and represents Chinese traditional virtues.

# Classification of Roles

In western opera, role division is based on the sex and voice of the singer, but in Chinese opera it is made according to the sex and personality of the dramatic character. The various roles are roughly classified into four types: Males with unpainted faces (*sheng*), females (*tan*), males with heavily painted faces (*jing*), and *chou* (clowns). For centuries, only men or boys could act in opera, including the female roles. Today, women in most cases play female roles, and they often take men's roles as well.

The four roles are subdivided, based on the characters' age, temperament, and the kind of singing, speech, gesticulation, and martial displays they are called upon to make.

## Sheng (Males with unpainted faces)



- *Lao-sheng*

a male, over thirty years old, who sings and speaks in a low and deep natural voice and who has a long beard, black or white according to his age.



- *Wu-sheng*

a martial arts young man who sings and speaks in his natural voice and specializes in kung fu and acrobatics.



- *Hsiao-sheng*

a handsome and suave young man who speaks in a voice compounded of the natural and the artificial. He sings in a high-pitched falsetto.



## Tan (females)



- *Ching-yi*

a rather formal female, chaste and respectable, whose role calls for top-quality singing, enunciation and exquisite gesticulation. She always uses the falsetto.





- *Hua-tan*

a young, frolicsome, and often roguish girl full of vivacity and innocence. Her acting stresses these qualities, and she sings and speaks in a falsetto.



- *Wu-tan*

the female counterpart of the *wu-sheng*, she is both beautiful and well-versed in the martial arts. She also sings and speaks in a falsetto.



- *Lao-tan*

an old woman who sings and speaks in her natural voice, but on a higher pitch than does her male counterpart, the *lao-sheng*.



## Jing (Males with heavily painted faces)

净

- The facial makeup of a *jing* character is complicated and rich in form.
- These characters sing and speak in a deep-throated natural voice, although somewhat on the nasal side. Their makeup is particularly striking, with varicolored painted faces indicating their character.
- In Chinese opera, there are many schools of facial makeup for a *Jing* character, each with a style of its own.

The facial makeup for the *Jing* character is constantly developing from plain to three-dimensional, from simple to complicated. Actors have in their long-term practice on stage absorbed what is good in other schools, and are constantly exploring new skills in their application of color and patterns to the facial makeup of most characters. As a result, certain rules have been formed, and models in the use of color and patterns have been created.



## Chou (Clowns)



Clowns can be male or female (*tsai-tan*). They are sly or stupid, sometimes mean, but invariably ridiculous and laughter-provoking. They sing in a natural voice, but whether they are singing or acting, a hint of exaggeration is always present. The male is marked by a patch of white paint around the eyes and on the nose.

- *wen-chou*  
a nonacrobatic clown or jester



- *wu-chou*  
a clown or jester of martial arts



Costumes are based primarily on the dress worn in China about four centuries ago, during the Ming dynasty, but other fashions from the Tang, Sung, Yuan, and Ching dynasties are also part of the general wardrobe. Exaggerated flowing sleeves, pennants worn on the backs of military officers, and pheasant feathers used on headgear were added to heighten the dramatic effect of the stage choreography. These extra touches give further emphasis to gestures and highlight the rhythm of movement on the stage. Chinese opera costumes have symbolic meanings as well as being both colorful and fascinating. Strict rules are set as to what type of character wears what kind of clothes and even what color.

Like facial make-up, costumes tell much about the character wearing them. They make it easy to know whether a character is a civilian or military man, a Chinese or a foreigner, noble or humble, rich or poor, young or old, good or bad.

### **Principal Costumes**

There are four principal kinds of costumes. The Hsueh Tzu is an ordinary dress usually black with two long white sleeves. The P'ei, worn over a Hsueh Tzu, is an embroidered garment for high class people. It is full length for men but for women, it is three quarters length and worn over a skirt. The Mang, worn by emperors, empresses, or top ranking officials and their wives is embroidered in gold and silver threads. The Kuan Yi, a minor costume in the category of Meng, is an official robe, plain in color, with only an embroidered square panel on the chest. The K'ao, an armour in separate parts, is for warriors and generals to wear. There are two kinds of K'ao: the Ying K'ao, stiff armour, and Juan K'ao, soft armour. The actor who takes the part of a Ying k'ao must wear four triangular pennants strapped to the back of his shoulders.

Another minor costume consists of a suit of a jacket and skirt or a jacket and trousers. The former is worn by young maidens or women of dubious reputations and the latter is for girls from poor families. The one who wears a jacket and trousers also wears a wide silk-lined belt hanging over the middle to cover the front part of the trousers. Soldiers and low class persons wear black suits.

It is true that opera costumes do not vary according to season, period, or locality. Indication of cold weather is shown by an actor crossing his arms on his shoulders to show that he is shivering. As for period costumes, all kinds of dresses are supposed to be based on styles from ancient times to the Ming Dynasty. Only the Ch'ing Dynasty has a special costume for the female role; that is, the Ch'i Pao, a long embroidered gown worn with a short vest over it. The headdress for this costume is also of a special design.

Pheasant plume and fox tail are worn in pairs by the actor who portrays a person who either is a barbarian or lives in the barbarian region. The idea is that the barbarians come from the cold north and are experts at hunting; so they use plumes for their decoration and wear fox tails to resist the cold weather. However, wearing them is not very strict now.

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## Headdress and footwear

There are dozens of headdresses and footwear for opera players. Each fits the personality and social status of the character that is impersonated. Emperors and empresses wear crowns. A respectable prime minister wears a square hat while a traitor wears a round-topped one. The wife of a noble wears what is called a Phoenix Hat shining with jewels, while a poor woman in a black garment wears cheap ornaments. Special hats are designed for warriors, fishermen, hermits and other characters.

As for footwear, it is mainly divided into three kinds. A high boot with soles about one to three inches thick is worn by a male character to portray a steady and dignified gait. The flat-soled boot is for those who perform acrobatics; the flatsoled slipper is for traveling or walking indoors and is worn mostly by females or aged people. There is another kind of footwear, especially for the "Flowery Female". It is called Ch'ao, a stilt, on which a false foot made of wood is secured to the leg, only the tip of this foot with a tiny red shoe is visible beneath the wide trousers. This is used to make a female twist her body in a coquettish way, in imitation of a woman walking with bound-feet, thus adding feminine charm to this character.

## The Beard

Beards worn by actors who play the roles of Lao Sheng of the Ching are accessories to the costumes. Like the costumes, beards have different colors to indicate the age, the social status, the personality and the temper of the person portrayed. They are generally classified into three types: a full beard symbolizing wealth and power, a three-part beard signifying a noble and honest character, and a moustache indicating a rude or a tricky person. The five-part beard is used especially for the red-faced Kuan Kung, a hero of the Three Kingdoms Period and now worshiped as the God of War. The beard is usually black for an upright person of about forty or fifty years old; grey for a man about sixty, and white for a man about seventy or eighty. A bandit or a fierce person wears a red beard.

The significance of the beard depends upon the different gestures made with it to show one's emotions. When a Lao Sheng first enters the stage, he slowly smooths his beard from top to bottom with his right hand, the thumb being beneath the beard. This is to indicate that he minds how he looks. To indicate pondering over a problem, the actor bows his head and pats his beard with the open palm of one hand. To express anger, the actor swings his beard to one arm and spits at another actor. In a combat scene, the beard is flung over the left shoulder and then over the right with a very vigorous motion. There are about thirty beard movements, each one of which is fascinating to look at.



Facial makeup, a special art in Chinese operas, distinctly shows the image of certain roles by means of artistic exaggeration combining truthful portrayal and symbolism. The appearance of a role reveals disposition and moral quality, age and distinguishing features. Actors and actresses in folk operas through the centuries, basing themselves on history and novels, legends and folk tales, and departing from their simple materialist viewpoint, have created numerous types of facial makeup for theatrical figures, to express their praise or condemnation, their sympathy and sentimental attachment, so that the audience would immediately know whom to love and whom to hate even though they might not make any comments in words.

Along with the formation and development of Chinese operas, the art of facial makeup has flourished. A rule can be formulated by a symbolic study of this vast plethora of facial makeup. The face of every character in Beijing opera, scholar or statesman, clown or jester, must be distinctively made up. The same is true in some other local operas. In creating a character, the artist finds it necessary to bring out the special features of his image by applying makeup in a certain manner. Facial makeup is deemed absolutely necessary for the creation of the image of a character.

Over time, the aesthetic perception of the audience changed. Artists adapted facial makeup, retaining some while abandoning others, making additions or omissions, to satisfy the aesthetic taste of the audience. Beijing opera, in particular, absorbed the best of the operas in Anhui, Hubei, Shanxi, and the Kunshan opera of Jiangsu, and became a major operatic form, of which the retainment and development of facial makeup were a significant mark. The variety of facial makeup in modern Beijing opera has been markedly reduced. Mostly, it is limited to the category of *Jing* characters of warriors or bandits and that of *Chou* characters of clowns or jesters of both sexes. Traces of facial makeup are still found in bearded characters such as Zhao Kuangyin, first emperor of China's Song Dynasty, and in acrobat and warrior characters such as the Monkey King, Gao Deng, and Jiang Wei, their facial makeup has remained unchanged. As for female characters, both old and young, their facial makeup has as good as vanished. For, while facial makeup is aimed at artistic portrayal of the character—the revelation of his disposition and moral quality, his age and distinguishing features—the stage effect it produces is part of the entity of dramatic aesthetics.

From an aesthetic point of view, facial makeup is appreciated not only as a special means of artistic portrayal, but also as an art of ornamental design with a recognized place in the realm of art. A great many lovers of designs of this facial makeup have imitated and copied from those on stage in vermillion, black, red, blue and green, and arranged them in a fixed manner, thus creating a new variety in Chinese painting—the art of facial makeup. Naturally, this new variety of art must be true to the actual images on stage through special makeup so as to display its beauty and charm. This art form should never be fabricated at random or far divorced from those facial makeup designs on stage.

## Chinese Masks

Being a global ancient phenomenon of culture, masks were widely utilized in such activities as hunting, war, witchcraft, dance, drama, and funeral. Today, in many countries or areas, mask art is still active.

Chinese masks that go back to ancient times are rich and wonderful. They have an important place in masks of the world. But for a variety of reasons, very seldom were masks in China known by people over a long period of time. They were covered with a mysterious veil.

The earliest record of mask wearing dates to the Chou Dynasty (1122-255 BC), during which masks were worn when stories about ghosts and gods were performed. Another historical record mentions King Lan Ling of the Northern Ch'i dynasty (AD550-577). The legend of Lan Ling King somehow gave rise to a form of song and dance performance known as "Big Face". During the T'ang Dynasty, "Big Face" performances were popular as they were believed to confer good fortune upon T'ang soldiers about to embark upon a military campaign. Wooden masks were worn by "Big Face" performers, who used their teeth to keep the masks in place. Hampered by the necessity of using their mouths, mask-wearers did not sing. Later, the masks were abandoned in favor of paint applied directly to the face as actors began to both sing and dance during performances. At first, only four colors of paint were used – red, white, black, and blue. Over time, the patterns and colors employed were stylized and standardized.

On the opera stage, there are only a few occasions on which actors wear masks. One occasion is to celebrate the Chinese New Year. The character who impersonates the God of Fortune appears to bless the audience by showing several scrolls bearing lucky words or phrases. Wearing a smiling white mask, he does a short pantomime dance as an overture to the regular performance. This is called "Tiao Cha Kuan", Dance for Promotion. Another occasion is when the fairies go to the Heavenly God; some wear masks. A ghost sometimes puts on a dreadful looking mask to frighten a person, or to tell the audience that he is acting as a ghost; then after a moment he takes it off and shows his real face.



Make-up and Costuming for a Tan Character

## Make Up

All characters use make-up on their faces, though Lao Tan, the women, and Lao Sheng, the bearded men, wear very little. The make-up for a female role is to paint her face in white and then surround her eyes with a red tint which gradually becomes pink on her cheeks. Hsiao Sheng, the young men, have make-up similar to that of Tan. The Ch'ou, the clown, generally paints his face with a butterfly-shaped white patch in between his eyebrows and his nose.

In Chinese operas, there are two major categories of facial makeup. One is that of the *jing* character of a warrior or bandit, and the other that of the *chou* character of a clown or jester. The facial makeup of a *jing* character is complicated and rich in form. In Beijing opera, there are many schools of facial makeup for a *jing* character, each with a style of its own. An actor follows the tradition of his school and is constantly perfecting it. The difference in facial makeup for the *jing* characters in the various schools is closely related to the shape of the individual actor's face as well as to the role he plays. One, termed *zheng jing* in Chinese, is usually a dignified and upright character. A second, *fu jing* in Chinese, is a straight-forward and impetuous character. A third, *wu jing*, is an unusually militant and brilliant character. Not only is each's acting different, their facial makeup must also agree with the disposition of the roles they play. After long-term practice on stage, facial makeup, accepted and favored by the audience, has been developed and passed onto actors of later generations. In the course of its development, it has formed its own system and style, thus bringing forth the various schools of facial makeup.



basic steps for the make-up and costuming of the *ching* character Kao Teng

### Every face tells a story

It is in the Ching category, Painted Faces, that facial paintings are most fascinating and significant, for each type of face symbolizes the personality of the character. By looking at the painted face, the audience immediately knows what kind of a person the role impersonates. A red face suggests loyalty, such as Kuan Kung, and a white face, a treacherous person, such as Ts'ao Ts'ao. A black face suggests an upright and just person such as Pao Kung, a prime minister during the Sung Dynasty who, according to legends, could descend to the underworld and by negotiating with Hades give back life to those who had died innocently through betrayal or other causes. A face painted in black and white denotes a courageous careless person. Green, purple, or reddish faces are either bandits or evil spirits. Golden faces represent gods or supernatural beings.



Facial makeup is rich in colors. In bright colors and with consummate skills, the artist creates various exquisite and true-to-life facial makeup patterns by delicately painting the forehead, the brows, the nose and other parts of the face. Every facial makeup is composed of three different colors or more, each symbolic of a certain aspect of the character's temperament, so that the characters in a play can be represented by different images symbolically and in an exaggerated manner. Some examples can illustrate this point.

**yellow faces**

Yellow represents a fierce, ambitious, but cool-headed disposition.

**purple faces**

Purple stands for uprightness, cool-headedness and sophistication.

**blue faces**

Blue is to portray a staunch, fierce, calculating character.

**green faces**

Green is a representation of a head-strong and impetuous character.

**white faces**

Water-white suggests a sinister and treacherous, suspicious and cheating character.

Oil-white is symbolic of a solemn, arrogant and domineering character.



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### red faces

The color red denotes a person who is brave, loyal and righteous.



### pink faces

Like the color red, pink denotes a person of virtue, but one who is middle-aged or elderly, whereas red appears in the face-paint of characters in their prime.



### black faces

Black symbolizes a character who is honest, guileless and uninhibited. Such characters are often brutally violent, but essentially good-hearted. Black may also symbolize ugliness.



### gold faces

The color gold is associated with Buddhism. Chinese opera characters with gold faces are usually Buddhist deities or some other form of spiritual being. A few characters whose names include the Chinese word for "gold" also feature a gold-colored face.



In Chinese opera, there is a large variety of facial makeup patterns - "whole face", "quartered face", "three-tile face", "six-division face", "tiny-flowered face", "lopsided face", etc. With vivid imagination and exaggeration, artists give prominence to the creation of the complicated characters in a play by painting their faces in a variety of colors such as red, orange, blue, white, black, purple, green, gold and silver. The large number of facial makeups reveal in form as well as in spirit and sense the character's loyalty or treachery, kindness or evil. The facial makeup patterns, finely painted, beautifully designed and exquisite in their variation of colors, are both highly artistic and illuminating. It is a national art appreciated and loved by the Chinese people.

### Lopsided

A lopsided pattern is one in which the two sides of the face are not arranged symmetrically. Characters who display this face pattern are flawed in some manner.



### Fractured

This pattern appears on the faces of generals of lower standing and wandering warriors. It originally consisted of a three-tile pattern with the addition of a few extra patterns and colors. Over time, it became so complicated that it ceased to resemble a three-tile pattern.



### Numeral Ten

The most distinctive component of this pattern is cross-shaped pattern centered on the bridge of the nose formed by two bisecting lines of paint, one of which runs from under the nose up to the top of the forehead, and the other which runs across the eyes. The cross-shape is reminiscent of the written Chinese character for the numeral ten.





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### Three-tile

This is the most commonly occurring facial pattern. It consists of one color applied to the forehead, nose and cheeks, along with varying patterns and colors used to emphasize the eyebrows, eyes and mouth regions.



### Variegated

Like the fractured pattern, a variegated pattern was derived from the three-tile style of face-painting. The important difference between a fractured face and variegated face lies in their color arrangement. If the forehead and cheeks display one primary color, then the pattern is fractured. If the colors of the forehead and cheeks differ, then the pattern is variegated.



### Solid

A solid pattern is one that, with the exception of the eyebrows, is painted in one primary color. Characters with a solid face pattern are paragons of virtue.



### Numeral Six

This pattern resembles the written Chinese character for the numeral six. Elderly, respectable government ministers or generals commonly feature a numeral six pattern.



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The five major regions of the face upon which facial paint is applied are the eyebrows, eyes, nose, forehead and mouth. The physical characteristics of each region are purposely exaggerated to emphasize their symbolic qualities.

## **Eyebrows**

### **1. Basic Eyebrows**

This pattern is created by adding a little paint to the actor's actual eyebrows.

### **2. Triangular eyebrows**

This pattern is one that often appears on villains. It consists of a triangular-shaped block of paint which begins at the corner of each eyebrow nearest to the nose and extends upward to the temples.

### **3. Elderly Eyebrows**

This type of eyebrow makes a sweeping curve upward and then droops downward near the temples. It is meant to represent the sagging eyelids of an elderly man.

### **4. Dot Eyebrows**

The elderly eyebrow pattern is often accompanied by the addition of two dots of paint on the forehead. These dots are simply decorative and have no special meaning.

### **5. Villain Eyebrows**

Characters who are cunning, treacherous and evil feature this sort of eyebrow pattern. The pattern is designed so that when characters knit their brows it produces an exaggerated effect.

### **6. Uneven Eyebrows**

Characters with this type of eyebrow are not as obviously evil as those who feature the villain pattern, yet neither are they good-hearted. The pattern itself consists of one eyebrow which extends upward and another which curves downward.

### **7. Sawtoothed Eyebrows**

This eyebrow pattern resembles the teeth of a sawblade. It is a sign of a wild, brutish character.

### **8. Wolf's Tooth Eyebrows**

A wolf's tooth pattern is similar to a sawtoothed pattern with the exception that the individual teeth of the former are larger than those of the latter.

### **9. Duck's Egg Eyebrows**

This eyebrow pattern is shaped much like a duck's egg. It is used for characters with large eyes.

### **10. Cudgel Eyebrows**

Shaped like a cudgel, this pattern is featured exclusively in the face-paint for monks.



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**11. Butterfly Eyebrows**

a butterfly eyebrow is slender and curving in shape. Additional patterns on the face designed to suggest the wings and antennae of a butterfly usually accompany a butterfly eyebrow.

**12. Reclining Silkworm Eyebrows**

This pattern is exclusive to the character Kuan Yu. It originates from Chinese folktales, which describe Kuan Yu as having "silkworm eyebrows and phoenix eyes."

**13. Ladle Eyebrows**

Shaped like two ladles, this eyebrow pattern symbolizes a character whose heart is heavy and whose mind is troubled, causing him to constantly knit his brows in worry.

**14. Numeral One Eyebrows**

A numeral one pattern consists of two brows which are linked together to form the written Chinese character for the numeral one. It symbolizes characters who are simple-minded and violent.

**15. Buddhist Swastika Eyebrows**

This pattern is featured by the character Hsiao Yu. Originally his eyebrows resembled the Buddhist swastika, but over time they were transformed into a stylized Chinese character meaning "long life."

**16. Praying Mantis Pincher Eyebrows**

Certain villainous characters possess this eyebrow pattern, which resembles the pinchers of a praying mantis.

**17. Gourd Eyebrows**

Shaped like a gourd, this pattern appears on the face of Meng Liang, a warrior who employs a magic gourd in battle.

**18. Willow-leaf Eyebrows**

Eunuch characters feature willow-leaf eyebrows to emphasize their lack of masculinity. When this pattern appears on the face of a soldier, it indicates that he is slightly more cautious than is the norm.

**19. Bat Eyebrows**

This eyebrow pattern is shaped like a bat. In general, bat-shaped patterns are a sign of good fortune.

**20. Sky-piercing Eyebrows**

This eyebrow pattern is similar to the elderly pattern. It has no special significance.

**21. Sword Eyebrows**

A sword eyebrow is shaped like the blade of a saber. Characters with this eyebrow pattern are brave and dependable.

**22. Downward-sloping Eyebrows**

Characters with downward-sloping eyebrows are either evil or are ghosts.

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### **23. Tiger-hook eyebrows**

The Tiger-hook pattern is exclusive to the character Tou Erh-tun. Tou Erh-tun carries a weapon which resembles this eyebrow pattern in shape.

### **24. Random eyebrows**

Ransom eyebrow patterns appear primarily on Chou characters and consist of a simple dot over each eyebrow region.

## **Eyes**

The Chinese have a saying similar to the Western notion that "the eyes are windows to the soul." A great deal can be inferred about the personality of an opera character simply by glancing at the shape of his eyes. Generally speaking, characters with large, wide eyes are brash and bold. Those with long, slender eyes are gentle and reserved. If the corners of the eyes curve upward, the character is most likely crafty and cunning. Tiny, slitted eyes are a sure sign of an evil nature. Below are the most common eye patterns:

### **1. Villain Eyes**

A small amount of dark make-up is applied in the shape of a long, gently tapering triangle to form villain eyes. The concept behind this pattern is that a villain keeps his eyes half-closed and averted from the gaze of others in order to conceal his thoughts.

### **2. Large Villain Eyes**

This pattern is similar to, but slightly larger than the villain eyes pattern. It is used for villainous warrior characters because it resembles a fierce stare.

### **3. Straight Eyes**

This eye pattern often accompanies a three-tile face pattern. It can be applied in a rectangular or round shape. The rectangular version indicates a character who is bold and resolute, while the round version denotes a character who is mild-mannered.

### **4. Elderly Eyes**

Elderly eyes droop at the corners to complement elderly eyebrows.

### **5. Ring Eyes**

These eyes, round in shape and suggestive of panther eyes, appear on characters who are rash and violent.

### **6. Kidney Eyes**

Kidney-shaped eyes are a special feature of monk characters and always appear along with cudgel eyebrows.

### **7. Phoenix Eyes**

Like reclining silkworm eyebrows, phoenix eyes are exclusive to the character Kuan Yu and originate from descriptions of him which appear in popular folk tales.

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## **8. Laughing Eyes**

This pattern is meant to resemble the eyes of a person who is laughing. It is often incorporated into the make-up for comical characters.

### **Foreheads**

Foreheads often feature symbols, Chinese pictograms or illustrations. There are basically three rules governing what appears on a character's forehead:

1. The foreheads of gods and ghosts display gold or silver paint.
2. A character's true nature may be revealed by a symbol or pictogram upon his forehead.
3. If a character's forehead looks too plain, random patterns or a symbol which has some connection to the character can be added. An example of the latter would be the symbol of a gourd which appears on the forehead of Meng Liang.

Major forehead patterns are as follows:

#### **1. Golden Forehead**

Gold paint is applied to the foreheads of gods and heavenly spirits of advanced rank. The status of a god can be inferred from how much of their forehead is covered in gold. The more gold that appears, the higher the god's relative rank.

#### **2. Red Forehead**

If a character's forehead is daubed with red paint, he will eventually die from a blow to the head.

#### **3. T'ai Chi Forehead**

Characters with some understanding of Taoist concepts of Yin and Yang and the T'ai chi, or "Grand Ultimate," feature this symbol upon their forehead.

#### **4. Eight Trigrams Forehead**

The Trigrams, derived from the ancient classic *The I Ching*, were used in ancient china as a method for predicting the future. A character with this symbol upon his forehead is adept at reading the Trigrams.

#### **5. Blue-green forehead**

The character of Chao Chiang is rather unusual in that he dies during the course of an opera and later reappears after having been deified. Before his death his forehead is blue-green, and after he returns as a god, it is painted with gold.

#### **6. Tiger Forehead**

This pattern is exclusive to the character Yang Yan-szu. It reveals that he is a tiger spirit transformed into the guise of a man.

#### **7. Long-Life Forehead**

All characters who bear a stylized "long-life" character upon their forehead are fated to die a violent death.

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### **8. Gourd Forehead**

The shape of a gourd appears upon the forehead of the character Meng Liang to symbolize a magic gourd he carries at all times.

### **9. Moon Forehead**

A moon-shaped symbol appears upon the forehead of the judge Pao Cheng, it symbolizes his ability to enter and exit the underworld at will.

### **10. Peach Forehead**

In keeping with his nickname, "The Peach," the character Hsieh Hu bears an illustration of a peach upon his forehead.

### **11. Original Form Forehead**

Spirits and demons transformed into the shape of human beings often display an illustration representing their original form incorporated into their make-up.

### **12. True Nature Forehead**

The character Chu Ling displays an illustration of an innocent child upon his forehead to indicate that his true nature is good, even though his appearance is that of an evil demon.

### **13. Gold Coin Forehead**

The character Huang Ch'ao is described in popular accounts as having a coin-shaped scar upon his brow, and this feature is incorporated into his stage make-up.

### **14. Marred Forehead**

Certain characters bear a mark in the form of a dot, squiggly line, circle or triangle upon their forehead. Such marks indicate that the character is of "low social standing and that he will most likely die prematurely.

## **Noses**

Nose patterns usually have no meaning in and of themselves, but instead are designed to match the patterns of the eyes or other regions of the face.

### **1. Basic Nose**

This pattern complements a three-tile face pattern. It consists of a single line of color drawn from the upper lip to the bridge of the nose.

### **2. Villain Nose**

This is a nose painted a plain white color. It complements the white face of a villain.

### **3. Laughing Nose**

This pattern consists of paint applied to the nose and upper lip area. It is designed to give one the impression that the character has a slight smile on his lips.

### **4. Full Nose**

The make-up of most villains includes a solid block of color filling in the space between the upper lip and nose.

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### **5. Curled Nose**

This pattern consists of paint applied under the nose and along the cheeks in a curling pattern reminiscent of a mustache. It is designed to make a character appear refined.

### **6. Hooked Nose**

A hooked nose is used to complement a bat forehead pattern. It consists of paint applied so that it extends from under the nostrils and curves into a hook shape upon each cheek.

### **7. Long/Short Nose**

This pattern consists of either long or short lines of paint applied to the nose to complement other patterns on a character's face.

## **Mouths**

The vast majority of Chinese opera characters wear beards. Special patterns do appear in the make-up of beardless characters, however.

### **1. Gold Ingot Mouth**

This type of mouth is shaped like a gold ingot. Characters who display a gold ingot mouth are not necessarily evil, but neither are they completely good-hearted.

### **2. Water Chestnut Mouth**

A water chestnut mouth is painted to resemble its namesake. As it is small and delicate in shape, it is considered feminine in nature, and is featured mostly in the make-up of eunuchs.

### **3. Fire Brazier mouth**

Shaped like a fire brazier, this pattern indicates that a character is fierce and violent.

### **4. Disdainful Mouth**

This pattern makes a character look as if the corners of his mouth are turned down in disdain.

### **5. Tiger Mouth**

A tiger mouth is similar in shape but smaller than a disdainful mouth. It appears on the faces of characters who are excellent fighters.

### **6. Bird Mouth**

This type of mouth is pointy like a bird's beak.

### **7. Crooked Mouth**

A crooked mouth complements a lopsided facial pattern.

### **8. Tiger Mouth**

It appears on the faces of characters who are excellent fighters.

## Graphics/Digital Images

While simple graphics can be created in Director's Paint window or using the QuickDraw Tools palette, most graphic work is done in other drawing or paint programs. Director will import PICT or PICS file formats at various bit depths. Custom color palettes also can be imported simultaneously or the file can be remapped to other palettes within Director. Images also may be copied to the Clipboard from other programs and pasted directly into the Cast or Paint window. Questions related to these topics are addressed below:

- INKS
- RESIZING
- LARGE GRAPHICS
- COLOR DEPTH
- QUICKDRAW vs. BITMAP
- STAGE COLOR
- TRADITIONAL TECHNIQUES

### **What are the various inks, and when should they be used?**

Some inks display faster than others. Inks can be divided into three categories in relation to speed.

For fast performance, use Copy (fastest), Background Transparent (with white background), Transparent, Reverse, Matte, and Ghost inks.

Inks taking longer to display are Background Transparent (with a non-white background color), Not Copy, Not Transparent, Not Reverse, and Mask.

Inks with the slowest redraw are Blend, Add, Add Pin, Subtract, Subtract Pin, Lightest, and Darkest. These should be avoided if possible.

If a bitmap with ink set to Background Transparent contains white areas within its borders, remove white "holes" without switching inks by swapping the lightest shade of gray for the white pixels. Select the image in the Paint window, set the start and destination color chips, and choose Effects, SwitchColors.

### **How can traditional graphic layout techniques be applied to multimedia?**

Unlike static page layouts, multimedia screens change over time in response to user input. If certain interface elements remain constant throughout a multimedia application, they should maintain a degree of consistency for ease of use. For instance, if a Quit button appears in the lower right corner on one screen. Creating dynamic layouts is a unique and challenging design problem and is closely tied to interface design.

## **Animation**

Animation can be created using a variety of processes. While issues regarding 2-D animation differ from those related to 3-D animation,

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there are a few general things to know about integrating any animation into your Director movies.

In director, animate sequences are layed-out in the Score, timing is adjusted, and interactivity is added if necessary. Always keep animations as small as possible by animating only the changing areas of an image; Large sprites animate more slowly. Animations also slow down when multiple sprites are layered or moving on the Stage at the same time. Ink effects other than copy and background transparent have a negative impact on animation speed.

### **How can I create single frame animations in Director using Lingo?**

Use Lingo to animation sprites on the Stage by swapping multiple cast members within a single frame of the Score. For example, this script will execute and refresh the screen within a single frame before the playback head proceeds to the next frame:

```
global gButton1channel
set gButton 1channel=4
set the castnum of sprite gButton1channel=the number of cast
"ButtonState1"
UpdateStage
set the castnum of sprite gButton1channel=the number of cast
"ButtonState1"+1
updateStage
```

### **What is user-centered design?**

We tend to design based on our own experiences and knowledge of the world, but we shouldn't assume that the audience shares the same perspective. Start with a vision that I need to communicate. Focus on the user. Learn all I can about my audience in order to anticipate their reactions and to see my project from the user's perspective. Plan the images that I will create in the mind of the user to communicate my vision. Develop a plan for producing the effects needed to create these images, and determine the technology needed to relay my message. It is easy for developers to become enthralled with the technology, losing sight of the end user's experience.

### **How can I design a user-friendly interface?**

When designing the interface try to eliminate unnecessary branching. Deep branching structures can be confusing and frustrating to the user and may interfere with the information or ideas I am presenting.

The overall structure should be clear. The user should know where he is and how to get to where he wants to go. A flat interface provides instant access to all areas of a multimedia application, so the user can easily see available options, and quickly jump to various areas.

Consider which navigational or other functional controls may be needed. These tools should be readily available. For example, in a basic



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structure it may be helpful to include a main menu button, a forward and backward button, and a quit button on every screen. another approach is to include a "super-menu." Include one small button on screen at all times. Use it to open floating "super-menu" that could include all navigational controls, preferences, and settings.

Some interface styles may be completely transparent. Immersion environments enable the user to browse through virtual worlds and interact with objects in the scene.

### **What should I consider when organizing content?**

As designers, our challenge is to process, integrate, and present information in a meaningful way. This usually involves organizing and categorizing information in ways that are suitable for multimedia productions. After organizing content, multimedia projects usually require that information be further broken up into small packets which lend themselves to interactivity.

### **Color and Palettes**

Color depth determines whether my design can contain just a few hundred colors, or a few million.

Color depth simply means the number of bits of information used to describe each pixel in an image. For example, an image in which 24 bits of data are used to describe each pixel is said to have 24-bit color depth. An image with a high color depth uses up a lot of memory, but it can contain a large number of colors. If only eight bits are available to describe each pixel, the image is limited to a much smaller pool of colors than if 16 or 24 bits are available.

Creating an optimal palette can sometimes require a lot of trial and error. After my first attempt, I found that the optimal palette's colors are still not true enough to my cast member's original colors. In this case, simply open the optimal palette and adjust or replace the colors that affect my cast members.



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A good interface is a construction kit: a set of elements that fit together like building blocks, and can be moved and reused in many different combinations. When these elements are assembled into a family of screens, they work together to produce a coherent interface. Up to this point, it's been important to look at the style and layout of an interface as a unified system. But while the system has to be conceived as a whole, it can only be created in parts. As the interface is assembled, its parts are used in a variety of screens, in different sizes, colors, and positions. These elements work as the building blocks of the interface, and their family relationship produces a sense of continuity and consistency.

Like all aspects of interface design, screen layout has a functional side as well as a visual one. How I arrange object on the screen determines not only how good they look but how easy they are to understand and to use.

Every screen is treated as a piece of design; it must be pleasant to the eye in terms of color, layout and choice of typography. Every element on the screen – the images, the icons and the location of the buttons – must be well-balanced in terms of weight and tone.

Every section would begin with a introduction with music, a standard layout was used for all the sections to maintain a sense of consistency and to avoid confusion; however a different background image was used to make it more interesting.

Buttons and controls are the tangible parts of the interface, the objects users interact with. Naturally they need to be clear and unambiguous, but that doesn't have to mean predictable or dull. Controls are an opportunity to involve users in the content, and to intrigue, amuse, and entertain them.

A great deal of time was spent on thinking of the relevant images to represent each section and how they should be displayed on the main menu. The final images were derived after much experimentation.

The "main menu" where all the buttons for the thirteen sections were displayed clearly for the user to pick a section. The mouse cursor would change whenever it "rollover" any of the thirteen sections. Icons were used in conjunction with text in the "main menu" to add visual interest. Relevant symbols were created to represent each of the thirteen section – Introduction, animation, credits, help, monkey king, roles, Hsieh Hu, 6 famous guys, the opera, costume, make-up, super-human beings and quit.

The movie section was also a popular section as people were always fascinated at watching movies from a computer screen. The animation were brought into director as "pict" files instead of QuickTime movies in order to have greater flexibility in manipulation.

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In terms of navigation, all choices were displayed clearly. The return button were arranged on the right side of all the screens to allow users the flexibility to go back to the previous section by just making their selection on the right side.

A "map" section is also provided for users who lose their way or need an overview. It displays all the thirteen sections, and user can click on any of them to go to that screen. The "map" section seemed to be a popular spot for non-computer users as they were able to look at the entire project at a glance. No one seemed to require the help section as all the buttons are basically self-explanatory.

In "6 famous guys" section, the user would be able to click on the slider to view the images with a short description.

In the "make-up" section, instead of having only the descriptions of the make up in Chinese opera, more visual interest and user-interactivity had been achieved by incorporating pictures of the make-up procedure in a "slider" form. The user could be able to click and move on the turning ball to view the procedure of make up.

The success or failure of an interactive project often depends on its user interface. In order to achieve effective communication, the interface design and user-interactivity has to be appealing and user-friendly; the content has to be short and interpretive. Most importantly, the project must project quality in the present meaningfully to a public understanding of Chinese culture, and at the same time convey its message effectively.

Past experience in graphic design has enabled me to foresee and overcome certain problems. If time permits, more elaborate and sophisticated animation would be desirable. Some problems were tackled and solved with the assistance of the thesis advisors. Thanks!

## *Appendix A*

### **Types and Plots**

Two points can be drawn from historical survey: one, Chinese opera was chiefly derived from the Yuan "Miscellaneous Play" and the Ming "Romances", more from the latter; and two, it owed its supremacy to royal support. Since the opera flourished under court patronage, the plays had to have happy endings to please the emperors. Furthermore, the Chinese, influenced by Confucius' ethical teaching, like to see the good rewarded and the evil punished; so there is no classification of comedy and tragedy in Chinese opera. Except for a few pieces that describe the downfall of ancient heroes, or a separation forced on lovers by the mother of the boy, most of the plays are tragic-comedy; that is, after many adversities the betrothed pair are happily united. In recent decades, however, playwrights have produced several tragedies.

### **Civil and Military Plays**

Chinese opera is divided into civil and military plays. The former deals with social or domestic life, generally portraying love affairs between talented scholars and beautiful maidens. The latter deals with fights between rival states, between knights and bandits, or between deities against evil spirits. The former emphasizes singing while the latter emphasizes acrobatics.

### **Sources of Plots**

Plots for the Chinese opera are taken from legends, folklore, historical records, short stories of the T'ang and Sung, the Yuan "Miscellaneous Plays", and Ming "Romances". Events of the Spring and Autumn Period (722-403 B.C.), the Warring States Period (403-221 B.C.), and the Period of the Three Kingdoms (220-265) furnish a large number of plots for the opera. "The Orphan of Chao", a true story which happened during the Spring and Autumn Period and was translated into French as early as the eighteenth century, remains one of the most impressive plays in Chinese opera. Characters described in the "Romance of the Three Kingdoms" are so vivid that the Chinese often judge another person by saying he is as cunning as Ts'ao Ts'ao or as wise as Chu-Ke Liang. Stories of the Monkey, the White Snake, and other animals transformed into human beings provide plots for many of the military plays.

## *Stage: Setting and Props*

### **Simple Setting**

The Chinese opera stage setting provides only a backdrop and a red carpet. On each side of the backdrop there is a curtained doorway. The one on the right is called Shang Ch'ang Men, "Upper Entrance", and the one on the left is called Hsia Ch'ang Men, "Lower Entrance." Each serves as points of entrance and exit for the players. But usually they come in through the Upper and go out through the Lower. However, they may leave by the Upper Entrance if they mean to return to the place from where they have come. A character who enters by the Lower Entrance indicates that he comes from inside, such as in the case when a servant slips in and stands by his master's chair. It indicates that he is always there ready to serve his master.

### **Main Props**

A table and a few chairs are all that is required for the opera stage. These few props can be taken to represent many settings. For instance, a chair put in front of a table indicates a room; but if it is behind the table, it indicates a study, a judge's seat or a commander-in chief's headquarters. If it represents the last, a big official seal and a box of wooden arrows are always placed on the table, the arrows being used as signals of passes. A chair put on top of a table signifies a hill, often occupied by bandits and on which the chieftain is seen standing. Two tables, one above the other, signify a high wall over which a warrior performs his acrobatics by jumping down to show that he has intruded into the house. Two chairs, face to face and fastened with a bamboo stick supporting another horizontal stick over which is hung a pair of silk curtains, represents a bed. It represents a military tent if the backs of the chairs face the audience.

Other props are also used to display symbolic meanings. A whip represents a horse; and an oar, a boat. A white flag on which is drawn waves signifies water. A black flag, sometimes four in number, signifies a strong wind. A regular flag written with a character "Pao", meaning "Report", indicates a messenger is reporting some news. A big flag

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with an embroidered family name in the center is held by a soldier to signify that his awe-inspiring General is at the battle. Two yellow flags, each patterned with a design of a wheel, stand for a carriage with a man who holds the flags horizontal acting the role of a driver. The actor walks between the flags to indicate that he is riding inside of the carriage. An oblong piece of yellow silk stands for an edict. A man holds the silk in front of his face and reads the imaginary words to those who kneel to receive the imperial order. A piece of red cloth rolled up to be hung over one's shoulder indicates luggage with money in it. The same color of cloth, if wrapped up in a round shape, represents the head of a beheaded person. A large piece of red cloth opened in the middle and fastened to two bamboo sticks represents the bridal sedan chair, with one man holding the stick acting the role of the two carriers. The bride walks behind the cloth to indicate that she is sitting inside the sedan chair. A large piece of blue cloth on which is drawn mortared bricks and supported on two bamboo poles represents a city wall. In the middle of the cloth, there is an opening which can be pushed aside and which represents a gate. An artificial mountain made of card board represents a real mountain and is set up only when a scene requires it.

Candles, lanterns, winepots, and cups are used on the opera stage. The candle is always a single one to indicate an indoor scene; but lanterns can be two or more to indicate an outdoor scene. A winepot and a few cups signify a feast. One may drink three cups of wine, but may only drink one cup of tea. This is merely a stage convention.

One of the few things included in the props is a duster made of white horse tail. It is usually held by a eunuch whose duty is to dust things clean for the emperors; nuns, monks, or fairies also hold it to display the idea that the human world is full of vexations and therefore should be swept away by the white duster.

## Fan and Umbrella

Fans and umbrellas are used on the opera stage, but not for practical purposes. An actor who says that he feels warm simply waves his long sleeves or wipes away the presumed perspiration from his forehead. The fan is not used to keep one cool. It is generally used under the following conditions:

1. To show a person who is at leisure, such as Cheng P'u, the retired General in the play "Snow Elegant."
2. To show a person thinking or mediating, such as the famous strategist Chu-ke Liang, who achieves all his victories by fanning his white feather fan over his long beard.
3. To use it to flirt, such as the young man does when he meets the girl in the popular play "Picking up the Jade Bracelet."
4. To add to one's beautiful movements, such as "The Drunken Beauty" who dances with her gorgeous big fan to make her half intoxicated manners more charming.
5. To play with as a part of one's dancing movement, such as the Red Maid who tries to catch the imaginary butterfly with her moon-shaped fan while amusing her mistress in the garden.



## *Making Entrances and Exits*

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The Chinese Opera opens with an empty stage onto which players make their appearance. Generally an actor enters from the Upper Entrance, chants a couplet to reveal the present situation and then sits on the chair already placed for him. If the chair is in front of the table, he must turn to the left first and then to the right before sitting down. If the chair is behind the table, he must reverse the direction. The origin comes from the stringed puppet show of a much earlier date, for the string would be tangled if the actor turns round and round in the same direction.

### **Poetry while Sitting**

The actor after sitting down delivers a poem which summarizes his past. Then, he will tell the audience in rhythmic language who he is and what he intends to do next. He either prolongs his last word to indicate to the musicians that he is going to sing or gives a cue that another character is coming on stage.

### **Various Ways of Entering or Exiting**

The above-mentioned is more or less the formal way of entering. There are other ways. In the case two characters enter together, each chants a line of a couplet. The military men sometimes enter four at a time and precede the commander-in-chief. Each raises his left sleeve to his eye-brow and chants a line of a poem. Then casting down the sleeve, each tells his own name.

Some actors sing one sentence off stage before appearing others cough to signal that they are coming. Some enter the stage, laughing; and another, weeping. In those cases, no chanting of poems is needed. Refugees always come on running in groups; one who watches the pursuing enemy walks backwards.

There are also different ways of exiting. Generally, an actor sings "the lines of dismissal" before leaving the stage. If he sings while going off, he withholds the last line; after walking a few steps toward the Lower Entrance, he turns to the audience again and finishes the line. A warrior, after his defeated opponent has gone off, still does acrobatics with his weapon. This is to show how skillful he is in military arts. One who acts as a desperate wife says her husband wants to kill her and goes off on her knees, with her two long sleeves thrown over her shoulders.

On entering the stage, a younger person always follows the older person such as in the case of a mother and a daughter. But a maid always precedes her mistress, and a horseman, his master.

When going off the stage, usually the aides and soldiers follow the generals.

## *Music and Singing*

### **Ch'ang Mien**

The orchestra for Chinese opera is called Ch'ang Mien. Just as the opera is divided into civil and military plays, Ch'ang Mien is also divided into Wen Ch'ang, the civil, and Wu Ch'ang, the military. Musical instruments for Wen Ch'ang are mostly made of bamboo and strings, such as the Hu Ch'in, the two stringed violin; the Erh Hu, the secondary violin; the Yueh Ch'in, the moon guitar; the San Hsien, the three-stringed fiddle, and the P'i P'a, the lute. Some are wind organs such as the Ti Tzu, the horizontal flute; the Hsiao, the vertical flute; and the So Na, the clarinet. Musical instruments for Wu Ch'ang are mostly made of leather and brass such as the Hsiao Ku, the single-skin drum; the Hsiao Lo, the small gong; the Ta Lo, the big gong; the Yun Lo, a combination of ten gongs suspended from a wooden frame; and the Po, the cymbal. The former set, with the Hu ch'in as the leading instrument, usually accompany singing while the latter accompany dancing and fighting. But the So Na, the clarinet, is often blown for military ceremonies, or festivals, and the Hsiao Lo, often heralds the entering of a female character. The most important of all the instruments, however, are the Pan, the wooden clapper and the Hsiao Ku, the single-skin drum. They are played by the chief musician, who holds the clapper in his left hand and uses a stick to beat the drum with his right hand. No play can start without his first striking the drum. His wooden clapper sets the tempo for all the singers.

The orchestra sits on the side of the Lower Entrance with the chief musician in the center. The man who plays the Hu chin takes the first chair.

### **Hsi P'i and Erh Huang**

There are two tunes for singing: the Hsi p'i and the Erh Hwang. Both go by the Pan, the accented beat, and the Yen, the unaccented beat. The timing for the measures is : three unaccented and one accented beats for the slow tempo, one unaccented and one accented for the moderate, and one accented and no unaccented for the quickest. When it is one accented and three unaccented beats, the three unaccented beats are called First beat, Middle beat, and Last beat.

Both Erh Huang and Hsi P'i are sung with the Hu Ch'in, the two-stringed violin, as the principal instrument. In general, Erh Huang is used for serious occasions, while Hsi P'i is used for happy and light occasions. Each of the two tunes has a Cheng Tiao, the main aria and a Fan Tiao, the reverse aria. The main aria is for general purposes while the reverse aria expresses tragic and gloomy situations. Both tunes have various patterns of melodies. Each pattern follows the speed or the beats of the Pan and the Yen. Generally, the way to sing a melody in Erh Huang is to start with the Pan, and a melody in Hsi p'i is to start with the middle yen. both end with the pan.

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k'un Ch'u accompanied by the flute is another tune beside Hsi P'i and Erh Huang.

In singing, Lao Sheng, the leading male role, must have a high but even and smooth voice. Ch'ing yi, the leading female role of the Tan category, must sing soprano with a clear and beautiful falsetto voice. Lao Tan, the old woman, uses a voice similar to that of Lao Sheng. Hsiao Sheng, the young man, uses a voice similar to that of Tan. The voice of a Ching, a painted Face, is broad and loud. A clown uses a man's voice even if he impersonates a woman.

On a Chinese opera stage, the quality of singing is manifested in every word spoken and every expression revealed. Chanting a line of a poem, speaking a dialogue or monologue, weeping, crying, laughing or coughing must be done with rhythm. An answer of "yes" or an address of "master" or "lady" should not be spoken as in our daily life. It usually has a suffix to make the tone more musical. Lamenting is usually sung out in a special melodious voice.



Symbolism is the most distinguishing characteristic of Chinese opera. Nothing on the stage is real, but everything must be acted out as real. Take a whip for instance; an actor holds it in his right hand horizontally in front of him, with his left hand touching the top of it, drawing it a little backward and swinging it into a curve, to indicate mounting a horse. He holds the whip downward, as he strides to the right and to the left, and then twirls his hand twice before dropping the whip on the floor to indicate dismounting and having the horse tethered. Other gestures such as saddling a horse, leading it, or fighting when on its back are also pantomimed. When crossing an imaginary threshold, the actor must lift his right foot; a female character raises her right arm to symbolize that she is leaning against the door frame for support. To climb stairs, an actor makes quick steps, with his right hand raised higher and higher to show the gesture of holding the rails; a female character lifts the lower part of her skirt. To board a boat, an actor makes one large stride forward and then sways his body gently back and forth as though to balance himself against the motion of the boat. If more persons are aboard the vessel, the first one holds the paddle horizontally towards the others in turn as a support. There are also special gestures for knocking, opening, and closing a door or a gate.

Time and space are also indicated symbolically. For example, the master of the house is sitting on the front chair. The servant enters from the Upper Entrance and reaches the center front. He first lifts his right foot to cross an imaginary doorway, then he walks toward his left for a few steps and turning to the center, kneels before his master to report. This is to show that he has passed a big courtyard from the outer gate. When a character is taking a long trip, he needs only to circle the stage a few rounds before arriving at his destination. In a big battle, generals on opposing sides cross their weapons and let their soldiers pass beneath the weapons. The general and the soldiers of each side circle around the stage once to show the marching of troops. Drum and gongs are sounded. The imagination of the audience is carried to a big battle scene.

Though the origin of Chinese opera can be traced back to ancient ritual dances, only a few dances, such as the sword dance, the feather dance, and the ribbon dance are performed on the present stage. But the dancing element is displayed in every movement of the actors. In this respect, Shui Hsiu, the "Water Sleeve", serves as a great contribution, for it adds gracefulness to the actor's movements, especially those of female roles.

### **"Water Sleeves"**

A "Water Sleeve" is a long white silk cuff left open at the seam and attached to the costumes. It is so called because it resembles rippling water. A female character, when portraying a scene of fleeing, extends her arms a little to one side and circles the stage with quick steps. The two long sleeves floating at her side make her look like a fairy. In

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a scene of bitter crying, she throws back her long sleeves on to her shoulders while striking her feet left and right, as if she were dancing.

"Water Sleeve" enhances symbolic actions in many ways. When a female character smiles (a lady never laughs), she only raises one sleeve half way to her face to show bashfulness. An actor raises one sleeve in front of his mouth and covers the cup held in the other hand to indicate drinking. When an actor recites a monologue, he raises one sleeve to the side of his face to indicate that he is consulting his inner thoughts and the words are unheard by the other actor with whom he is engaging in dialogue. To show anger with another person, the actor turns away his body and flings one sleeve out at waist level; a female character makes the same gesture more gracefully. There are more than a hundred gestures with sleeve movements, each having a symbolic meaning.

## **Hand Movement**

Hand movement is another picturesque feature of the Chinese opera. Of the several principal movements, the pointing of a finger or fingers is performed in many different ways. A Ching, a Painted Face, points with his index and middle fingers stretched together, his thumb bending on the fourth finger and his little finger slightly bent. A Sheng, a male role, and Ch'ou, a Clown, may point with the index and the middle fingers together or the index finger alone. If it is the latter, the middle, the fourth and the little fingers are bent with the thumb on the middle finger. When a Tan, a female role, points, she forms the thumb and the middle finger in a curve while the index finger points upwards, with the fourth finger bent slightly above the center of the middle finger, and the little finger curved above the center of the fourth finger. When not pointing, those who play female roles have their middle fingers bent to the thumb and their other three fingers forming the shape of a Chinese orchid, thus giving this gesture the name of "Orchid fingers".

Hand movements also display feeling and emotion. A Ching actor opens both his hands to show despair. To express worry, an actor moves one hand and wrinkles his forehead. To meditate, he strokes his breast with a circular motion of the hand. When he is frightened, an actor touches his forehead with his middle finger to wipe away imaginary perspiration. When in desperation, a man strikes his knee with one hand, and with a deep sigh, exclaims, "All right, I'll do it." But a "Flowery Female" strikes her knee with both hands.

# Lingo Scripts

Program Name: Thesis

This "Thesis" Director movie is the main Director movie of all Director movies of the thesis. All other Director movies are engaged by this "Thesis" Director movie.

## Movie script

This movie script is responsible for initializing sprites, lists and variables which will be used in the movie later.

on startmovie

global position,current,diff,way,range  
global scale, speed, origen, FieldName  
global but1, but2, but3, but4

puppetSprite 1, true  
puppetSprite 33, true  
puppetSprite 17, true

set but1 =1  
set but2 =2  
set but3 =3  
set but4 =4

set the visible of sprite 1 to false  
set the visible of sprite 17 to false  
set the visible of sprite 33 to false  
set the visible of sprite 34 to false  
set the visible of sprite 36 to false  
set the visible of sprite 37 to false  
set the visible of sprite 38 to false  
set the visible of sprite 39 to false  
set the visible of sprite 40 to false  
set the visible of sprite 41 to false  
set the visible of sprite 42 to false  
set the visible of sprite 43 to false  
set the visible of sprite 44 to false  
set the visible of sprite 45 to false  
set the visible of sprite 46 to false  
set the visible of sprite 47 to false  
set the visible of sprite 48 to false  
set position = [125,-1015,-1340,-246,-799,-544]  
set FieldName = ["text1", "text2", "text3", "text4", "text5","text6"]  
set range = 5  
set scale = 5  
set speed = 20  
set origen = -1280

end

## **“moveit” handler**

**This “moveit” handler script controls the movement of the navigation bar within the six famous guys section.**

## **“traceTarget” handler**

**The “traceTarget” handler is used to navigate the red flying ball to hit the pressed button after the button in the main page is clicked.**

on moveit

global diff, position, range, speed, origen,current  
global scale

set n = 1  
set the visible of sprite 1 to TRUE  
set realgo = getAt(position, diff)  
set value = abs(realgo-origen)  
set value = value/speed

if realgo < origen then  
  set way = -1  
else  
  set way = 1  
end if

set origen = realgo

repeat with n = 1 to value  
  set l = the locH of sprite 1  
  set the locH of sprite 1 = the locH of sprite 1 + way\*speed  
  updateStage  
end repeat

set the visible of sprite 1 to FALSE

end

on traceTarget ballH, ballV

global targetH, targetV

set bspeed = 5  
set div = (ballH-targetH)/((ballV - targetV)/bspeed)

repeat with pos = ballV down to targetV  
  set the locH of sprite 33 to ballH  
  set the locV of sprite 33 to pos  
  updateStage  
  set pos = pos - bspeed  
  set ballH = ballH - div  
end repeat

end

### **“textshow” handler**

The “textshow” handler is used to display text field on the screen. The displayed text field will show on the screen character by character from the beginning of the text field to the end.

### **“move4R” handler**

The “move4R” handler is used to perform the animation of four square images on the stage.

These four square images will move around the stage and follow certain paths which are programmed in this handler.

```
on textshow str, fldName, lineN

    put the number of chars in str into N

    repeat with i = 1 to N
        put char 1 to i of str into line lineN of field fldName

        repeat with wait = 1 to 30000
            end repeat

        end repeat
    end

end

on move4R time

    global but1, but2, but3, but4

    repeat with T= 1 to 4

        repeat with N= 1 to 30
            set the locV of sprite 20+but1 = the locV of sprite
            (20+but1) + 3
            set the locH of sprite 20+but2 = the locH of sprite
            (20+but2) - 3
            set the locV of sprite 20+but3 = the locV of sprite
            (20+but3) - 3
            set the locH of sprite 20+but4 = the locH of sprite
            (20+but4) + 3
            updateStage
        end repeat

        set but1 = (but1+1) mod 5
        set but2 = (but2+1) mod 5
        set but3 = (but3+1) mod 5
        set but4 = (but4+1) mod 5

        if but1 = 0 then
            set but1 = 1
        end if

        if but2 = 0 then
            set but2 = 1
        end if

        if but3 = 0 then
            set but3 = 1
        end if
    end repeat
end
```



```

if but4 = 0 then
    set but4 = 1
end if
end repeat

repeat with T= 1 to time

    repeat with N= 1 to 30
        set the locV of sprite but1 = the locV of sprite but1 + 3
        set the locH of sprite but2 = the locH of sprite but2 + 3
        set the locV of sprite but3 = the locV of sprite but3 - 3
        set the locH of sprite but4 = the locH of sprite but4 - 3
        updateStage
    end repeat

    set but1 = (but1+1) mod 5
    set but2 = (but2+1) mod 5
    set but3 = (but3+1) mod 5
    set but4 = (but4+1) mod 5

    if but1 = 0 then
        set but1 = 1
    end if

    if but2 = 0 then
        set but2 = 1
    end if

    if but3 = 0 then
        set but3 = 1
    end if

    if but4 = 0 then
        set but4 = 1
    end if

end repeat

end

```

## Frame script "home"

**This frame script engages the mouse rollover function to change the cast number of the button and show the description of the rollovered button on the stage according to the movement of the mouse pointer.**

on exitFrame

global current

set current = 0

set mycursor to [250]

set the cursor of sprite 19 to mycursor

set the cursor of sprite 21 to mycursor

set the cursor of sprite 22 to mycursor

set the cursor of sprite 23 to mycursor

set the cursor of sprite 24 to mycursor

set the cursor of sprite 25 to mycursor

set the cursor of sprite 26 to mycursor

set the cursor of sprite 27 to mycursor

set the cursor of sprite 28 to mycursor

set the cursor of sprite 28 to mycursor

set the cursor of sprite 39 to mycursor

set the cursor of sprite 31 to mycursor

set the cursor of sprite 32 to mycursor

set the memberNum of sprite 19 to 217

updateStage

repeat with n = 10000 down to 1

nothing

end repeat

set the memberNum of sprite 19 to 236

updateStage

set the visible of sprite 37 to rollover(19)

set the cursor of sprite 19 to 260

set the memberNum of sprite 21 to 219

updateStage

repeat with n = 10000 down to 1

nothing

end repeat

set the memberNum of sprite 21 to 238

updateStage

set the visible of sprite 45 to rollover(21)

set the cursor of sprite 21 to 260

set the memberNum of sprite 22 to 220

updateStage

---

```
repeat with n = 10000 down to 1
  nothing
end repeat

set the memberNum of sprite 22 to 239
updateStage
set the visible of sprite 40 to rollover(22)
set the cursor of sprite 22 to 260

set the memberNum of sprite 23 to 221
updateStage

repeat with n = 10000 down to 1
  nothing
end repeat

set the memberNum of sprite 23 to 240
updateStage
set the visible of sprite 41 to rollover(23)
set the cursor of sprite 23 to 260

set the memberNum of sprite 24 to 222
updateStage

repeat with n = 10000 down to 1
  nothing
end repeat

set the memberNum of sprite 24 to 241
updateStage
set the visible of sprite 42 to rollover(24)
set the cursor of sprite 24 to 260

set the memberNum of sprite 25 to 223
updateStage

repeat with n = 10000 down to 1
  nothing
end repeat

set the memberNum of sprite 25 to 242
updateStage
set the visible of sprite 43 to rollover(25)
set the cursor of sprite 25 to 260

set the memberNum of sprite 26 to 224
updateStage
```

---

---

```
repeat with n = 10000 down to 1
  nothing
end repeat
```

```
set the memberNum of sprite 26 to 243
updateStage
set the visible of sprite 44 to rollover(26)
set the cursor of sprite 26 to 260
```

```
set the memberNum of sprite 27 to 225
updateStage
```

```
repeat with n = 10000 down to 1
  nothing
end repeat
```

```
set the memberNum of sprite 27 to 244
updateStage
set the visible of sprite 39 to rollover(27)
set the cursor of sprite 27 to 260
```

```
set the memberNum of sprite 28 to 226
updateStage
```

```
repeat with n = 10000 down to 1
  nothing
end repeat
```

```
set the memberNum of sprite 28 to 245
updateStage
set the visible of sprite 46 to rollover(28)
set the cursor of sprite 28 to 260
```

```
set the memberNum of sprite 29 to 227
updateStage
repeat with n = 10000 down to 1
  nothing
end repeat
```

```
set the memberNum of sprite 29 to 246
updateStage
set the visible of sprite 47 to rollover(29)
set the cursor of sprite 29 to 260
```

```
set the memberNum of sprite 30 to 228
updateStage
```

```
repeat with n = 10000 down to 1
  nothing
end repeat
```

---

```
set the memberNum of sprite 30 to 247
updateStage
set the visible of sprite 48 to rollover(30)
set the cursor of sprite 30 to 260
```

```
set the memberNum of sprite 31 to 229
updateStage
```

```
repeat with n = 10000 down to 1
  nothing
end repeat
```

```
set the memberNum of sprite 31 to 248
updateStage
set the visible of sprite 36 to rollover(31)
set the cursor of sprite 31 to 260
```

```
set the memberNum of sprite 32 to 230
updateStage
```

```
repeat with n = 10000 down to 1
  nothing
end repeat
```

```
set the memberNum of sprite 32 to 249
updateStage
set the visible of sprite 34 to rollover(32)
set the cursor of sprite 32 to 260
```

```
go the frame
```

```
end
```



## Frame script 294

This frame script will detect which button is clicked by the user and pass parameters to the "traceTarget" handler to navigate the flying red ball to hit the clicked button.

After the flying red ball hits the target, the frame script will decide to either jump to another director movie or a different frame in the same director movie.

on exitFrame

```
global spriteNo  
global diff, current, scale  
global targetH, targetV  
global position, FieldName
```

```
set mH = the locH of sprite 33  
set mV = the locV of sprite 33  
traceTarget mH, mV  
set the locH of sprite 33 to targetH + 40  
set the locV of sprite 33 to targetV  
set the memberNum of sprite spriteNo to spriteNo + 231  
updateStage
```

```
repeat with n= 1 to 50000  
end repeat
```

```
set the visible of sprite 33 to false  
set the locH of sprite 33 = mH  
set the locV of sprite 33 = mV  
if diff = "about" or diff = "quit" or diff = "map" or diff="body" or  
diff="credit" then
```

```
    set the visible of sprite 1 to false  
    go to diff  
else
```

```
    repeat with n= 1 to 48  
        puppetSprite n, False  
    end repeat
```

```
    set position = []  
    set FieldName = []  
    sound stop 2  
    go to movie diff  
end if
```

end

### Frame script "body"

**This script is responsible for initializing the variables for the six famous guys section and controlling the animation of the six famous guys selecting page.**

```
on exitFrame
    global current, textanimate , index

    set current = 0
    set textanimate = 1
    if index = 1 then
        puppetSprite 3, true
        set the locH of sprite 3 to 530
        set the locV of sprite 3 to 385
        set index = 0
    end if

    set the visible of sprite 17 to false

    repeat with n= 9 to 12

        repeat with wait= 1 to 10000
            end repeat

        set the memberNum of sprite 23 to n
        updateStage
        end repeat

    go the frame

end
```

---

### Frame script "1"

The purpose of frame scripts "1", "2", "3", "4", "5" and "6" is to initialize the variables and sprites for each of the famous guys within the six famous guys section.

```
on exitFrame
  global current, FieldName, textanimate

  set current = 1
  if textanimate = 1 then
    puppetSprite 32, true
    set the visible of sprite 17 to true
    set fName = getAt(FieldName, current)
    put the number of lines in field fName into numberN
    put "" into field "show"

    repeat with lineN = 1 to numberN
      put line lineN of field fName into str
      textshow str, "show", lineN
    end repeat

    puppetSprite 18, true
    set the locH of sprite 18 to 151
    set the locV of sprite 18 to 205
    set the memberNum of sprite 18 to 27
    set the visible of sprite 18 to true
    set textanimate = 0
  end if

  go the frame
end
```

### Frame script "2"

```
on exitFrame
  global current, FieldName, textanimate

  set current = 2
  if textanimate = 1 then
    set the visible of sprite 17 to true
    puppetSprite 32, true
    set fName = getAt(FieldName, current)
    put the number of lines in field fName into numberN
    put "" into field "show"

    repeat with lineN = 1 to numberN
      put line lineN of field fName into str
      textshow str, "show", lineN
    end repeat

    puppetSprite 16, true
    set the locH of sprite 16 to 144
    set the locV of sprite 16 to 157
    set the memberNum of sprite 16 to 41
    set the visible of sprite 16 to true
    set textanimate = 0
  end if

  go the frame
end
```

---

### Frame script "3"

```
on exitFrame
    global current, FieldName, textanimate

    set current = 3
    if textanimate = 1 then
        set the visible of sprite 17 to true
        puppetSprite 32, true
        set fName = getAt(FieldName, current)
        put the number of lines in field fName into numberN
        put "" into field "show"

        repeat with lineN = 1 to numberN
            put line lineN of field fName into str
            textshow str, "show", lineN
        end repeat

        puppetSprite 15, true
        set the locH of sprite 15 to 162
        set the locV of sprite 15 to 103
        set the memberNum of sprite 15 to 52
        set the visible of sprite 15 to true
        set textanimate = 0
    end if
    go the frame
end
```

### Frame script "4"

```
on exitFrame
    global current, FieldName, textanimate

    set current = 4
    if textanimate = 1 then
        set the visible of sprite 17 to true
        puppetSprite 32, true
        set fName = getAt(FieldName, current)
        put the number of lines in field fName into numberN
        put "" into field "show"

        repeat with lineN = 1 to numberN
            put line lineN of field fName into str
            textshow str, "show", lineN
        end repeat

        puppetSprite 14, true
        set the locH of sprite 14 to 150
        set the locV of sprite 14 to 202
        set the memberNum of sprite 14 to 67
        set the visible of sprite 14 to true
        set textanimate = 0
    end if
    go the frame
end
```

### Frame script "5"

```
on exitFrame
    global current, FieldName, textanimate

    set current = 5
    if textanimate = 1 then
        set the visible of sprite 17 to true
        puppetSprite 32, true
        set fName = getAt(FieldName, current)
        put the number of lines in field fName into numberN
        put "" into field "show"

        repeat with lineN = 1 to numberN
            put line lineN of field fName into str
            textshow str, "show", lineN
        end repeat

        puppetSprite 13, true
        set the locH of sprite 13 to 167
        set the locV of sprite 13 to 148
        set the memberNum of sprite 13 to 81
        set the visible of sprite 13 to true
        set textanimate = 0
    end if
    go the frame
end
```

### Frame script "6"

```
on exitFrame
    global current, FieldName, textanimate

    set current = 6
    if textanimate = 1 then
        set the visible of sprite 17 to true
        puppetSprite 32, true
        set fName = getAt(FieldName, current)
        put the number of lines in field fName into numberN
        put "" into field "show"

        repeat with lineN = 1 to numberN
            put line lineN of field fName into str
            textshow str, "show", lineN
        end repeat

        puppetSprite 12, true
        set the locH of sprite 12 to 152
        set the locV of sprite 12 to 192
        set the memberNum of sprite 12 to 96
        set the visible of sprite 12 to true
        set textanimate = 0
    end if
    go the frame
end
```



---

**Frame script "temp"**

```
on exitFrame  
  
    global diff, scale  
    moveit  
    go 300+diff*scale  
  
end
```

**Frame script "zhang"**

**This frame script will loop a banner on the stage, which will move from the right of the stage to the left of the stage.**

**This banner contains a series of images of the chinese opera masks of "Chang Fei " from chinese opera history.**

```
on exitFrame  
  
    puppetSprite 32, true  
  
    set the locH of sprite 32 to 196  
    set the locV of sprite 32 to 342  
    set the memberNum of sprite 32 to 168  
    set n = 1  
  
    repeat while n = 1  
        set the loch of sprite 19 = the loch of sprite 19 - 2  
  
        if the loch of sprite 19 < -1993 then ¬  
            set the loch of sprite 19 = the loch of sprite 19 + 1872  
        if the mousedown then  
            updateStage  
            set n = 0  
        end if  
  
        updatestage  
    end repeat  
    go the frame  
end
```

### Frame script "King"

This frame script will loop a banner on the stage, which will move from the right of the stage to the left of the stage.

This banner contains a series of images of the chinese opera masks of "Hsiang Yu" from chinese opera history.

on exitFrame

puppetSprite 32, true

set the locH of sprite 32 to 195

set the locV of sprite 32 to 333

set the memberNum of sprite 32 to 174

set n = 1

repeat while n = 1

set x = the locH of sprite 19

set the locH of sprite 19 = the locH of sprite 19 - 2

if the locH of sprite 19 < -1993 then ↵

set the locH of sprite 19 = the locH of sprite 19 + 1872

if the mousedown then

updateStage

set n = 0

end if

updateStage

end repeat

go the frame

end

### Frame script "kuan"

This frame script will loop a banner on the stage, which will move from the right of the stage to the left of the stage.

This banner contains a series of images of the chinese opera masks of "Kuan Yu" from chinese opera history.

on exitFrame

puppetSprite 32, true

set the locH of sprite 32 to 96

set the locV of sprite 32 to 344

set the memberNum of sprite 32 to 181

set n = 1

repeat while n = 1

set x = the locH of sprite 19

set the locH of sprite 19 = the locH of sprite 19 - 2

if the locH of sprite 19 < -1993 then ↵

set the locH of sprite 19 = the locH of sprite 19 + 1872

if the mousedown then

updateStage

set n = 0

end if

updateStage

end repeat

go the frame

end

### Frame script "monkey"

This frame script will loop a banner on the stage, which will move from the right of the stage to the left of the stage.

This banner contains a series of images of the chinese opera masks of "Monkey King " from chinese opera history.

on exitFrame

```
set n = 1
puppetSprite 32, true
set the locH of sprite 32 to 206
set the locV of sprite 32 to 331
set the memberNum of sprite 32 to 185
```

```
repeat while n = 1
  set x = the locH of sprite 19
  set the locH of sprite 19 = the locH of sprite 19 - 2

  if the locH of sprite 19 < -1517 then ¬
    set the locH of sprite 19 = the locH of sprite 19 + 1516
  if the mousedown then
    updateStage
    set n = 0
  end if

  updateStage
end repeat
go the frame
```

end

### Frame script "bao"

This frame script will loop a banner on the stage, which will move from the right of the stage to the left of the stage.

This banner contains a series of images of the chinese opera masks of "Pao Cheng " from chinese opera history.

on exitFrame

```
set n = 1
puppetSprite 32, true
set the locH of sprite 32 to 157
set the locV of sprite 32 to 330
set the memberNum of sprite 32 to 161
```

```
repeat while n = 1
  set x = the locH of sprite 19
  set the locH of sprite 19 = the locH of sprite 19 - 2

  if the locH of sprite 19 < -1982 then ¬
    set the locH of sprite 19 = the locH of sprite 19 + 1865
  if the mousedown then
    updateStage
    set n = 0
  end if

  updateStage
end repeat
go the frame
```

end

**Frame script "baevo"**

on exitFrame

puppetSprite 19, true  
puppetSprite 32, true

set the locH of sprite 32 to 69  
set the locV of sprite 32 to 329  
set the memberNum of sprite 32 to 162  
set ptno = 90  
set the constraint of sprite 11 to 10

put(the locH of sprite 11- the right of sprite 10)\*2 into dist  
set ptno =ptno + dist  
set the locH of sprite 19= ptno  
updateStage

go the frame

end

**Frame script "monkey4R"**

n exitFrame

puppetSprite 19, true  
set the locH of sprite 19 to -3  
set the locV of sprite 19 to 355  
set the memberNum of sprite 19 to 191  
move4R 1  
go the frame

end

### Frame script "tsao"

**This frame script will loop a banner on the stage, which will move from the right of the stage to the left of the stage.**

**This banner contains a series of images of the chinese opera masks of "Ts'ao Ts'ao " from chinese opera history.**

```
on exitFrame
  set n = 1
  puppetSprite 32, true
  set the locH of sprite 32 to 117
  set the locV of sprite 32 to 336
  set the memberNum of sprite 32 to 193
  repeat while n = 1
    set x = the locH of sprite 19
    set the locH of sprite 19 = the locH of sprite 19 - 2
    if the locH of sprite 19 < -1605 then →
      set the locH of sprite 19 = the locH of sprite 19 + 1500
    if the mousedown then
      updateStage
      set n = 0
    end if
    updateStage
  end repeat
  go the frame
end
```

### Frame script "tsao4R"

```
on exitFrame
  puppetSprite 19, true
  set the locH of sprite 19 to 17
  set the locV of sprite 19 to 399
  set the memberNum of sprite 19 to 196
  move4R 1
  go the frame
end
```



Computers are such complex tools that the study of this information exchange between the human and the computer has taken on a special significance, and has been dignified with the name interaction. It is a danger to think of people as nothing but users. In fact, it is often the case that computer users need to make some modifications to the system in various ways, tailoring the system before it is truly usable.... So in a very real sense users are designers as well. For this reason it seems that common sense and ideology should be more collaborative, more democratic, more equalitarian, in a word direct. This is why uncritical transfers from cultural to academic discourse have become more responsible for the direction HCI (human-computer interaction) research and development efforts have taken than any kind of sustained analysis.

I took advantage of the computer as a tool to arouse viewers' attention by providing interactive multimedia, sound effects and animations to present a unique art in Chinese culture. Computers are such complex tools that the study of this information exchange between the human and the computer has taken on a special significance, and has been dignified with the name interaction. It is a danger to think of people as nothing but users. In fact, it is often the case that computer users need to make some modifications to the system in various ways, tailoring the system before it is truly usable.... so in a very real sense users are designers as well. For this reason it seems that common sense and ideology should be more collaborative, more democratic, more egalitarian and direct.

In spite of all of the obvious power, efficiency, and flexibility of digital media, it is a curiously disembodied form of communication. Unlike older media such as print or even videotape, digital information has no required physical form, and one of digital media's main advantages is precisely that it can change form and arrangement in response to the user's interactions. The homogenous, highly abstract, and largely invisible form of digital media requires an interface to give form and accessibility to information.

In summary, Chinese opera, is a dramatic performance that depicts aspects of Chinese life and sentiments by symbolic actions in harmony with music. What a player wears, and how he looks, walks or even laughs reveals the personality of the characters. For instance, a socially important person walks in a stately manner while a bad man sneaks around or walks jerkily. An upright person laughs a hearty laugh, but a villain giggles and grimaces. There is a convention that a usurper of a throne is not allowed to wear the red or yellow costume, for these two colors are only for a true lineal emperor.

The Chinese think highly of the opera because the opera upholds Chinese virtues, such as loyalty, filial piety, chastity, righteousness, and justice. It is on the opera stage that we visualize a general fighting to the death, a faithful and courageous wife killing the villain to avenge her husband, or a chivalrous person giving up his own son to save the life of his friend's son. Some of these virtues may seem impossible for a human being to adhere to, yet there were such men and women in Chinese history. These men and women are gone; but they are

---

resurrected on the opera stage and set an example for posterity. So the Chinese look upon opera as an enjoyable and educational experience.

As an art, Chinese opera has won popularity for another reason. Even though it requires many years of rigorous training to become an accomplished actor, it is possible for anyone to master a few opera songs for their own enjoyment. A laborer, after a day's hard work, often lies underneath a willow tree and hums an opera song to forget his fatigue. The term "Ya Su Kung Shang," which mean an enjoyment for the commoner as well as to the cultured, is another important quality found in Chinese opera.

In Taiwan, The Cultural Renaissance launched by the National government has given so much inspiration and encouragement to the public that there are amateur Chinese opera clubs in almost all government institutions, business firms, colleges and even elementary schools. The popularity of Chinese opera appears to be increasing with both Taiwanese as well as with foreigners who visit Taiwan.

I believe I have an obligation to contribute meaningfully to a public understanding of Chinese culture, and I have a responsibility to adapt and engage the new technology toward achieving this task. Regardless of our backgrounds and strengths, all professional designers have a responsibility to their own humanity to understand the new technologies available, to enhance the application of the new technologies toward more direct and democratic uses, and to connect the many rich diverse historical cultures through a vivid accessible media for the benefit of people all over the world today and tomorrow.

In order to design better systems, I need a better understanding of the tasks that people do or want to do so that I can use this knowledge to influence design. Much of this understanding comes directly from observation in the field, and operationalizing it has significant implications for the nature of the design process.

To get the most out of a usability test, it's more useful to have one complete section of the project working well than to have bits and pieces of the entire thing. My project goals are my compass. In every design decision, choosing simplicity paid me back in ease of production, better performance, and ease of use.

In this thesis project, there are some areas which require improvement. In the "Shieh Hu" and "Momkey King" section, instead of having only the function of the game, more visual interest and user-interactivity could be achieved by incorporating images in a lively way.

I don't feel bad about not meeting every aspect of my original design specification. While I do believe I could have achieved more, I am happy with those things I did accomplish.

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