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# Seasons: A motion graphics depicts activities of ancient Chinese people in four seasons

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# Seasons

A motion graphics depicts activities of ancient Chinese people in four seasons

#### **QINA CHEN**

Seasons: A motion graphics depicts activities of ancient Chinese people in four seasons

A Thesis submitted in partial fulfillment of the requirements for the degree of:

#### **Master of Fine Arts Degree**

Visual Communication Design School of Design College of Imaging Arts and Sciences Rochester Institute of Technology

July 2015

# **Thesis Committee Approvals**

Chief Advisor Marla Schweppe, Professor School of Design | Visual Communication Design **Chief Advisor Signature Date** Associate Advisor Daniel DeLuna, Associate Professor School of Design | Visual Communication Design **Associate Advisor Signature Date** Associate Advisor David Halbstein, Assistant Professor School of Design | Visual Communication Design **Associate Advisor Signature Date Peter Byrne** School of Design Administrative Chair Signature Date Submitted By: CHEN, QINA MFA Thesis Candidate

Seasons Approval of Thesis 2

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# **Abstract**

Seasons is a 2D motion graphics film that aims to visually depict my interpretation of seasons changing and seasonal activities of ancient Chinese people. It is an attempt to reproduce two classical arts on modern media. I mimic and mix the visual effects of Chinese shadow puppets and Chinese ink wash strokes through digital media technologies. Neither Chinese painting nor shadow puppet emphasize on reproducing the appearance of subject. It is more regarded as a form of expressionistic art, which intends to capture the spirit of the subject and illustrate the perception of the scene. My graphics are not planned to fully copy external forms of shadow puppets or old Chinese paintings, instead, I target to show the beauty of Chinese traditional art forms as well as the beauty of Asian aesthetics and philosophy.

Seasons represents my imaginary and visual adaptation of my knowledge and memories about cultures, traditions, and mysteries that related to seasons. The intent of project is to seek a different approach to integrate motion graphics with traditional art forms, and, to discuss more possibilities of transplanting classical arts into digital platform.

# **Index of Contents**

Thesis Committee Approval	2
Copyright and Permissions	3
Abstract	4
Introduction	7
Problem Statement and Troubleshooting	9
Review of Literature	11
Process	
Thesis Parameters	18
Working Timeline	19
Storyline	19
Poems and Scripts	20
Storyboard	22
Graphic Development Cel Animation	25
Ink Transition	30 32
Plant Growing Animation	33
Butterfly Animation	34
Compositing	35
Music and Final Adjustment	36
Summary	37

Seasons Index of Contents 5

# **Index of Contents**

Conclusion	38
Bibliography	39
Appendix	

# Introduction

Ancient China is regarded as a typical agrarian society. Agriculture worship has rooted in Chinese feudal history over thousand years. Both of feudal rulers and Confucians believed that human should follow the seasonal phenomena and obey the nature laws. Based on observation of weather, climate, and phenomena in seasons, Chinese folklore has specific guidance for people during the time. Seasons visualize this nature worship and beliefs and introduce the beauty of Chinese folk culture to the western world.

Seasons reflects my memories and knowledge of manners and traditions that ancient Chinese summed up through years of living experience and nature observation. To accurately present the theme, I did research in various sources such as DunHuang cave painting, Tang poem collections, Chinese Folk architecture illustration books, online puppetry galleries, Chinese fairy tale books, etc. Finally, I determined the historical background in Tang Dynasty, and the design of each season is developed from famous Chinese poems:

- In spring, a man walks toward to the pier. He is about to sail a boat down to a
  southern city called Yangzhou in the month of flowers blooming. A child is on his
  way home from school. Classes are over earlier than usual. He is busy at flying a
  kite in warm spring breeze.
- In summer, lotus is about to bloom out and butterfly is already waiting around to gather nectar. A young lady who sits on the stone bench is watching the butterfly and fanning herself.
- In autumn, two friends are making poems and drinking under the beautiful moonlight.
- In winter, a lonely old fisherman with a straw cape is sitting in a boat and waiting for fish in the frozen lake to bite his hook.

Then, I set four seasons into four periods of a day:

- Spring is at early dawn, when everything is enshrouded in mist. Morning brings new soft grass, which is so wet with dew. Breeze in the air is friendly and pleasant.
- Summer is at midday, when sun is scorching like fireworks blasting in the sky.
   Plants are sucking the sunlight like a baby at mother's breast. Insects are hovering over the flowers and singing the rhythm of life.
- Fall is at evening, when sunset glory burning the hill at horizon and the rest of sky turns gray. Everything looks perfect and romantic in the evening, so pictorial black and blue.
- Winter is at night, when the world embraces the darkness and gradually falls in sweet dream. All lives rest in this timeless serenity and wait for the dawn of tomorrow.

7

# Introduction

Like four seasons revolve without end, day and night endlessly cycles and effects on nature. The fundamental events of human life: birth, growth, illness, conflict, loss, reconciliation, and death, can also be seen as a big circle as well. Everything on earth, and in all of creation, seems move in circles: they come from zero and return to zero. Circulation as one of the most important concept in both Taoism and Confucianism, has became a general discipline for all Chinese to live with. Four seasons revolve in a day. This setting intends to reveal the Taoist philosophy of natural circulation and to deliver the sense of timeless and immortal of nature.

# **Problem Statement and Troubleshooting**

The project contains four stages: research, design, motion, and integration. There were a lot of design issues and technical problems that occurred during all four stages. Fortunately, most of them have been well solved after redesign and online tutorial research. Here are four major issues I met and their solutions.

#### **Narrowing Down the Content**

I felt the first two stages are the most difficult. I struggled for weeks to filter my ideas when I realized it's impossible to show all of them in a 2 minutes film. I deducted the theme from what I proposed "presenting Twelve Solar Terms" [01] to simply showing four seasons. Originally, my idea was horizontally moving the camera to show a long scroll painting with animated characters inside. Later, I felt that this idea was more suitable for interactive mobile design, and also, 12 terms was too many to show in 120 seconds. So I decided to shrink the content and focus on seasons and human.

#### Choosing the Proper Art Form

For the design aspect, I hesitated to use either ink painting or shadow puppetry as my major art form. After making some graphics, I determined to use puppets. There are two reasons that I chose Chinese shadow puppets as major art form:

First, it is one of the oldest performing art in China, which has been passed down for over two thousand years. Many of Chinese opera performances are derived from the shadow puppetry. Furthermore, in Yuan dynasty, when Mongolian troops invaded the western world, shadow puppets were brought to the Middle Asia, Arab region, Turkey, and Egypt, and later it spread into East Europe. Chinese shadow puppetry can be considered as the origin of shadow puppetry. Unlike calligraphy or ink painting, which has been held in high esteem and became a valuable symbol of art incorporating philosophy and beliefs, shadow puppetry came from the basic level of the society. In ancient time, it only will be regarded as a kind of entertainment for the general public rather than introduced as a representative of Chinese culture and art at any formal occasion. So I feel I should give this art performance more exposure to the public rather than a classical art, which is already worldwide known.

01. Solar Terms is a Lunisolar Calendar of 24 periods to manage agricultural arrangements in ancient China. It is comprises of 12 major solar terms and 12 minor solar terms interlaced with each other.

# **Problem Statement and Troubleshooting**

Secondly, compared with ink painting, shadow puppets<sup>[01]</sup> have solid shapes and simple outline, which require much less amount of time in practice to duplicate it on digital platform. Puppets are designed for storytelling and its unique light blending property would protrude the emotional intensity of the story.

#### Eliminating Visual Disparity

There were some technical issues came up when the project moved to the last integration stage. I have some 3D models in Maya but most of the project was built in After Effects. The first time I attempted to integrate the 3D animation with 2D files, I felt extremely hard to make two videos look like from the same point of view especially when both of the camera and object were moving. On the other hand, visual discrepancies between 2D graphics and 3D animations were so obvious and distractive. To keep the visual style coherently, I traced all 3D animations frame by frame then import hand-drawing animations into After Effects files. At last step, I applied watercolor texture and vignette effect above all image layers to reduce visual disparities and unify the color saturation and graphic texture.

#### Drawing Figure Animations

Before this thesis project, I barely had any experience of drawing figure animations. The training started by exploring how animators think in motion and study secondary movements. Begin from walking cycle to movements of drape clothes. To ensure body movements were realistic, all my hand-drawing animations have real time video reference that I recorded by myself. I took a quick fundamental tutorial of TVPaint, which is a 2D program design for hand-drawing animations, then started to draw animations in sequence of seasons. For each short animation, I drew keyframes first then gradually added in-betweens. It's very obvious to see that my skill is getting better from spring to winter.

......

<sup>01.</sup> Puppets are made of thin, translucent, dyed animal skins. The raw skins will be dried and dyed in order to create bright colors as well as preservative to prevent decay. Skins will be meticulously carved into shapes of human figures, animals, or nature scenery.

The literature review has two sections which include the visual reference, and technical research. Different from the academic research, most of my references were visual materials, such as illustration book, TV shows, tutorial videos, and photo books.

#### **Design Reference**

#### Dream of the Red Chamber

First broadcast July 6, 2010, Directed by Shaohong Li. Written by Xueqing Cao. YouKu Video. Posted by "Dongke 1996". Opening titles and ending credits. http://v.youku.com/v\_show/id\_XNT-kxODYxNzg0.from=y1.2-1-95.3.6-1.1-1-1-5 http://v.youku.com/v\_show/id\_XNTkxODYyMzgw. from=y1.2-1-176.3.1-1.1-1-1-0

Dream of the Red Chamber, also called The Story of the Stone, was written during the middle of 18th century in Qing Dynasty. It is regarded a masterpiece of Chinese classical literature and is generally recognized to be the peak of Chinese fiction. Since the early of 20th century, Dream of the Red Chamber has been transplanted to Opera, cinema film, and television shows.

The first time I watched this show, I was impressed by its opening title animation and its incidental music, which was inspired from Kunqu Opera. The style of illustration combines the features of traditional Chinese landscape painting and decorative fine brushwork. Artists used very fine brush strokes to depict small details such as figure's appearance and facial expressions, their luxurious and draping clothes, tiles and turret decorations for the pavillion, and small living facilities like interior incense burner and bedside heaters. On the other hand, big strokes of ink washes were also applied to background landscape to create a certain elegant and peaceful atmosphere. With appropriate lens panning and zooming, and small animations, it vividly portrays a wealthy but declining aristocratic family that is coming from the novel.

My favorite part of this animation is its clouds flowing and ink painting process. I was considering also applying ink stroke painting process in my film as well, but unfortunately due to lack of basic ink painting techniques, I was unable to present the complicated objects such as mountains and stones in my film. Unlike 3D techniques, ink painting requires years of training to capture the spirit of the subjects. I have no choice but switch my visual form from ink painting to the styles that have solid shapes like shadow puppets and paper-cutting style.

#### Kung Fu Panda 2

Directed by Jennifer Yuh Nelson. Release on May 22, 2011. Produced by DreamWorks Animation. Distributed by Paramount Pictures. "Intro of the movie, Lord Shen Backstory." You-Tube Video. Posted by "DashieSparkle", May 23, 2012. https://www.youtube.com/watch?v=A8wiNv6laU8

Kung Fu Panda 2 is a 2011 3D comedy animation film produced by DreamWorks. At opening, a monologue sets the time many years before the events of Dragon Warrior, story of the first movie, happened. Lord Shen, the scion of a peacock clan that rules a country in ancient China. To defend his regality and in order to let his family rule the country forever, Shen is seeking to use fireworks as a weapon. After discovering a prediction that a warrior of black and white will defeat him, Shen leads an army of wolves to exterminate the panda family to avert the prophecy. Shen's parents are terrified at his atrocity and exile him. At last, Shen swears his revenge.

Like the first movie, DreamWorks mixes different styles of animation. These different approaches visually divide the movie into various time sections: 3D represents reality, traditional 2D animations refer to the past, and Chinese Shadow Puppets are linking to legends of the past. The first movie started with Po's dream, which is his impractical illusion, has been treated differently from his "real" world. Thus, for the second movie, Po's memories should be treated in a similar manner. Especially for the opening of the film, about Lord Shen's past, should be presented as a legend or a folk story that people would tell kids at bed-time. Traditional Chinese shadow puppets successfully covers the story a mysterious and beautiful veil.

My idea of transferring from 3D to 2D was mainly affected by this opening scene. When I was thinking how to make a look of old and mysterious East Asia, this short clip successfully caught my attention. It uses after effects 3D space to create screen overlay effects of the puppets. Every graphic has very rich colors, simplified shapes, and hollowed negative spaces. It also has some blurry spots to make the look more "shadow puppet" realistic. By combining their styles and paper-cutting crafts, I developed my own style of "after effects screen puppets" with simpler outlines and less engraving trace.

#### Palace of Desire

First broadcast March 30, 2000 by CCTV-8. Directed by Shaohong Li and Nianping Zeng. Written by Zhong Zheng and Yao Wang. YouTube Video. Posted by "Benson Sun", September 30, 2011. https://www.youtube.com/watch?v=oTpPD563Xjl&list=PLE6B4B9C74F37BF4D

Palace of Desire has been my favorite television show since the first time I watched it in 2000. The show takes me back to a time during the Tang Dynasty, which is memorized as the golden era of China. Those legendary figures in the history were brought to life as their desires for power ripple through all levels of relationship in the imperial palace. The story tells about Princess Taiping's whole life, who is the only daughter of the only female Emperor of China- Emperor Wu Zetian. Princess Taiping is bestowed the honor, fortune and pride of royalty. Yet from this also stem the tragedy of her life. Her first failed true love marriage was manipulated by her mother, and it became a rift that draws apart Princess Taiping and her mother for decades. After Emperor Zetian Wu passes away, the fight for power overcasts the imperial family again. Her fate and love determines the future of the kingdom.

I love this show not only because the drama presents me a touching and exquisite painting of Princess Taiping's whole life, but also triggers me to think of myself in the society. Taiping is proud of her status as being an imperial princess, but on the other hand, the drama shows more than once how she wishes to be an ordinary person. She struggles between her princess pride and murky conspiracies inside her imperial family. The show incorporated western poetical and theatrical scripts with the extensive Chinese historical context. The whole drama is submerged in an aesthetic and sentimental mood. This show affected me so much that when I think about Tang Dynasty, I will flash back the scene of the show. So when I was designing characters and their apparel, I can't help but thinking about those characters I watched again and again. I referenced some male characters in the show including their hats, clothes, accessories, and color palettes. I hope that my graphics can bring a gorgeous and elegant look to audience like the show did to me.

#### Empress in the Palace

First broadcast November 17, 2011by Dragon Television. Directed by Xiaolong Zheng. Written by Lianzi Liu. YouTube video. Posted by "dramanias", August 3, 2013. https://www.youtube.com/watch?v=s9hPxR-JO7Jk&list=PLnY7YRRJga9lfhPJG0zLOQF-W0bHXXDnV

This TV show has become my essential working ambient sound since I always played this drama before I start to work. Because of the subject, this drama has many close up shots of royal constructions and interior decor. It provided much necessary information when I was designing the interior drinking scene. At last I didn't use that scene but I still feel that I have to put this television show in my literature because it affected me so much. I played it too many times that I even can't count the times I watched. Its sophisticated dialogues, accurate court etiquettes, exquisite costumes, and precise plots have profound impact on me when I was doing mind maps and design thinking.

This drama has been praised for being one of the best historical drama broadcast in Chinese mainland in recent years. It tells the story of the lives of royal concubines and particularly focuses on one young concubine--Zhen Huan's rise to become empress of the palace. Although the concubines seem to have a life of luxury, behind their facade is a life fraught with court politics, conflicts in the harem, and endless loneliness. The drama cruelly shows that life as a concubine is not a sweet and happy fairy tale, but rather a constant struggle for survival.

#### Seasons

Erica Haowei Hu. Behance video, 1:57. 2011. https://vimeo.com/24496773

"Seasons is a surreal motion graphics animation based on the changing seasons. Beginning with spring, the richly hued illustrations in this work come alive as they transform in color and rhythmic tempo to reveal the full seasonal spectrum." (Hu, Vimeo)

I watch this video clip when I occasionally browse Vimeo's staff pick video stream, then an idea of making seasons transitions start to form in my mind. Movement is very well synchronized with music. All beats hit on motion. I specially like the blossom of flowers: ink splashes the frame first, and gradually fills the shape of 3D flowers then ink goes inside to reveals inner parts along with blooming animation. Every petal of flowers is mapped with ink painted texture. Those thick outline strokes flatten all the 3D models and help to keep a coherent graphic style.

My original idea was to make the similar 3D rendered 2D to collaborate with my shadow puppets. After some rendering tests, I feel it is time consuming and not necessary since camera only shot from the front. So I gave up the idea of 3D rendering and chose to directly brush paints all the graphics. Different from Haowei's film, my thesis concentrates on human activities and relationship between human and nature, rather than purely shows seasons changing.

#### · INK-believe in the power of the brand

Produced by Troublemakers.tv, Directed by Niko Tziopanos. Troublemakers.tv Video, 1:00. Posted on November 24, 2009. http://troublemakers.tv/en/cctv-rafle-3-prix-en-or-pour-cctv/

Troublemakers is an award winning production company based in the heart of Paris. They represent French & international directors who specialise in live action, 2D and 3D animation to create solid innovative images and state of the art digital content for the advertising industry. This video clip is produced for China Central Television Station. (CCTV) "The aim was to create a commercial that represented a journey from traditional China to modern China, all made out of Chinese Ink to represent the history of CCTV, China and above all The Power of Branding." (Hagger, Troublemakers.tv)

The project has been awarded several visual awards such as China International Advertising Festival Gold Award, New York Festivals 2010 Gold World Medal, German Design Awards 2012 Nominated. The film started from a low resolution animatic which would work as the skeleton of the film. Then the team splits into different groups to work for different parts of the film from 3D modeling, animation, shooting of ink, integration of the motion capture, compositing and rendering. The shots well displayed the idea of history journey from ancient China to modern China. The seamless camera movements showcase a series of iconic landmarks in Beijing which triggers my memories of living there. As they said "it was very important for us to portray the right image, to speak the right language, to show the right codes which Chinese people are used to." (Hagger, Troublemakers. tv) A good film not only need delicate visual effects but also a respectful soul to the culture.

#### **Technique Support**

#### After Effects tutorials: Realistic Water Reflections

BakersTuts. YouTube video, 7:49. Posted on Oct 4, 2013. https://www.youtube.com/watch?v=wzn8tSsa-OP0

In this tutorial, Baker demonstrates how to make realistic water reflections of image or 3D object without any third party plugin. The result is pretty good for not using raytrace or any rendering program. This tutorial helped me keep the project fairly small and efficiently saved the render time.

#### • AFTER EFFECTS TUTORIAL - Animate Butterfly / Bird

MotionMile. YouTube video, 12:48. Posted on Feb 26, 2014. https://www.youtube.com/watch?v=rqM-D4e4mCk4

This tutorial shows you how to animate a 2D butterfly using only default plugin in After Effects. The butterfly is an imported illustrator file broken up into 3 layers, which has been animated in expressions. However, expressions make the butterfly mechanically flaps its wings. To add some randomness, I output the flying animation with alpha channel, then import it into Premiere and randomly add pivot points at timeline then change the timeline length between the points. Then output the film and re-import it back to After Effects.

#### · AE: Ink Watercolor Reveal Tutorial

VinhSon Nguyen. YouTube video, 19:57. Posted on Aug 16, 2013. https://www.youtube.com/watch?v=i-HicEwnffgs

This tutorial teaches us how to stylistically create an organic ink or watercolor reveal transition. To reveal the image, link the image that need to be revealed to the image or image sequence above it and check the track matte box. I applied this effect to my summer scene.

#### The Animator's Survival Kit.

Williams, Richard. London: Faber, 2001. Print.

This book teaches a lot of basic animation principles like basic walking cycle, body weight shifts on the move, secondary movement, facial expression, etc. It is tremendously helpful for me when I need very specific guidance in my figure animation.

#### Prepare to board! Creating Story and Characters for Animated Features and Shorts

Beiman, Nancy. Burlington, MA: Taylor & Francis. 2013
I read this book when I was in the storyboarding stage. This book helped me to manage and re-order the shots for the film. I also read Katz's book Film Directing Shot by Shot: Visualizing from Concept to Screen, (Katz, 1991)but it's more for film directing rather than animations.

#### Let it snow in After Effects

Brad Zimmerman. Vimeo video, 36:43. Posted on 2011. https://vimeo.com/18608274

To make realistic snow effect there are several approaches: you can use dedicated snow filters or particle plugins like trapcode Particular in After Effects, you can create in 3D particle programs, or you even can record flour powder flying in air with a very narrow lens. This tutorial shows simplest way to achieve it by only use the build-in filter After Effects CC Particle. All the snowflakes are realtime rendering. Any change to parameters will immediately show in the frame.

#### **Thesis Parameters**

Title: Seasons

Format: A motion graphics depicts activities of ancient Chinese

people in four seasons

**Length**: 2:00

**Target Audience**: People who have interest in Chinese culture

**Display Resolution**: 1280 x 720 pixel

Aspect Ratio:16:9Frame Rate:24 fpsAudio Channels:StereoSample Rate:48 kHz

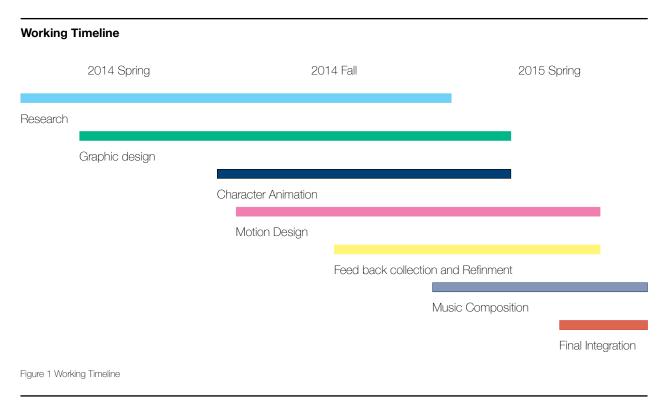
**Used Softwares**: Adobe Photoshop, Illustrator, After Effects, Premiere,

TVPaint, Maya

Thesis Concept:

Personal interpretation of seasons changing and activities of ancient people in each season.

- "Experimental Film" of reproducing classical arts on modern media
- Mix the visual effects of Chinese shadow puppets and Chinese ink paintings through digital media technologies.
- My imaginary and visual adaptation of my knowledge and memories about culture, traditions, and mysteries to seasons.
- All scenes are developed from Tang Poems
- Introduce Chinese manners and folklore to audience



#### Storyline

At the initial stage of the project, I wrote down many Tang poems that describe or relate to seasons. Then I sent out survey "when you talk about seasons which poem first appears in your mind". After I collected feedback and discussed it with my friends, I chose six famous sentences that most of us think can represent our feelings and cultural memories of seasons. At the final integration stage, I decided not to use any poem text along with motion graphics. Adding extra text will distract the audience from watching animations. Their eyes will be too busy to shift between texts and visuals in such a short time. And I believe my scenes and character animations already demonstrate the content of the poems.

#### **Poems and Scripts**

#### • Spring



English Translation: Farewell to old friends at Yellow Crane Tower, a man is about to sail a boat down to a southern city in March, which is also called month of flowers blooming.

Original Poem: 故人西辞黄鹤楼,烟花三月下扬州。

Figure 2



English Translation: A kid is on his way home from school. Class is over earlier than usual. He is busy at flying a kite in warm spring breeze.

Original Poem: 儿童散学归来早,忙趁东风放纸鸢。

Figure 3

#### Summer



English Translation: Lotus is about to bloom out and a dragonfly is already waiting around to gather nectar.

Original Poem: 小荷才露尖尖角, 早有蜻蜓立上头。

Figure 4



beautiful pink lotus.

English Translation: The long skirt looks like a lotus leaf, the girl's face is like a

Original Poem: 荷叶罗裙一色裁, 芙蓉向脸两边开。

Figure 5

#### Fall



English Translation: To invite the moon, I raise up my cup. We're three, as my shadow shows up. When we are awake, we have fun together. When we get drunk, we leave each other separately.

Original Poem: 举杯邀明月,对影成三人。醒时同交欢,醉后各分散。

Figure 6

#### Winter



waiting for fish in the frozen lake to bite his hook. Original Poem: 孤舟蓑笠翁,独钓寒江雪。

English Translation: A Lonely old fisherman with a straw cape is sitting in a boat and

Figure 7

#### Storyboard



Figure 8: Black iris opening up into the initial scene



Figure 9: Flowers fall off from branches, camera horizontally tracks the movement of flowers



Figure 10: Camera stops at second scene, a man comes into the scene from the right



Figure 11: He steps onto the boat



Figure 12: Camera moves up to the sky, title "Seasons" writes on the sceen



Figure 13: Completed title



Figure 14: Clouds gradually dissolve, a kid is flying a kite and running into the scene



Figure 15: He runs across the screen, the butterfly starts to flap wings



Figure 16: background ink transition starts



Figure 17: butterfly flies to the new scene



Figure 18: A lotus bud grows out



Figure 19: lotus grows out from the water then blooms.



Figure 20: butterfly flies through the lotus pond



Figure 21: a young lady who sits on the stone bench is fanning herself and watching the butterfly



Figure 22: camera continuously moves towards the right, two man are drinking in the small pavilion



Figure 23: a distant view of the pavilion, the pine tree and mountains.



Figure 24: camera moves up to the sky



Figure 25: sky starts to snow



Figure 26: The moon and sky scene dissolve, an old man is fishing in the snow



Figure 27: camera zooms out to the whole fishing scene.



Figure 28: Ending credits



Figure 29: Ending credits

#### **Graphic Development**

Graphics are one of the most important design elements in my thesis. My design inspirations mainly come from Chinese paintings, especially during the Tang dynasty. My compositions of scenes reference a genre of Chinese ink paintings called Shan-shui Paintings.

Shan-shui, literally translated as Mountain-river, refers to a style of tradition Chinese painting, which involves or depicts scenery of natural landscape, using a brush and ink rather than more conventional paints.

Mountains, rivers, and often waterfalls are prominent in this art form. The art of Shan-shui has a strong reference to Taoist imagery and motifs, as symbols of Taoism strongly influenced "Chinese landscape painting".

#### Design Process

Following graphics shows three versions I designed for the project. Vesion1 has been abandoned, version 2 and version 3 have been used in the film.

Version 1



Figure 32: Ink brush paint moutain

#### Version 2



Figure 33: watercolor texture mountain



Figure 34: watercolor texture island with ink lines

#### Version 3



Figure 35: watercolor texture mountain with hollow-out lines

#### Version 1



Figure 36: Hard Surface/ Geometries (stone)

#### Version 2

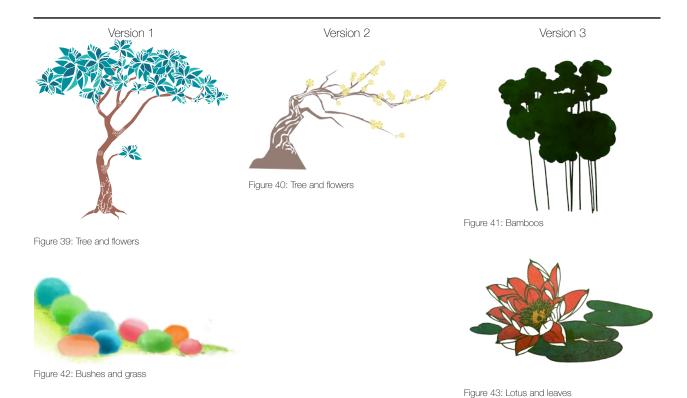




Figure 37: Stone bench



Figure 38: Garden Stone



#### Inspirations and Image reference

My design inspirations come from Chinese Paper-cut, shadow puppets, Dun-Huang cave paintings, and real photos.

Reference Design



Figure 46: Chinese painting pine tree from Shuiboku (Saito, 1965)



27

Figure 47: My pine tree



Figure 50: Image reference of Hui style of architecture



Figure 51: My architecture



Figure 52: Image reference of Hui style of architecture



Figure 53: My architecture



Figure 54: Image reference of tea pavilion in Zizhu Yuan Park



Figure 55: My tea pavilion



Figure 56: Image reference of memorial arch



Figure 57: My memorial arch



Figure 58: monochrome ink painting mountain.

Author Ma Yuan, Facing the Moon



Figure 59: my mountain



Figure 60: Dunhuang flying cave painting copy. (Fan, 2008)



Figure 61: My design of clouds

Many techniques have been applied to *Seasons*, including cel animation, After Effects transition, After Effects 3D animation (coding & rigging). Different types of graphic motions requires different dealing methods, and each of them has specific conditions to use.

#### **Cel Animation**

Different from traditional animations, which re-draw everything frame by frame, Cel Animation innovatively divides an animation scene into separate layers and allows some parts of each frame to repeat from frame to frame in order to save labor and time. On the other hand, hand drawing gives more flexibility and creative space to animation, but it's still the most time consuming method.

#### · Walking cycle

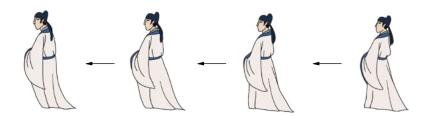


Figure 64: walking circle

Walking circle has 4 keyframes, and each of them repeats for 3 frames. The whole walking circle repeats 10 times, total 120 frames.



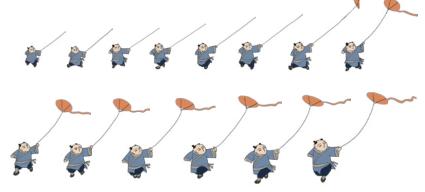


Figure 65: Flying a kite

Kid flies kite animation is separated into three sections: kid, line, and orange kite. Drawing a kid running is the first step. Then, according to the position and size of kid, the proper size of orange kite is drawn, and finally, the line connecting both of them is drawn.

The animation is a total 232 frames and 78 keyframes. Because the kid is running close to the camera then he turns his body and running away, there is no action repeated in his movement. It took about ten days to finish this long and complicated animation.

# Lotus blooming animation

Figure 66: Lotus bud blooming

To draw a realistic bud blooming, several lotus blooming timelapse videos were downloaded from Youtube as reference. The videos were converted into image sequences, then the blooming timing was studied. Different from my imagine, the blooming action takes very slowly at first, then suddenly, it accelerate to bloom and finally rest again.

To accurately draw the motion of blooming, important keyframes were selected from the video first, carefully traced, then the in-betweens were drawn. There are seven blooming animations, each of them is about 100 to 145 frames.



Figure 67: Lotus blooming reference

#### **Ink Transition**

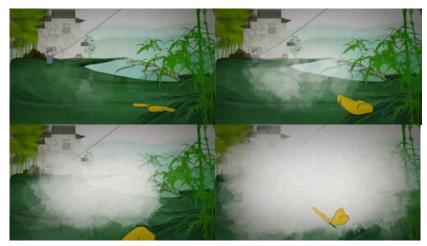


Figure 68: Ink transition 1

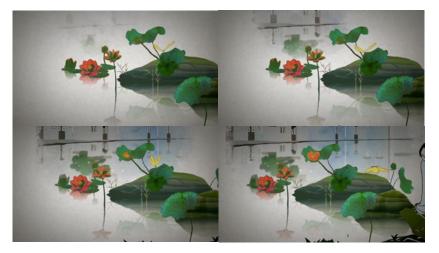


Figure 69: Ink transition 2

Using TrackMat is a common visual trick in After Effects and it's very easy to apply. Use the alpha channel to track the material ink flow video or image sequence, the image beneath the material will be revealed in an organic liquid flowing motion.



Figure 70: Ink transition working interface



Figure 71: Ink drop material video



Figure 72: Revealed landscape image

#### **Plant Growing Animation**



Figure 73: Lotus stem grow



Figure 74: Lotus growing composition working interface

Write-on effect is ofen used in masking irregular graphics or texts to create an organic feeling of plants growing or hand writing. This build-in effect was used to mask the lotus stem and animate the path of the brush stroke to create the motion of growing up. In addition, an adjustment layer of "Turbulent displacement" was added to have some growing variety and sense of reality.

#### **Butterfly Animation**

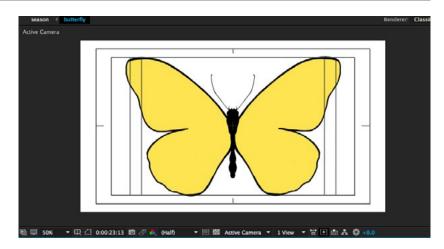


Figure 75: Butterfly

When dealing with perspective issues or tracking an object in motion, collaborating with 3D would solve the problem. 3D software is able to test and preview the motion immediately. However, on the other hand, 3D animation is too fluent to match the rest of hand-drawn animations. Therefore, to both have the accurate perspective and coherent visual style, 3D animations were modelled and rendered first. Then they were imported and traced frame by frame at TVPaint.

The butterfly was built up in "fake 3D" in an AE sub-composition. Two pivot points of wings were aligned to the center of body. One second long wings flaping animation was animated on Y Rotation. the animation was looped out and imported to the main comp.

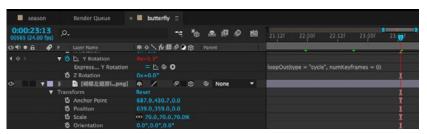


Figure 76: butterfly wings. Tutorial watched from MotionMile, 2014.

To avoid the flapping actions take exactly same amount of time like a robot, the butterfly animation was imported into Premiere to make some tricks on animation timeline. I divided the timeline into many small sections. In each section, the timeline speed was set a little longer or slightly shorter, so that in the whole film it looks like the butterfly is speeding up and slowing down.

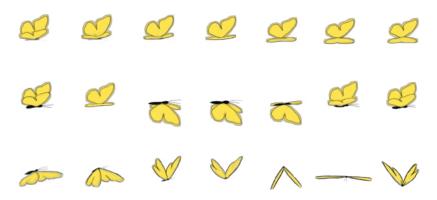


Figure 77: butterfly flap motion

#### Compositing

The project is a typical one shot film, therefore the workflow has to be linear. The whole film is distributed into four sections.

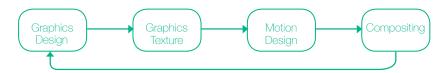


Figure 78: workflow graph

For each section, environment graphics were made at first, then were imported into After Effects. Then camera movements and character animations were designed. In the compositing stage, all completed elements were imported together to add effects, do color corrections, and all other compositing refinement. some paper and cloth textures were overlaid at top of the main comp and vignette effects were added to strengthen the feeling of puppetry.

### **Process**

#### **Music and Final Adjustment**

Adding music is the last step. Music plays a significant role in Seasons especially because there is no narration or text in the film. The duty of the music is to invoke an emotional reaction and create a certain ambiance to promote the film. The theme music is composed and recorded by Shoghi Hayes, a senior undergraduate music student from the Eastman School, University of Rochester. He is a very talented composer, however he became one of my biggest thesis challenges by the end. I met him at a composer and artist meeting held by SOFA, RIT early in spring semester. As soon as both of us agreed to collaborate, we started exploring appropriate music styles and instruments. I kept updating my progress to him weekly and sometimes sent him some Chinese music as a reference. We set an agreement that before the final compositing stage we would work individually and give enough creative space for each other, so I did not check his progress regularly. Everything went well until few weeks before my project deadline. When I started to ask him if he could send me any music draft or scale pieces, he stopped replying to my messages. After missing nearly a week, he sent me some music scales. At that time, there was less than two weeks before the deadline. I had to take a whole weekend to work with him at his studio. The piece was finished only one day before the defense day. Therefore I didn't have any time to get music feedback from my friends and committee memebers. But fortunately, the music worked great with my film. I removed the sound effects that I made before because the background music is intense; any other sound will compete with the music and become distractive. On my last day, I did the final timing alignment in Premiere in order to fit the rhythm of the music perfectly.

### **Summary**

The development of my thesis project was a great learning experience. Based on audience response to the film, it still has potential to improve after the show. Several changes could be made in order to improve the thesis version of the project. For instance, smoother camera movement, more fluent character animation, adding character voice, adding more background details, etc.

#### Learning

I got a deeper understanding of figure animation during the development of character animations. This is the first time I went through a whole process of animation from the character design to the final compositing. I improved my communication skills and received my first time experience of working with a partner as well as my technical skills get enhanced. I learned that to create a mature film that offers an enjoyable visual entertainment and helpful culture information, plenty of motion testings need to be made throughout the process.

#### **Future Considerations**

The finished project will be published online and submitted to different film festivals and design competitions. In the meantime, I will continue to refine the design and motion to improve visual effects.

### Conclusion

Seasons is designed to arouse the spectator's curiosity. It is a way for the audience to explore Chinese culture and folk manners through stylized motion graphics. It's also a personal experiment with integrating modern media with traditional art forms. To create a series of graphics, embedded with both my personal marks and Asian characters, I spent a lot of time studying features and skills of various Chinese painting genres from books and media. I then shaped and developed my own designs. Visual communication skills such as camera language, storyborading, typography, motion designs were used to improve audience's watching experience. The process of developing Seasons not only brought technical challenges for me, but also forced me to face my time management problem. In addition, the project required endless motion tests and collaboration with the musician. Animation rendering trained my patience and temper, and the collaboration strengthened my troubleshooting and resilience capabilities.

From my project feedback survey, I believe that I achieved my primary goals. And unexpectedly, my film is very welcome among kids and young teenagers below 12 years old. They were fascinated by my characters and unique graphic shapes and color pallettes. They kept asking me questions during the screening time. Most of the questions were about characters and story contents. For instance, what is he doing? Why is he doing this? I hope my film will trigger them to explore foreign cultures in the future. I believe this film will be helpful to the general public for education purpose.

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The following pages are my thesis proposal which submitted for approval by December 2013

### **QINA CHEN**

# Motion graphics of Solar Terms

Thesis Proposal for the Master of Fine Arts Degree

Rochester Institute of Technology CIAS, School of Design Visual Communication Design

# **Index of Contents**

I.	Thesis Committee Approval	2
II.	Situation Analysis	3
	Ink Painting	
	Shadow Play	
	Solar Terms	
III.	Problem Statement	4
IV.	Survey of Literature	5-7
	Design	
	Technology	
	Subject	
V.	Design Ideation	8
	Working Timeline	
VII.	Project Budget	8
VIII	Storyboard & Sketches9	-13
IX.	Implication of Research	.14
X.	Bibliography	.15

### Thesis Committee Approval

Chief Advisor Professor Marla Schweppe, Computer Graphics Design

Associate Advisor Professor Daniel DeLuna, Computer Graphics Design

Associate Advisor Professor David Hablstein, Computer Graphics Design

Submitted By: Chen, Qina

Date: December 2nd, 2013

MOTION GRAPHICS OF SOLAR TERMS – DECEMBER 2013

### Situation analysis

Ink painting, the 2000 years art form, which utilizes black ink and water, is spiritually rooted in traditional Chinese culture and beliefs. For centuries, this most prestigious form of art was only practiced by scholars and highly disciplined monks.

Ink painting emphasizes on capturing the spirit of the subject instead of reproducing the appearance of it. The ink wash is more regarded as a form of expressionistic art, which illustrates painter's perception of the scene, with meditation and deep contemplation. Ink wash has a very imaginary and loose visual adaptation of actual views.

Throughout its long and honorable history, ink painting has been held in high esteem and became a powerful way to incorporate the values of Chinese philosophy and beliefs. Even today, becoming a master of ink wash painting requires the same amount of efforts and time in rigorous training and accumulation of life.

Shadow play is another ancient form of performing art. It uses very flat shadow puppets to set up a theatre scene and tell stories for entertainment. Puppets are made of thin, translucent, dyed animal skins. The raw skins will be dried and dyed in order to create bright colors as well as preservative to prevent decay.

Then, skins will be meticulously carved into shapes of human figures, animals, or nature scenery. Players manipulate puppets with rods in front of a direct light, projecting bright colorful shadow images onto a semi-transparent screen. Shadow Play depicts an assortment of stories, ranging for traditional folk tales, comedies, scary stories, love romance, and war and cruel battles.

Solar Terms is a Lunisolar Calendar of 24 periods and climate to manage agricultural arrangements in ancient China and functions even now. It is comprises of 12 major solar terms and 12 minor solar terms interlaced with each other. It takes into account the longest day and the shortest day in a year, and the two days when the length of the day equals to the length of the night as well. In other words, these four big days are Summer Solstice, Winter Solstice, Spring Equinoxes, and Autumn Equinoxes. These 24 Solar Terms each suggest the position of the sun every time it travels 15 degrees on the ecliptic longitude, and their titles reflects the meaning of the term and season or the agricultural activities. For instance, ChunFen (Beginning of Spring) points out the date of spring comes; XiaoMan (Grain Full) refers the growth of plants; YuShui (Rain Water) indicate the change of climate.

#### Problem statement

For my thesis, I propose to visually depict my interpretation of Chinese Solar Terms in the form of an ink wash. As known, agriculture worship has its root in Chinese ancient feudal culture deeply. Therefore, Confucians of ancient Chinese thought human should follow the seasonal phenomena and abide the nature rules just like civilians should obey to their emperor. Based on observation of weather, climate, and phenomena in seasons, Chinese folk customs have some specific guides for people to do during the time. As a designer, I hope to visualize this nature worship and beliefs with engaging artistic beautiful forms and shapes. I attempt to show the beauty of nature as well as the beauty of Chinese philosophy, which is derivate from Confucians and Taoists, to public and get more people to know our culture, traditions and mysteries.

To illustrate the changing of seasons, I will add the element of time to my ink wash. Leaves of trees come out and falls, flowers blossom and withered. The transition of environment will be vividly framed in the motion. To better imitate the brush painting, I will apply some ink painting techniques to the motion graphics such as dipping, water wash, ink spilt, etc. To challenge the design, I integrate shadow play figures in 2-dimensional graphics and 3-dimensional non-realistic rendered environments. The element of motion graphics that I will use will include motion transition and visual effects to show my understanding of changing seasons.

For my thesis, the study would include practical character design principles, creative visual reconstruction of ink painting effects, and a presentation of Chinese traditional customs about Solar Terms. Overall, the project can be divided into two main aspects: motion graphics design in terms of design practice, and subject of Chinese customs of seasons.

Consider the time length and proper amount of content for spectator to digest, I only plan to pick 12 of 24 solar terms to visualize in my motion clip. Terms that I choose are either closely related to old national days for people to celebrate or has a distinct weather change during the term. These terms are: LiChun (Beginning of Spring), ChunFen (Spring Equinox), QingMing (Clear and Bright), LiXia (Beginning of Summer), MangZhong (Grain in Ear), DaShu (Major Heat), LiQiu (Beginning of Winter), BaiLu (White Dew), ShunagJiang (Frost Descent), DongZhi (Winter Solstice), DaHan (Major Cold).

MOTION GRAPHICS OF SOLAR TERMS – DECEMBER 2013

### Survey of literature

My survey of literature focuses on three aspects of the subject: design, technology, and subject matter.

#### Design:

#### Title: Pincel de Zorro

Author description: Personal project to promote the book Pincel de Zorro, now in its second edition, published by Ediciones Ondina. An illustrated tale from the Spanish author Sergio A. Sierra, Pincel de Zorro is a whimsical story set in Japan, full of tenderness, magic and sadness. The story is complemented by unique illustrations, all of which are hand drawn by Meritxell Ribas using a complex technique called grattage, in which paint is scraped off the canvas with a pointed tool. Pincel de Zorro tells the tale of Shiori, a little girl whose life changes the same night her father brings home a dead fox from a hunting trip. Mysteriously when her parents decide to sell the precious skin of the animal, they receive a visit from a magical woman. This project has been an amazing collaboration between my friends, Sergio and Meritxell, authors of the book, Albert Alay, the music composer, and me, taking the role of creative director. This has been a passion project of ours, done with no budget, and we hope that someday we can bring these wonderful characters to life in a feature film. All illustrations were camera projected in C4D and composited in After Effects. The ink was generated with Turbulence 2D from Jawset. I used a Canon 5D MrkII to shoot the brush footage.

This piece has very similar design idea elements as mine: black and white ink, story narration, 3D space motion graphic. Its unique monochrome wood-prints style brings a strong dark, sorrow, and mysterious feeling to the story.

#### • Title: INK

Author: Troublemakers.tv

Troublemakers is an award winning production company based in the heart of Paris. We represent French & international directors who specialise in live action, 2D and 3D animation to create solid innovative images and state of the art digital content for the advertising industry.

Analysis: this clip has is very close to what I want to do for my thesis project. They have very beautiful ink simulation and seamless camera transition. Stylish Chinese landscape ink painting and still life bring you into an aesthetic and poetic Chinese spiritual world.

#### Title: Seasons

Author: Erica Haowei Hu

Author description: Seasons is a surreal motion graphics animation based on the changing seasons. Beginning with spring, the richly hued illustrations in this work come alive as they transform in color and rhythmic tempo to reveal the full seasonal spectrum.

Analysis: my thesis was originally inspired by this work. Movement is very well synchronized with music and outline strokes flatten all the 3D models and help to keep a coherent graphic style. I specially like how she reveals the blossom of flowers: ink shapes coming out first then filling out the lines with unrealistic rendered 3D models and blooming animation at last.

#### Title: Contre Temps

Analysis: the meticulous attention to detail is outstanding and very gorgeous painting style. This is a team made graduation movie. They painted every piece of their rendering image source file and created their own music tracks. When you look at it, it's hardly to believe that the whole piece was generated by computers. Their color palette is like a beautiful poem makes you want to stay in that fantastic world.

#### Technology:

#### Title: Painting with Polygons

Author Description: Most non-photorealistic rendering solutions tend to involve brilliant but unwieldy new technologies, such as volume-based rendering engines or complex image analysis. Similar results can often be achieved using simpler methods and non-proprietary toolsets, even toolsets designed with other effects in mind. Our studio has been experimenting with ways to achieve a hand-painted look with basic tools that are common to most 3D applications, in this case Lightwave.

#### Title: Non-photorealistic Rendering

Analysis: This book provides an overview of the published research on non-photorealistic rendering in order to categorize and distill the current research into a body of usable techniques.

#### Subject:

Title: Suiboku; studies in Japanese ink painting.

MOTION GRAPHICS OF SOLAR TERMS – DECEMBER 2013

Ink painting was originated in China and having its spiritual basis in Zen Buddhism. The form of expressing nature through shades of black ink monochrome is classical and has been enjoyed throughout the centuries. This book is a tool to study the fundamental techniques of ink wash. It contains plenty explanations of painting concepts with visual examples.

#### Title: Chinese painting

Analysis: this book is in the series of Treasure of Asia. It reproduced 100 Chinese ink paintings in full color. Text gave essential information of the painting and author. This book would be helpful on painting composition study. This book is a good study sample for traditional ink painting features.

#### Title: Film Directing Shot by Shot: Visualizing from Concept to Screen

It's a good introduction providing the coverage of production design, such as story boarding, editing, staging, and camera angles. It's a useful recourse to planning my thesis project step by step in terms of film production. A complete catalogue of motion picture techniques for filmmakers. It concentrates on the 'storytelling' school of filmmaking, utilizing the work of the great stylists who established the versatile vocabulary of technique that has dominated the movies.

#### • Title: Solar Terms of a book to read round knowledge

An introduction to 24 solar terms and customs. This book will help me get a better understanding on solar terms and its relationship to seasons and weathers as well as customs and traditions for people to do in different terms.

#### Title: P calendar solar terms

Look below for a fantastic new illustration book about the 24 Chinese solar terms from Beijing-based illustrator PP Sama. By visualizing each of the 24 solar terms, PP Sama introduces this complex subject in an exciting and concise way. Illustration book describing the 24 Chinese solar terms from beijing-based cartoonist PP SAMA

### Design ideation

Format: motion graphic Audience: general public Estimated length: 90s to 120s

Design concept: a motion graphics work demonstrates Chinese customs of 12 Solar Terms. To poetically express the beauty of nature and artistic appreciation of Asia culture. Ink stylized 3D and 2D elements will be integrated into the scene. Monochrome ink wash will be prominent in the scene. Shadow play figures will be added to emphasize human activities during the seasons. The length of each term approximately will be 6 to 8 seconds.

### **Working Timeline**

Dec storyboards revise/start modeling/making graphic designs
Jan style framing revise/animatic revise/graphics done
Feb models and graphic/image sources done
March animating/compositing
April rendering/compositing finish/prepare for thesis defense
May thesis defense/thesis show/final work revise
June documentation

### Project Budget

\$1000 ResearchExpenses:
ink wash practice, softerware/plug-ins purchase (Z-brush/Cinema4D/Adobe CC design collection/Maya)

\$200 Promoting Costs:
including printing, paper, DVDs, etc

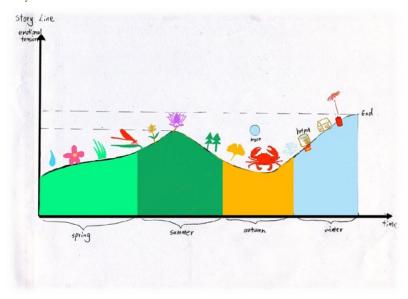
\$200 Production Costs

\$1200 Total Expenses

MOTION GRAPHICS OF SOLAR TERMS – DECEMBER 2013

### Storyboard & Sketches Drafts

### Story Time-line



Ink Style Sketches



MOTION GRAPHICS OF SOLAR TERMS – DECEMBER 2013

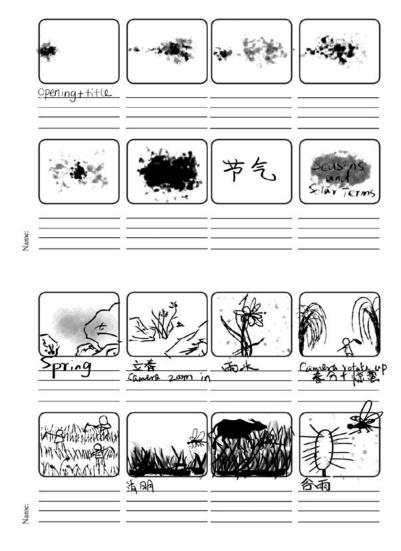






52

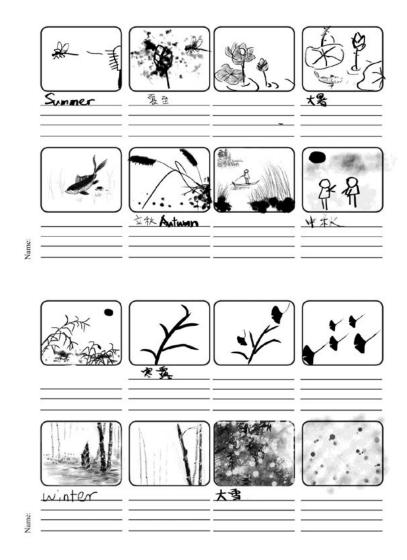
#### Storyboards drafts



MOTION GRAPHICS OF SOLAR TERMS – DECEMBER 2013

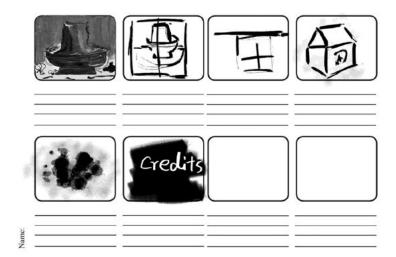
Seasons

Appendix 53



MOTION GRAPHICS OF SOLAR TERMS – DECEMBER 2013

12



### Implication of the Research

This project is concerned with visualizing the abstract concept into a motion graphics work, and as well applying related aesthetic theories about design aspects to enhance the idea. Therefore, I will explore deep extensive knowledge of visual art and put it into practice. In the research of individualized creation, various design components will be studied through the whole process from structuring a story and storyboarding to choosing visual styles, doing layouts, animating and so on in the next step.

From the technology standpoint, this project will encourage me to experiment with the methods of integrating 2D and 3D visual elements and applications. Furthermore, I will increase my trouble-shooting ability through working in progress, and understand in-depth current new CG applications in terms of techniques.

In the process of production, I will have design professionals and design students preview my work and get feedbacks to improve the design components. Final project will be posted on my website and social network media for people and potential clients to watch.

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MOTION GRAPHICS OF SOLAR TERMS – DECEMBER 2013

15