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
Computer Graphics Design

Visual Inspiration from Modern Art

- My reflections on SYMBOLISM, SURREALISM, and IMPRESSIONISM

by Ning Su

September 15, 2010

Approvals:

Chief Adviser: Marla Schweppe, Professor, Computer Graphics Design

_____   _____
Signature of Chief Adviser   Date

Associate Adviser: Chris Jackson, Associate Professor, Computer Graphics Design

_____   _____
Signature of Associate Adviser   Date

Associate Adviser: Shaun Foster, Assistant Professor, Computer Graphics Design

_____   _____
Signature of Associate Adviser   Date

School of Design Chairperson:

Patti Lachance, Associate Professor, School of Design

_____   _____
Signature of Chairperson   Date

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Abstract

My thesis project is a digital graphics book demonstrating my reflections on three schools of Modern Art: **Symbolism**, **Surrealism**, and **Impressionism**.

I was inspired by the artists' elegant masterpieces, so I created my own characters and scenes inspired by the three schools, and integrated them into my art world to express my aesthetic taste. It will take the viewers on a trip of the visual appreciation of Modern Art through my eyes.

All the images in the book are implemented in 3D computer-generated environment and with 2D stylized hand drawings. The 3D images are the representation of my comprehension of the three art schools; the 2D images incorporate my personal artistic style. The major challenge for me was to properly demonstrate my reflections of the specific artistic genre.

Thesis Project

Graphics Book (total 48 pages)

Software

Maya, Photoshop, Illustrator, After Effects, Acrobat

URL

http://www.carolinesu.com/graphicsbook/NingSuGraphicsbookISBN.pdf

Contents

1   Introduction

The period known as Modern Art, which originated in the late 19th century, has produced a far-reaching significance. Today, its impact still exists. Of the many schools of Modern art, symbolism, surrealism, and impressionism contribute most to my comprehension and experience of art; they are also what I have been keen to portray.

In this Graphics Book, I created a series of real but imaginary pictures with both 2D and 3D Computer Graphics techniques to convey my understanding and inspirations from these three schools, as well as the fluctuations of my thought and emotions brought by them.

"Art becomes infused with mysticism." [1]

This is Symbolism.

The symbolists' faith is an ideal world opposite to other side of their own. They are repulsed by rationalism, but emphasize imagination and intuition. So a virtual bird flies into my mind. When the bird freely flutters in the mysterious tree of growth, it conveys a true and illusory swing of sensation within my soul. When the bird is flying, the visual effect of the aestheticism is precisely captured in the image. This stimulates within the viewers the search for the emotional resonance.

"Anything marvelous is beautiful; in fact, only the marvelous is beautiful." [2]

- *Surrealist Manifesto (1924) - André Breton*

This is Surrealism.

The main idea of surrealism is based on the subconscious mind. Mystery and fantasy, staggered time and space; mutually exclusive dreams and reality replace the objective existence of the truth with an appearance of an unconscious world. Surrealists are excited, and they pursue the invisible, trying to express human's subconscious dream

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[1] *Symbolism (Late 19th century)*. Retrieved March 16, 2009, From:
http://www.huntfor.com/arthistory/c19th/symbolism.htm
[2] *The Marvelous*. Retrieved March 16, 2009, from http://www.jahsonic.com/Marvelous.html

and imagination of mind. I believe I am for Illusionism. In my graphics, the masked human are the carriers of the subconscious, and they reproduce an unexpected visual interest as well as the implied process.

"Art benefits from a naïve vision untainted by intellectual preconceptions." [3]

This is Impressionism.

Light is the only real object because visual subjectivity dominates our senses, not based on any reliable knowledge but only based on a variety of subjective experiences; I made them (the chairs) with further idealization. In my Graphics, chairs are floating in the air; the environment is full of light and atmospheric colors. With few details to show, I wanted to grasp the overall atmosphere of objects rapidly changing.

Hybrid, a transcending of Symbolism, Surrealism, and Impressionism, expands the possibilities of my experimentation with Modern Art. I am free to make the Hybrid with whatever 2D or 3D graphics that I can comprehend, imagine, and operate. This not only mixes all the three schools, but creates my own visual intentions with harmonic, unique, and exquisite details. Hybrid gives me more freedom to create new opportunities to express my art concepts. The creative process is full of fascination and enjoyment.

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[3] *Impressionism (late 1860s - late 1890s)*. Retrieved March 18, 2009, from http://www.huntfor.com/arthistory/c19th/impressionism.htm

2 Review of Literature

[1]   Lasseter, J. (1987). Principles of traditional animation applied to 3D computer animation. *ACM Computer Graphics,* vol. 21, no. 4. Retrieved November 3, 2006, form http://www.coe.tamu.edu/~lcifuent/edtc656/Unit_08/reading.htm

> This is one of the very important literature sources, where I am obtaining the 12 fundamental principles of animation, and conforming them to create almost all of my motion graphic works at RIT. The 12 principles of animation come originally from 'The Illusion of Life: Disney Animation' by Frank Thomas and Ollie Johnston. Lasseter applied them to computer animation. The development of 3D animation utilizes 3D models instead of the traditional 2D drawings, and fewer 2D animation techniques are applied. This 3D animation system makes it possible for people to produce more high-quality computer animation; whether or not an animation is produced by using the approach of 2D or 3D, the application of fundamental principles of traditional animation is the most important aspect of producing good computer animation.

[2]   Murch, S.M. (1997). 2D and 3D: Together for the better. *Animation World Magazine,* Issue 2.5, August. Retrieved November 3, 2006, from http://www.awn.com/mag/issue2.5/2.5pages/2.5murch2d3d.html

> This article presents the idea that both classical and 3D animation techniques are being utilized for what they do best within the hybrid products. It shows the effect on classical animation and the benefit for 3D animation. The effect of classical animation is that it provides augmentable crafts for 3D animation to improve the entertainment value. The benefit of 3D animation is that the same 3D generated environment can be reused again; hence, the cost of production is reduced.

Therefore, this hybrid approach can save both time and money, and can enhance the look of the film.

[3]   Rosalind, O. & Michael, R. (2009). *Art Nouveau: Posters & Illustration from the Glamorous Fin de Siècle*. New York, NY: FallRiverPress

This is a gorgeous art book which helps me to search and confirm most of my 3D character models, such as the details and applied colors of the masked human characters in Chapter 2, Surrealism. The art works in this book gave me much of my initial inspiration.

[4]   Charlotte, R. (2007). *Maximalism: the Graphic Design of Decadence & Excess*. Mies, Switzerland; Hove: RotoVision SA

This art book is a very helpful reference for my thesis layout design. I obtained most of my layout knowledge and design ideas from it. It helped me to finish my thesis project in the last month.

[5]   Michael, P. (2008). *Over & Over: A Catalog of hand-drawn Patterns*. New York: Princeton Architectural Press

This is a perfect reference book for 2D hand-drawn art works. Besides the 3D computer generated art works, all of the other art works in the chapter title pages that I needed to come up with are hand-drawn pieces. The style and patterns of this book are similar to my own personal preferences in art; therefore, my 2D hand-drawn art works are inspired from the real still-life paintings with the pattern ideas from this book.

[6]   Kerlow , I.V., (2004). *The Art of 3D Computer Animation and Effects*. 3rd Edition. New Jersey. John Wiley & Sons, Inc., Hoboken

I read and studied the book from 3DDG Modeling class that Marla taught and get basic 3D computer technology from it. This book provided me with much guidance in completing my thesis.

3   Process

Step 1: Conduct research on the three art schools and select the masterpieces to be used as the prototypes in my art work.

Step 2: Based on the prototypes, create my own images with the three art schools and implement them by using storyboard, modeling, texturing, environment setup, and final rendering, etc.

Step 3: Design book layout and compose 2D and 3D images with proper visual inspiration; describe key titles for each scene; consider printing technique for final print-out.

Step 4: Test my graphics book on my defined target audience.

Step 1 ---------------------- Research Modern Art

Determine Art Schools

Step 2 --------------------- Storyboard Sketching

Character Design   Modeling Objects

Building Scenes   Shading & Rending

Final Image Composition

Step 3 --------------------------- Book Layout

Title Describe & 2D Artworks

Correct Book & Print Out

Step 4 --------------------- Target Audience Review
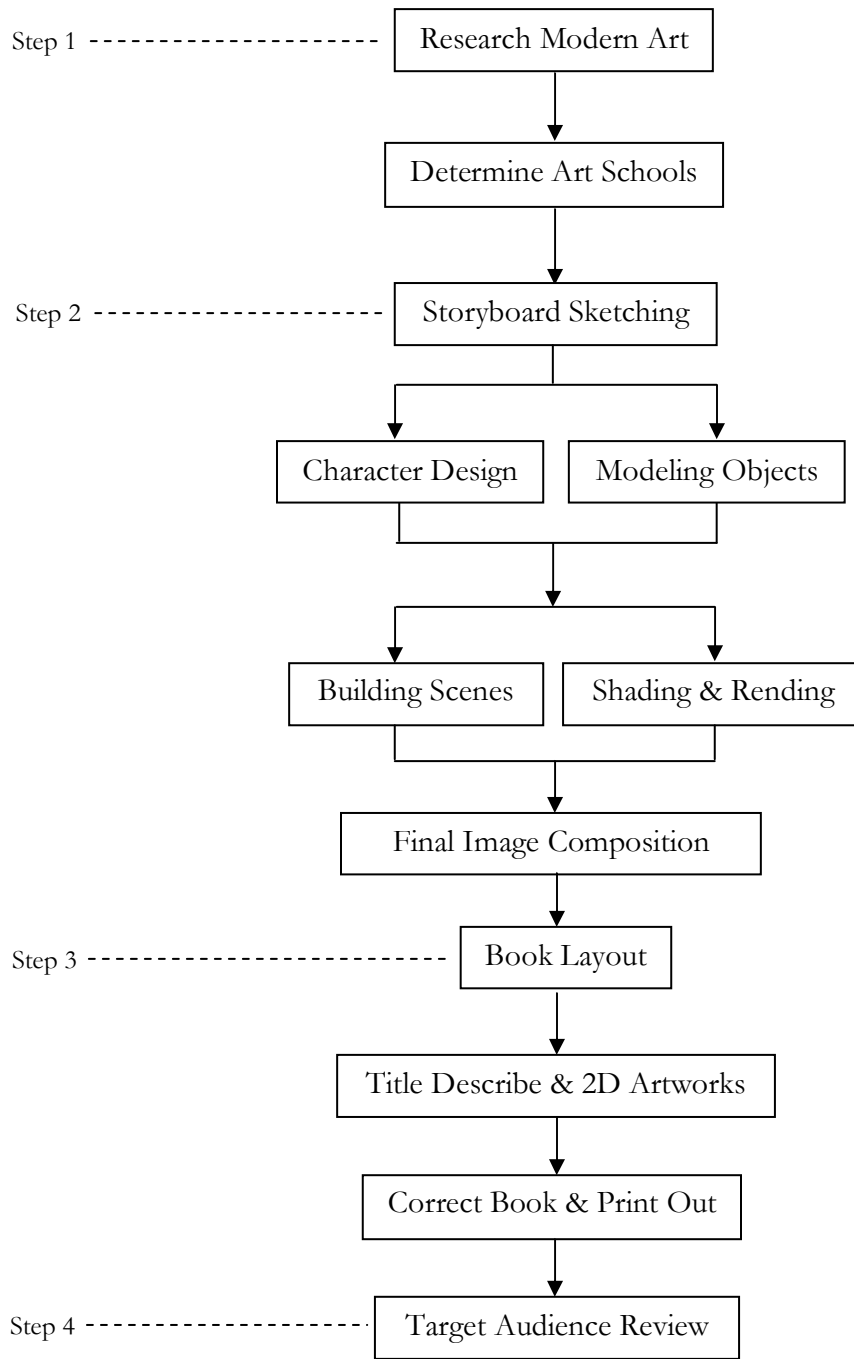
Process Flowchart

3.1 Step 1: Modern Art Research

The initial step was to choose target masterpieces. My goal was to find the ones which are world-famous and would be able to be represented in 3D environments. In the beginning, I planned to use six art schools as the original sources. They are Impressionism (1886-1906), Symbolism (1880-early 1900s), Expressionism (1890-1939), Fauvism (ca. 1898- ca.1908), Cubism (1907-present), and Surrealism (1922-1939)[4].

"Modernism connotes a rejection of conventions and a commitment to radical innovation." [5] Modern artists adopt new techniques and materials to build their art genre, and to explore new possibilities of creativity, as well. Based on the concept, I refined my own concept from six art schools to three with a final component showing a hybrid of styles. These three art schools are Symbolism, Surrealism, and Impressionism.

3.1.1 Symbolism

As part of the 19th century art movement, Symbolism originated in France. It is the systematic application of symbols. Gustav Klimt's *The Life of Tree* (1909) mainly influences me on my art works design and creation.

The Tree of Life is an important symbol and well known in nearly every culture around the world. The elaborate curlicue branches continue growing and winding on the glistening life tree. Some are reaching into the sky, and some are rooting deep in the earth. Tons of bold, varied, and elaborate symbols are used in the artwork, such as geometric leaves, fruits, or even gorgeous peering eyes. I feel all the luxurious symbols constitute a unique context, which is full of a mysterious looking visual melody composed of abstract points and lines elements.

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[4] *Outline of Art History - Modern Art: Visual Arts Movements – 1880-1970*. About.com: Art History. Retrieved March 8, 2010, from http://arthistory.about.com/library/outlines/blmodern.htm

[5] *Modernism. Visual Art: Visual Art at Istituto Marangoni 2009-10 Understanding Contemporary Art with References from the Past*. Retrieved May 10, 2010, from http://visual-art-josephine.blogspot.com/2009/11/modernism.html

3.1.2 Surrealism

Surrealism was a cultural movement which started in France and was popular in European arts and literature during the 1920s and 1930s.

Surrealists have poetic temperaments. Their artworks are as marvelous as a beautiful dream: illusory, quiet, and full of mystery. Among them, the artworks of Rene Magritte (1898-1967) and Siegfried Zademack (1952-present) are the main references of my creation. Most elements or characters in the artworks constitute some specific visual languages, which have surprising feature elements, and unexpected juxtapositions. I directly imported some similar elements into my artworks, which include the covered and broken apart figurines, decorative flowers, chairs, and fantasy background spaces, etc. These elements look more realistic and possess stronger visual impact after being represented in 3D space.

3.1.3 Impressionism

Impressionism was founded in the French Art arena in the 1860s to 1870s. Inspired by modern science and technology in the 19th century, particularly optical theory and practice, Impressionists are scientifically interested in the actual visual experience, the effect of light, and the movement of light on the appearance of objects.

The Impressionism masterpieces that I chose as my reference are Vincent Van Gogh's *Vincent's Chair with His Pipe* (1888) and Paul Cézanne's *Still Life with a Curtain* (1895). Both paintings have very simple colors: a golden chair contrasts with brownish ground; the white tablecloth contrasts with the multiple colors of fresh fruits. However, they transfer a strong impact to me because the artist believes that painting does not mean blindly copying reality; on the contrary, it is seeking a harmonious relationship in the painted environment. Thus, the 3D characters that I created, chairs and the still life were inspired from both masterpieces and demonstrated my understanding of Impressionism.

3.1.4   Hybrid

I tried to pursue an essence that integrates the three art schools, and to expand my experimentation with Modern Art. This is the Hybrid section of the book. Comte de Lautréamont (1868) said, "Beautiful as the chance encounter on an operating table, of a sewing machine and an umbrella." [6] Even though it is a typical portrayal for Surrealism, I am influenced by the dramatic beauty of the "chance encounter" which guides me in creating my own styles.

In my creation, I built the familiar daily elements into 3D spaces with not many deformations but many recreations and details of the elements, which are unexpectedly juxtaposed around the environment. For example, I broke apart the mechanical elements and reassembled them into one 3D object which has eyes like animals and movable arms or legs, as well as facial expressions. Hybrid provided me a neutral art space where incompatible elements encounter each other and together weave a beauty.

3.2   Step 2: Building Objects & Scenes

The goal of building all the objects and scenes is to deliver a book that is not only visually interesting but is a conceptual foundation for me, an artist's stylistics. My intent is that the viewer will have the opportunity to discover something new from the traditional art through the computer-generated art. The design and production process took about four months. One of my greatest creative challenges was to assemble a look of hand-painted art that has sophisticated computer techniques.

All the projects were 3D geometry and created in Autodesk Maya; the combination was achieved in Adobe Photoshop and After Effects. Some hand-painted 2D images and important text were created in Adobe Illustrator. The PDF files of the final book were generated in Adobe Acrobat.

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[6] Paula. W. (1993) The Inquiring Eye, Early Modernism, 1900-1940. *National Gallery of Art, Washington, D.C.* Retrieved September 8, 2008. from: http://www.ibiblio.org/nga/20thc.html

Storyboard Development

Figure 1
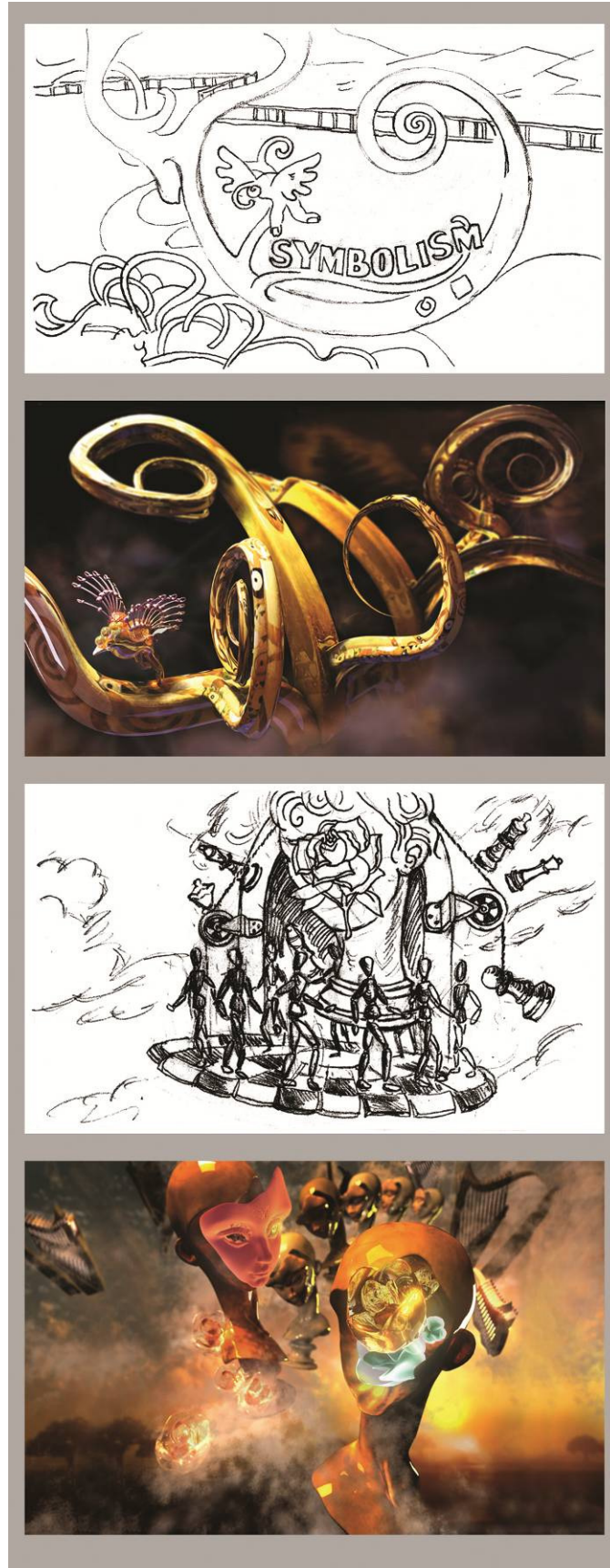
Storyboard & Final Scene for Symbolism

Goal: To establish a pure environment to demonstrate Symbolism infused with mysticism.

Main Characters: Life trees which are inspired from *The Tree of Life* (Gustav Klimt 1909) with typical Klimt geometry patterns on smooth surface. Branches are with curved shapes and are growing. A bird is flying which has mechanical bone wings, normal bird head and finger torso.

Scene: Creation environment with dark mountains and forest background, and thick fog and clouds floating around.

Storyboard & Final Scene for Surrealism

Goal: To establish a brilliant, beautiful, and fully marvelous environment for Surrealism.

Main Characters: A curve line of masked humans are gathering on the back of the main characters. Several harps and diaphanous flowerlike creatures scattered over the scene.

Scene: Masked humans are surrounded by thick fog. The sky is full of sunset, and a sun and some trees show through.

Figure 2

Storyboard & Final Scene for Impressionism

Goal: To establish the light charm of impressionism, I built many objects referenced to the masterpieces and multiple 3D shaders on each object.

Main Characters: Floating chairs are based on Van Gogh's masterpiece. Floating still life objects are based on Paul Cézanne's masterpiece.

Scene: Light is focused at the center of the lead chair. Dim light reveals the outlines of the floating chairs. A layer of drifting clouds surrounds under the chairs.

Storyboard & Final Scene for Hybrid

Goal: To establish a simple black and white but fictitious environment with mechanical creatures to accomplish my understanding and extension of all the 3 art schools in Modern Art.

Main Characters: Creatures constructed of mechanical objects, such as chair, lamp, candle holder, horse figurines etc., which are realized from the 3 art schools.

Scene: Establish dim sunshine and thick cloud around the objects. Make all the scenes with pure color and no exact shadings on hybrid objects.

3.2.1   Characters & Modeling Development

[1] Masked Human with Walking Figures 1

[2] Machine Creatures 1

[3] Walking Figures 1

[4] Masked Human 1

[5] Walking Figures 2

[6] Walking Figures 3

[7] Impressionism Objects

[8] Masked Human 2

[9] Creative Hand 1

[10] Creative Hand 2

[11] Masked Human with Walking Figures 2

[12] Walking Figures 4

[13] Machine Creatures 2

[14] Masked Human 3

Figure 3

[1] Finger Bird with Twig

[2] Dancing Horses

[3] Chair 1

[4] Frame

[5] Floating Chairs 1

[6] Finger Bird on Life Tree

[7] Floating Chairs 2

[9] architecture with Creative Hand.

[10] Finger Bird

[11] Chair 2

[12] Life Tree

Figure 4

3.2.2 Building Scenes & Shading, Rendering Development

3.2.2.1 Shading Development

Figure 5

[1] Masked Human with Walking Figures 1

[2] Machine Creatures 1

[3] Walking Figures 1

[4] Masked Human 1

[5] Walking Figures 2

[6] Walking Figures 3

[7] Impressionism Objects

[8] Masked Human 2

[9] Creative Hand 1

[10] Creative Hand 2

[11] Masked Human with Walking Figures 2

[12] Walking Figures 4

[13] Machine Creatures 2
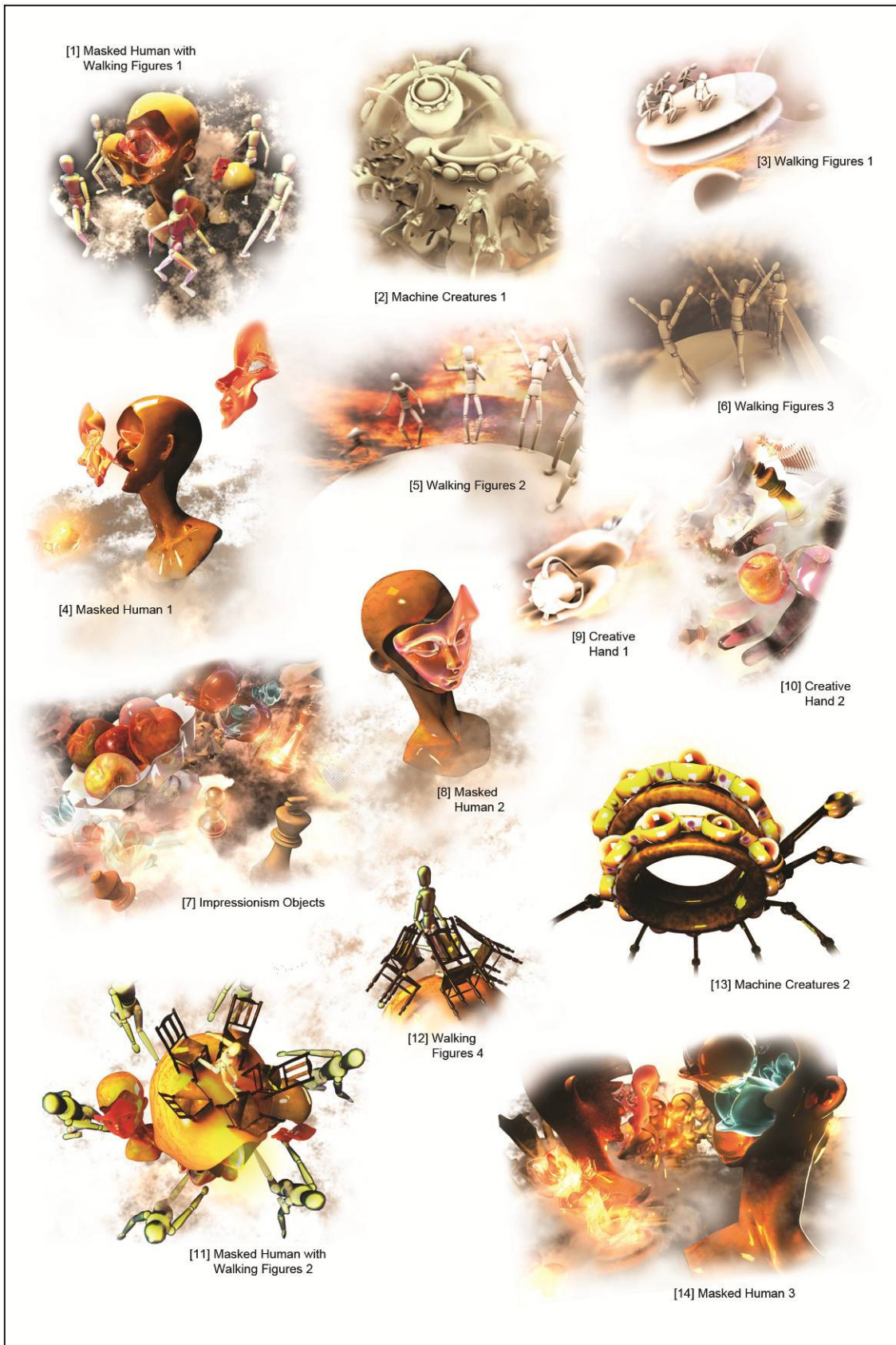
[14] Masked Human 3

Figure 6

The ideas for shader building came directly from the reference masterpieces of Modern Art, especially the light effects on object surface colors in Impressionism and the brilliant golden decorated metal textures in Symbolism. My goal was to create some interesting and beautiful but non-realistic looks of shaders to represent the art world. For example, the shaders of the creative fruits or flowers would have transparent characteristics such as glass or soft liquid; the human figurine shader would be with a natural looking of marble or solid metal. In this paper, I mainly describe the shaders for life tree, masked human, chair, and flower.

Material Shaders for Life Tree (Figure 5 – [12] Life Tree)

~ Design Idea: The life tree shader was inspired by Gustav Klimt's masterpiece. I made it with the same gorgeous golden patterns on the surface. The shader I used is Blinn, and I only set a source image in color attribute and no other settings.

**Material Shaders for Masked Human** (Figure 6 – [4] Masked Human 1)

~ Design Idea: The masked Humans shader was inspired by Siegfried Zademack's masterpiece. I made it with a solid marble surface with warm and beautiful colors instead of a grim plaster look from the reference.

Material Shaders for 2 Flowers (Figure 6 – [7] Impressionism Objects)

~ Design Idea: The creative flowers were the masked human's facial expressions, positioned on the center of the human's face.

3.2.2.2 Scenes Development

~ Design Idea: To establish a pure environment with dark mountains and forest background, thick fog and clouds are floating around to demonstrate Symbolism infused with mysticism.
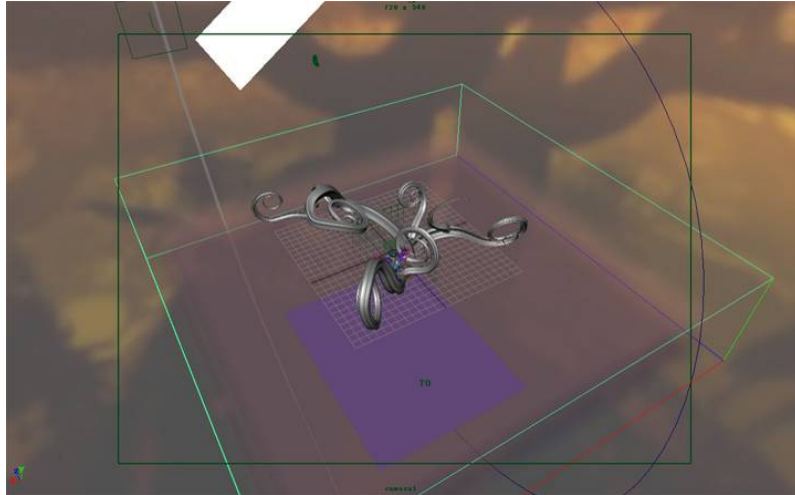
Main Scene for Symbolism

~ Design Idea: To achieve a brilliant, beautiful, and fully marvelous environment for Surrealism, masked humans are surrounded by thick fog; several harps and diaphanous flowerlike creatures scattered over the scene.
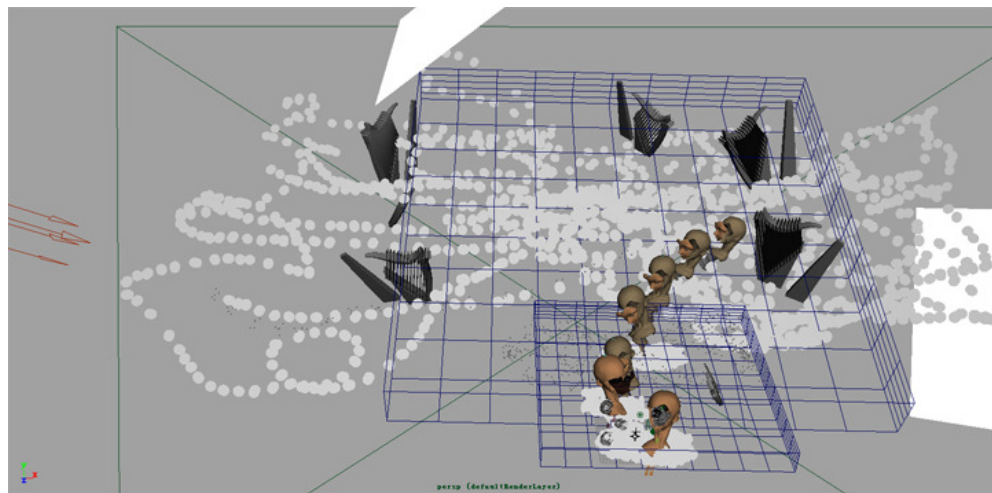
Main Scene for Surrealism

3.2.2.3   Rendering Development

All the images were rendered with indirect illuminations, i.e., the light from other surfaces (reflected light) in the environment. This rendering approach is capable of simulating diffuse reflections. It is very useful to render out my fancy art images because all the scenes of my art world do not need any exact light sources to appear. The lights coming from the environment was just what I wanted to create.

3.2.3   Final Image Composition

All the 3D images were rendered out with PSD format and composited in Adobe Photoshop. Since the initial project was a motion graphics work, some cloud effects or background pattern effects were created in Adobe After Effects.

3.3   Step 3: Book Design

Figure 7

3.3.1   Book Layout Development

The design sketching of the book layout is shown at left. Since the book design is in the final stage of the thesis project creation process, the focus is how to show all the 3D images in an appropriate book environment. My idea was to put a description of the short title within each page in the form of each different art school theme. It helps viewers to understand my creative images.
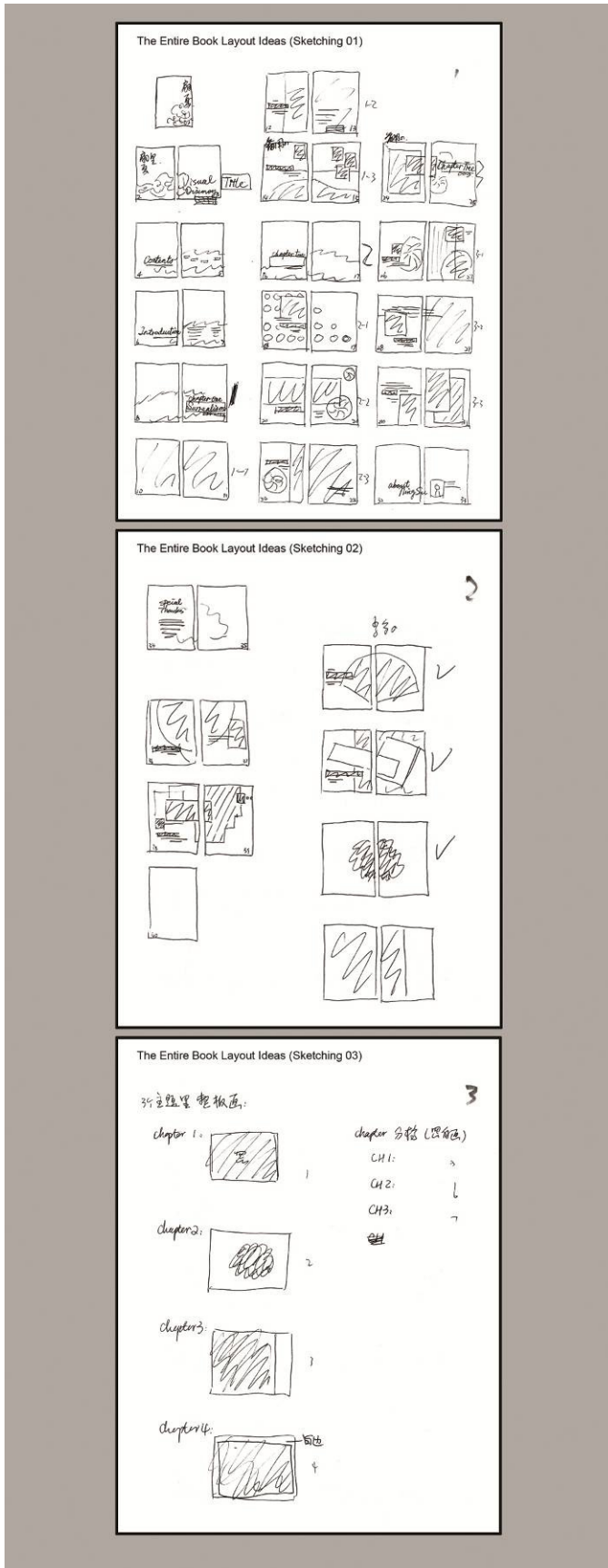
3.3.2   Chapter Titles Interpretation & 2D Artworks Development

3.3.2.1   Chapter Titles Interpretation

Chapter 1: Symbolism

Title 1: Fantasia of Spirit – Symbolism in Modern Art (thesis book pg. 5)

Like a poetic melody excavated from my soul, the creative scene of a flying birds dancing on the life tree in mysteries space is the dream imagery from my deep spirit.

Title 2: Eager for Life – Symbolism in Modern Art (thesis book pg. 6)

There is a bird in the right center in the reference master art, Klimt's *The Tree of Life*. People usually interpret it as a raven symbolizing death. In my creation, I contrast the raven with my open-wings flying bird to imply that my creative bird oppositely symbolizes life. It takes a life branch to seek where the life and hope are.

Title 3: Indirect Absolute Truths – Symbolism in Modern Art (thesis book pg. 9)

"Symbolists believed that art should apprehend more absolute truths which could only be accessed indirectly."[2] My character, the bird, has human fingers and a torso, so it can dance like a human being; however, the wings demonstrate it is an animal. The wings are made out of mechanical objects; they are the bird's skeleton, which is also the product of industrialization. Therefore, the life branches, finger bird, hands, and all the characters I created are from the real world and they contain the metaphorical and suggestive manners to interest the viewers with more esoteric comprehension and association.

Chapter 2: Surrealism

Title 1: Origin of Exploration – Surrealism in Modern Art (thesis book pg. 12)

For the subject of Surrealism, I tried to start my creation from familiar objects or natural scenes such as people, crowds, faces, and eyes through which we visualize the natural world. The eye is the most important character in my design, because without it, nothing could be communicated to the viewers' minds. Therefore, a scene of a hand

holding an eye organ comes into my mind. I created human faces with masks. The creative elements are injected with entirely new descriptions.

Title 2: Subconscious Reflection – Surrealism in Modern Art (thesis book pg. 14)

Art design and creation is like a dream process, and is the performance and symbolism of the subconscious mind. I combined the subjective consciousness with the accidental discovery to show illusory dreamy unconscious images. Surrealists emphasize that the universal dream is omnipotent. They believe that only dreams can correct and change reality, and then obtain a marvelous surrealistic realm.

Title 3: Source of Inspiration – Surrealism in Modern Art (thesis book pg. 16)

The initial source of Surrealism creation is the super-rational dream. In my images, I intensively built every detail of each model, and each shader. During the creation process, I used 3D paint effects to draw some unconscious lines to provide me with many inspirations. The 3D line effects helped me to derive the shading creation and evoked an illusive feeling to describe the fascination of Surrealism.

Chapter 3: Impressionism

Title 1: Psychedelic Memories – Impressionism in Modern Art (thesis book pg. 21)

In my design and creation process, I recreated a new space and juxtaposed the chairs. I tried to resume the lonely feeling of Van Gogh and worked on additional imaginations. Each chair is no longer lonely, and they can communicate and dance with each other; in addition, the viewers seem to hear the vague sound of their talking and arguing. The other characters and photo frames demonstrate a memory rather than the reality. Light and shadow are concealed under the misty atmosphere.

Title 2: Instant Eternity – Impressionism in Modern Art (thesis book pg. 23)

The whole world is submerged in the brilliant sun light. Light is the color protagonist in art expression, and no color is without light. What Surrealists have been

pursuing is to catch and describe the moment of light and shadow, and to represent the eternity with the picture of that instant moment.

Title 3: Reassembly of Fantasy Reality – Impressionism in Modern Art (thesis book pg. 24)

I tried to create neutral but exact characters to appropriately describe fantasy and reality. I used lots of chairs floating in a virtual space to describe a communicative situation as human. Also, I kept all the elements with a dynamic balance, emphasizing a strong sense of volume of the characters and the overall relationship of them all and disregarding the independence of any individual.

Chapter 4: Hybrid

Title 1: Wings of Sentiments – Hybrid of Modern Art (thesis book pg. 28)

In the 3D space, the mechanical objects are the carriers of memories. The first flap of the bird with its wings conveys a relaxation and happiness of that exact moment.

Title 2: Rhythm of Liberation – Hybrid of Modern Art (thesis book p. 30)

In my images, the arrangement of the running horses releases an aggressively visual language. Viewers directly obtain the power from the original impulse and passion of the dynamic characters. Therefore, the strong melody is released "layer upon layer" and gradually brings lasting exploration and curiosity to the viewers.

Title 3: Intuition in Silence – Hybrid of Modern Art (thesis book p. 32)

I was focused on the process of breaking up the mechanical properties and reconstructing elements with body, arms, and expressions by using the broken properties. The initial project was a motion graphics piece, so I collected the best continuing frames within one page to fully demonstrate my personalized and desired fantasy. The element is a mixture of reality and fantasy. It happens in the silent moment and is my own expression.

Figure 8

3.3.2.2   2D Artworks Development

As an artist, I have strong hand painting experience which enables me, besides creating the 3D computer generated Modern Art images, to hand paint some interesting 2D line drawing images and develop the images and themes in 2D media. I created all the 2D characters beginning with the detailed sketches by using pencils and black ink pen on sketching paper, and then scanned them at 300dpi and revised and completed them using Adobe Illustrator and Photoshop.

In my book, 2D artworks are used for the sections of transparent pages, acknowledgements, contents, introduction, about, and title page of each chapter. What I drew for the 2D hand illustrations are the daily objects I have to use directly, such as mouse, screen, USB interface, keyboards, speakers, headphone, keys, a dictionary, a calculator, etc. Most of them were created during the time at RIT when I had some excellent inspirations or did not have to use computers.

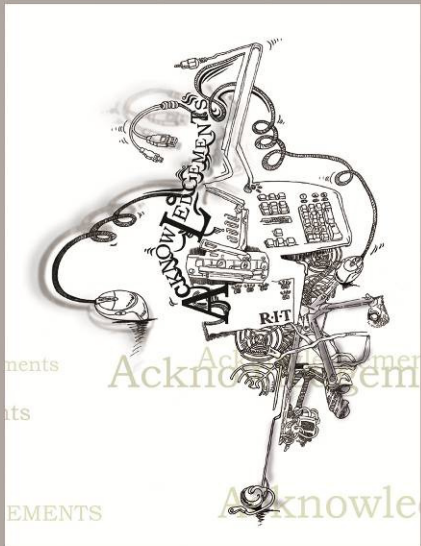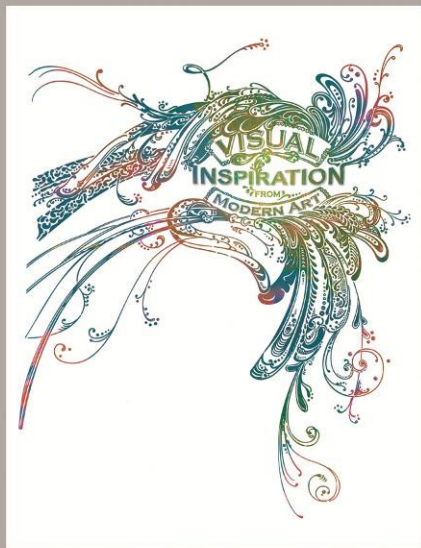Figure 9

For the four Chapter Title pages, the hand drawing idea comes from human sense organs; therefore eyes, hands, ears, and mouths are the main characters for each title page. Each character is combined with other objects in the 2D images; so when the viewers read the chapter title page, the fancy 2D images could give them more imaginations for what will be seen directly within each chapter.

Figure 10

For the *About* page at the end of the book, I chose to use one of my self-portraits to introduce myself. This 2D image is the one I drew a couple years ago. Within the image, my face is seen in a mirror and my left hand is holding the mirror; therefore, the image expresses a mood to the viewers of what I am thinking, what the subconscious mind is, and what we can see for Modern Art.

3.3.3   Final Book Print Out

Final book with PDF file was printed out in RIT Digital Printing Center in 2008.

Cover and inside paper is Blazer 100# Matte Cover, 270gsm

Transparent paper is Transparency 70gsm

Book was published on http://www.lulu.com on 2010.

ISBN is 978-0-578-05919-8

3.4 Step 4: Summary & Audience Review

Testing with Target Audience

- Male & Female

- Students, Professors, Designers, Artists,

  Age range: 18 years and older

- People who are don't have art background but interested in or are working on art.

Most viewers were fascinated by what I created for the concept and 3D visual environment. They frequently asked me many questions when I showed the graphics book to them or even the individual framed images. The questions were mostly focused on 2 themes, i.e., the character design and the computer techniques. Even though the viewers were attracted by the brilliant colors or unique characters on the 3D images, I believe what they were most interested in was the mythic subconscious mind which is hidden behind the images. Moreover, some of the 3D artworks were sold in art exhibitions, art shows, or even on online, which indicates that my art style satisfied many viewers. It encourages me to try some further art experience with the combination of the traditional art schools with 3D computer techniques.

4   Conclusion

I enjoyed the creative challenges I faced in this thesis project and really appreciated the creative involvement from conception to completion.

- My thesis is a project with systemic integration. I need to consider all aspects of proposal, research, object, design, implementation, and test etc.
- I improved my skills in 3D computer techniques; also, I was able to practice book layout design and printing techniques.
- The project was good practice in applying 3D technology to the artistic world, and also produced a precious collection of my reflections on Modern Art.

One of my dreams has come true, which was to create a book with all of my art and design experiences. Around 2000, when I graduated with my B.A., I was considering creating a book which would demonstrate my understanding of art. This graphics book as my master thesis project was a great opportunity for me to materialize my improved knowledge of art and to face the challenge with my computer skills. I was fortunate to have the computer equipment at RIT to handle all of what I needed on the book.

During the process, I had so many free-forms brainstorms happening everyday, even in my dreams, especially in regard to the concept development. I have been infused with art even from middle school. The process of creating all the 2D or 3D graphics details is really a joy for me, even during the last 2 months when I only had the night time to work on it because of the full time job during the daytime. I cannot imagine what I will encounter in the future, but art is my life; I believe I will create better art works with these improved techniques.

5   Appendix

Thesis Proposal for the Master of Fine Arts Degree

Thesis Title:

Visual Discovery: A motion graphic work of educational and entertaining experience

in the technical development of the animation

by   Ning Su

Problem Statement

My thesis will be a storytelling motion graphic work for the purpose of education as well as entertainment. The whole story will be the technical development history of the 2D and 3D animations based on the optical theory and animation principles. In the story, the two main characters (a teenage boy and a teenage girl) will travel through different animation development eras for their visual discovery, and experience the amazing visual and technical evolutions in the animation development.

The main problem for me to create this motion graphic work will be the multifarious visual effects that are touched upon. It will be a big challenge for me to create all the computer-generated 2D and 3D elements demonstrated in this work and integrate the appropriate elements into the exact visual effects. Therefore, it will be my major task in the whole process of working on my thesis to explore the possible approaches to deal with the gorgeous CG visual effects.

The main goal of creating this motion graphic piece is to deliver the knowledge of the technical development of animations to the target audience in the time of entertaining them. The story is only about 2 to 3 minutes long and therefore it is necessary to grasp audience's attentions all the time as well as give them some spaces to think about what they watch in their imaginations.

The target audience will be the students from high schools to colleges or those people who are interested in the animations. Usually, these audiences enjoy watching animation films. By focusing on this short motion graphic piece, they will learn some new knowledge and

also be treated with a gorgeous visual banquet. At the very least, it can be a visual trip for the audiences.

Therefore, my thesis project will focus on how to use the storytelling style and complicated visual effects to entertain and educate the audiences with the relevant knowledge of the animation development. It will be of both educational and entertaining significance.

Background

The idea of creating a motion graphic work as my thesis comes from one motion graphic piece that I did last academic quarter. In that work, I attempted to use my own art style to design the visual effects and wrote the story myself. I chose the students from middle schools to colleges as the target audience to show that work. The audiences were satisfied with the art style and the visual effects that I created. Therefore, I want to continue to improve the techniques of the visual effects in my thesis.

The idea is also because previously I was a fine arts teacher. I plan to continue to create some kinds of art work for the educational realm so all the students in the world can benefit from it as long as they love and enjoy the animations. Therefore, I want to create an educational motion graphic piece.

For the start of this motion graphic work, some questions have already existed in my mind. Why can we human see objects? How does the animation movement happen? Why are people interested in the actions of the animated elements? To answer these questions, the optical theory and the animation principles provide the most basic and strongest theoretical support. Also, they compose the beginning of the story.

What are the unique 2D and 3D animation techniques? What is the significant innovation in the animation field? These questions will become the main plot of the coming story, and the gorgeous visual effects will be demonstrated in the story. From cel animation to 3D animation, from Thaumatrope to stop motion, from Peter Foldes's precursory computer animation to *Transformers*; the research works will go through the whole thesis process.

As the reference of this topic, animator and film director Norman McLaren made the five-part instructing shots of "Animated Motion" on the base of film animation in the late 70s. It will be the main academic reference for me to create my motion graphic work.

The topic of animation development in this motion graphic work will also help educators in teaching animation introduction classes. Instead of collecting many documents, images, and video to show in the animation class, the teachers could show this work and let students quickly focus on what they will study in the classes.

Scope

This thesis is a computer-generated work; it will be created by using some CG techniques, such as the 3D modeling, 3D rendering, 2D and 3D animation, 2D and 3D visual effects, etc. I want to apply it as an educational video to serve in the high schools and colleges in different places and countries around the world for the classes of introduction to the animation. Also, I want to make it as an entertainment work to all other audiences.

Literature Survey

[1]   **Disney Animation: The Illusion of Life**
   F. Thomas & O. Johnston
   Abbeville Press, Inc.
   1981

   This is one of the very important literature sources. I obtain the 12 fundamental principles of animation. I'll create a couple of animation clips by using some of these principles, such as the Squash and Stretch, Exaggeration, etc. As the Bible of the animation movement, the principles are perfect to be used in the introduction part of the animation in the thesis.

[2]   **Contributions: Teaching 3D Modeling and animation in the high schools**
   Robin Cain
   ACM SIGGRAPH Computer Graphics, Volume 39 Issue 2
   ACM Press
   May 2005

Since my target audiences are the high school to college students, this is a useful literature source to help me recognize what they want to obtain in the 2D and 3D animation field and then I can organize what I'll use to focus on the audience's requirements in my work.

[3] **A Brief History of Animation, Animation Legends**

Available online: http://shopping.animazing.com/gallery/timeline.htm

The website helps me grasp the main point views of animation development. I'll save my research time by focusing on the spot.

[4] **Animated Motion 5 Shots (video)**

Norman McLaren

The videos show instruction to the basics of the film animation in the late 70s. It is the main academic source for me to build basic educational ideas in my motion graphic work.

[5] **Facets Multimedia (video)**

Methodology

As the designer and the artist of this motion graphic work, I'll do the historical research, write the story, draw the storyboard, direct the shooting for the work, design and create visual effects, and even take the toughest job - creating each computer generated 2D and 3D element used in the motion graphic piece. Furthermore, I'll record the sound effects by myself and find the appropriate music that I am allowed to use legally in my thesis.

The story will consist of some 2D elements and movie clips with 3D elements. From the main characters to the background, all elements will be animated. To better demonstrate the 3D visual effects technique, I will acquire more 3D technique than necessary for this work.

The target audiences are the students from high schools and colleges. The age of the audience is around 15 to 25. Also, the people who are interested in animation or working in the animation area are my audiences. All the audiences shall be the people of close ages and from different places or countries around the world. For each age range group, 3 to 5 people could become the participants in viewing and testing my motion graphic work.

To measure the results of my work, I will check whether the audience could understand what are demonstrated in different scenes of the work. And I will ask whether they enjoy the story and the visual style of the work. Understanding this work is the most important measure of my thesis since this work is supposed to be of some educational significance.

As far as the procedure, the literature review will be the first step. Within this step, the complete story shall be achieved. After that, the storyboard will be drawn and the animation storyboard should be done with the first version of the visualization of the characters and other objects. The third step will be interesting but it will also take a long time to do – to create each CG elements. The fourth step will go into the big challenge – building visual effects. Finally, after viewing the final piece, the evaluation will be conducted in my target audiences.

Limitations

To use the Partial system and Dynamic fluid technique in 3D software such as Maya is the limitation for me to create these kinds of effects in my thesis.
Due to the wide project scope, only the typical visual effects in the animation development will be touched.

Implications of the Research

First of all, my thesis is a motion graphic work. It has a limited time, 2 minutes, at most 3 minutes. My topic is related to the historical development of animation. As we know, there are wide arrays of different and unique forms of animations art presented at different time. However, within this limited time, I cannot demonstrate every animation development.

Also, different from creating an animation film, my work is focused on the motion principle and visual effects. Therefore, all the scenes and the animation of the work shall be full of aesthetic value and show as much information as possible to the audience.

This motion graphic piece will deliver the knowledge of the technical development of animations to the target audience in the time of entertaining them. The topic of animation development in this motion graphic work will also help educators in teaching animation introduction classes.

Peer Review

It is important to show the working process of my thesis to the scholars who are also working for motion graphics and get feedback from them. And it is also important to get opinions from scholars and professors in other fields. If both reviewers have the same recommendations for modification, I'll do accordingly as soon as possible.

I'll put my thesis on the internet for more review, such as Youtube, Videocommunity, MySpaceTV, etc.

I will also submit it to the following international festivals and competitions:

ACM SIGGRAPH 2008, 2009

California International Animation Festival

Chinese Animation and Film Festival

Target Audience

Male & Female

1. high school students, college students, age range: 15-25

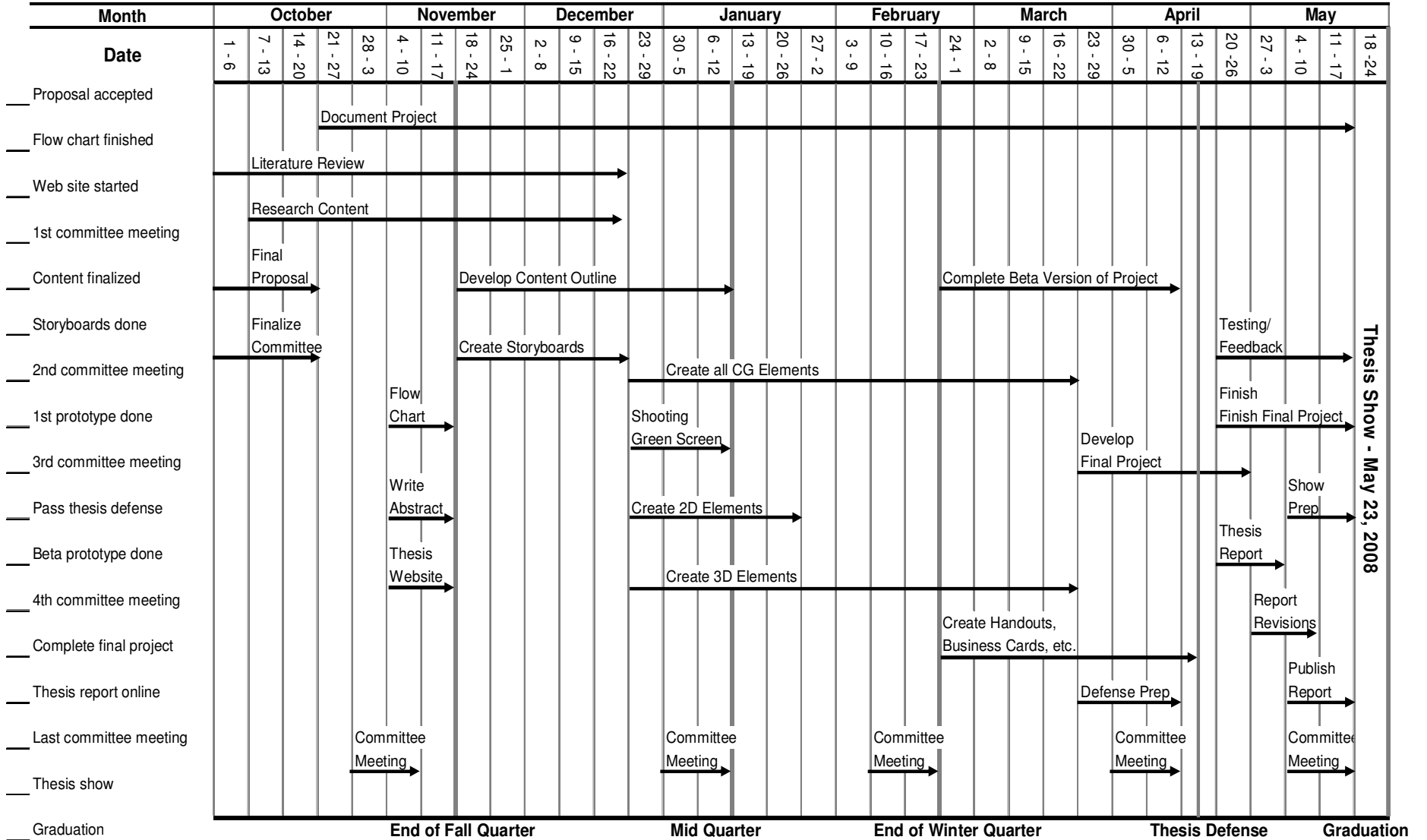2. people who are interested in animation or are working on it

For the students, they don't have any experience with any theory of animation.

Software and Hardware Requirements

Mac or PC computer

All computer graphic design software including: Aftereffects, Maya, Flash, Photoshop, Illustrator, and FinalCut.

Thesis Timeline Vision Discovery: A motion graphic work of educational and entertaining experience in the technical development of animation

by Ning Su

Month	October					November				December				January				February				March				April				May		
Date	1 - 6	7 - 13	14 - 20	21 - 27	28 - 3	4 - 10	11 - 17	18 - 24	25 - 1	2 - 8	9 - 15	16 - 22	23 - 29	30 - 5	6 - 12	13 - 19	20 - 26	27 - 2	3 - 9	10 - 16	17 - 23	24 - 1	2 - 8	9 - 15	16 - 22	23 - 29	30 - 5	6 - 12	13 - 19	20 - 26	27 - 3	4 - 10	11 - 17	18 - 24

Tasks (row labels):
- Proposal accepted
- Flow chart finished
- Web site started
- 1st committee meeting
- Content finalized
- Storyboards done
- 2nd committee meeting
- 1st prototype done
- 3rd committee meeting
- Pass thesis defense
- Beta prototype done
- 4th committee meeting
- Complete final project
- Thesis report online
- Last committee meeting
- Thesis show
- Graduation

Task bars:
- Document Project
- Literature Review
- Research Content
- Final Proposal
- Finalize Committee
- Develop Content Outline
- Create Storyboards
- Flow Chart
- Write Abstract
- Thesis Website
- Complete Beta Version of Project
- Create all CG Elements
- Shooting Green Screen
- Create 2D Elements
- Create 3D Elements
- Develop Final Project
- Create Handouts, Business Cards, etc.
- Testing/ Feedback
- Finish Final Project
- Show Prep
- Thesis Report
- Report Revisions
- Defense Prep
- Publish Report
- Committee Meeting (multiple)

Milestones (bottom): End of Fall Quarter · Mid Quarter · End of Winter Quarter · Thesis Defense · Graduation

Thesis Show - May 23, 2008

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