Trial

Chen-ni Hsu

Follow this and additional works at: http://scholarworks.rit.edu/theses

Recommended Citation

This Thesis is brought to you for free and open access by the Thesis/Dissertation Collections at RIT Scholar Works. It has been accepted for inclusion in Theses by an authorized administrator of RIT Scholar Works. For more information, please contact ritscholarworks@rit.edu.
TRIAL
Master of Fine Arts Thesis Production

By

Chen-ni Hsu

MFA Imaging Arts / Computer Animation
SCHOOL OF FILM AND ANIMATION
ROCHESTER INSTITUTE OF TECHNOLOGY
ROCHESTER, NEW YORK
May 2006

Committee Members:
Professor, Skip Battaglia (Chair)

Skip Battaglia
Professor, Malcolm Spaull

Malcolm G. Spaull
Professor, Mark Hijleh (Houghton College)
Thesis/Dissertation Author Permission Statement

Title of thesis or dissertation: Trial
Name of author: Chen-ni Hsu
Degree: MFA
Program: Film and Animation
College: Imaging Arts and Sciences

I understand that I must submit a print copy of my thesis or dissertation to the RIT Archives, per current RIT guidelines for the completion of my degree. I hereby grant to the Rochester Institute of Technology and its agents the non-exclusive license to archive and make accessible my thesis or dissertation in whole or in part in all forms of media in perpetuity. I retain all other ownership rights to the copyright of the thesis or dissertation. I also retain the right to use in future works (such as articles or books) all or part of this thesis or dissertation.

Print Reproduction Permission Granted:

I, Chen-ni Hsu, hereby grant permission to the Rochester Institute Technology to reproduce my print thesis or dissertation in whole or in part. Any reproduction will not be for commercial use or profit.

Signature of Author: Hsu Chen-ni Date: 07.31.2006

Print Reproduction Permission Denied:

I, ____________________________ , hereby deny permission to the RIT Library of the Rochester Institute of Technology to reproduce my print thesis or dissertation in whole or in part.

Signature of Author: ____________________________ Date: __________
# Table of Contents

<table>
<thead>
<tr>
<th>Acknowledgements</th>
<th>Page 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept and Story Idea</td>
<td>Page 5</td>
</tr>
<tr>
<td>Movie Title</td>
<td>Page 5</td>
</tr>
<tr>
<td>Preproduction</td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>Page 6</td>
</tr>
<tr>
<td>Character Design and Aesthetics</td>
<td>Page 6</td>
</tr>
<tr>
<td>Storyboarding</td>
<td>Page 7</td>
</tr>
<tr>
<td>Production</td>
<td></td>
</tr>
<tr>
<td>Modeling</td>
<td>Page 8</td>
</tr>
<tr>
<td>Texturing</td>
<td>Page 9</td>
</tr>
<tr>
<td>Rigging</td>
<td>Page 10</td>
</tr>
<tr>
<td>Animating</td>
<td>Page 10</td>
</tr>
<tr>
<td>Lighting</td>
<td>Page 12</td>
</tr>
<tr>
<td>Special Effects</td>
<td>Page 13</td>
</tr>
<tr>
<td>Renderings</td>
<td>Page 14</td>
</tr>
<tr>
<td>Postproduction</td>
<td></td>
</tr>
<tr>
<td>Sound Effects</td>
<td>Page 14</td>
</tr>
<tr>
<td>Music</td>
<td>Page 14</td>
</tr>
<tr>
<td>Compositing &amp; Editing</td>
<td>Page 15</td>
</tr>
<tr>
<td>Reflection</td>
<td>Page 16</td>
</tr>
<tr>
<td>Conclusion</td>
<td>Page 17</td>
</tr>
<tr>
<td>Appendix A</td>
<td></td>
</tr>
<tr>
<td>Original Thesis Proposal</td>
<td>Page 18</td>
</tr>
<tr>
<td>Appendix B</td>
<td></td>
</tr>
<tr>
<td>Complete Storyboard</td>
<td>Page 23</td>
</tr>
<tr>
<td>Appendix C</td>
<td></td>
</tr>
<tr>
<td>Production Stills</td>
<td>Page 45</td>
</tr>
<tr>
<td>Appendix D</td>
<td></td>
</tr>
<tr>
<td>Character Design Drawings</td>
<td>Page 49</td>
</tr>
<tr>
<td>Appendix E</td>
<td></td>
</tr>
<tr>
<td>Production Credits</td>
<td>Page 55</td>
</tr>
</tbody>
</table>
Acknowledgements

First, I want to thank Rochester Institute of Technology for giving me this opportunity to learn in the United States of America. Although having learned some 2D cartoons skill at my country before enrolling, learning 3D concept is a totally different experience for me. At the School of Film and Animation, I gained not only in-depth knowledge in the field of animation and its methods, but also studied further techniques, wider viewpoints, and more international experience about animation and film production. Studying at SoFA further fulfilled my knowledge of animation and filmmaking. Learning how to combine these fields is also attractive to me.

I also want to thank my committee members. Thanks to Skip Battaglia, my committee chair, who gave me good advice and suggestions throughout the production of “Trial.” Prof. Skip helped me at every stage and gave me the most freedom to perform my work. Thanks to Malcolm Spaull, another committee advisor, who also gave me good technical help about moving the camera and suggestions about sound effects. Thanks also to Mark Hijleh, a Houghton College (Houghton, NY) professor, who composed the wonderful music for me. Prof. Mark helped me solve the big problem of music since I always have trouble finding music to give emotion and drama to match my film. Really thanks to my committee advisors. With their help, I have finally done a work that I am very proud of.

Studying in a different country with a different language has been a challenge for me. Therefore, I want to thank my classmates and the senior students who accompanied me and gave me their opinions to help me.
Finally, I really thank my parents and friends. Without their support and attentiveness, I would not have peace of mind to complete this work.

**Concept and Story Idea**

As an international student, I desired to put some cultural materials in my film. Therefore, I planned to do an animation within a traditional Chinese culture style. I came up with an image of master and apprentice, and developed my story base on it. I added some characters and plots. I wanted something to interact with the apprentice to enrich the story; therefore, I thought about a paper bird (done via origami). I also wanted to add some mystery elements into my story, and I thought about transformation. In my country, some materials endowed with soul can transfer to human appearance. I tried to make this as a hint, foreshadowing a later development in my story. I wanted the apprentice to show his pure nature and moral character even if he could not find his target. As the apprentice at a "Trial," people sometimes need to face a difficult situation from their negligence. But if they can overcome through their effort, they can learnt and earn something more than what they lost.

**Movie Title**

"Trial" is a story about a master who gives his apprentice some tests. Therefore, I looked for words that were similar to test, and decided to use "Trial." It is simple but just fits the meaning of my story.
Preproduction

Treatment

All disputes about the story during my research seminar class and the thesis proposal preview committee were about the Little Guy. The questions were about whether the transformation from the jade pendant to the Little Guy was to be necessary. Also, others asked about the meaning when the jade pendant transforms back to the Little Guy at the end, and if it is needed.

I wanted to make the Little Guy as an indefinite element for the apprentice. I wanted to hide the jade, make it unidentifiable, and see how the apprentice will make his choice even if he cannot find his target. Setting the jade pendant with a human appearance makes him have more interaction with the apprentice. Therefore, I think the transformation from the jade pendant to the Little Guy is necessary. For the transforming back at the end, I think even though the apprentice has overcome the trial and got the jade, he still cherishes his experience with the Little Guy. The master knows his apprentice’s mind and also wants to trick and surprise him, so he makes the jade transform back. (See Appendix A for original treatment, Page 19)

Character Design and Aesthetics

I tried to find some references about the clothes and hairstyle of ancient Chinese costumes on websites. After I looked around the style of some dynasties, I decided not to limit my setting on a particular dynasty and gave my designs more freedom based on common impressions. About the apprentice, he became a teenager. Since he needs to do many actions, I simplified his sleeves, made them shorter and easy to animate. His
costume and ponytail are familiar to signal a man with martial arts experience in ancient China. The master was to be a very old man with wisdom and magic power. His long sleeves and robe are very traditional and have not changed too much. As for the Little Guy, I set him as a child since that seems to be an encumbrance as he is also a trial for the apprentice. His hairstyle is also familiar in ancient China. Since the Little Guy is transformed from the jade pendant, I added the same color and texture for both. For the samurai, I took references from ancient Chinese soldier costumes and did some design to simplify them. The paper bird: I just made a real one with origami and used it as reference. (See Appendix D for drawings of character design, Page 49)

I took traditional Chinese landscape painting as a reference for the outdoor scene. I decided not to use the 2D painting or Toon shader to do the background. Since my characters and other scenes would still have a 3D appearance, the 2D style would become incompatible with the whole feeling. As for the pavilion and other scenes, I took pictures from traditional buildings and used them as reference to do the textures and to design the buildings. The traditional Chinese style patterns were very beautiful. I used them to enrich the ancient sense in my film.

**Storyboarding**

I spent much time thinking about the camera movement and shot sequence during the storyboarding process. Although it was time-consuming, it also saved much time to set the camera position when doing animation. Also, doing an animatic base on storyboarding can help check the timing of the shots and allow me to have a basis to rearrange the shots sequence, making them more fluid. Afterwards, I found my story
was too long and had some unnecessary shots. I deleted some shots to make the plot and rhythm even more compact. I think storyboarding and animatics are really useful to break down the treatment into a visual display. Although I still can find some other better camera angles during animating, a storyboard is also a good reference when doing animation. (See Appendix B for complete storyboard, Page 23)

**Production**

**Modeling**

I used NURBS modeling to do my character’s rough head and body, and then converted it to a polygon to do details. The reason that I didn’t use NURBS modeling directly is for the convenience of applying texture. Polygon modeling has more freedom to assign texture and to do detail than NURBS modeling. The benefits of modeling converted from NURBS are that it is smooth and saves time. I did the modeling of the apprentice first. I took more time to refine him and added more faces around his joints since he needed to be animated the most, and also because I wanted to use him as the base model to transform other characters. I simply changed some characteristic features of the apprentice’s modeling and made him to also be the master, the Little Guy and the samurai.

The Master I changed the most. His face has more wrinkles and details so I needed to split more polygon faces to model it. For the samurai, I used NURBS to model his armor separately and just parented it on his body since NURBS modeling has a smooth streamline and I only had to apply one texture to reach the statue’s material feel. Although Maya’s hair and cloth have better visual display, I decided not use them to
model because it takes much time to check the effect when animating and rendering. So I used NURBS to model their hair and set joints to control the movement. These character modelings were converted to smooth proxy and I used the proxy Mesh part to rig and animate later.

By the way, when I was doing animation, I just discovered a new way to do modeling and texturing more efficiently and easily: the program Z-Brush. I didn’t have the chance to test it in my modeling this time, but I would like to try it later on my future projects.

**Texturing**

Texturing is an important presentation of the model. A simple model can also reveal as great an effect as a complex one through good texturing. I spent more time than ever doing the texturing for my characters and backgrounds in Photoshop and Illustrator. After rearranging the mapping, I used a Blinn shader to do all the texturing except hair. A Blinn shader has more attributes to control the effects and presents a better detail during lighting. I emphasized the setting of bump mapping and specular color. The attributes of eccentricity, specular roll off, and reflectivity are important for the feeling of materials. For example, for the mirror, I just set its reflectivity attribute and it automatically reflected images as reality when rendering. As for hair, I used the Anisotropic shader because it presents particular luster rather than the Blinn. I used Photoshop to composite texture layers according to the visual display I wished. I made the color image with a texture first, then converted it to a gray image, then adjusted its brightness and contrast as the image for bump mapping. After that, I used the gray
image to adjust the highlight part of my texture as an image for specular color. Sometimes the texture display in Maya is blurred and it is hard to tell its change in real time. Adjusting the texture resolution higher in the shader attribute of hardware texturing can fix this problem. Rendering out an image to check is a more precise way to see how the texturing really works.

**Rigging**

I used a smooth bind to rig my characters since, through weight painting, it is easier to find the cover vertexes. The most difficult parts that needed to be rigged more attentively are the parts connected with the body that have a wide range of swing, like shoulder and thigh. Hair, eyeballs, teeth and tongue are the parts that do not need rigging but just parent with the skeleton.

Also, after I finished my rough animation, I just knew a new plug-in that makes rigging and joint control more efficient and easier. It is called TSM (The Setup Machine). I still didn’t have the chance to test it in my modeling this time, but I would like to try it later on my future projects.

**Animating**

Setting the camera position is the first thing I will do during animating. I always take references from my storyboard and use a bookmark to set and compare different angles. The view in the 3D camera does not always conform to our anticipation as well as the 2D drawing. It is interesting to move the camera around and see if there is a better view other than the storyboard’s setting. I like to use the same camera and key its
position from the bookmark record. Then, I can just play the animation of a shot sequence and compare the feeling of the camera change for a single camera in Maya. But if I want to check the timing, playblasting the whole animation out is still a better way because sometimes computers may have a slightly different play speed in Maya according to their hardware capability. Therefore, the feeling of timing within Maya may not always be precise.

For character animating, Pose to Pose is a good way to set a rough animation flow as a pencil test of the 2D cartoon's key animation. Add in-between poses bit by bit to fulfill the movement and refine it until the timing looks good. Then, shift body weight, enhance the motion of stretch and squash, and edit the animation curves to break the average tempo and enrich the performance of characters. When satisfied with the timing, I will then do the facial expressions and the minor animation that follow with the main movement, like the hair and the sleeves of clothes. I put these in the last part of animating because I won't need to move the keys again and again if I change the action of the characters. As for the skirt of the apprentice, I bound it with his pelvis joints but still created blendshapes and a set driven key with his thighs to make the push forward movement more natural. The interaction between 3D characters is complicated to deal with since they cannot really touch each other. Anticipating the passive character's action to animate the active character that will guide their contact first, is a better way to begin.

Texture can also be animated in Maya. For the images transferred from reflection to the apprentice in the mirror, I rendered the animation as an image sequence and used file texture to apply them on the color attribute of the mirror surface. For the
eyeballs of the samurai and the Little Guy, I changed the color, the ambient color and incandescence attributes of the surface material, to transfer them between normal and glow red light. The bump depth attribute needs to be taken care of in relation to the camera distance. When the camera closes to the target, its bump depth value should be lower; otherwise the texture will reveal a rough feeling.

**Lighting**

I used basic three-point light setting and adjusted the light color according to outdoor or indoor scenes. As for characters, the basic setting of lights is usually not enough. Separate lights need to be added for different character movements and camera angles. For example, characters under the shadow of pavilion should be seen darker than outside, but when the camera moved to an opposite position from the main light, the shades of characters seemed to become too dark and I needed to add other lights to adjust. The distance between characters and camera also affects light and shade. With a close-up shot one usually needs to recheck the lighting before proceeding with the rendering.

Since my scenes are huge, I used raytracing shadow instead of Dmap. Dmap shadow has some display problems when the distance from the light to the target is too far. Although using raytracing shadow takes more time to render, it reflects more texture details under the shadows than using Dmap.

The light link is also an important part when doing a complex 3D lighting. Some parts, like teeth and tongue that are parented with the skeleton should be attentive to the light links since they are easily ignored. Also, some dark sides, like mouth and
sleeves’ inside, which can not use light link to adjust their shade problem, should add negative lights to fix.

Different computers have different brightness and color displays. Therefore, it is better to use the same computer when doing lighting. Otherwise, we may also adjust the brightness when editing the shots in postproduction.

Special Effects

I used Maya’s paint effect to create the trees and grasses of my outdoor scene. Using paint effect is very convenient to create and animate, but it takes time to render and test the effect. I needed to render the scenes with paint effects separately from my characters because sometimes the effects will extrude onto my characters even when they are behind the characters.

As for the swing effect for the sword in my second scene, I just made a streamline shape of white light in Photoshop and animated it in After Effects later. It presented a more dramatic visual effect here than using motion blur.

Fire effect at my second scene was the only Maya dynamics effect I used in my film. Other visual effects were all created within Combustion. Combustion is the software that I learned at Fisher-Price, Inc. as an intern. It is easier to create several visual effects by using its inside setting and operating the particle attributes to animate. If I want to use special effects to wrap something, the target needs to be rendered separately and composited later.
Rendering

I used Maya software rendering since Maya hardware rendering has some limited conditions of use. I set 2D motion blur to the characters only for the second scene. The setting of motion blur took three times the rendering time more than the normal setting. Therefore, I didn't use it at my other scenes since I didn't have enough time after that.

The resolution of "TriaF" is 720X389 (device aspect ratio is 1.85). Although NTSC 720X480 is still a standard specification, considering the setting of wide screen 16:9 will become a trend gradually, I tried to use it for my film this time.

Postproduction

Sound Effects

I didn't do this part at first since the music composition matches my animation so well that I thought I did not need to add more. Prof. Malcolm gave me the suggestion to do it if I have time. Therefore, I started to collect the sound effects for my scenes. The time was short, so I could just find the most important parts that I might need. I edited the sound effects in Sound Forge and composed them in Sonic Foundry Vegas as I usually do. I am glad that I could add sound effects finally at the last minute.

Music

Although music should be part of pre-production, I usually did it after I finished a rough animation playblast. This let me have more freedom to do the animation and
change the timing and shots, but also it brought me some trouble when doing music compositing. Finding music to match my animation rhythm well always vexes me. The music of “Trial” was done by Mark Hijleh, a professor of composition at Houghton College. Prof. Mark has always helped me to compose the music for my two quarter project and he impressed me a lot. Therefore, this time I asked him again to help me compose “Trial.” When he said he was willing to work with my animation film, I was really happy and appreciated his help. I sent him the rough playblast sequences of my animation, and he created a wonderful composition that matches the feeling and every beat of my animation rhythm. The length of his music fit my animation very well; therefore, I didn’t change anything when combining both. Prof. Mark also gave me a suggestion to not 'fade out' music at the very end since it would sound very weak. Music plays an important role in animation. Without his assistance, I wouldn’t have peace of mind to do the following parts of post-production and special effects for my animation.

Compositing & Editing

I used After Effects to do mostly compositing and editing. The opening, cloud animating, and ending credits of “Trial” were also accomplished in it. Since my characters were all rendered separately from the background, adjusting the blur attribute to make the illusion of depth of field was easier to reach. Besides, I still used Premiere to edit some shots since changing the order of the sequence is more efficient in Premiere.

I had a problem exporting my final animation from After Effects. The rendering process could not be finished and crashed somewhere frequently. I searched for the
error message online, and found a way to fix the unknown problem. When setting the
export format option, choosing a lower key frame rate can repair the crash. I set my key
frame rate at every 5 frames and it really worked. Another export problem to DVD also
needs attention. Since I used a wide screen setting, I needed to change the ratio at 16:9
rather than 4:3; otherwise, the images would be stretched and deformed.

Reflection

I was glad that all the responses at the screening were positive. One question
was about the jade pendant which transformed back to the Little Guy at the film’s end.
As I wrote in the Treatment section, the transformation reflected the apprentice’s heart
and the response and trick from the master. Also, I thought this transformation
enhanced the impression and gave more interaction to the characters. All in all, I really
appreciated the acceptance of "Trial"; the good responses gave me more confidence in
myself.

Although I eliminated some shots from the storyboard, I think the movie did not
suffer from this decision. The eliminated shots were some fighting scenes and did not
matter to the development of the main plot. Since my story was too long, eliminating
some unnecessary shots could save my time when doing animation, and it also made the
plot and rhythm even more compact.

Besides all the "technical" things I learned, I still want to learn more about
making movies and telling stories. The application of camera change between shots can
bring different reaction. A good director can impact the audience and interpret stories
well through shot arrangements. Therefore, using the camera to tell stories is the main
one topic that I want to learn more when making movies.

As for my film, I plan to enter some festivals and use my film to enrich my portfolio. Since I love animation, I will continue to devote myself to this field, no matter if it is 3D or 2D.

**Conclusion**

One thing that impacted me the most during the production of “Trial” was a strange crash of Maya. I used reference to do a scene with several shots casting a long time. One day I found the interface of Maya had become disordered, and then I saved my file and reopened Maya to check. The keys of the animation in my reference file were all gone when I reopened it. It was my negligence that didn’t back up my file and save it with another name for insurance. After that, I always remembered to do this precaution for my Maya files.

In conclusion, it is a good learning experience of doing “Trial.” Although sometimes I encountered some problems in some stages, I also learned how to deal with them and won a personal technique. I really like animation and enjoy it. It is really exciting to see the process that I created become alive. Watching others make animation and learning better skills to refine my animation also fascinates me. That’s why I want to learn more about animation and pursue further opportunities in this field.

Finally, I want to thank again the people who always helped me and accompanied me through “Trial.”
Appendix A

Original Thesis Proposal
Synopsis

A master gives his young apprentice a trial to increase his education, prove his skill and cultivate his moral character.

Story

The opening echoes traditional Chinese landscape painting. In a pavilion, a master folds a paper into a paper bird. He makes the bird fly to inform his young apprentice he wants to give him a trial. When the apprentice arrives, the master takes out a mirror that decorated with special pattern in its frame. He puts the mirror on the ground and uses his walking stick to knock it. The mirror soon enlarges with soft light. Then he takes out a jade pendant from his cuff and puts it upon the mirror. The mirror emits soft light and the jade pendant sinks into it. The master wants his young apprentice to find the jade pendant back that proves he has finished the trial. He calls the paper bird to guide the apprentice to the final destination. Then he gestures to his apprentice to stand upon the mirror. When the apprentice holds the paper bird and steps upon the mirror, it just emits soft light and the apprentice soon falls into it. At the same time, the patterns of the mirror frame also float up, become light points, and enter the mirror. Then the master just sits in front of the enlarged mirror and looks at it with smile.

The apprentice falls into a tunnel. He finds he has left the room and arrives in another space. He is not conscious of being watched through the mirror by the master. The apprentice gets rid of some traps and arrives the other side of the tunnel. He turns around and sees the trap props gradually melt to a light point and disappear. Then he keeps in step with the paper bird’s guide and enters a large space with a giant warrior.
statue. The apprentice looks around but cannot find any outlet. Then he notices the paper bird flies near by the statue and a Little Guy is hanging on the hilt of the stone warrior's sword. He is surprised to meet other people in this place. The paper bird looks like the Little Guy, spirals upon his head and stays in his hands. (The master who is looking at the mirror is observing the apprentice.) The apprentice lets the Little Guy free but soon finds his approach starts the stone warrior's attack. He holds the Little Guy to rush around the space. The stone warrior wields his sword but keeps squat at the same position. The apprentice feels strange and notices a passage is just behind the warrior. The passage is really high without any stairway to arrive. The apprentice looks at the sword that is being wielded to them. He holds the Little Guy and jumps toward it. He tries to keep his balance on the sweep and runs on the sword toward the warrior's arm and shoulder. The apprentice uses the stone warrior and arrives the passage. When they enter the entry, the stone warrior gradually recovers his body to cover the passage. A light point flies out from the warrior statue and returns to the mirror. The apprentice cannot leave the Little Guy alone but just brings him along. The paper bird seems too tired to fly and stays in the Little Guy's finger as they continue their way forward.

There are three masks on one side of the wall and on the opposite side are three pillars with crystal light balls. When they pass through the path, their shadows cover the masks and turn into men with black robes. The masked men attack them in turn. The apprentice fights with them and also gives some attention to protect the Little Guy. Then he finds the relationship between the crystal ball, masked men, and their shadows. The apprentice destroys the crystal balls and the masks just drop from the black robes to the ground. Some light points fly up and return to the mirror. The Little Guy picks up a mask and keeps it. Finally, they arrive another place but it is only a precipice without anything below. They try to look around but find nothing. The apprentice is disappointed and sits on a stone. The Little Guy puts the mask on for fun but being controlled by it. The paper bird flies away from him. The Little Guy's behavior becomes violent and attacks the apprentice from his back. The apprentice just turns around, sees his attack, and dodges alarmingly. He tries to takes the mask away without hurting the Little Guy but in vain. He dodges his attack and moves backward to the edge of the precipice. The Little Guy's attack goes too far and he passes the edge of the cliff. But the apprentice just catches his hand in time. The Little Guy's face hits the wall and the mask just loosens and falls down. The apprentice finds the Little Guy is unconscious. When he tries to pull him up, the Little Guy awakens and smiles to the
apprentice. The paper bird flies to the Little Guy and stays on his head. At the same
time, the Little Guy’s body glows and he transforms into the jade pendant.

The apprentice looks at the jade pendant on his hand. The paper bird flies
around his hand. Then he finds the environment changes and he returns to the original
scene. The master is standing in front of the mirror. The apprentice returns the jade
pendant to his master but the master turn it back and wants him to keep it. The
apprentice is very happy and bows to his master. The master watches his young
apprentice with smile. He shows the mirror to his apprentice. (The mirror reveals
some scenes that the apprentice solved the trial problems and saved the Little Guy.) The
apprentice just knows he is being observed. The master nods with an approving smile.
The apprentice feels embarrassed but find the jade pendant is shaking heavily in his hand.
He cannot hold it but just open his hand to look. The jade pendant soon transforms to
the Little Guy. The apprentice cannot hold him but just hugs him and falls to the ground.
He is surprised about his coming but soon they are wreathed in smiles. Camera tracks
back to the whole landscape.

Approach

My thesis animation film is being produced in 3D. It is being originated in the
computer. The software apps will be used for modeling, animation, texture and
composition is Maya, After Effects, and Photoshop. The software apps will be used for
soundtrack composition are Sound Forge and Foundry Vegas.
# Thesis Budget

**Working Title:** Trial  
**Producer:** Chen-ni Hsu  
**Budget:** $38633 (Estimate)  
$2325 (Actual)

**Start Date:** March 11 2004  
**End Date:** May 11 2005  
**Running Time:** 5 minutes  
**Release Format:** DV NTSC

<table>
<thead>
<tr>
<th>ITEMS</th>
<th>CONTENT</th>
<th>ESTIMATE</th>
<th>IN KIND</th>
<th>ACTUAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preproduction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research</td>
<td>40 hours x $15</td>
<td>$600</td>
<td>$600</td>
<td>$0</td>
</tr>
<tr>
<td>Script</td>
<td>80 hours x $15</td>
<td>$1200</td>
<td>$1200</td>
<td>$0</td>
</tr>
<tr>
<td>Storyboard</td>
<td>80 hours x $15</td>
<td>$1200</td>
<td>$1200</td>
<td>$0</td>
</tr>
<tr>
<td>Character Design</td>
<td>40 hours x $15</td>
<td>$600</td>
<td>$600</td>
<td>$0</td>
</tr>
<tr>
<td>Background Design</td>
<td>40 hours x $15</td>
<td>$600</td>
<td>$600</td>
<td>$0</td>
</tr>
<tr>
<td>Animatic</td>
<td>20 hours x $15</td>
<td>$300</td>
<td>$300</td>
<td>$0</td>
</tr>
<tr>
<td>Hardware</td>
<td>Computer</td>
<td>$2000</td>
<td>$0</td>
<td>$2000</td>
</tr>
<tr>
<td>Software</td>
<td>After Effects</td>
<td>$999</td>
<td>$999</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>Photoshop</td>
<td>$649</td>
<td>$649</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Production</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Software</td>
<td>MAYA</td>
<td>$6999</td>
<td>$6999</td>
<td>$0</td>
</tr>
<tr>
<td>Modeling</td>
<td>500 hours x $15</td>
<td>$7500</td>
<td>$7500</td>
<td>$0</td>
</tr>
<tr>
<td>Animation</td>
<td>500 hours x $15</td>
<td>$7500</td>
<td>$7500</td>
<td>$0</td>
</tr>
<tr>
<td>Rendering</td>
<td>120 hours x $15</td>
<td>$1800</td>
<td>$1800</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Postproduction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Software</td>
<td>Sound Forge</td>
<td>$400</td>
<td>$400</td>
<td>$0</td>
</tr>
<tr>
<td>Soundtrack</td>
<td>60 hours x $15</td>
<td>$900</td>
<td>$900</td>
<td>$0</td>
</tr>
<tr>
<td>Composition</td>
<td>80 hours x $15</td>
<td>$1200</td>
<td>$1200</td>
<td>$0</td>
</tr>
<tr>
<td>CD-ROM</td>
<td>50 pack</td>
<td>$25</td>
<td>$0</td>
<td>$25</td>
</tr>
<tr>
<td>DVD-ROM</td>
<td>15 pack</td>
<td>$30</td>
<td>$0</td>
<td>$30</td>
</tr>
<tr>
<td>Videotapes</td>
<td>12 pack</td>
<td>$13</td>
<td>$0</td>
<td>$13</td>
</tr>
<tr>
<td>DV tapes</td>
<td>3 pack</td>
<td>$20</td>
<td>$0</td>
<td>$20</td>
</tr>
<tr>
<td>Envelopes (10&quot;x13&quot;)</td>
<td>20 pack</td>
<td>$20</td>
<td>$0</td>
<td>$20</td>
</tr>
<tr>
<td>Print papers</td>
<td>500 sheets</td>
<td>$6</td>
<td>$0</td>
<td>$6</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>$35121</td>
<td>$33007</td>
<td>$2114</td>
</tr>
<tr>
<td><strong>GRAND TOTAL (TOTAL x 1.1 %)</strong></td>
<td></td>
<td>$38633</td>
<td></td>
<td>$2325</td>
</tr>
</tbody>
</table>
Appendix B

Complete Storyboard
SC4 shot1-1  SC4 shot1-2  SC4 shot2

SC4 shot3-1  SC4 shot3-2  SC4 shot3-3

SC4 shot3-4  SC4 shot3-5  SC4a shot1-1

SC4a shot1-2  SC4a shot2  SC4 shot4
The End
Appendix C

Production Stills
Appendix D

Character Design Drawing
Apprentice
Master
Jade Pendant

Paper Bird Reference

Samurai
Appendix E

Production Credits
Trial Credits

Director and Producer:
Chen-ni Hsu

Music Composer:
Mark Hijleh

Thesis Committee:
Skip Battaglia
Malcolm Spaull
Mark Hijleh

Special Thanks:
My family
All my classmates and friends

Copyright 2006 Chen-ni Hsu
TRIAL

Master of Fine Arts Thesis Production

By

Chen-ni Hsu

MFA Imaging Arts / Computer Animation
SCHOOL OF FILM AND ANIMATION
ROCHESTER INSTITUTE OF TECHNOLOGY
ROCHESTER, NEW YORK
May 2006