9-2006

Inspiration

Wan-Chun Lee

Inspiration

BY

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I. Pre-Production

A. Concept and Story Idea

How do I come out this story idea:
When I was a high school student in Taipei, I always saw people practicing Tai-Ji in the park on my way to bus stop. I was attracted by the movements of Tai-Ji, which gave me a sense of peace and comfort.

In my opinion, one of the most important things as a filmmaker is how you get inspiration for your stories. During the period I have studied here, I realized that inspiration comes from daily lives as long as you use your heart to feel it.

Therefore, I combined these two elements, Tai-Ji and inspiration, to present the idea of my concept.

The concept of Tai-Ji:

The Tai-ji, traditional Chinese characters: 太極, is a Chinese concept introduced in the Zhuang Zi and so has an early connection with Taoism (pronounced "Daoism"). However, it also appears in the Xì Cí (Great Appendix) of the I Ching, (Yì Jíng or Book of Changes). The Tai-ji is understood to be the highest conceivable principle, that from which existence flows. In contemporary terms, the Tai-ji is the infinite, essential, and fundamental principle of evolutionary change that actualizes all potential states of being through the self-organizing integration of complementary existential polarities. More simply, it is the co-substantial union of yin and yang, the two opposing qualities of all things. In order for 'hot' to exist, so must 'cold'. This applies in Taoist philosophy to all such contrasting systems, including good and evil. From their mutual existence a state of dynamic equilibrium comes into being, which is the expression of the Tai-ji. [1]

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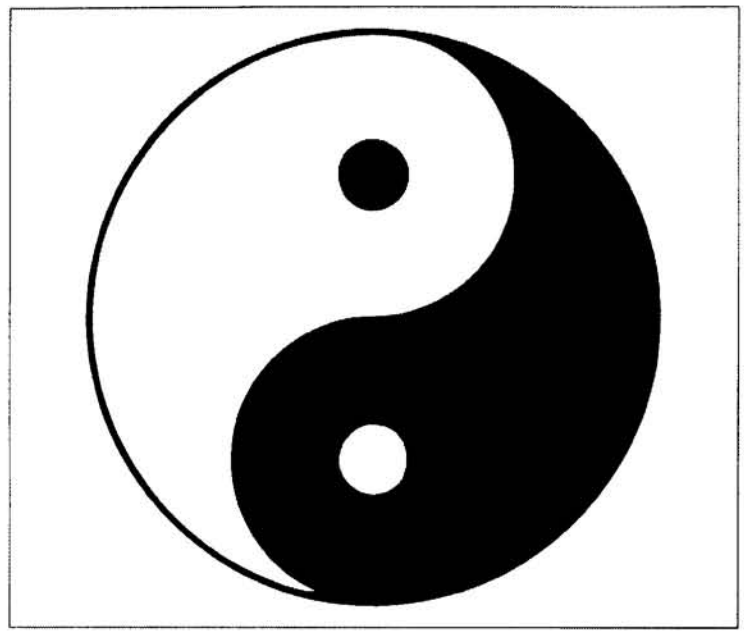
[1] From Wikipedia, the free encyclopedia. http://en.wikipedia.org/wiki/Taiji



太極圖(symbol of Tai-Ji)

B. Treatment

Working Title:	Inspiration
Producer:	Wan-Chun Lee
Start Date:	June2004
End Date:	Sep 2006
Running Time:	Around 5 minutes
Release Format:	DV NTSC

The concept of the dance:
Tai-Ji reflects the relationship between appearance and essence, effort and effortlessness, man and woman, in the end, a study of time and space

Synopsis:
Ching, 26, in black, passes a park then stops at a bus stop. While she is waiting for a bus, she notices an old man and his apprentice practicing Tai-Chi Chuan in the park. She is attracted by the movements of Tai-Ji. These movements remain in her eyes. Camera moves toward her eyes and fades out.

Rhythm is infectious. Fade in. Ching, in white and the apprentice in black, face each other and stand on a floor with a Tai-Ji symbol on it. Ching flows with the melody and dances her new dance, a blend of contemporary dance and Tai-Ji. The apprentice dances with her. The dance that develops will be the emotional center of this film.

The whole dancing section will be depicted in white. The stage is white and dancers respectively wear black and white. This will take advantage of and develop negative space and positive space to express abstraction.

The last shot returns to the bus stop by the park. The old man is still teaching the apprentice Tai-Ji. At this same time, a bus comes. Ching walks toward the bus, turns around and smiles to the old man and the apprentice. She gets on the bus. Bus drives away.

Fade out

Approach:
This film is completely done in 3D using Maya. Some of the textures were created using Adobe Photoshop and Adobe Illustrator. This film will be composed in After Effects and transferred to tape using Final Cut Pro. The soundtrack was composed using one or more Chinese instruments. Additional effects were processed and sequenced with Soundtrack.

C. Character Design and Aesthetics

Character Design:
My film has three main characters, a modern dancer-Ching, a Tai-Ji teacher-old man, a young Tai-Ji apprentice-Austin. First, I selected the characters' costume. Ching is a modern dancer, so I designed her with a tight dancing suit and ballet shoes. As for Tai-Ji teacher and apprentice, I designed them with Kung Fu pants and shoes, and the teacher also with a Tai-Ji T-Shirt. Next is hair. In Maya, there are hair and fur functions. It is pretty fancy to use them. But in my thesis film, the most important part is animation. Doing both hair and animation would cost very expensive rendering time. Under this consideration, I decided to emphasize animation. For hair, I used texture which edited in Photoshop. Last, I used real people's pictures as my three characters' reference, which helped me to observe how muscles are built and kept in the correct rate in human bodies.

In my film, there are two main backgrounds. One is urban park, the other is

virtual stage. Since my characters have 3d appearance, I decided to build the background in Maya. I used pictures taken in Taiwan as my park reference. As for the virtual stage, I decided to use Chinese aesthetics: the beauty of leaving white, which also conveys the feeling of unreality, simplicity and comfort to the audience. For the floor texture, I used the Tai-Ji curve in the middle with Ching dressed in white, Austin dressed in black to form a complete Tai-Ji symbol.

Aesthetics:
In Chinese painting, white is a very important element. Whether it is clouds, the ocean, waves or air, they all represent the philosophy of vacant. White also represents the mutual relationship of imaginary and reality. In terms of interpersonal relationship, white can be explained as space. Keeping the appropriate relationship is beauty. Space conveys the feeling of relaxation and flexibility. It is also a respiration and an art.

Getting along with people could become agonizing because there is not enough space between, which results in noticing people's faults and also losing the beauty of space. That is the reason why a love affair is much more wonderful before getting married.

In Chinese painting, white is one of the most beautiful arts. For interpersonal relationships, appropriate space can maintain a harmonious relation. Overcrowding and overfilling loses the sense of beauty.

In my film, there are two main backgrounds. One is an urban park, which represents this meaning of overcrowding and overfilling. The other is a virtual stage attaching white textures, which expresses the beauty of space. Austin and Ching are man and woman. On the stage, they face each other and keep appropriate space, which conveys the beauty of space adequately. The movements of Tai-Ji dance are tender and mild, which present the harmonious interaction between man and woman.

In this film, I hope to present the aesthetics of space. I used white confidently and adventurously as a leading role in my film to guide the audience into experiencing the beauty of white.

D. Storyboard

Before drawing a storyboard, I spent much time on finding the ideal dance video reference. I finally found a perfect one, Moon Water, created by Cloud Gate Group. Then I started to set camera movements and transitions.

In the beginning, I over designed the transitions and added too many dancers on the stage. After seeing the storyboard, Skip suggested I delete these parts and simplify the settings. After several improvements, the rhythm and pace of the storyboard became more compact and vivid.

II. Production

A. Modeling

I used polygon to do all my characters and most of the background settings. The reasons I chose polygon are that it is easy to extrude faces, edges, cut faces and has more freedom to assign texture.

The first modeling I did was Ching because she is the main character in the film, and she is female. Considering one transition in the film, Ching deformed her shape into the old man from virtual stage to the park. For the technical part, Ching and the old man have to have exactly the same number of faces and vertexes. I chose to build female modeling first because it requires more detail for breast and bottom, which wouldn't cause any problems when I remodeled Ching to become the old man.
As for Austin, I put more emphasis on how muscles are built since he is topless. All three characters were converted to smooth proxy for texture mapping and final rendering. I kept the proxy mesh in order to do the rigging and animation parts. During the modeling process, I did blend shape at the same time for facial expressions, body motions, such as inhale, exhale and so on.

I modeled the background last. In order to keep the same scale, I imported several polygon characters at the horizon. This modeling process could save time on rescaling sizes afterward.

B. Texture

Before applying texture to modelings, I did UV map first. Each character at least has four UV maps, face, body, four limbs and shoes. By doing this way, I could make high resolution textures in details in Photoshop. I did all characters' textures in Photoshop. For background textures, I imported real pictures to Photoshop and edited them to seamless maps, which wouldn't cause a discord problem when I looped UV for more than two times in Maya.

For material part, I used lambert shader for characters; blinn and phone E shader for most of background settings. When I used mental ray to render, I encountered rendering problem but the result would turn out fine if I set the reflection value to 0 for blinn and phone E shader. Another texture problem was that I saved all texture files as .tif at first, which resulted in I couldn't use mental ray to render at all. I spent much time to figure out that in my case, .tga file was the only file I could apply if I wanted to use mental ray to do the final batch

render.

Texture and rendering are tied closely. There is no way to get good final rendering images with any texture problems.

C. Rigging

Smooth bind was the only choice I could rig my characters since I decided the whole film was focused on animation. Smooth bind could bend the characters smoothly. Paint weight was a crucial and time-consuming job after smooth bind. As long as the weight painting was done well, the characters could do any crazy motions and still maintain good curves and smooth bend.

D. Animation

The first thing to do before character animation was to do camera settings. I finished the camera settings first according to the storyboard. After finishing character animation, I started to set keys for cameras. At the same time, I tried different camera angles to check if there was any better one than storyboard's.

For character animation, I used two ways, pose to pose and straight ahead. Take walk cycle for example. I used pose to pose to do it. The workflow was: add in-between, set off key timing, edit key curve and tangent. After this, I started to do facial expressions, paper non-linear bend animation and handbag animation.

For Tai-Ji animation part, I shot two live-action sequences as reference. For Tai-Ji dance part, I had a dance DVD as reference. With references, I decided to use straight ahead to do dancing part animation.

After one shot's character animation or camera movement, I would playblast out, check the timing and how smooth the character animation were. When I felt satisfied, I moved on to next shot.

E. Lighting

In my film, I have two main background settings, one is park, another is virtual stage. For the park, I created point, ambient light to illuminate the background. The hue was set a little bit blue tone. The lights for characters, I basically used tree-point light setting. The hue was set a little bit yellow tone. Sun was always be the key light. I adjusted the fill lights and back light according to

different camera angles. I maintained the intensity rate of key light and fill light in 1:0.33.

As for the virtual stage, I used global illumination to light up the whole background. I created a semi-sphere and a plane to be the wall and floor. On the top of the semi-sphere, I deleted faces to form a hole where I could put a spot light to illuminate the whole stage. I increased the intensity to 3000, checked on emit photons and adjusted the photon intensity and exponent. The value of the photon intensity and exponent decided how bright the stage would be. The whole stage appearance was lit by this spot light I put on the top of the semi-sphere. I like the way how it illuminated the whole stage, I also created fill light on each Ching and Austin's sides to have a low ratio appearance.

F. Paint Effects

The trees and flowers in the park were the only paint effects I used. Considering the expensive rendering time, the foreground trees I used polygons and the background trees I used tree mesh. The advantage of the tree mesh is that it does not heavy at all because it only a image plane. On the contrary, it causes no shadow.

The flowers were the heaviest one in the scene. It was even hardly to do transition. The only way to boost the speed was to check on interactive shading and choose box.

I used Maya software to render paint effects because mental ray wasn't accepted. Trees and flowers were rendered separately from my characters. I did the composition in After Effects eventually.

G. Renderings

In Maya, there are four choices to render, hardware, software, vector and mental ray. I decided to use mental ray to do the final batch render. Although it took more time to render, it provided high quality images, especially lighting and shadow parts.

I set the resolution to 640*360 (16:9). I like the feeling of wide screen and it's the trend of the future.

III. Post-Production

A. Sound Effects and Music

Mark Hijleh was my music composer. At first, I sent him my draft movie file. Prof. Mark had an idea of what kind of music matched my film after watching the playblast. He composed the first half of the music then sent it to me. We discussed the pace, tempo and what kind of feeling I wanted. When we were both happy with it, Prof. Mark composed the whole music right after.

After getting the complete music file, I edited sound effects in Final Cut Pro and soundtrack including background noise, special effects, etc.

B. Composition and Editing

I did composition and editing in Adobe After Effects. In order to make the illusion of depth of field, the scenes were rendered separately in Maya. In park scene, each shot at least had eight layers to do composition and editing. After composition I rendered out the movie file and edited the music and sound effects in Final Cut Pro.

IV. Conclusion

Spending one year to finish a film on my own is really a very good learning experience. During the production process, I realized that no one can be expert on every part. Making a good timeline schedule in pre-production can save lots of time. In the future, I will continue to improve my skills at camera editing and animation.

V. References

Books:

"The Animator's Survival Kit" by Richard Williams (1940)
"Digital Lighting & Rendering" by Jeremy Birn (2000)
"Creating Motion Graphics with After Effects" by Trish Meyer and Chris Meyer (2000)

DVD Tape:

"Moon Water" by Cloud Gate Group published in Taiwan.

Website:

www.highend3d.com
www.3dtotal.com
www.digitaltutors.com
http://en.wikipedia.org/wiki/Taiji

Toolbox:

Adobe Photoshop, After Effects,	www.adobe.com
Maya	www.alias.com
Sound Track	www.apple.com
Final Cut Pro	www.apple.com

Appendix A (Timeline, Budget)

Time Line

2004 Summer	
1	Character Design
2	Story board (approved while advisor skip here).
3	3D Animatic and Music (click track)
4	Character Modeling
5	
6	
7	
8	
9	Background Modeling
10	
2006 Spring	
1	Background Modeling and texturing
2	Initial work with composer
3	Character Texturing
4	
5	Character Rigging and final music
6	
7	Character Animation – First pass
8	Music secured and timed
9	Character Animation – Second pass
10	
2006 Fall	
1	Character Animation – Third pass
2	
3	Character Animation – Last pass
4	
5	Lighting
6	
7	Rendering
8	Composition

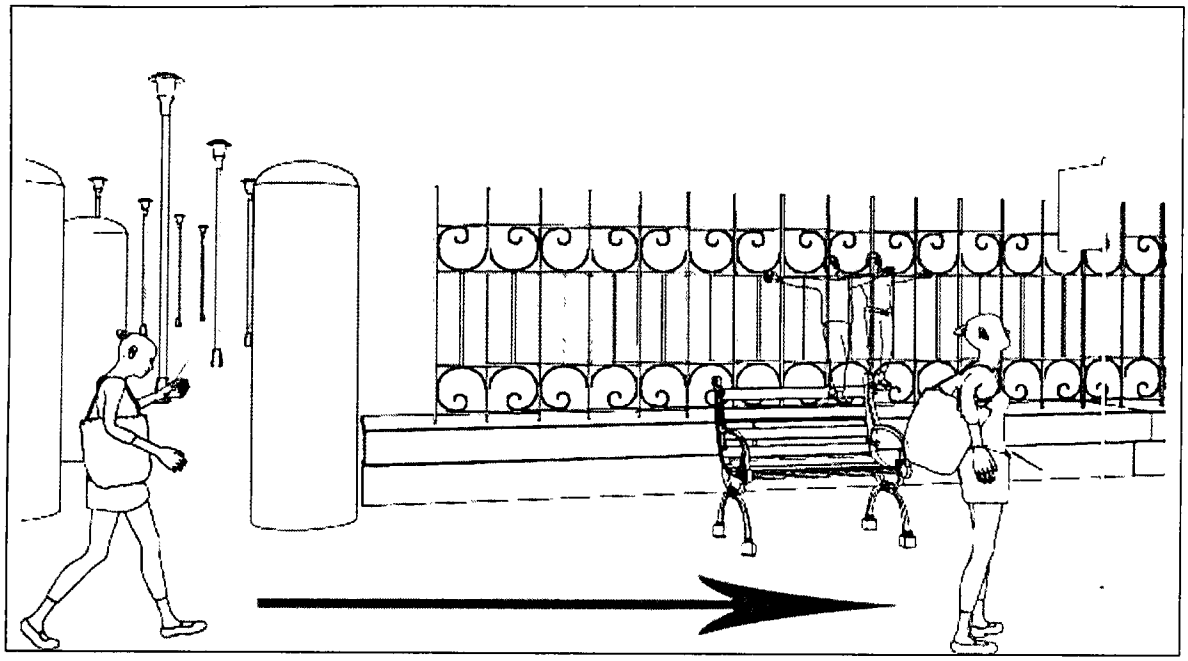
9	Refine
10	Transfer to tape, DV, DVD
11	Screening

Budget:

Pre-Production	**Estimate**	**Itemization**	**Actual Expense**
Art Supplies	200		200
Storyboard	1,000		
Animatic	300		
Character Sheets	300	2	
Production			
Workstation	3,500		1,500
Portable HD	170	1	170
Software	3,550		
DVCam	1,800	1	
DV Tape	30	3	30
DAT Tapes	12	1	12
CDR's	15		15
Modeling	8,000	8 weeks	
Texturing	3,000	3 weeks	
Lighting	2,000	2 weeks	
Character rigging	2,000	2 weeks	
Animating	8,000	8 weeks	
Post-Production			
Compositing	1,000	1 week	
Music	500		500
Transfer to DV Tape	100		
Subtotal	35,477		2,427
Contingency	3,548		248
Total	39,025		2,627

Appendix B (Storyboard)

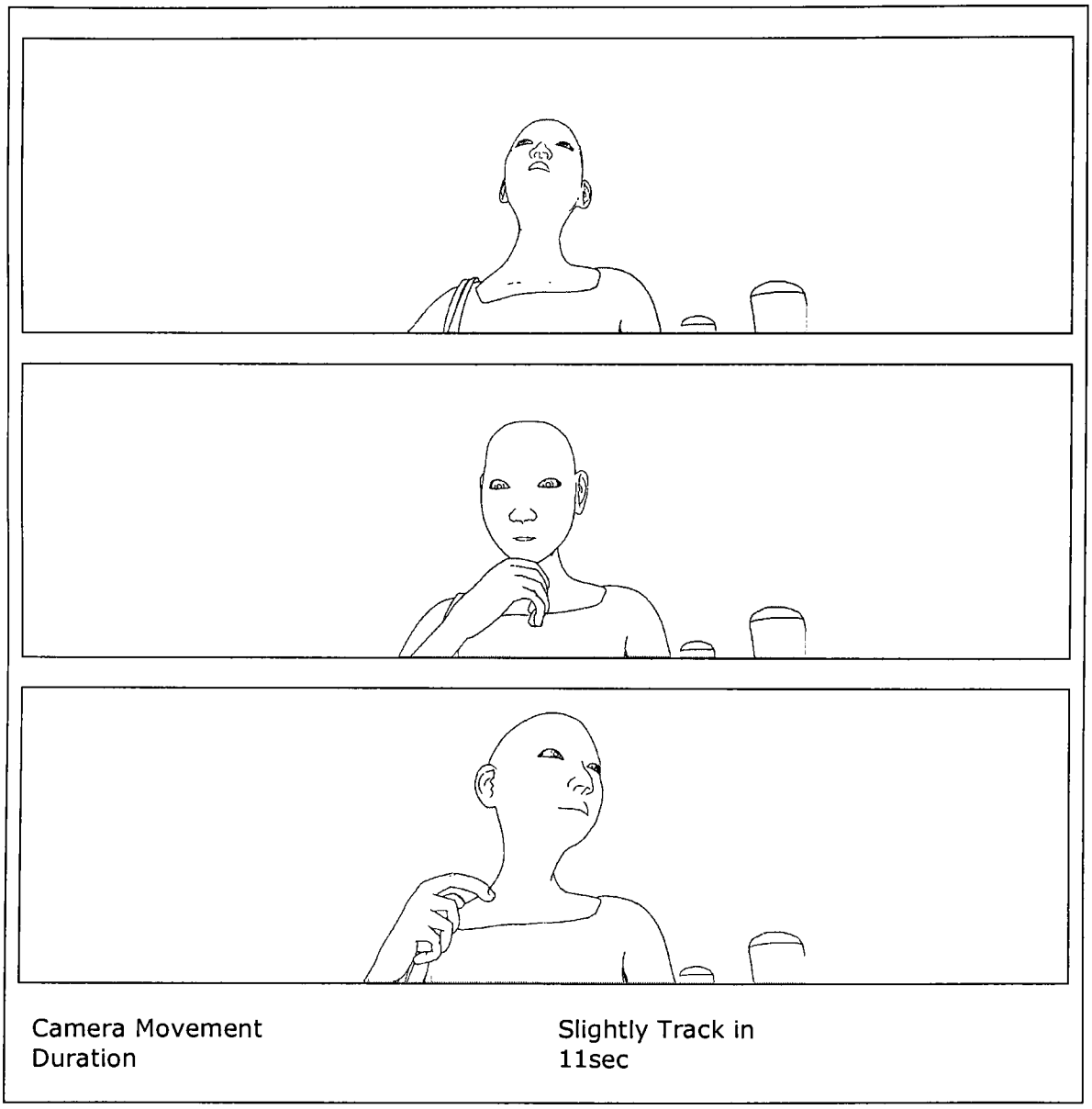
Scene1 shot1



Camera movement — Track in

Duration — 12sec 19

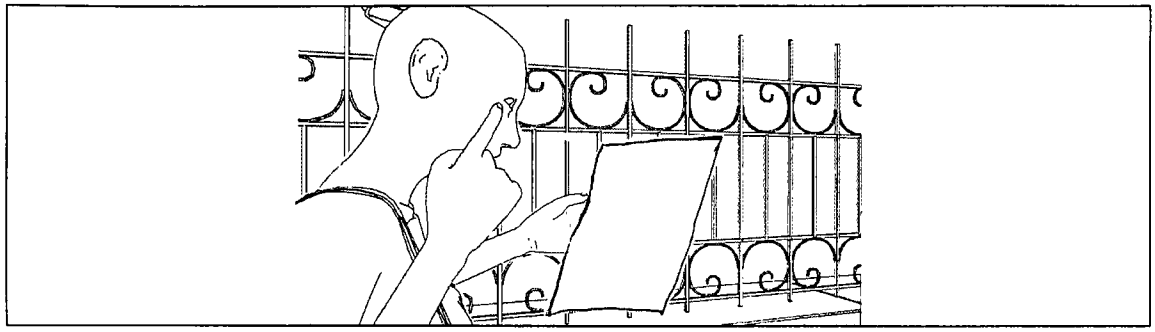
Scene1 shot2

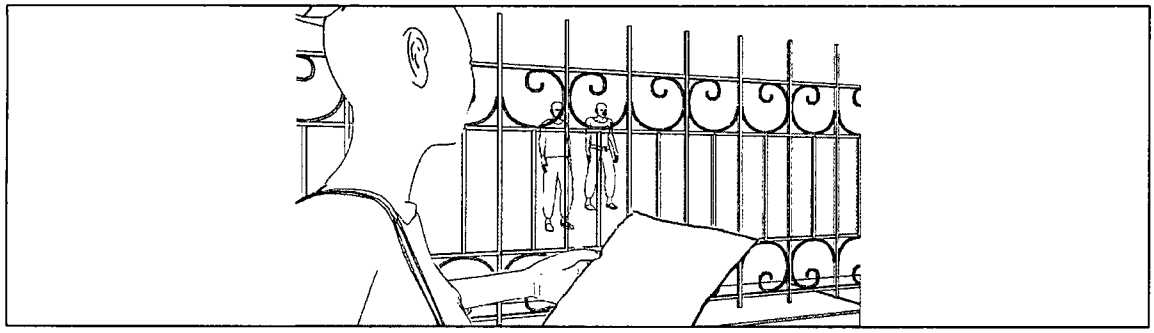


Camera Movement
Duration

Slightly Track in
11sec

Scene1 shot3

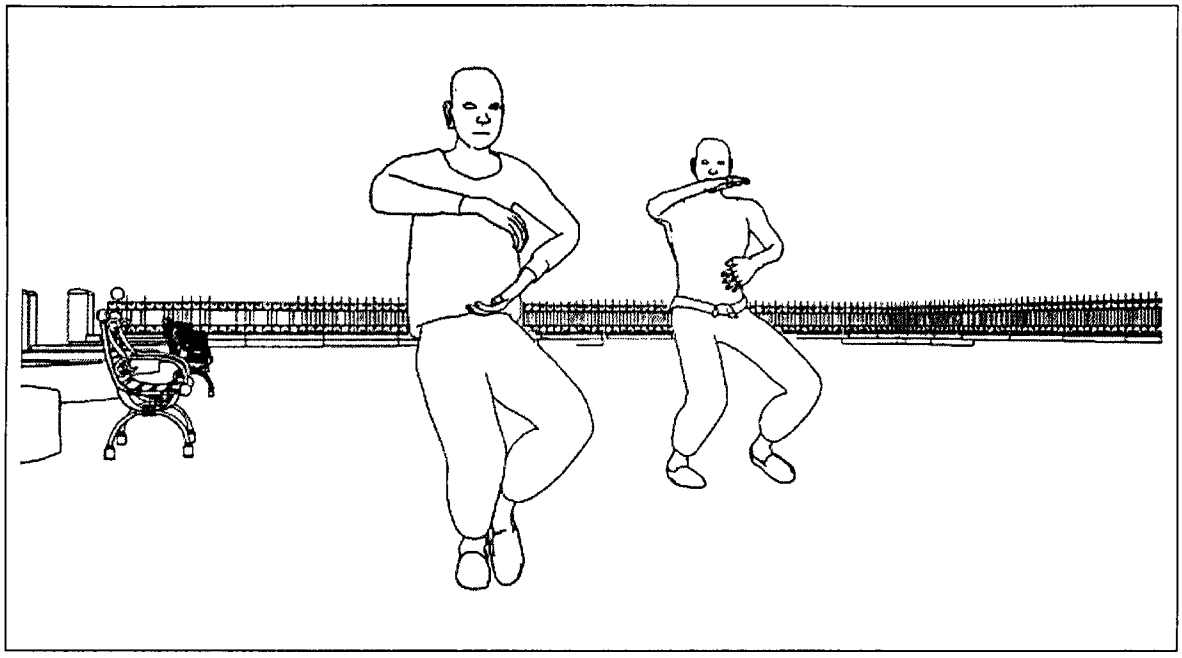




Camera Movement
Slightly Track In

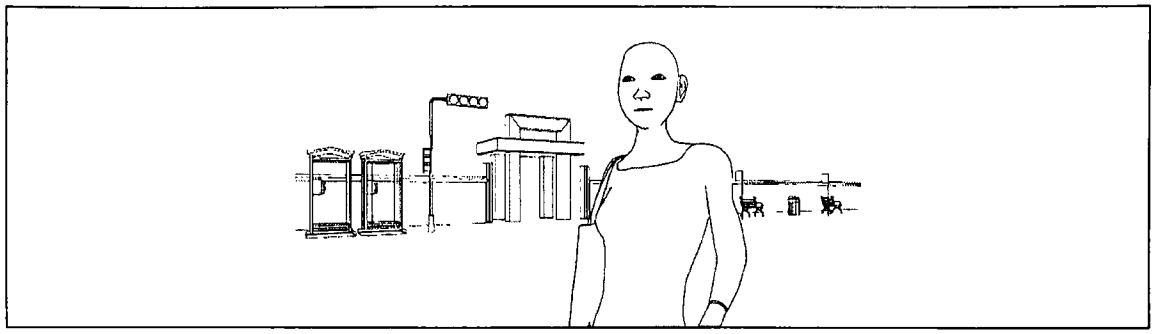
Duration
4sec 10

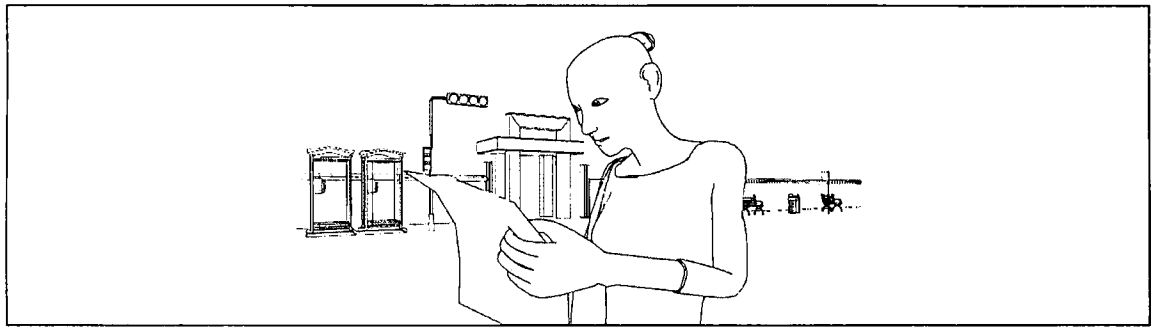
Scene1 shot4

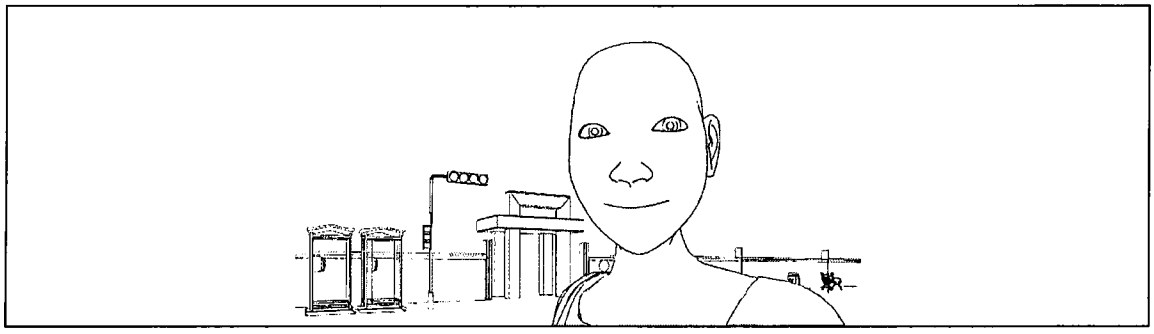


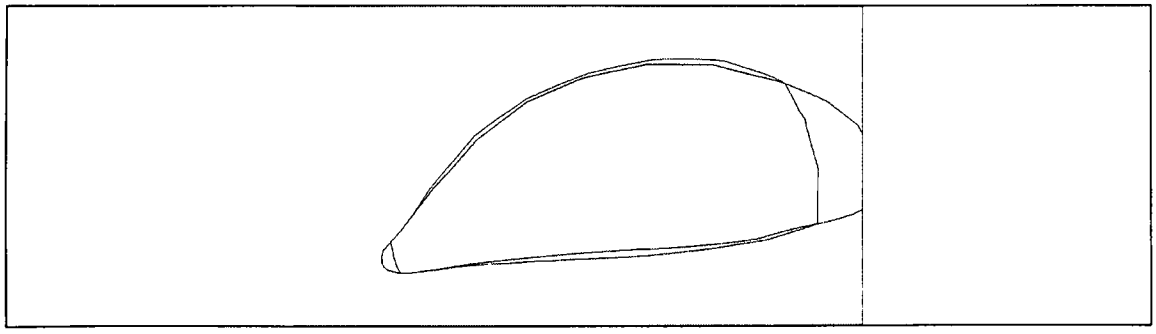
Camera Movement Slightly Track In
Duration 18sec 15

Scene1 shot5



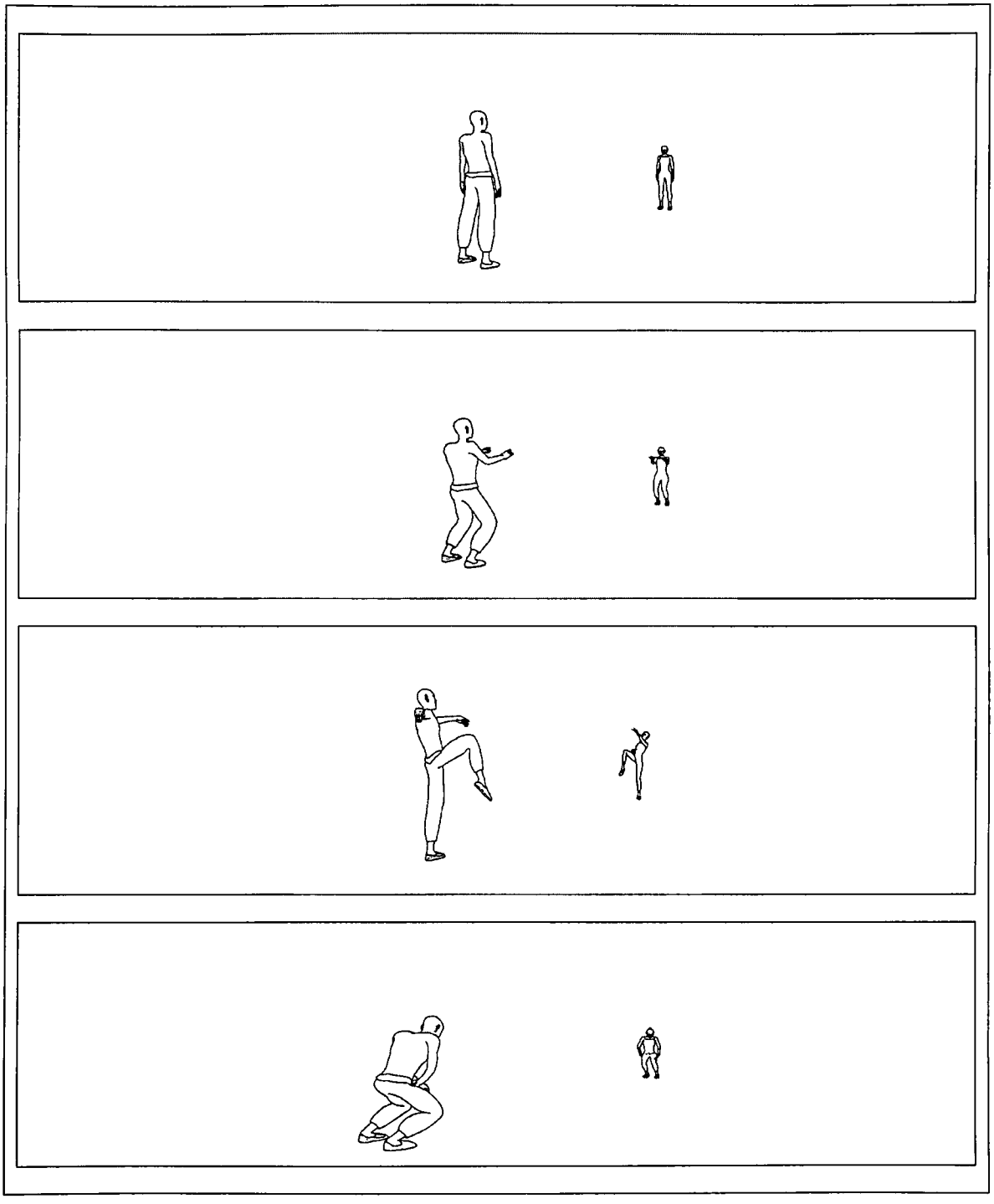


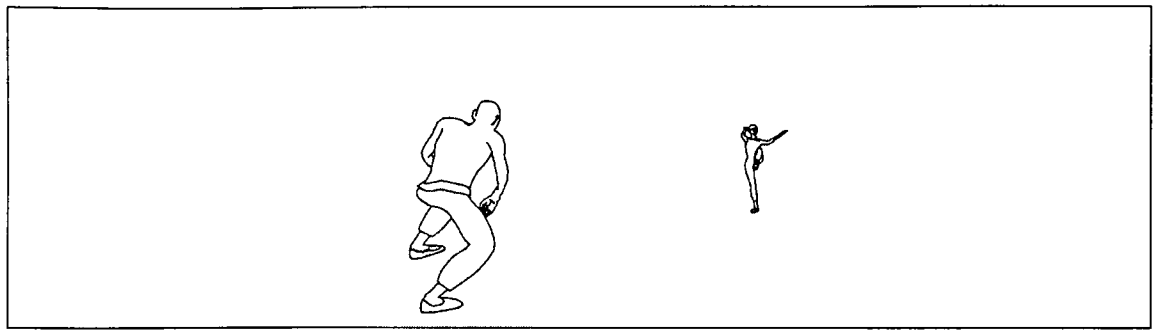


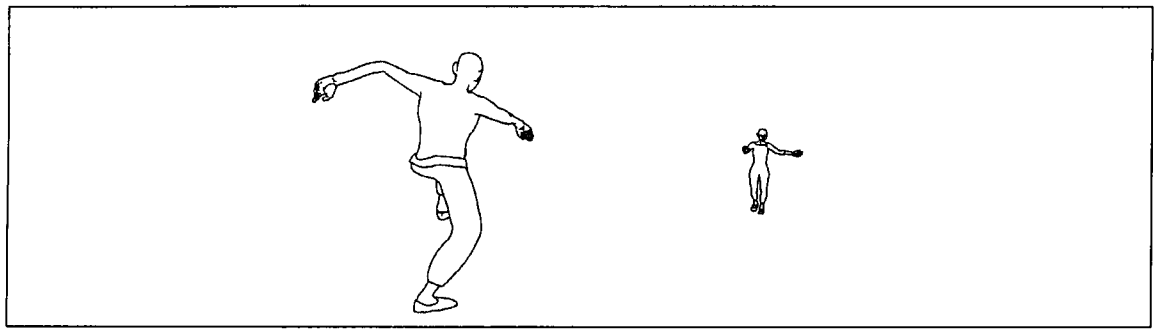


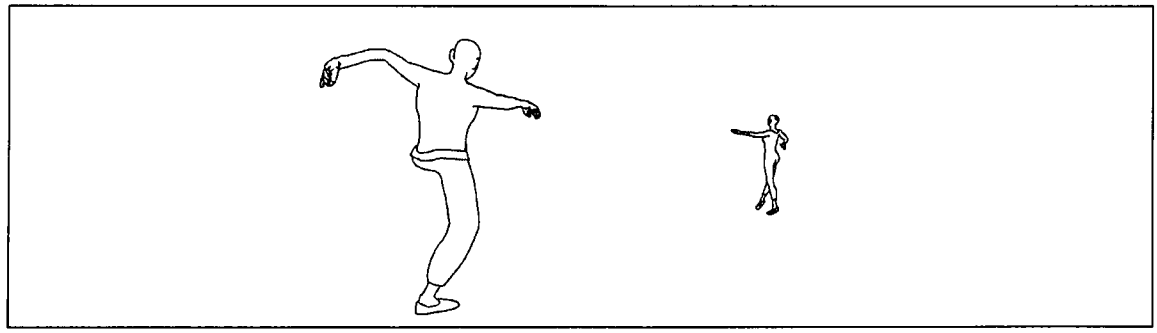
Camera Movement	Track in
Duration	12sec
Transition	Fade Out

Scene2 shot1



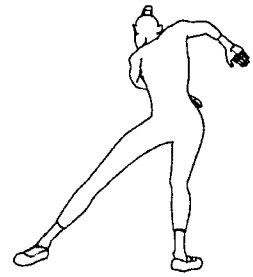






Camera Movement	Track in
Duration	10sec
Transition	Fade In

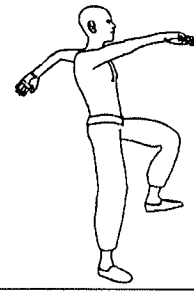
Scene2 shot2

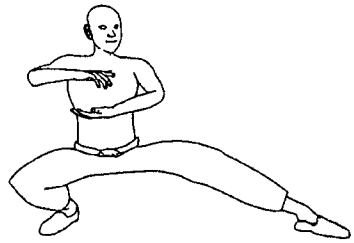


Camera Movement
Duration

Slightly track in
2sec

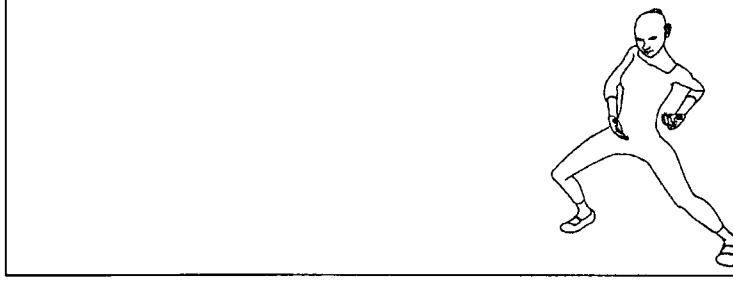
Scene 2 shot3

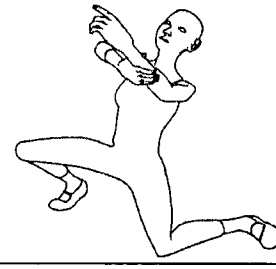




Camera Movement — Track left
Duration — 5sec 26

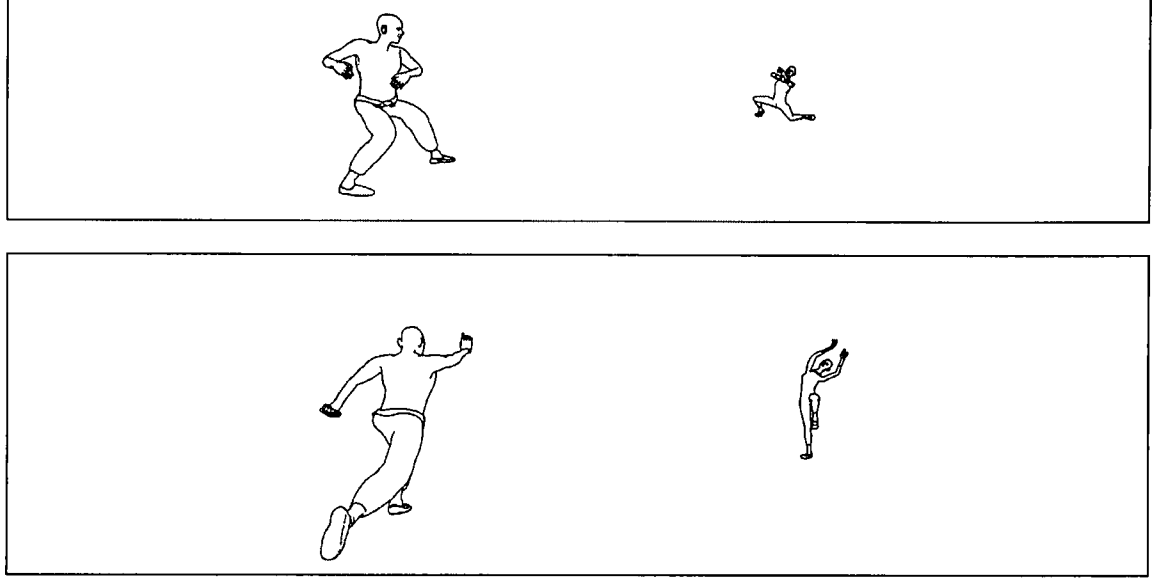
Scene2 shot4





Camera Movement Track in
Duration 1sec 15

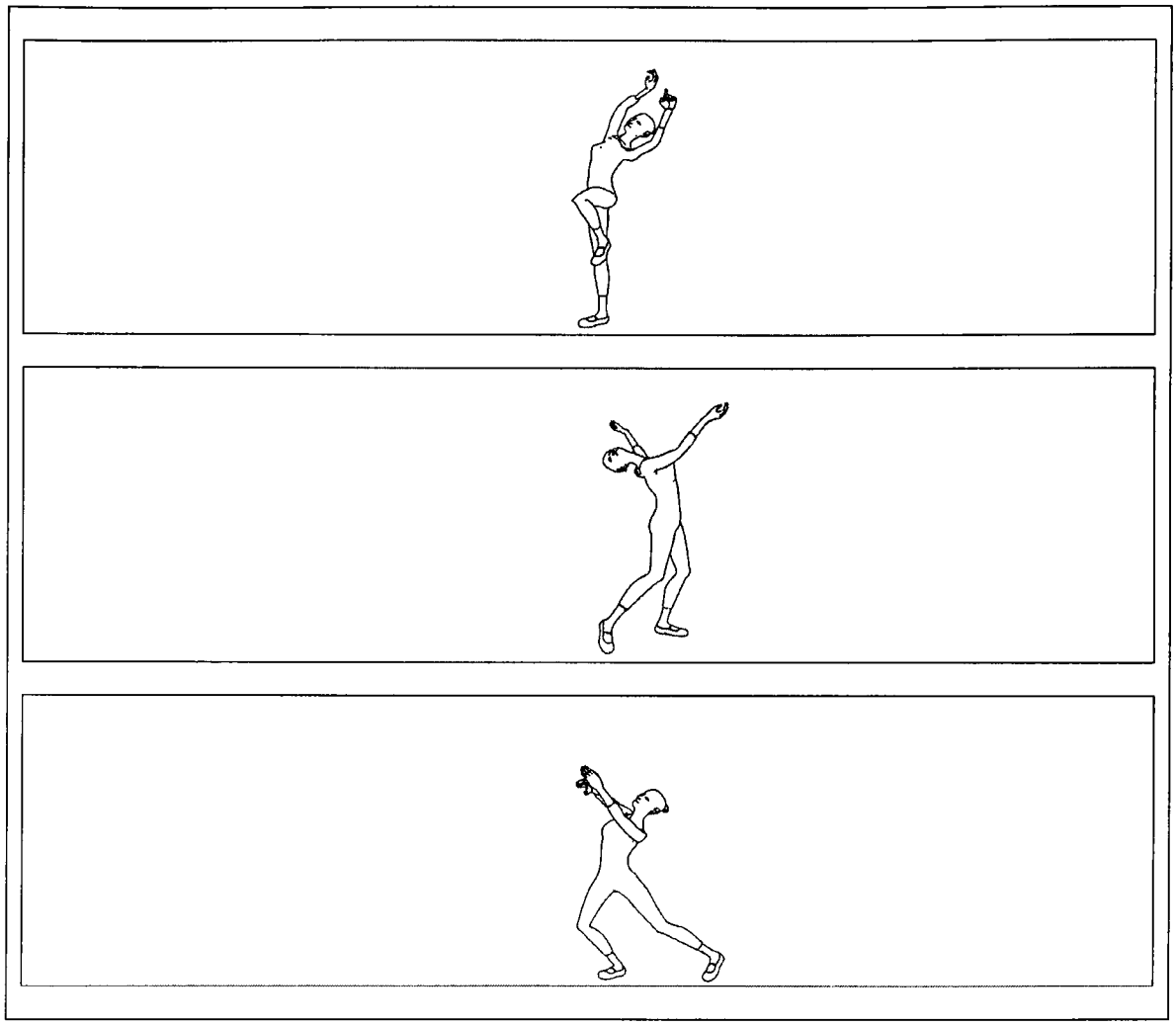
Scene2 shot5



Camera Movement
Duration

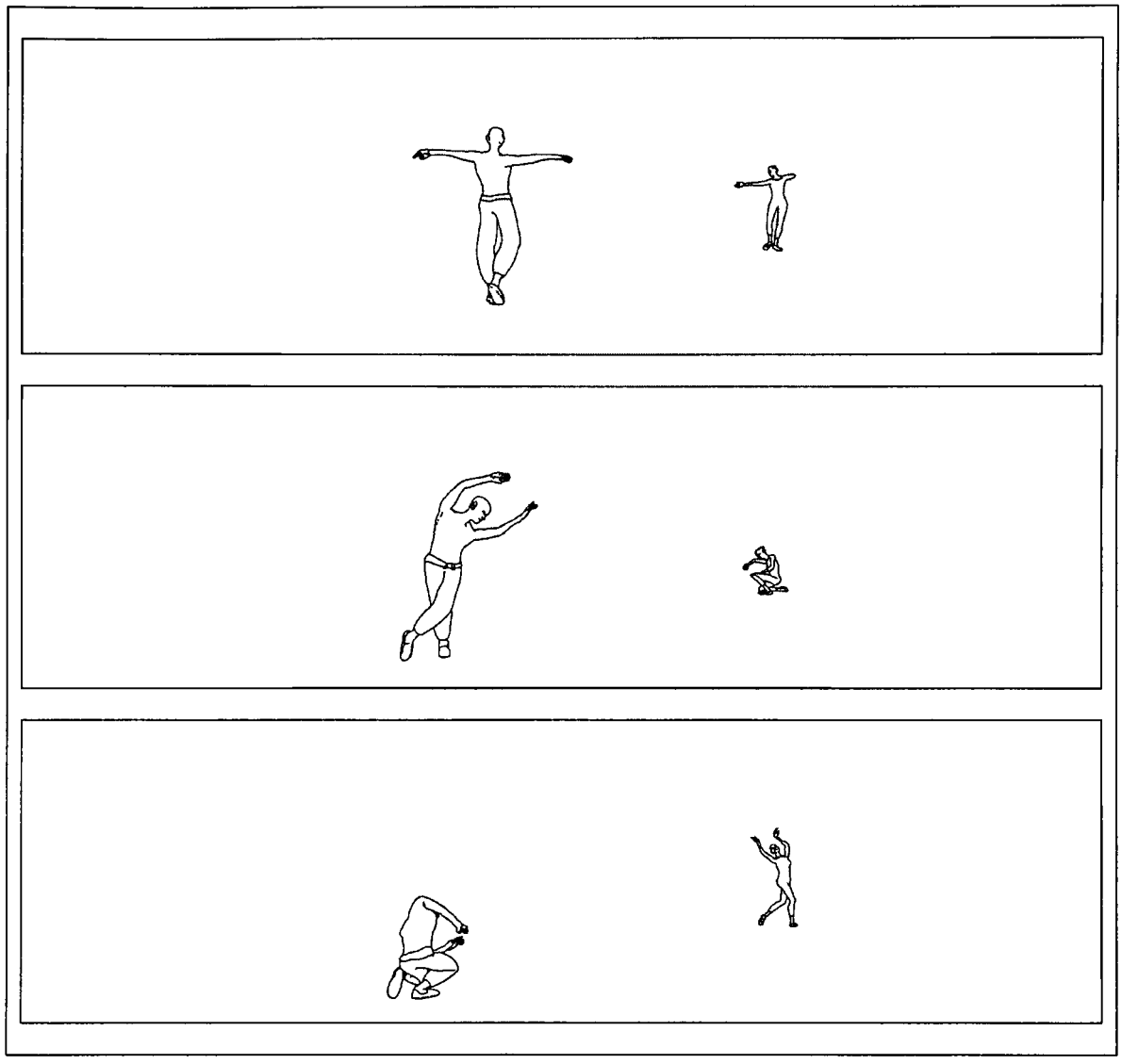
Slightly Track In
4sec 15

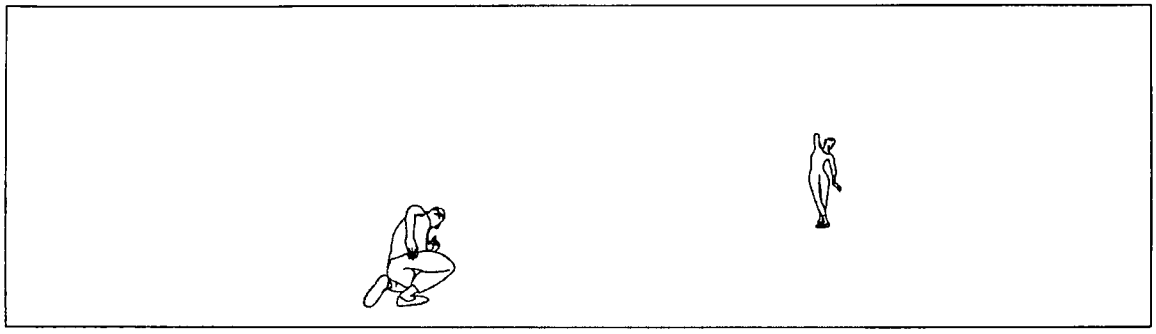
Scene2 shot6

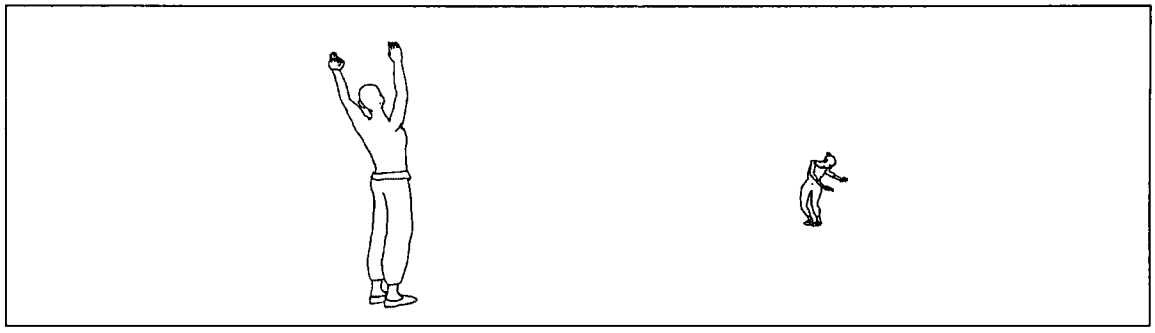


Camera Movement — Slightly Track In
Duration — 25sec 9

Scene2 shot7







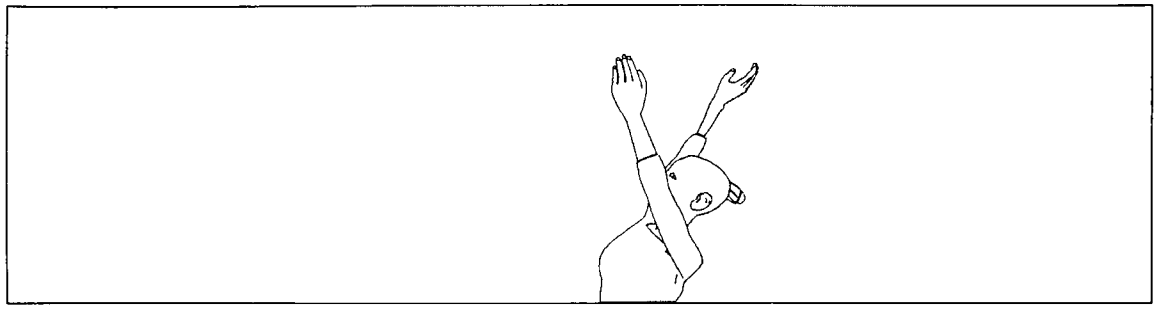
Camera Movement: Slightly Track In
Duration: 14sec 4

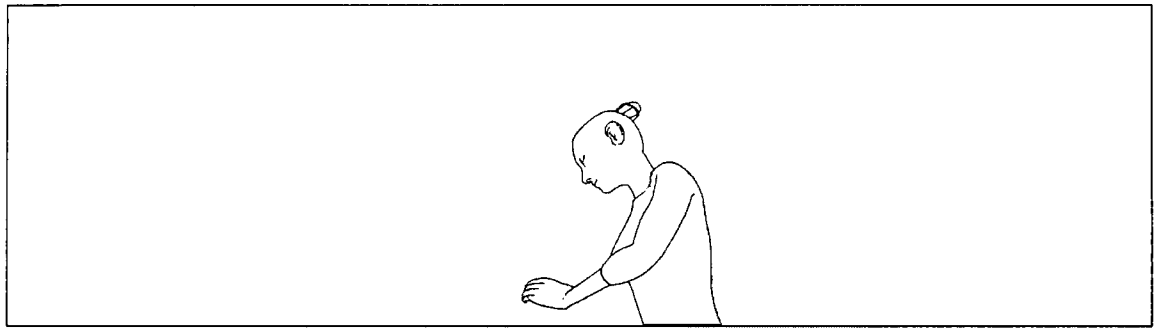
Scene2 shot8

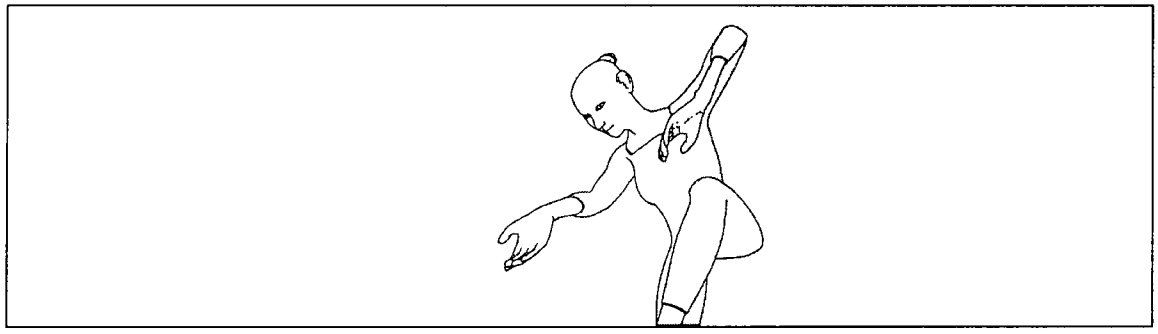
Camera Movement
Duration

Slightly Track In
9sec

Scene2 shot9



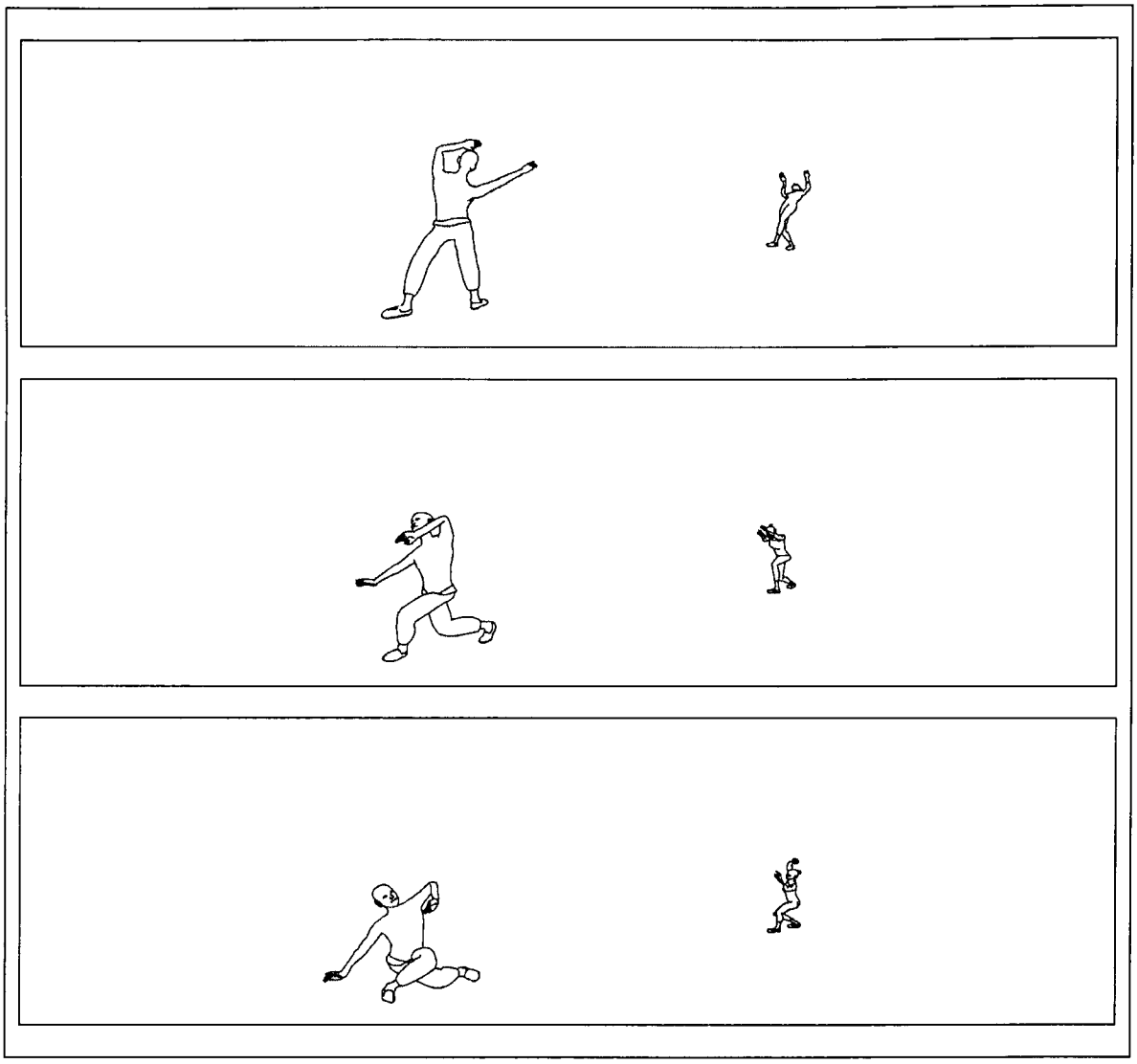


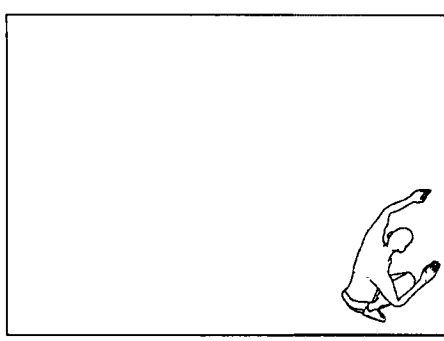


Camera Movement
Duration

Slightly Track Out
4sec

Scene2 shot10





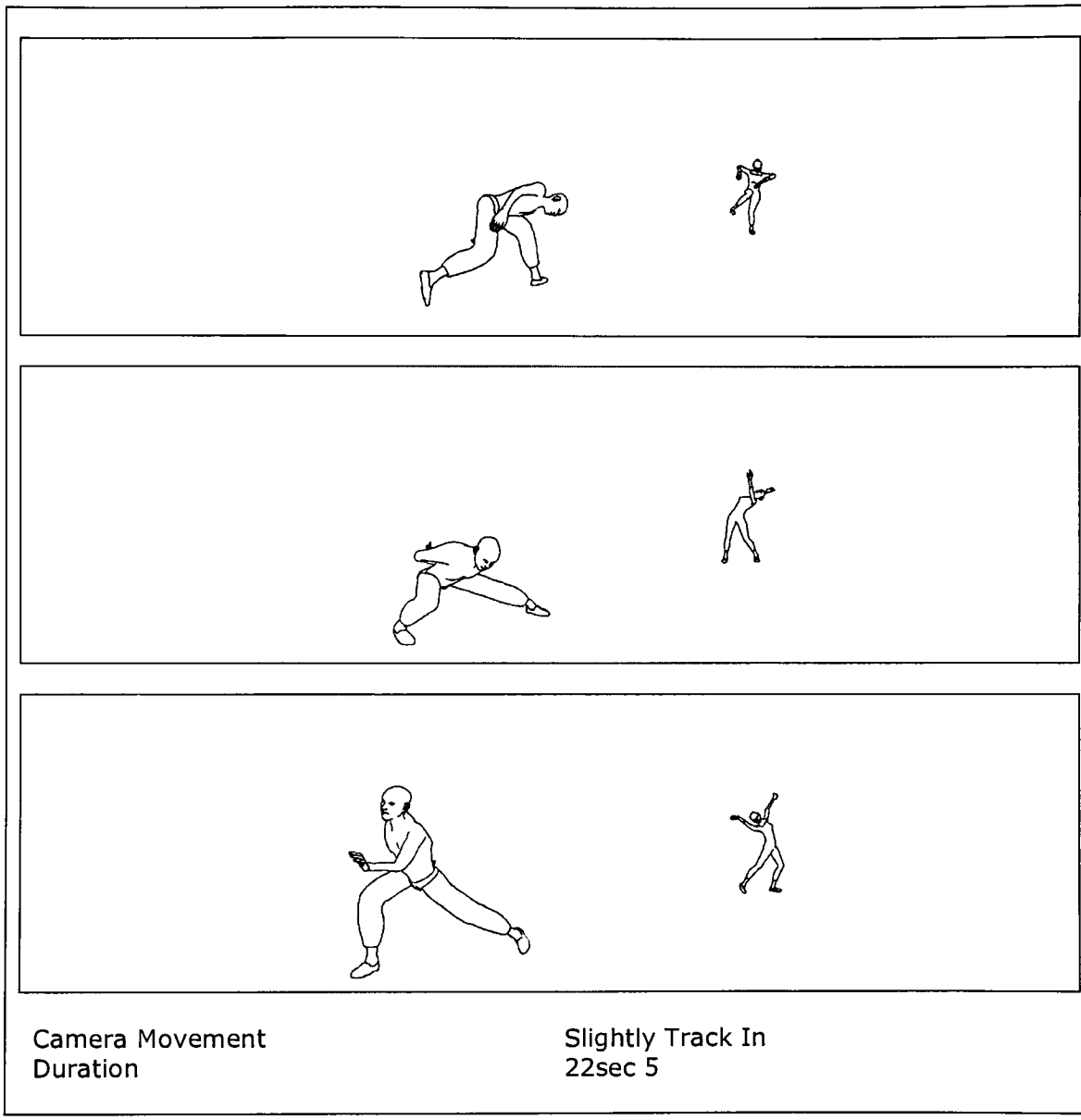
Camera Movement
Duration

Slightly Track In
10sec 8

Scene2 shot11

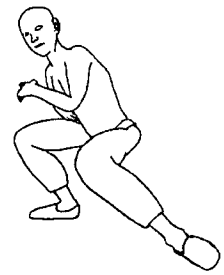
Camera Movement — Slightly Track In
Duration — 7sec 13

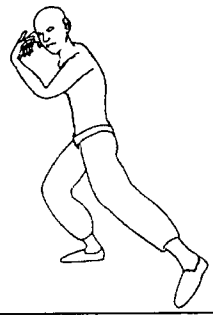
Scene2 shot12



Camera Movement: Slightly Track In
Duration: 22sec 5

Scene2 shot13



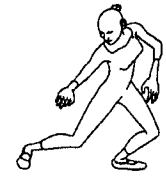


Camera Movement
Duration

Track Out
9sec

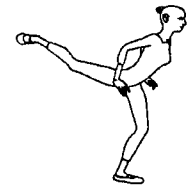
Scene2 shot14

1



2

3

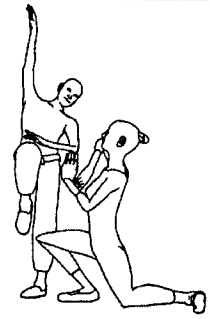


4

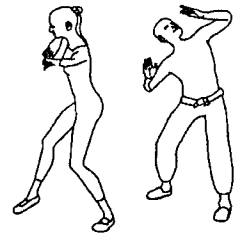
Camera Movement
Duration

1-2 Track Out, 3-4 Slightly Track Out
13sec1

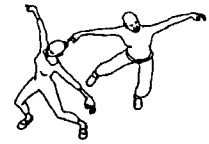
Scene2 shot15



1



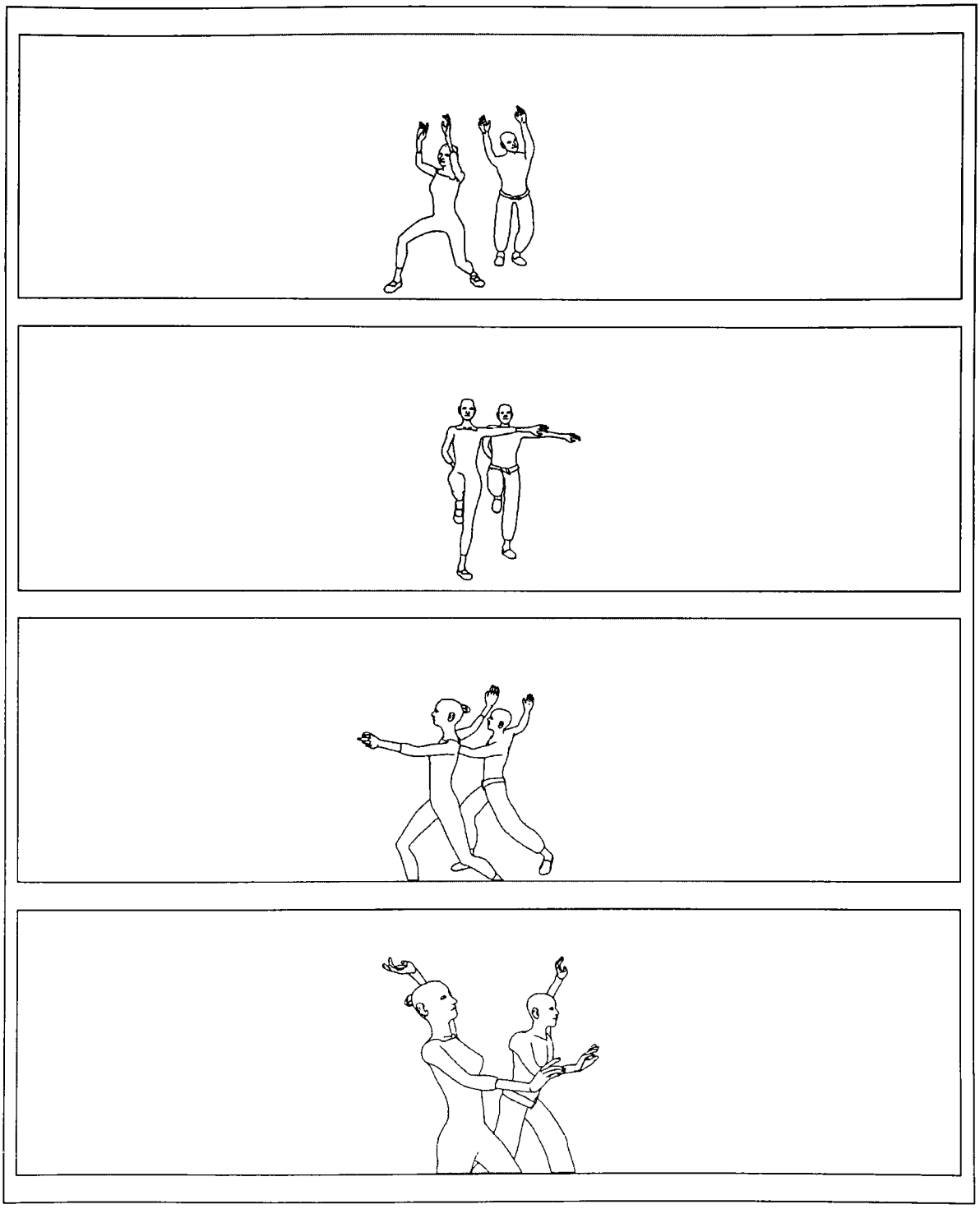
2

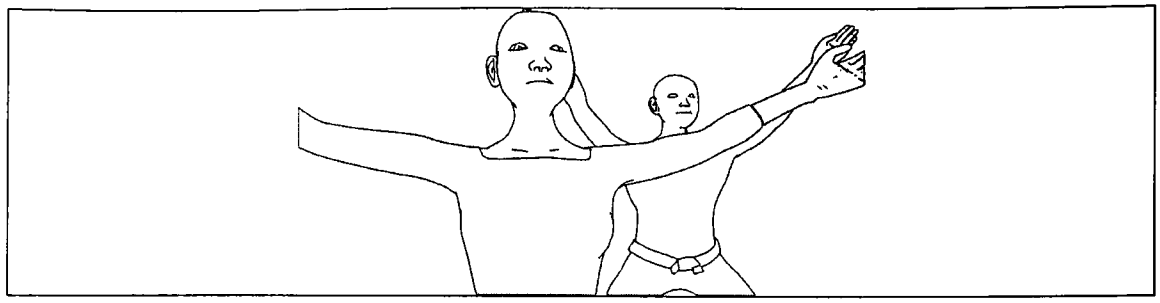


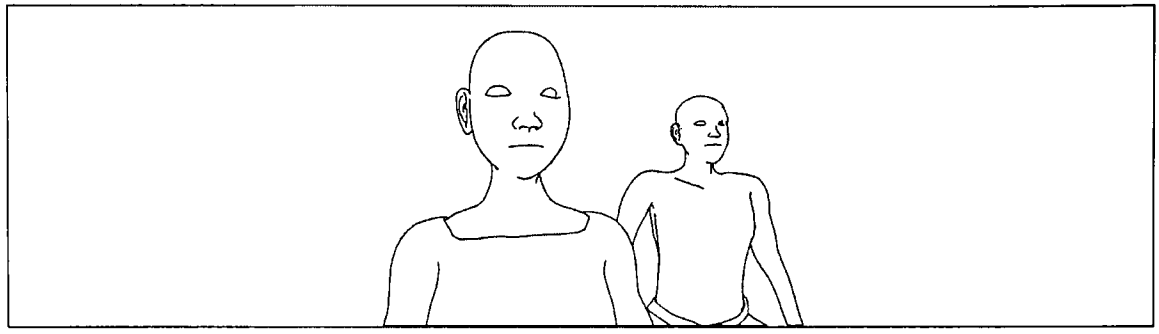
3

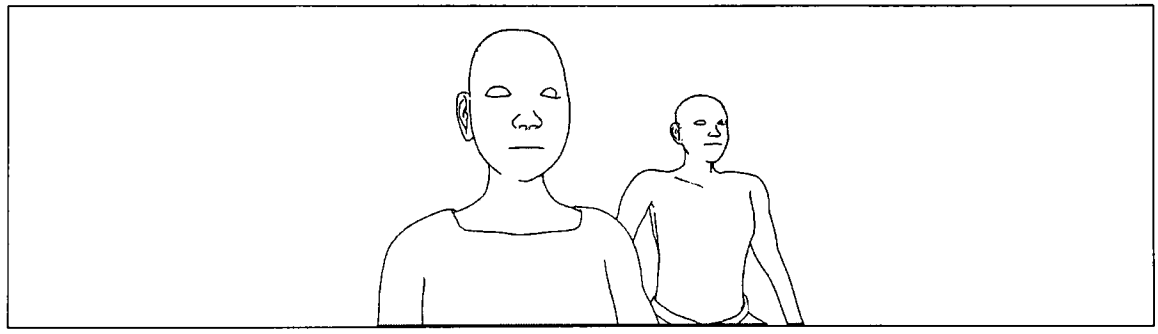
Camera Movement	1-2 Track Out, 2-3Tilt up
Duration	15sec 2

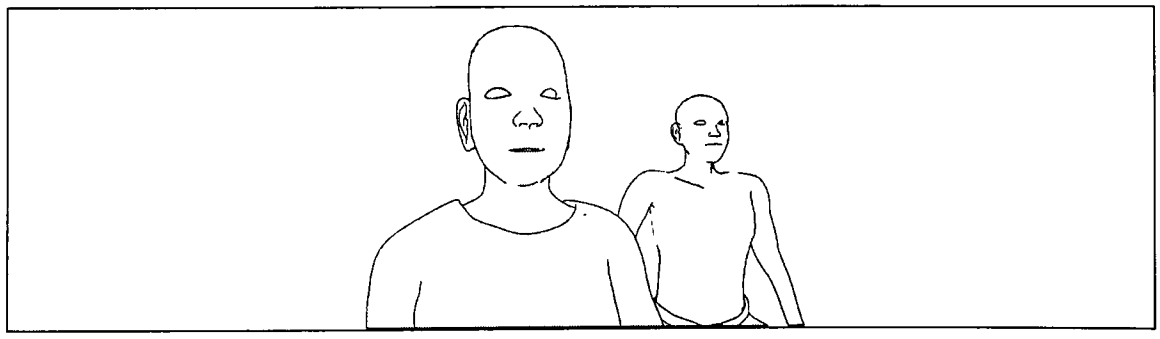
Scene2 shot16







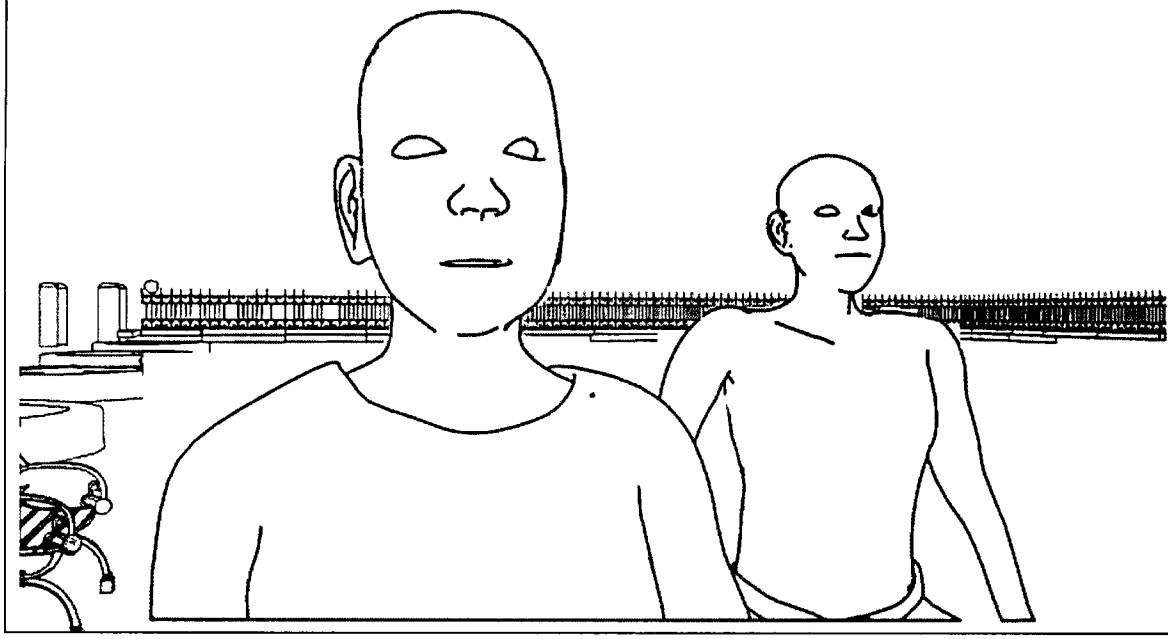




Camera Movement
Duration
Transition

Track In
31sec 3
From virtual stage morph to the park

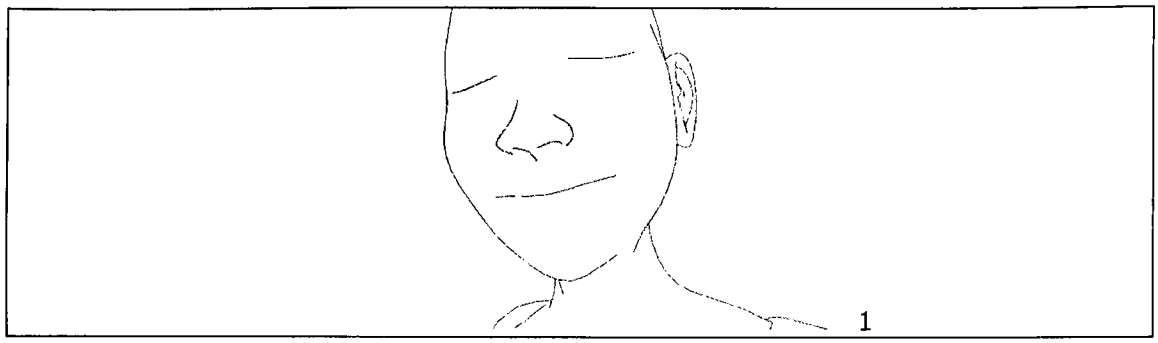
Scene3 shot1

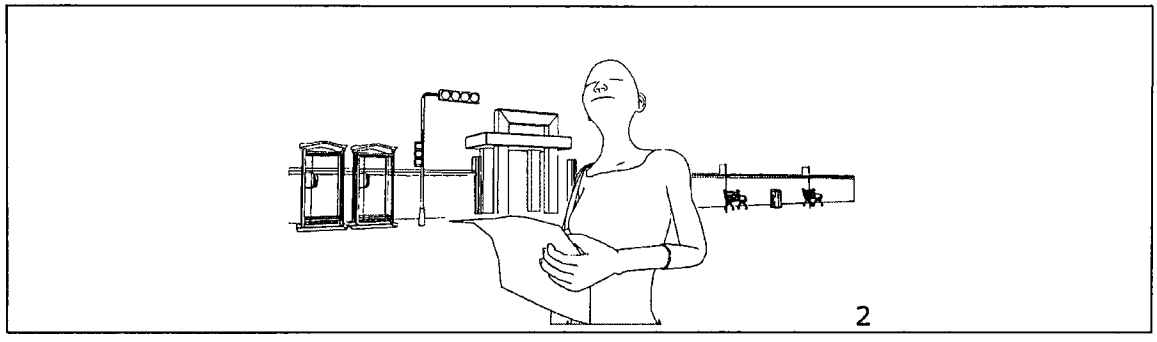


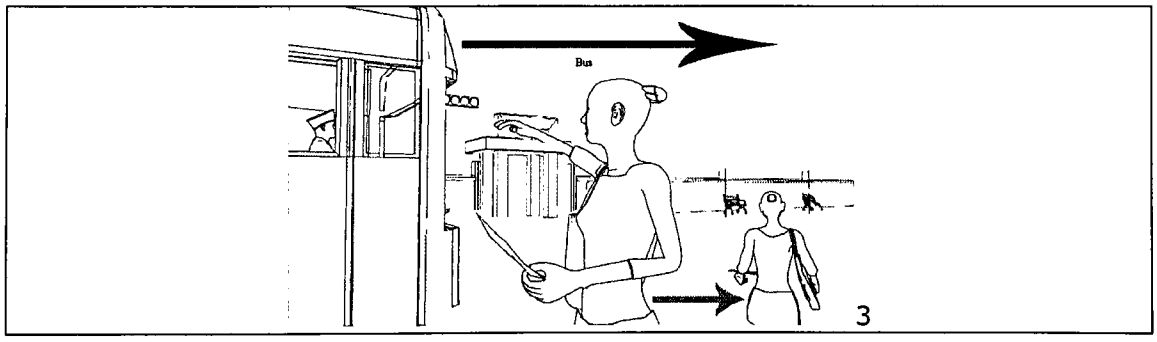
Camera Movement
Duration

Slightly Track In
1sec

Scene3 shot2

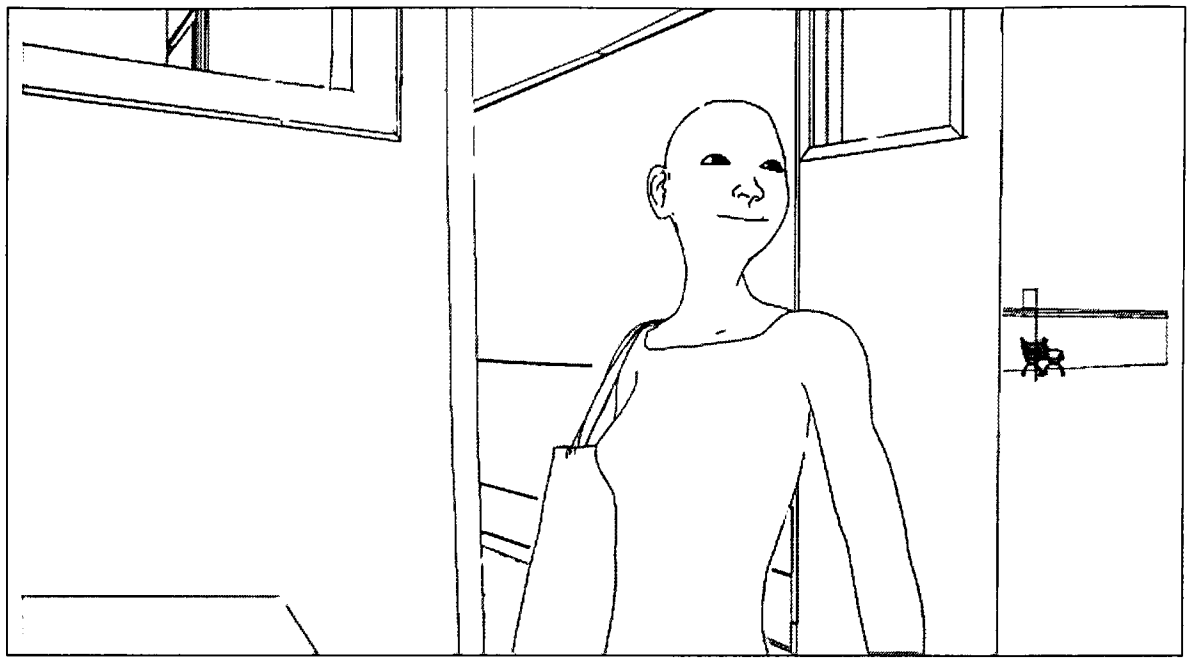






Camera Movement	1-2Track Out, 3 Track In
Duration	9sec 6

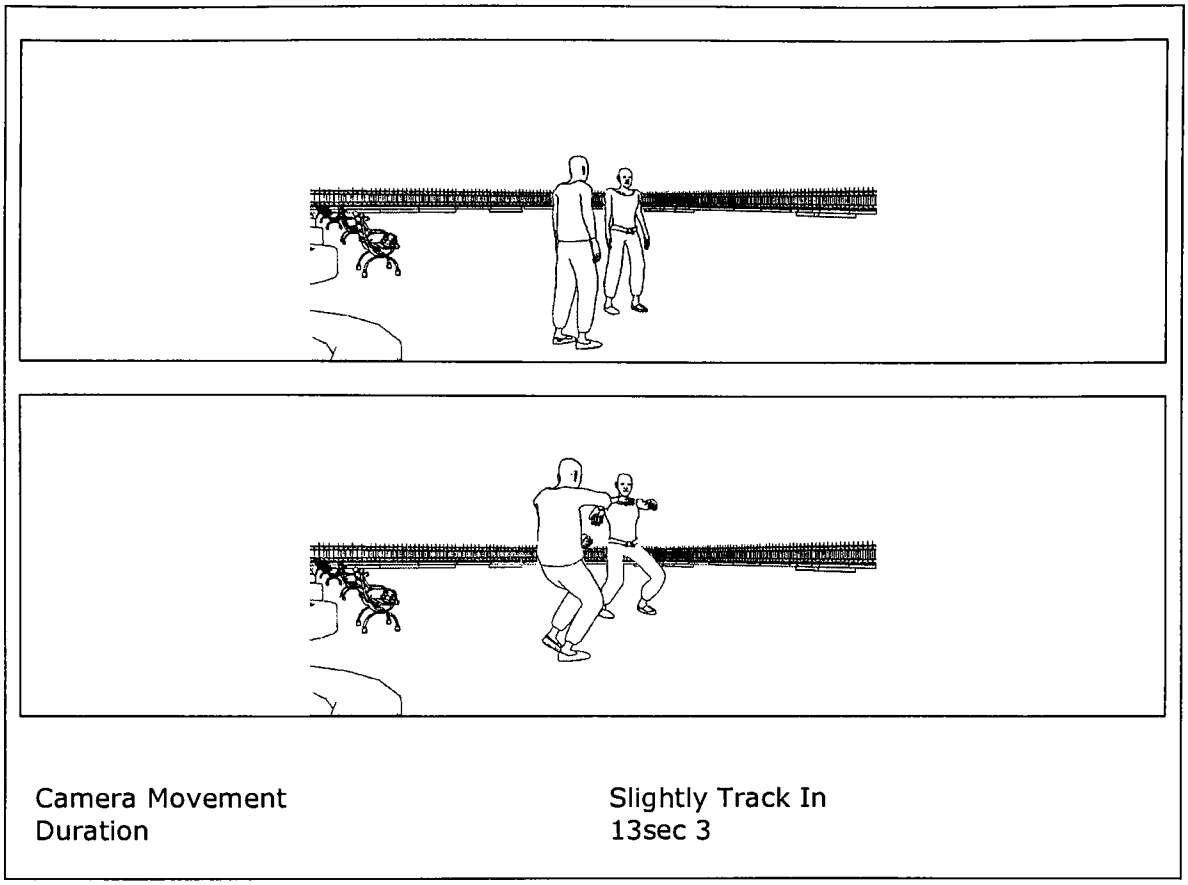
Scene3 shot3



Camera Movement
Duration

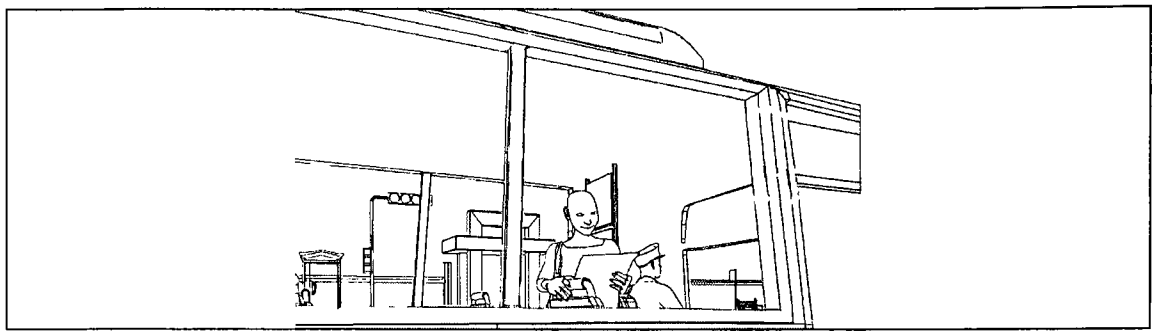
Slightly Track In
3sec 4

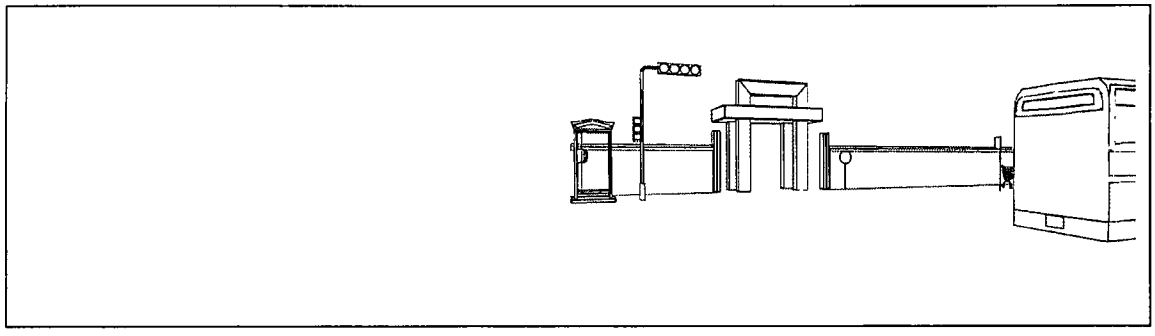
Scene3 shot4



Camera Movement: Slightly Track In
Duration: 13sec 3

Scene3 sho5





Camera Movement	Track Out
Duration	7sec 6
Transition	Fade Out

Appendix C (Color Prints)


Inspiration
Wan-Chun Lee