Exploring the relationship between timing and acting in 2D animation
through the action of animated character

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Abstract

Timing is a vital factor of animations. Through different producing approaches, timing can be performed by various form of expression, especially in 2D animation. The rhythm of 2D animation is based on frames. The pose of key-frame and the frames between two key frames directly affect timing of the performance of character and camera language.
In this folio, I will explore the relationship between timing and animated character acting in 2D animation. The outcome will be performed by an 2D animation.
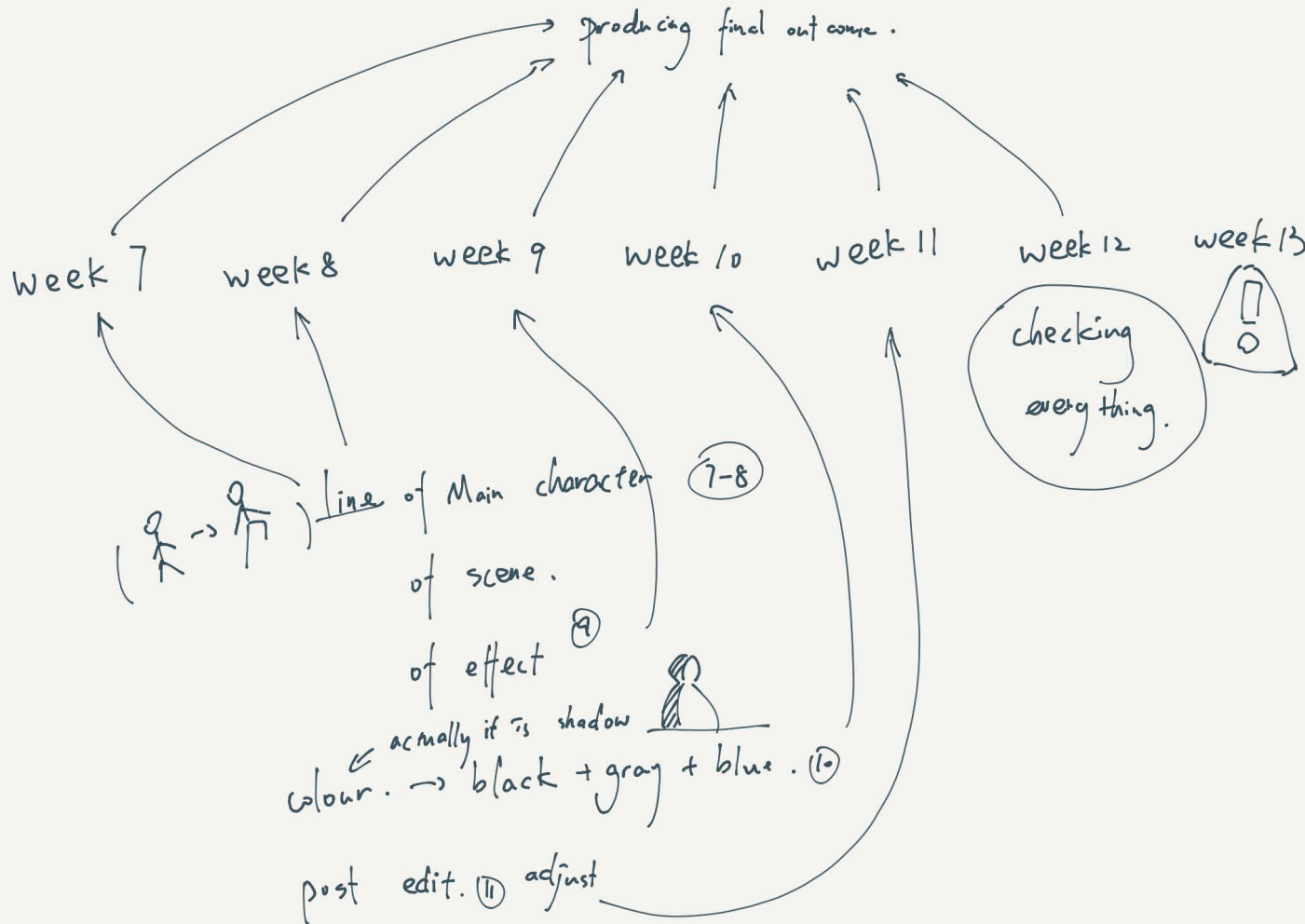
Keywords

Animated rhythm; Timing; pace; action.

MEETING 4: REFLECTIVE ITERATION 1

> **REFLECTIVE ITERATION** or Stop, start, continue

The work of Folio 2 is mainly to complete the remaining work of folio 1 and continue to explore and study in deeper animation field. In the previous weeks I focused on conceptual design, including characters, scenes, basic storyboards, and some tests.

The major works in following weeks is continuing to explore the use of timing and the pace of a character in animation through an animated short film.

producing final out come.

week 7   week 8   week 9   week 10   week 11   week 12   week 13

checking

every thing.

(👤 → 🪑) line of Main character (7-8)

of scene.

of effect (9)

actually it is shadow

colour. → black + gray + blue . (10)

post edit. (11) adjust

This is a plan drawn in week 7. It is a rough plan, and I did not follow the schedule because I spend too much time on the key frames.
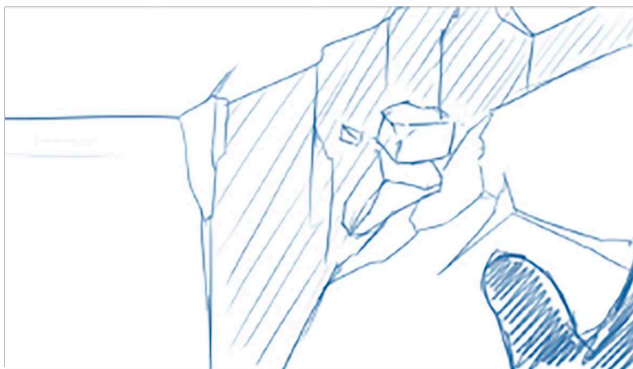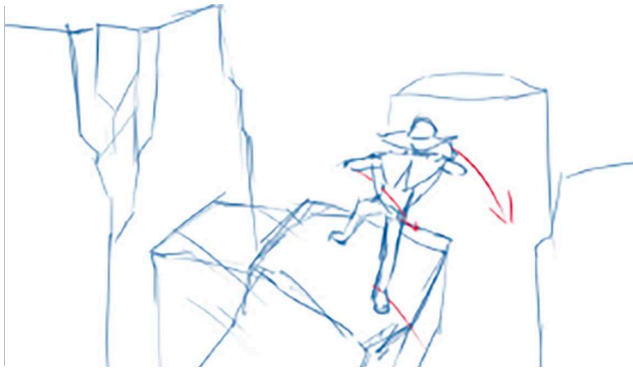
The focus of this meeting is mainly on the revision and refinement of the storyboard. There is a problem that the story is too dull, so I consider to improve the storyline. This story is about a metaphor to my learning process. In the process of learning animation, I constantly encounter difficulties and solve the problems of reaching a new level. But in fact, there is no destination for studying. When I achieve a goal, there will still be a further goal which needs to be achieved. In the storyboard of the first edition, the protagonist run all the way to the end. However, because there are no outstanding difficulties affecting the protagonist, the plot is monotonous. While the character has been running, the environment has not put pressure on the protagonist, and there is no interaction. After Kate's suggestion and advice (thanks Kate), I intend to re-edit the process of the protagonist approaching the goal. For example, the road to the destination could be unstable. The protagonist may be in danger during approaching to the destination. This can make the animation's timing more compact and more dramatic. So, I made changes to my storyboard.

In the improved version, when the protagonist took the first step, the ground began to crack. Then the protagonist has to keep balance and run forward, otherwise he might fall off the cliff. This is a motivation that can improve the storyline clear . so that the audience will not be confused about why the protagonist wants to run. I modified many times during the process of the storyboard. In the last edition, I add several details. For example, when the ground is cracked, the protagonist cannot stand on the shaking ground. This is a detail based on the role setting. The protagonist is a trainee wizard, not a magician who masters magic. So he may not adapt to the harsh environment very quickly. At the same time, this also reflects the experiment of my study. When I study into contact with a new conceptual idea, or a new way of painting, or even a new painting software, it always confusing in the beginning. I need some time to adapt to these challenges as same as the protagonist. When the protagonist jump to a platform, he did not stand on the platform, but fell. Then in the process of falling, he tried his best to grab the rock's edge to avoid falling.

Here is another detail that I added. When the protagonist grabs the rock's edge, he will take a deep breath. This is a mood that is joyful but scary after a dengues. When the story go to this time, at first I wanted him to climb up the rock wall and start running again. But the story will become very dull again, so here the rock will be loose and the protagonist will fall off again. When the character falls second time, he will turn to a cat to continue running. Because the character is an anthropomorphic cat, so I think that when he is in danger, the quickest response should be his original species.

A conceptrual poster

Mood-board related work
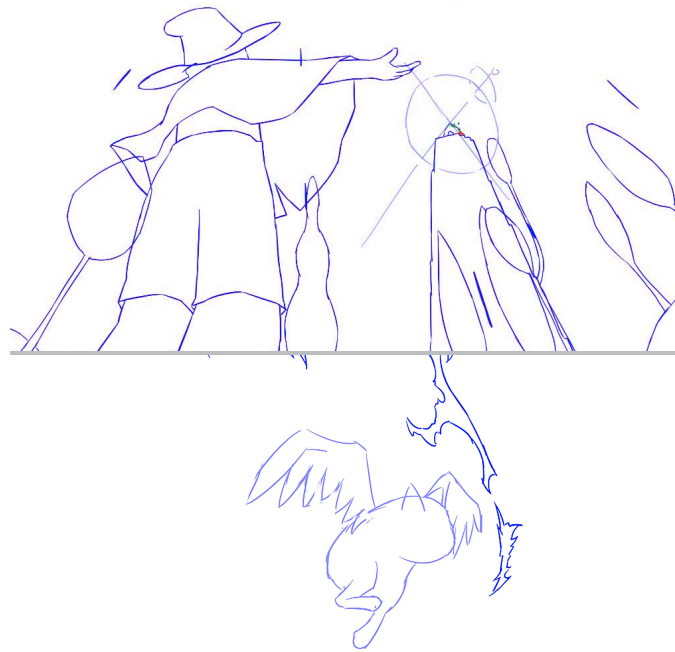
The protagonist has fallen twice here, but the destination is in the distant mountains. If he continue to run, the story becomes a bit illogical, so I add a bird's transformation animation. Similarly, as a beginner, the protagonist can't handle the deformation movement completely, so the bird he turn into retains the cat's limbs, like a cat with wings. Because the bird's deformation is very difficult for the character, he reverts to his original appearance while flying.

Finally, when the protagonist crossed the cave on the mountain, a place similar to the portal, he reach a new world. But when he opens his eyes, he finds that there is another cave in the distance. The cave here is similar but not identical to the first cave. The clue I set here is to compare the process of learning which is also endless. Sometimes I feel that I spend tremendous effort but still in the same level. Although it is frustrating, maybe I didn't realize that I had accumulate a lot of experiments. When you reach a certain level, you may find new challenges. Finally the protagonist continues his challenge.

MEETING 5: REFLECTIVE ITERATION 2

> **REFLECTIVE ITERATION** or Stop, start, continue

The process of animation is a huge workload, but it also brings great satisfaction to me. At this period, I mainly focus on the performance of the character. This animated short film uses a lot of perspective and motion shots, so the key-frame drawing is the first challenge I have to confront . Since the magnitude of the action is very intense, a pose may have to be modified many times. By making this animation, I understand the use of timing in animation. For example, a running animation, initially I used the pose to pose method. However, I found that this running animation was very flat and did not achieve the expected results. Because the character's movements lack strength, the animation does not reflect the harshness of the environment, nor does it reflect the process of the character's efforts in a dangerous environment. Then I refer to the video material from YouTube and Google. By applying the basic animation principle, while increasing the range of the character's limbs, exaggerating the extent of certain limit poses can greatly improve the dynamic effect of the character. Straight ahead drawing is more reliable to express the exaggeration of animation and the power of extreme action. The re-edited movement is much smoother and more powerful than the previous one.
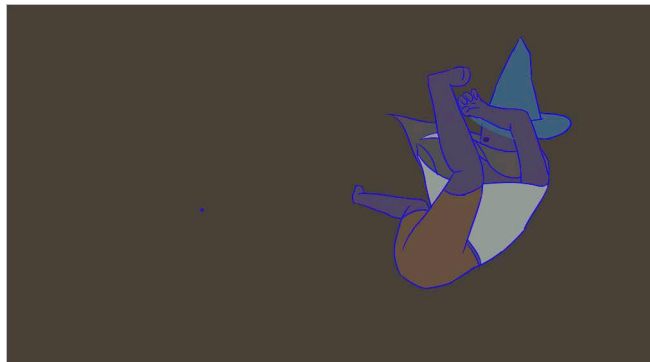
This is the video which shows how to draw that cats flip down.
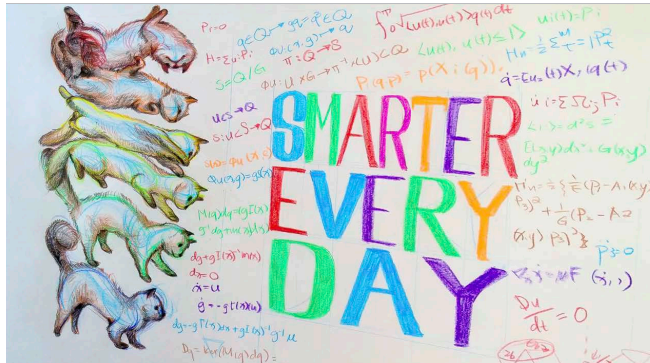
This is the video which shows that cats flip down.

This is the character's action in my animation.

I encountered a difficulty in the week 9. The character falls off the rock twice during the animation. If I draw with the same motion, the animation might become very boring. I didn't find related video material, and it was very difficult to rely on imagination. My progress this week was very slow, and I even had some frustration. However, during the rest on Sunday afternoon, I suddenly realized that adding some character featured movements to the character would definitely improve the performance. My character setting is a humanoid wizard cat, so he has the biological characteristics of a cat. So it took me 2 hours to find video material about cats on YouTube. After two hours of hard work, I found a video material about the cat's whereabouts. In the video, a cat slid from the air toward the ground during the experiment. Of course, the experiment was protected, and no cat was injured in the experiment. The cat can make a very quick turn in the air. This gave me a lot of inspiration. Based on the actions in the video, I successfully completed the second character drop animation.
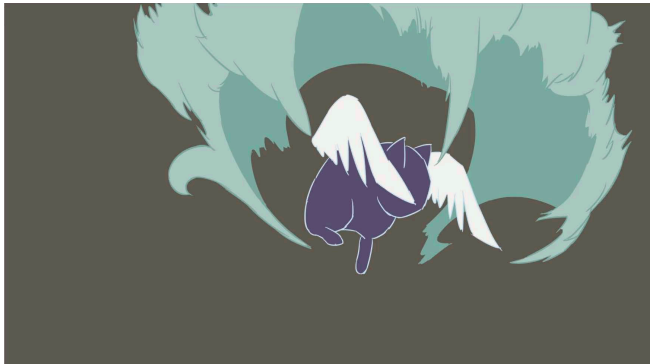
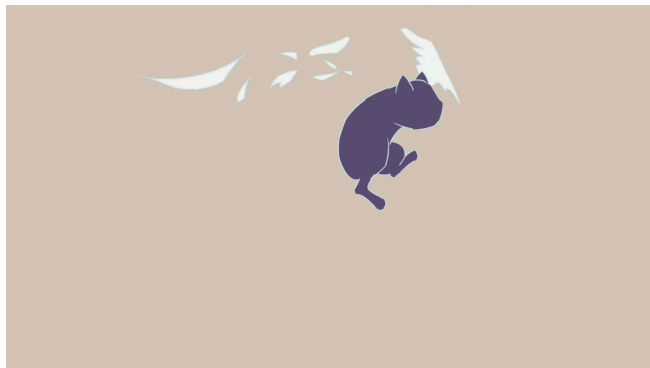## Mood-board related colouring stuff

This is the tested frame for colouring.

This is the transform to a cat with wings.

This is how the character lose his transformation.

In week 10, I continued to draw the animation and started testing the colour. The process of colouring is more efficient than I expected, which mainly based on the features of TVPaint. Through the production of this project, I am more skilled in the use of tvpaint. I think the best approach to learn a software is to actually operate in a project. I may encounter some difficulties during the operation, so I can learn the skills of using the software from these difficulties, and understand its limitations. In addition, this week also continues to draw line drawings. The current difficulty is that I am not good at painting birds. Because of the need of the story, the character needs to be transformed into a bird. It took me a long time to observe the movements of the birds and also to find the material online. When making this part of the animation, I often think about how to embody the role of the novice side. When I was at lunch on Thursday, I suddenly thought that if the character could not complete the deformation during the deformation process, it would definitely add interest to the character's performance. At the same time, through incomplete deformation can also reflect the lack of mastery of the character. At the end of the morphing animation, Kate mentioned that if the character slowly loses its deformation effect instead of changing back to the body at once, it can increase the drama of the performance. This program is very effective.
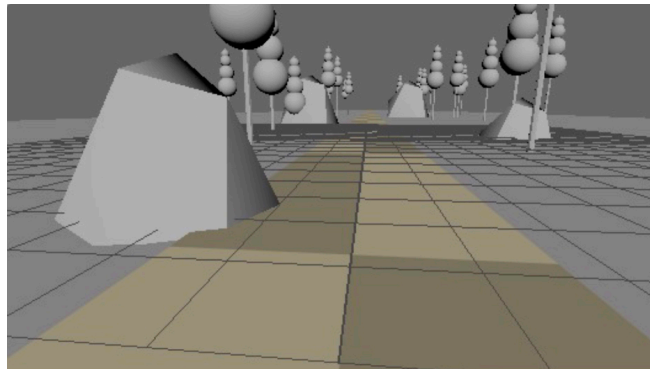
This is the facial expression when he see another cave on a mountain.

This a in-between frame in the second falling

This is a simulation as a reference for a camera movement.

The final weeks are the part of in-between and colouring. Drawing in-between is a boring but indispensable process. In order to make the animation more smooth, the animator needs to add frames to the animation under limited conditions. At the same time, sound is also a very important part of animation. However, due to time constraints, finding the right sound material becomes very difficult. In addition, when the animation was completed, I found many shortcomings. For example, at the end of the story, when the character discovers that the journey of adventure is going to be done again, the helpless expression that is displayed does not fully express the mental state of the character. This is because my experience with animation is not enough, and I did not find the problem when I checked the action. But this also brings a lot of experience to me.

MEETING 6: CONCLUSION

> **FINAL REFLECTIONS** and lessons learned.

After six weeks of study and exploration, my understanding of animation has improved to a higher level. Producing 2D animations is a challenging task. Several problems I didn't realize before in the process of making this animation. For example, the importance of storyboards for animation. The storyboard is the core to control structure of animation. When I drew in-between in the eleventh week, I found a few of movement problems. Since I didn't fully consider and redefine the storyboard, this flaw became unsolvable. In further project, I need to pay attention to the understanding of the storyboard.
In addition, when drawing the key-frame, I re-understood the use of timing in animation performance. Due to the limitation of the number of frames, the selection of key frames becomes very difficult. 2D animation is especially noticeable in this respect than 3D animation. A wrong key-frame, or an inaccurate key-frame, can affect the speed of the entire animation and the power of the character. At the same time, in order to ensure the smoothness of the animation, you need to add more frames in the middle of the key-frame. This adds a lot of cost to animation. In the next semester, I will explore the performance of timing and animated characters in 3D animation.

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