



Creating stylized and believable 3D character animations for a feature animated production using 2D backgrounds

GRADUATION REPORT



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ABSTRACT

The following graduation report will focus on the student's research regarding the animation of 3D characters in a feature animated movie. The objective is to achieve a stylized yet believable movement that seamlessly integrates with 2D background in a film, animated at a frame rate of 12fps. The topic will be divided as follows: previsualization techniques for blending 3D characters with 2D backgrounds, the 12 principles of animation and advanced acting techniques finally, achieving an efficient workflow during a production. Drawing upon gathered theoretical knowledge, the report will present several prototypes that will be tested, iterated, and evaluated to meet the desired animation quality required for the movie. All of them will be presented in an interactive book using Unreal Engine 5.

KEYWORDS

2D and 3D animation, Autodesk Maya, creature animation, acting, reference, 12 principles of animation, previs

INTRODUCTION

The movie

'Benjamin Bat' is an animated coming of age story about a young bat, who is afraid of the dark. He is small and not very brave, which causes his family to hold a low opinion of him. However, life takes an unexpected turn when Benjamin falls in love with Sherida, a tropical songbird, despite the fact that birds are bats' sworn enemies. In order to win Sherida's love, he has to stand up to his family and overcome his fears (The Storytellers, 2022).

The movie is directed by Patrick Raats and co-directed by Sarah Sutter. It is written by Karen van Holst Pellekaan, based on an original idea by Errol Nayci and Karen van Holst Pellekaan. It is produced by Errol Nayci and Julia Ton and co-produced by Zeilt Productions (Laurent Witz and Emmanuelle Vincent) and Il Luster (Arnoud Rijken and Michiel Snijder). The art direction is done by Moldybyrd Studio and the 3D CGI production is made by Capybara Animation. The movie is set to be released internationally in the spring of 2024 (The Storytellers, 2022).

The unique selling point of the movie is the integration of 3D characters and props into 2D backgrounds, which makes the viewer question if they are watching a 2D or 3D animated movie. Some key elements of the design for the movie are angular and expressive shapes, as well as bold colors (Figure 1).

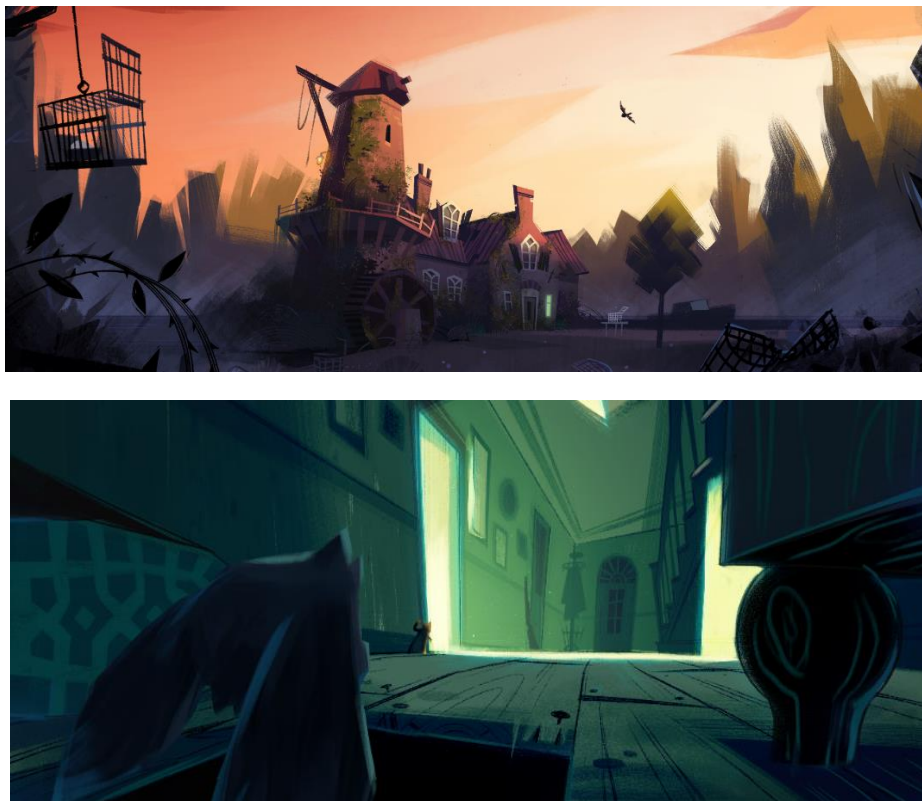


Figure 1. Concept art by Moldybyrd

The characters

The majority of characters featured in the film are animals, including bats, various bird species, and rats. The researcher's primary focus will be on showcasing only the characters they worked with during their internship period.

Benjamin, also known as Benji, is the main character of the movie. He is shy and easily frightened. However, when he feels strongly about something, his true emotions come alive, and he becomes

animated. It is noteworthy that he harbors an uncommon fear of the dark, which is unusual for a bat. Additionally, Benjamin has a deep passion for singing, despite facing rejection from his siblings for this particular interest. The character can be seen in Figure 2.



Figure 2. Benjamin

Sherida (Figure 3), the romantic interest of Benjamin, is a vibrant and colorful songbird with a joyful personality. She possesses a remarkable ability to befriend anyone and excels at bringing people together, but she hesitates when it comes to forming personal connections. Her greatest aspiration is to win the singing bird competition and utilize the prize money to accompany the elderly woman who owns her family back to their sunny homeland. Unfortunately, her singing abilities leave much to be desired.



Figure 3. Sherida

Radley (Figure 4) possesses a very positive demeanor and engages in daily cheese heists to support his family and, perhaps, to find respite from his beloved yet domineering Ms. Radley. Regardless of his motivations, when Radley encounters the timid Benjamin, he eagerly seizes the chance to show his 'street ways' to the young bat. With his charm and outgoing nature, Radley exudes a distinct and captivating personality.



Figure 4. Radley

Benjamin's father has a tough exterior, striving to maintain an uncompromising "drill commander" demeanor so he can avoid tenderness or vulnerability. This rigid approach defines his communication style with all of his sons. However, beneath the surface, he grapples with guilt and concerns for the welfare of his youngest son, Benjamin.

The three bat brothers are relatively close in age, with the eldest being exceptionally robust, even more so than their father. They share the belief that bats must avoid fear and vulnerability at all costs, as such traits could jeopardize their survival. They make concerted efforts to exhibit ruthlessness, portraying themselves as fearless bats who reign over the darkness. As the movie progresses, they consistently taunt their youngest brother, Benjamin, due to his gentle and tender nature. The family can be seen in Figure 5 (still not textured).



Figure 5. Benjamin's family

The company

Capybara Animation is an animation studio, based in Utrecht, The Netherlands. It was founded in 2022 by Sem Assink (Production Supervisor) and Lewis van der Werf (Animation Supervisor), after years of working on major Dutch feature animated films, as well as game productions. Currently, they act as the 3D CGI production of 'Benjamin Bat', which includes the modeling of characters and props, rigging and 3D animation.

The assignment

The student's assignment during the internship period at Capybara Animation will be to research and develop different animal animations for both the production's animation library, as well as shots for movie itself. These prototypes will be a natural continuation of the researcher's existing knowledge of body mechanics and will showcase more advanced concepts like acting and animal animation. The final approved animations will be presented in the form of an interactive animation book created in Unreal Engine 5.

The users

The research conducted during the graduation period will be targeted towards animators from any level who want to improve their skills and knowledge regarding 3D character animation. These might be people who are just starting out, or people who feel confident about their body mechanics knowledge but are unsure how to start with acting for animation.

PRACTICAL ANALYSIS

Throughout the history of motion pictures and the silver screen, animation has evolved greatly. The history of animated films is undoubtedly rich and constantly changing, ranging from stop-motion and claymation to hand-painted and digitally created figures (Rebekah Karp, 2022).

When Disney released 'Snow White and the Seven Dwarfs' in 1937 (Figure 6), the industry changed forever. Animated in 24fps, it is considered as the breakthrough of the modern animated feature, and it is reason why the studio became so successful. From 'Pinocchio', all the way up to 'The Lion King', 'Mulan', 'Lilo and Stitch', Disney's 2D animated films were dominating the box offices.

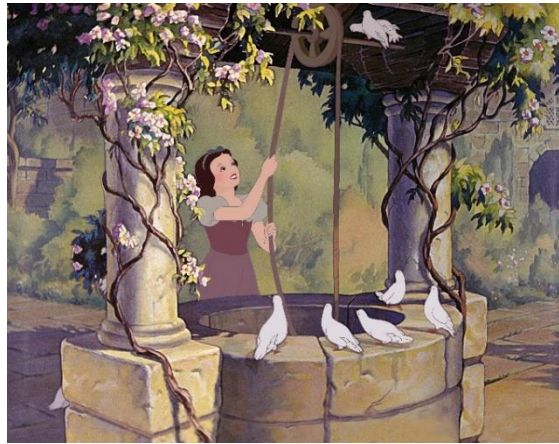


Figure 6. Snow White and the Seven Dwarfs (1937)

In 1995 however, with the release of Pixar's 'Toy Story' (Figure 7), traditional 2D animation techniques were getting overshadowed by computer animation, which became the dominant way for creating animation worldwide. Eventually even Disney had to close-off their 2D animation department (with their 2008 movie 'Princess and the Frog' being their last 2d animated movie), and switch to CG completely. The company even acquired Pixar in 2006 for 7.4 billion dollars, which really helped the company to stay competitive in an increasingly crowded CGI industry, with the top companies at the time being DreamWorks and Pixar (OpenAI, 2023).



Figure 7. Toy Story (1995)

From the early 2000s until 2018 3D animated movies dominated the box offices around the world. With advances in computer hardware, studios were striving to produce the highest quality CG movies possible, while also focusing on good storytelling with complex, character-driven plots that appealed to both adults and children. Some of the prime examples of 3D animated movies from that time are 'Finding Nemo', 'Up', 'Coco', 'How to Train Your Dragon', 'Ice Age', 'Tangled', 'Frozen' and 'Moana', who were great commercial successes, appealing to audiences of all ages (OpenAI, 2023). It is important to mention that during that period, the most prominent animation studios in the world

were Disney Animation Studios, Pixar Animation Studios, DreamWorks Animation, Blue Sky Studios, Illumination Entertainment and Sony Pictures Animation.

In 2018, a shockwave was sent throughout the industry, after 'Spider-Man: Into the Spider-Verse' was released (Figure 8). The movie introduced a new animation style that combined 2D and 3D animation techniques, resulting in a unique and visually stunning experience, that had a major impact on the animation film industry. The technique, called "comic book style," created a living, breathing comic book on the screen (Rebekah Karp, 2022). This new style has opened up new possibilities for animation and has inspired other filmmakers to explore and experiment with blending these two mediums together. Sony released another 2D/3D animated feature movie called 'The Mitchells vs. the Machines' in 2021, which further proved the need for a change in the animation film industry.



Figure 8. Spider-Man: Into the Spider-Verse'

Sony set a completely new trend of mixing 2D and 3D animation techniques with big and small studios trying to experiment with the blending and seeing how far they can push the two mediums together. A prime example of how big their impact was, is that even Disney is releasing its own take on this trend, with their 2D/3D animated movie 'Wish', set to premiere in 2023.

PROBLEM STATEMENT

Animation has a long and rich history. From mediums ranging from stop-motion, to 2D and CGI animation, the possibilities for creating new stories is endless. With the recent developments in technology and the 2018 release of 'Spider-Man: Into the Spider-Verse', there is an overwhelming demand for a change in the animation industry. This is why the directors and producers of 'Benjamin Bat' want to create a movie in which the line between 2D and 3D is blurred, and they can bring the artistic qualities of 2D backgrounds and the flexibility of 3D animation onto the big screen. By pushing the boundaries of what the two mediums can offer, they hope that they can set 'Benjamin Bat' apart from the mainstream animated content. However, seamlessly combining 2D and 3D elements poses a significant challenge, demanding animators to make not only artistic decisions but also navigate various technical aspects while animating a scene.

RESEARCH QUESTION

How to create animations for 3D characters, in order to achieve a stylized, but yet believable movement that translates well with 2D backgrounds in a feature animation movie, animated in 12fps, that will be presented in an interactive book using Unreal Engine 5?

Sub questions

1. How to convincingly blend CG characters with 2D backgrounds?

2. What are the main characteristics of traditional 2D animation and how do they translate to CG, in order to achieve believable body mechanics and acting performance?
3. How to achieve a sufficient animation workflow in a feature animated production?

SCOPE

Deliverables

The final deliverable will be an interactive animation book made in Unreal Engine 5, showcasing all of the director-approved animations created during the course of the internship. The person who views the book will be able to flip through it by pressing on their screen, but also play the animations in full screen mode by pressing different keys on their keyboard.

Inclusion

The book will include 12 previs shots, six animated shots and four Studio Library animations, created inside Autodesk Maya.

The book will be created using an asset from Unreal Engine's marketplace as a base that features an already existing blueprint system to go through the pages of the book. The researcher will build upon that functionality by adding blueprints to image widgets to play videos, as well as blueprints in the 'Level blueprint' to trigger the animations to play in the viewport. It will function as a presentation of the student's final products.

Exclusion

The researcher will only be responsible for the animation of characters and more rarely, for setting up previs scenes (positioning the camera, characters and props properly in relation to the 2D backgrounds). No research will be conducted on creating the characters and backgrounds themselves or how to use lighting and compositing techniques to blend between the 2D and 3D elements.

The book will not include any complicated interactions or self-made textures, and all animations that were made during the course of the internship will be imported as videos.

Assumptions

The readers of the book have an already existing knowledge of Maya and the animation fundamentals. They are reading it in order to get important insights into a 3D animator's workflow in the context of a feature animated production.

Constraints

The constraints during the duration of this project will all be related to time. Since this is a movie production that needs to wrap up at the end of October, some of the shots or animations would not be polished to their fullest potential, since the researcher should be mindful of the schedule and planning that is in place.

How to convincingly blend CG characters with 2D backgrounds?

Research methodology

In order to answer sub-question 1, the student will gather information by going through the extensive documentation on the 'Benjamin Bat' forum, where the CG supervisor Niels Medemblik and the animation supervisor Lewis van der Werf going in depth about how previs and animation should be done on the movie. Additionally, discussions will be conducted with the director and other mid and senior animators, in order to evaluate which methods will be most suitable for a particular shot. This new gained knowledge will be presented in the research results.

It is important to mention that the methods described for blending CG characters with 2D backgrounds may not work for every production. The researcher will describe only what worked for their shots on the production of 'Benjamin Bat'.

Research results

Before any animation is done on the characters, the most important task is to do the previs of a shot. The goal of previs is to place and/or animate the 3D camera and place the characters (and/or props), based on the provided animatic and layout. During this step, the position, angle, relative scale and general motion throughout the shot of a character and camera is set.

Initially, 2D layouts are given, containing a 'technical view' and character positions from the animatic. These layouts include a purple area indicating the shadow plane and a blue area for the hold-out. The 'technical view' represents the precise framing and camera movement required for specific moments in the movie. In the example given below (Figure 9), there are multiple different colored frames drawn on the image, representing the technical view (Niels Medemblik, 2023).

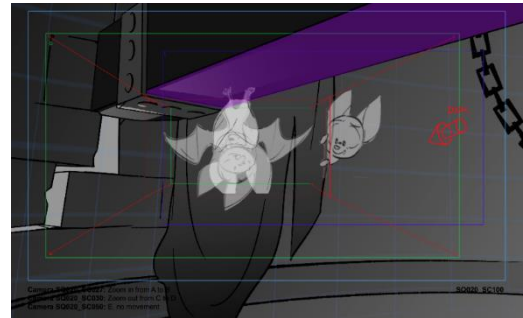


Figure 9. Example layout and technical view

A progression from animatic to previs can be seen in Figure 10.

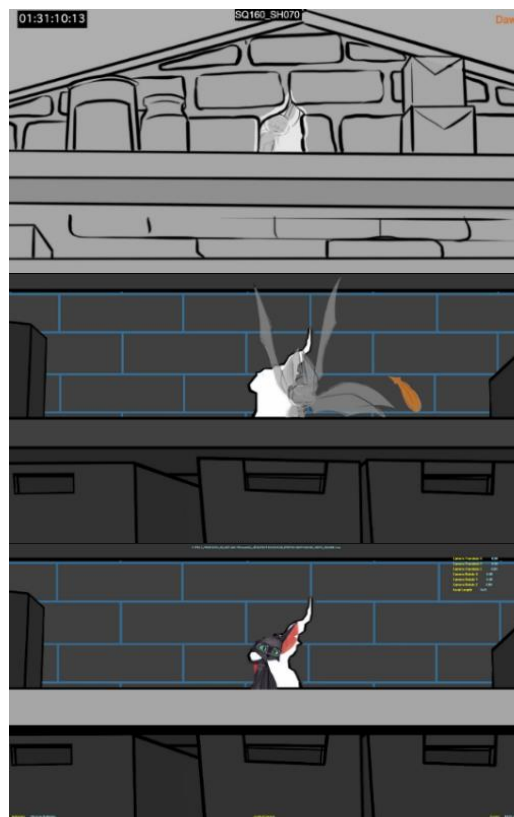


Figure 10. Animatic, layout and previs

The creation of previs shots involves two main steps. First is setting up the scene and matching the projection camera, followed by animating the camera (if necessary) and adding basic character movement. Fortunately, the production's CG supervisor, Niels Medemblik, developed custom

previstools that streamline the process of aligning the camera and characters with the background (Figure 11).

Upon opening the designated scene, the 'Load layout' button imports all available image layers from the 2D layout. By default, the tool loads a single plane, sufficient for most shots. However, for more complex setups or specific requirements, multiple planes may be needed, such as hiding or moving a layer, achieving a parallax effect, or working with foreground and background elements (Niels Medemnik, 2023).

The camera matching process is crucial. Since each background asset is created from a distinct angle, estimating the camera's 3D position is necessary to ensure logical scene composition and character placement. Failure to do so may result in an illogical scene, where the positioning of characters, shadow planes, and hold-outs appear strange from the perspective that's drawn in.

The easiest way to visually match the camera to the background is to look through the projection camera (Figure 12), that is created upon starting the scene. It can be moved around like any other camera. All the characters and props can already be referenced, so the proper scale and rough placement can be determined. This is also the stage where all the camera settings should be determined, which (for the shots that the researcher had assigned to them) only required adjusting the Focal Length.

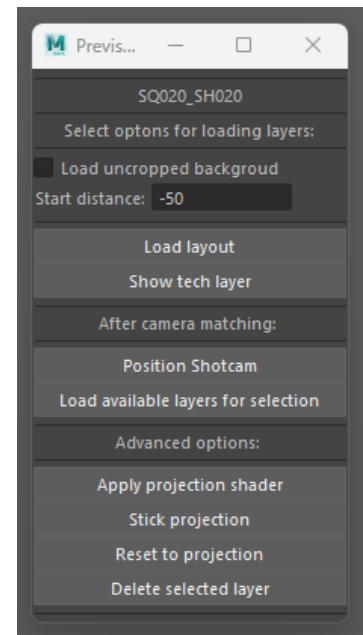


Figure 11. Previs tools

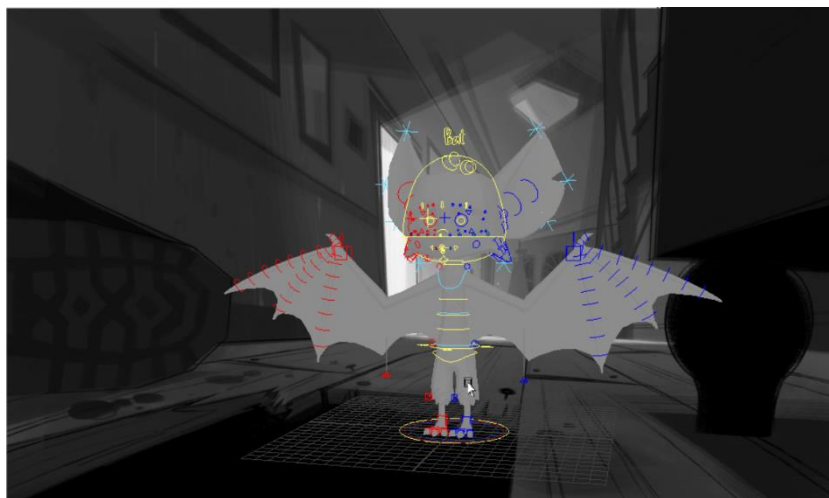


Figure 12. Projection camera viewport

When this is done, clicking on the 'Position shotcam' button from the previs tools will snap the render camera to the same position as the projection camera. This ensures that everything is set for the camera animation. After the projection camera is matched, only the render camera should be used. As a final step, shadow planes or hold-outs should be placed in places where interactions are between the character and environment are happening. A shadow plane is used to cast shadows on from (animated) 3D assets (purple color on the technical layer). Hold-outs are used for when a character 'moves into' or 'behind' the background plane (blue color) (Niels Medemnik, 2023).

Regarding render camera and character placement/animation, three distinct approaches can be employed: using translate and rotate attributes for 3D movements, film offset attribute for pans, and keeping the camera position static while animating the focal length attribute for 2D zooms (Figure 13).

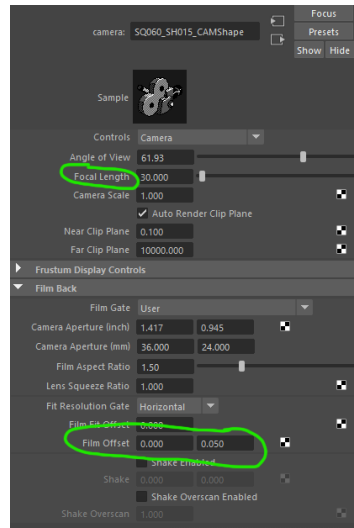


Figure 13. Render camera attributes for animating

The objective of previs is to establish a coherent setup suitable for each shot. However, challenges arise when background/layouts do not adhere to real-world values, requiring occasional forced perspectives. In such cases, achieving a balance between background matching and maintaining appropriate character proportions and distances becomes difficult. Figure 14 exemplifies a situation where Benjamin and his friend Radley's distance is not 'realistic' in 3D but is necessary to maintain Radley's size and distance as he walks and enters the mouse hole (Niels Medemnik, 2023).

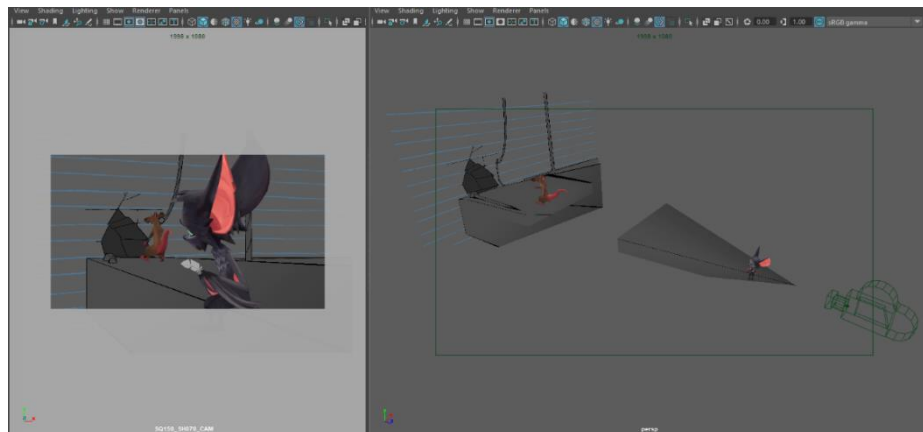


Figure 14. Cheating perspective

The final thing worth mentioning is the parallax effect – different elements move at varying speeds, creating a 3D depth effect. This can be achieved either by animating the translation attributes of the render camera or by using a multi-plane setup, where every plane is animated individually. In order to be able to animate the individual planes, the option 'Stick projection' should be selected from the previs tools.

Prototyping and testing

After conducting the research, the student developed a total of 12 prototypes, with several of them undergoing various iterations in terms of camera work and character placement. This process continued until a satisfactory outcome was reached. To assess the prototypes, feedback sessions were conducted with key individuals involved in the project, including the animation supervisor, Lewis van

der Werf, as well as the director, Patrick Raats, and the co-director, Sarah Sutter. The researcher was assigned the responsibility of working on the sequences of shots numbered 160 (which they also later animated) and 290. All of the documented feedback on Sentinel (the project management tool of the production) and file versions will be listed in Appendix 1.

Sequence 160

In summary, the first sequence (160) involves the protagonist, Benjamin, flying in search of his love interest, Sherida. He carries one of her feathers and endeavors to return it to her. The sequence begins with Benjamin spotting the building where Sherida resides (shot 50). He swiftly descends towards the building in the subsequent shot (60). Once inside, he calls out her name, but a gust of wind enters, causing him to lose hold of the feather (shot 70). The feather descends to the ground (shot 80). Benjamin then flies down (shot 90) and reaches the feather. However, just as he does, the building's door opens once more, causing the feather to fly away again (shot 100).

Among the shots in this sequence, the first one (shot 50) presented the highest complexity in terms of the production process. It entailed a moving camera that tracks the character's movements, as well as a multi-plane setup incorporating a background of sky and clouds (Figure 15). Throughout the shot, the character consistently maintains a slight orientation towards the camera, making it a challenging task to establish the appropriate path of action in relation to the camera and background elements. With the help of another previs artist and the supervision of the director, a sufficient result was achieved at the end.

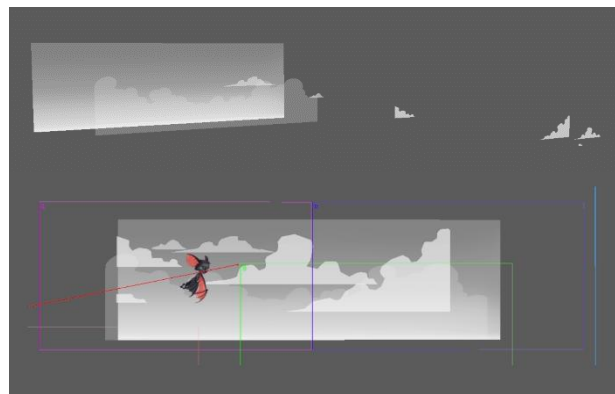


Figure 15. Multi-plane setup and technical layer of shot 50

The storyboard and previs version of shot 50 from sequence 160 can be seen in Figure 16. For previs, no iterations were needed for this particular shot – the camera movement and the character placement was good enough for both the supervisor and director. Check Appendix 1A for file versions and more feedback.

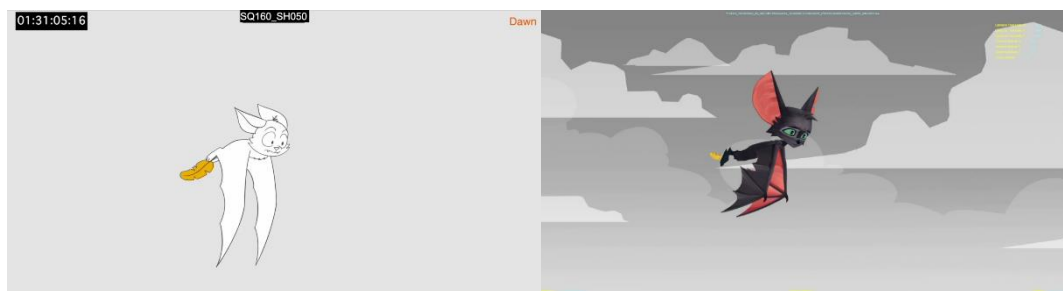


Figure 16. Storyboard and previs version of shot 50

The preparation for the following shot (shot 60) was relatively simple since it did not require any camera movement or the animation of separate layers to create a parallax effect. Instead, the focal length was adjusted to 22, allowing Benjamin to appear larger at the start of the shot and gradually smaller towards the end (Figure 17). No adjustments needed to be made regarding this shot (Appendix 1B)

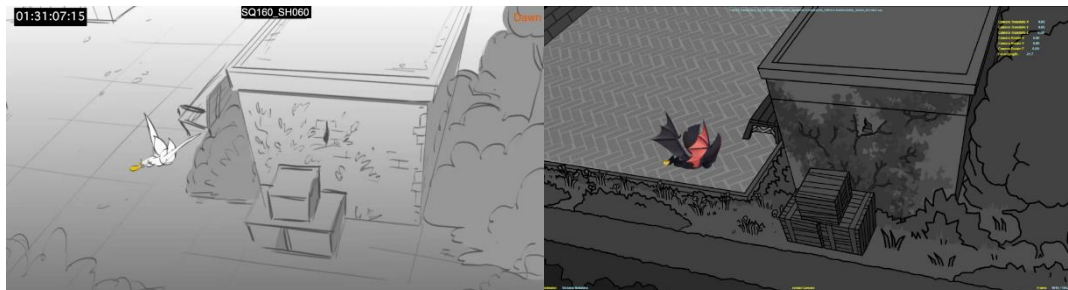


Figure 17. Storyboard and previs version of shot 60

For shots 70 and 90, the researcher used the same setup, since both shots are practically the same (Figure 18). The only thing new was the addition of a shadow plane (the floor) and a hold-out (the wall).

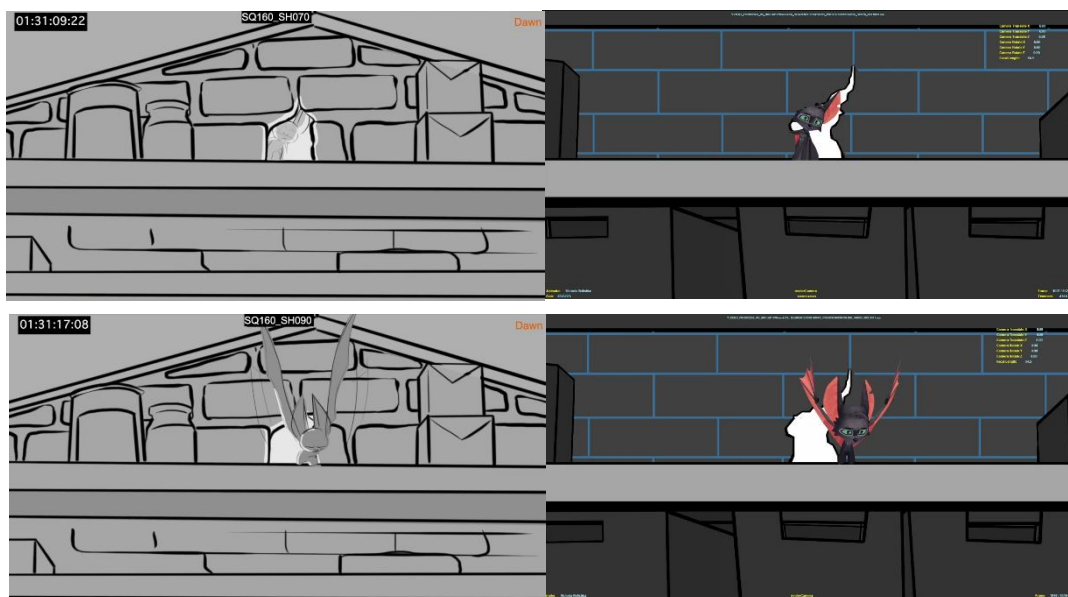


Figure 18. Storyboard and previs versions of shots 70 and 90

The only revision required was for shot 70, specifically concerning Benjamin's pose. This is usually not that important in previs, but since the researcher was going to animate the whole sequence afterwards, the supervisor already wanted to start thinking about the acting (even with rough posing). Benjamin's wing should be more tucked in, showcasing his uncertainty and shyness. The iteration can be seen in Figure 19 (Appendix 1C and 1D).

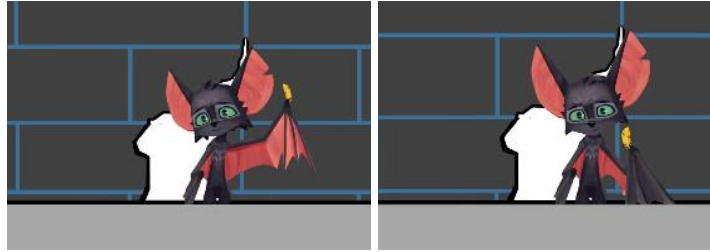


Figure 19. Pose iteration for shot 70

Shot 80 (depicted in Figure 20) involved significant manipulation of distance and perspective. Figure 20 demonstrates that the distance and path of the feather, as observed in the perspective view, do not align with what the viewer sees from the render camera. Furthermore, the positioning of the door in relation to the floor and background highlights the abstract nature of previsualization setups.

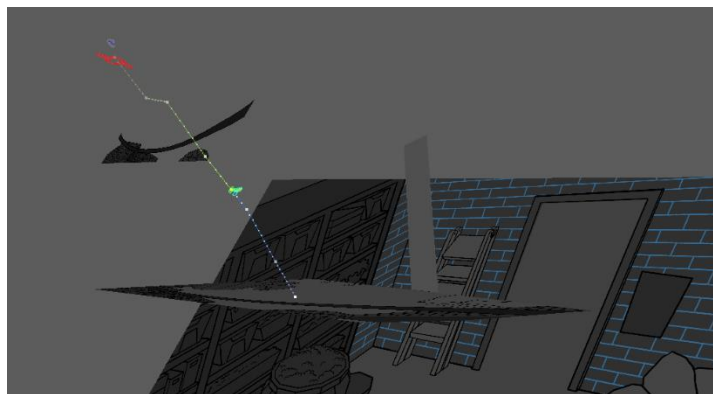


Figure 20. Previs setup for shot 80

Additionally, there were certain technical challenges encountered when referencing the feather within the scene and applying a projection shader to the door. However, despite these obstacles, the shot was eventually approved (Figure 21).

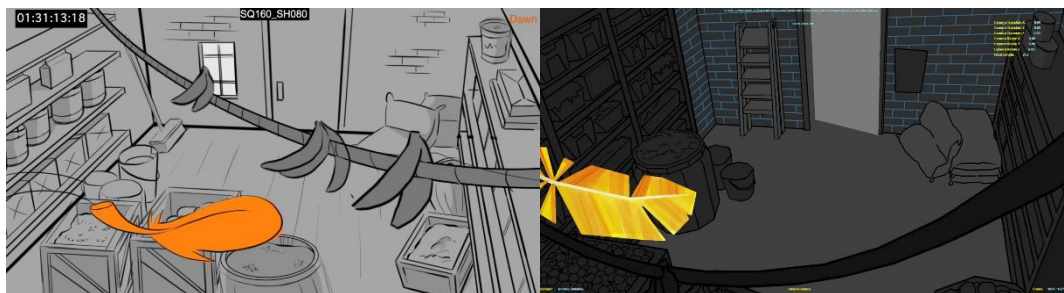


Figure 21. Storyboard and previs versions of shot 80

The main iterations for this particular shot revolved around the start and ending position of the feather. Both the directors' feedback was to put it closer to camera at the start of the scene, and then make it smaller for its ending position. The before (left) and after (right) can be seen in Figure 22. Check Appendix 1E for all file versions and feedback.

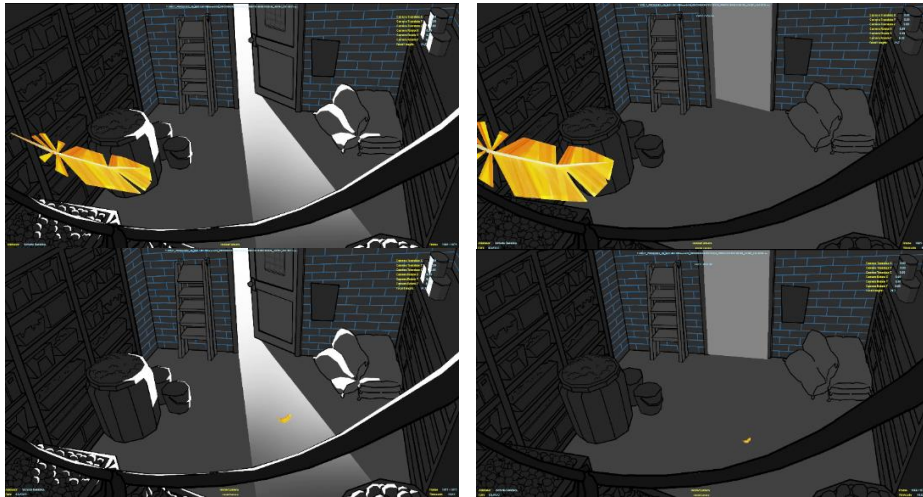


Figure 22. Positioning iterations for shot 80

Shot 100 (Figure 23) did not require camera movement or multi-plane setup, but it was quite difficult in terms of matching the character with the layout perspective.

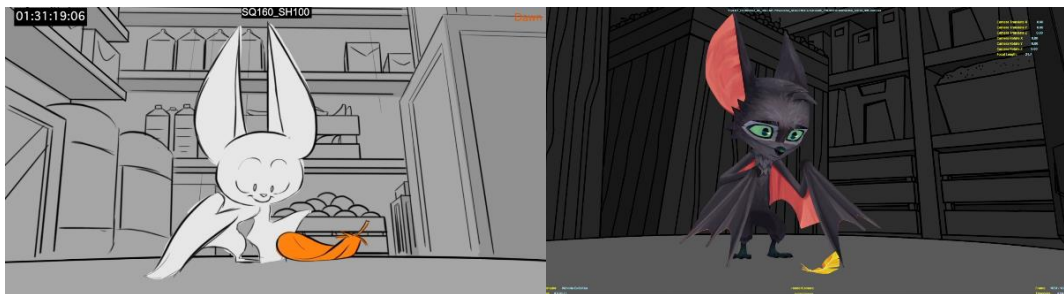


Figure 23. Storyboard and previs versions of shot 100

To accommodate all of those factors, certain adjustments were made. The shadow plane (floor) had to be rotated at a 45-degree angle, then the focal length was modified multiple times to account for Benjamin's entry from a significant distance in the top left view and his final position right in front of the camera, and finally, the character's posing and position were fine-tuned based on feedback from supervisors and directors. Figure 24 displays all the different versions created during this process (Appendix 1F).



Figure 24. Iterations for shot 100 (final – bottom right)

Sequence 290

In Sequence 290, Benjamin, his father, and brothers fall to the ground with a cage containing Sherida (Shot 10). Upon impact, the cage opens. In the following shot (20), Benjamin and Sherida engage in conversation, but their interaction is interrupted by the brothers, who commend Benjamin for his bravery. Shot 30 continues with the brothers praising Benjamin, while Sherida moves from the left side of the screen to the right, expressing that she doesn't deserve a hero like Benjamin. She exits the frame on the right, and Benjamin follows her in that direction. In the next shot (40), Sherida is shown in an extreme close-up, looking back over her shoulder, while Benjamin remains on the left side of the screen. She takes flight, and in shot 45, Benjamin watches her fly away into the distance. The final shot (50) shows Benjamin, his father and brothers from a frog's eye perspective. The brothers are angry that Sherida left without a word. The father places his hand on Benjamin's shoulder, attempting to console him, and informs the brothers that they will go hunting. As the father argues with the brothers, Benjamin takes flight and leaves.

The first shot of this sequence (10) featured distinct planes in the background and foreground, with the cage and characters positioned at the center. No changes were made to this shot, as both directors and the animation supervisor were satisfied with the outcome. The storyboard and previs versions of this shot can be seen in Figure 25 (for more – Appendix 1G).

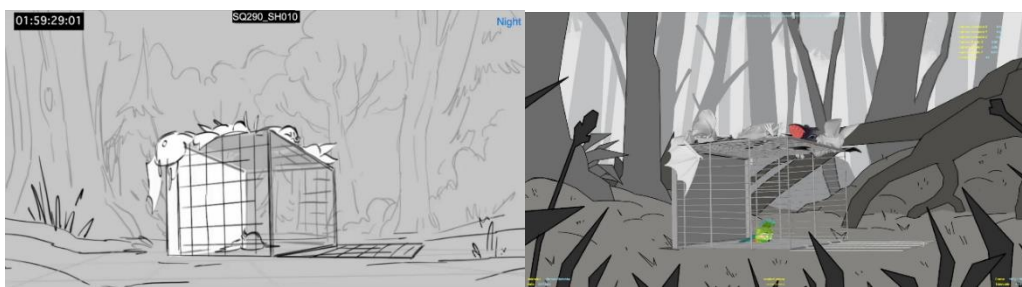


Figure 25. Storyboard and previs versions of shot 10

Shot 20 (Figure 26) was a bit more complicated to figure out, in terms of camera setting and character and prop positioning. After a couple of tries, the researcher managed to achieve the desired result, but only after 'cheating' the proportions by scaling down the cage. The version submitted for final review was approved and no iterations needed to be done (Appendix 1H).

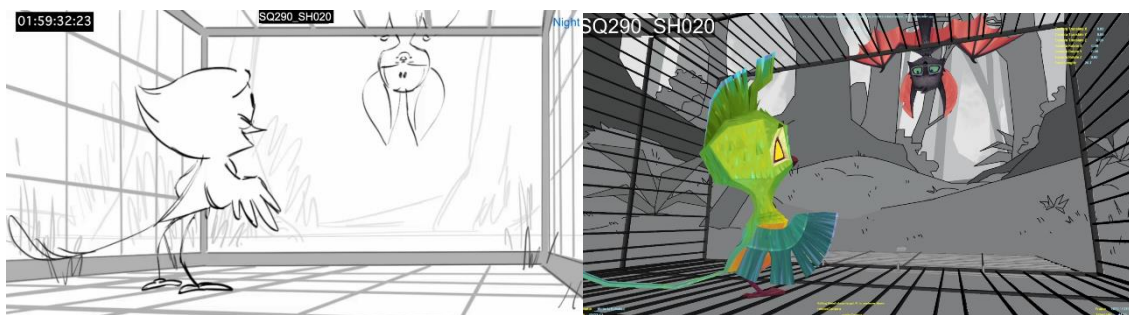


Figure 26. Storyboard and previs versions of shot 20

Shot 30 (Figure 27) from this sequence was the first time the researcher had to animate a moving camera, using the Film Offset attributes of the render camera.

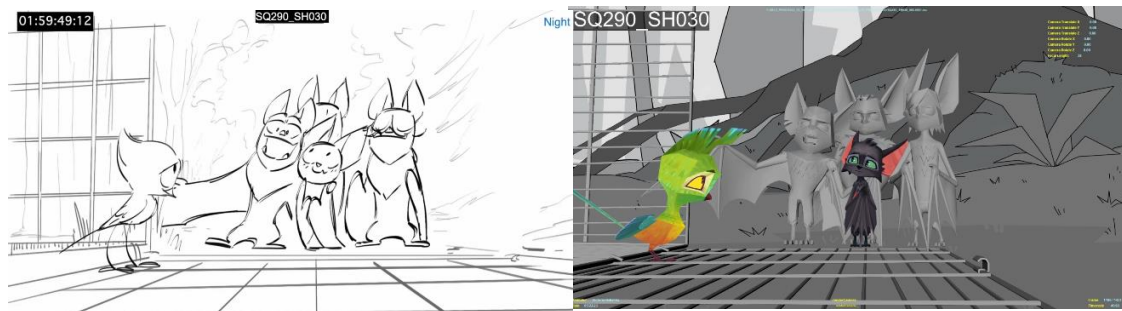


Figure 27. Storyboard and previs versions of shot 30

The only feedback that was received from the director was about Benjamin's position and how he follows Sherida after she exits the screen. His path of action was adjusted to be more towards screen left, in order to also have a better transition to the next shot. The adjustment can be seen in Figure 28 (for more - Appendix 1I).



Figure 28. Benjamin position iterations for shot 30

The next one (shot 40 – Figure 29) was quite hard to set up, as it involved all six characters (Benjamin, Sherida, the father and brothers). The problem that was faced was how to make the perspective look believable. In the scene, Sherida needs to be positioned in close proximity to the camera, creating a sense of intimacy. On the other hand, the father and brothers should appear distant, conveying the impression of being far away from her. Additionally, the ground should not appear flat; instead, it should give the illusion that Sherida is ascending higher and higher as she climbs.



Figure 29. Storyboard and previs versions of shot 40

Several iterations were also made to the way Benjamin hooks up with the previous shot, due to the fact that the director was not pleased with how the two shots flow together. All the iterations can be seen in Figure 30 (Appendix 1J).



Figure 30. Shot 40 Sherida iterations

Shot 45 (Figure 31) again went through a couple of iterations regarding the positioning of Sherida. The director wanted the distance between Benjamin and Sherida at that particular point of the movie to be felt more than ever, so adjustments were made accordingly (Figure 32) (Appendix 1K).



Figure 31. Shot 45 Sherida iterations



Figure 32. Storyboard and previs versions of shot 45

The last shot (Figure 33) received several notes from the director about the position of the camera and its movement when it starts following the dad, as well as Benjamin's position when he is exiting the frame. Some of the iterations can be seen in Figure 34 (Appendix 1L).



Figure 33. Iterations of camera and character positioning for shot 50

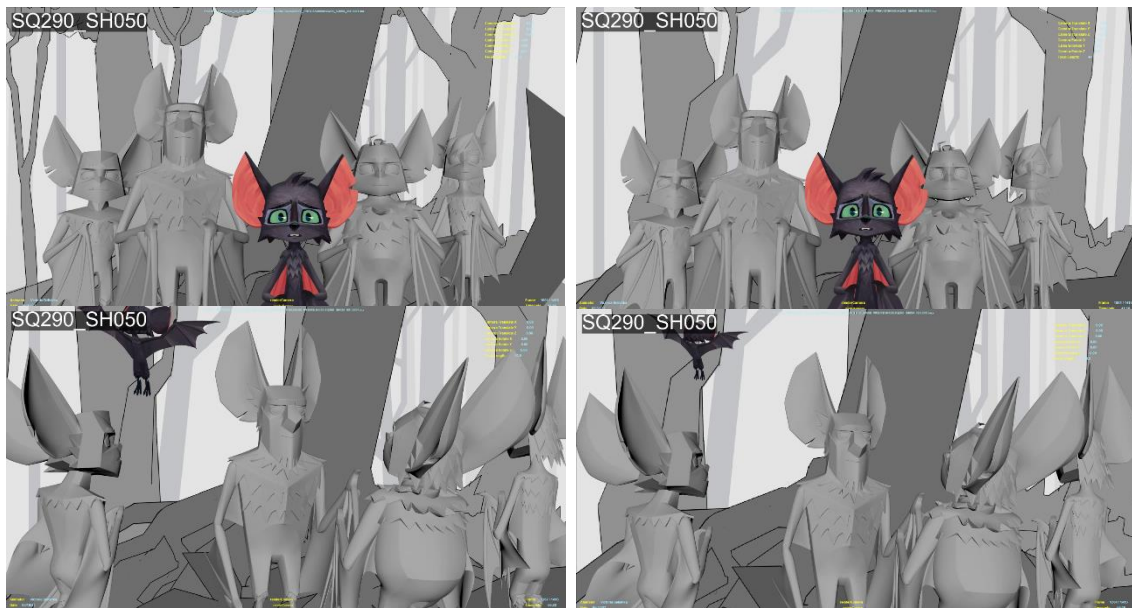


Figure 34. Storyboard and previs versions of shot 50

Conclusion

Previsualization plays a crucial role in seamlessly integrating CG characters with 2D backgrounds. Since every shot presents unique challenges, there is no one-size-fits-all approach. Factors such as layout, number of characters, camera and character distances, and the preferences of supervisors and directors all contribute to the decision-making process. When working with Autodesk Maya, the most effective method involves creating a projection camera that projects the background regardless of its position, and then matching a render camera to it. The previs artist can then adjust the Film Offset Attribute and the Focal Length of the render camera to properly position and animate it based on the technical layer provided by the layout department.

It's worth noting that having an established toolkit is crucial for the previs artist, as it streamlines the process and makes it more manageable. This toolkit may include loading the layout and technical layer, applying projection shaders, positioning the render camera, and loading available layers from the PSD file of the background for parallax effects.

Despite these techniques, there is often a need for creative adjustments and forced perspectives, which can be quite challenging and time-consuming. Even if the render camera suggests that a character is moving only a short distance, in reality, it may be a significant distance from the perspective camera, even with appropriate adjustments to the focal length.

In conclusion, blending CG characters with 2D backgrounds is a crucial step in creating fully animated shots. Although the process may not always be straightforward, with guidance from experienced professionals and the right tools, highly realistic results can be achieved.

What are the main characteristics of traditional 2D animation and how do they translate to CG, in order to achieve believable body mechanics and acting performance?

Research methodology

To address sub-question 2, the student will acquire information by referencing the 'Benjamin Bat's Animation Bible', a detailed resource written by the film's animation supervisor, Lewis van der Werf. This book delves into the animation style envisioned for the film and explores how 2D animation

principles can be applied to 3D animation. To explain various animation concepts and emphasize the significance of the 12 principles of animation in both 2D and CG, the student will consult books such as 'The Animator's Survival Kit', 'Cartoon Animation with Preston Blair', and 'The Illusion of Life: Disney Animation'.

Furthermore, regular discussions and feedback sessions with both the supervisor and the director will take place throughout the process. These sessions will revolve around their respective visions for the animation style, and the feedback provided will be incorporated into the different iterations presented during the 'Prototyping and testing' phase.

Research results

The 12 principles of animation and their application to CG animation

As highlighted in the researcher's practical analysis, Disney revolutionized the world of 2D animation with the release of their 1937 film 'Snow White and the Seven Dwarfs'. Their exceptional work set the standard for how a 2D animated movie should appear, surpassing all expectations and bringing characters to life in a remarkable manner. The creative minds behind Disney's extraordinary movies, who laid the foundation for the look and feel of animation, were known as the 'Nine Old Men'. These esteemed Disney animators are revered as legends in the field.

For years, people wondered about the secret behind the believability of the characters' movements in Disney's films. In 1981, two of the 'Nine Old Men', Ollie Johnston and Frank Thomas, unveiled the answers in their influential book titled 'The Illusion of Life: Disney Animation' (Figure 35). This book, which remains an invaluable guide for animators past and present, introduced the 12 fundamental principles of animation (Tina Lee, 2023).

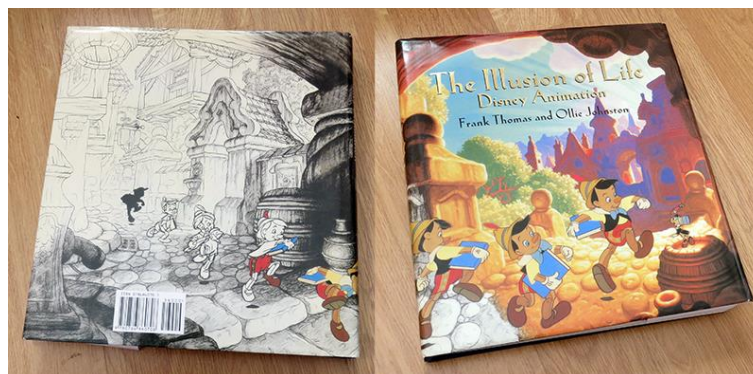


Figure 35. 'The Illusion of Life: Disney Animation' by Frank Thomas and Ollie Johnston

In the early days of the studio, certain terms like "aiming," "overlapping," and "pose to pose" started gaining prominence at the Disney studio. The animators were constantly exploring improved methods of connecting drawings together and had discovered a few approaches that yielded consistent outcomes. While they could not expect success every time, these special drawing techniques for depicting characters in motion offered some degree of assurance. Surprisingly, these techniques eventually evolved into the fundamental principles of animation (Johnston & Thomas, 1981). They go as follows:

1. Squash and Stretch
2. Anticipation
3. Staging
4. Straight Ahead and Pose to Pose
5. Follow Through and Overlapping Action
6. Slow In and Slow Out (Ease in and Ease out)

7. Arcs
8. Secondary Action
9. Timing
10. Exaggeration
11. Solid Drawing (Solid Posing)
12. Appeal

The researcher will go through each of these principles to gain the most comprehensive understanding of animation theory, which is essential for becoming a good animator.

Squash and Stretch

The most significant discovery made by Disney animators was the principle known as 'Squash and Stretch'. This principle creates the illusion of weight, flexibility, and gravity in characters or objects.

However, to prevent drawings from appearing inflated or distorted, and to avoid stretched positions from looking thin and lifeless, it is crucial to consider the shape and volume of the object or character being animated. The perfect illustration of this concept can be seen in a flour sack. When dropped on the floor, it will flatten and assume its maximum shape, while being lifted by its top corners will elongate it to its greatest extent. However, its overall volume remains constant (Johnston & Thomas, 1981).

Anticipation

Anticipation is a method that allows the audience to comprehend and anticipate the subsequent movement depicted on the screen. When employed, this principle infuses animated objects with vitality, creating a scene that feels authentic and true to life. In reality, most movements are accompanied by some form of anticipation. It appears to be the inherent manner in which living beings move, and without it, the actions performed would lack impact. To illustrate, in golf, it is the golfer's backswing, while in baseball, it is the pitcher's windup (Johnston & Thomas, 1981).

Staging

Staging involves effectively and unambiguously presenting an idea. Whether it's an action, a personality, an expression, or a mood, staging ensures that it is easily comprehensible and has the desired impact on the audience. When staging an action, it is crucial to ensure that only one action is visible, without any confusion caused by obstructions or unfavorable camera angles. Additionally, the action should not be overshadowed or upstaged by other simultaneous occurrences (Johnston & Thomas, 1981).

Straight Ahead Action and Pose to Pose

These are the two main approaches to animation. In the "Straight Ahead" technique, the animator begins with the first drawing in the scene and progresses continuously, generating new ideas along the way (Johnston & Thomas, 1981). This method is spontaneous, resulting in fresh and unexpected effects. It works particularly well for creating fluid and natural movements, such as animating a tail or hair (Tina Lee, 2023).

On the other hand, the "Pose to Pose" approach involves pre-planning the action, determining the key poses in advance, and filling in the in-between frames later. This technique emphasizes spending more time refining the essential storytelling poses, providing greater control over the movement and enhancing clarity and strength (Johnston & Thomas, 1981).

Follow Through and Overlapping Action

The animation principles aim to create the illusion that the characters adhere to the laws of physics. When a character comes to a sudden halt, specific attributes like hair, folds of flesh, or clothing continue to move due to the momentum they had before. This concept is known as "Follow Through," which involves depicting movement that occurs after the main action to convey a sense of weight and

realism. When bodies are in motion, different parts may move at varying speeds, and certain character features can exhibit follow-through by overlapping and gradually settling to a stop (Tina Lee, 2023).

Slow in and Slow out (Ease in and Ease out)

Ease in and ease out is a technique that involves smoothly transitioning an object's speed to depict realistic movements. In reality, an object, such as a car, doesn't instantly accelerate to its maximum speed of 60 mph; it takes time to gain momentum and reach that velocity. Similarly, when a car decelerates to a stop, it doesn't abruptly halt unless it collides with an obstacle like a wall or a tree. Instead, it gradually slows down over a few seconds to come to a complete stop (Tina Lee, 2023).

Arcs

The motions of the majority of living beings naturally follow a circular path. Arcs involve incorporating curved trajectories that mimic the organic movements of the human body. Whether it is the arms, legs, hands, or even the fingers, they all move along arcs. To create motion that appears realistic and believable, it is essential to carefully consider and follow these arcs (Tina Lee, 2023).

Secondary Action

Secondary action involves an action that complements and enhances the main action, providing additional depth and complexity to the character. However, it is important to ensure that the secondary action does not divert the viewer's attention from the primary focus of the scene. For instance, in a walk cycle, the movement of the arms can serve as a secondary action, or in the case of a sad person turning away from the camera, wiping a tear can add emotional depth (Johnston & Thomas, 1981).

Timing

The quantity of drawings or frames employed in a film dictates the duration of the depicted action on the screen (Ollie Johnston, Frank Thomas, 1981). Timing, a vital principle, influences the mood, emotion, and reaction of a character, as well as their personality. It is an aspect of animation that animators continuously learn and refine throughout their careers. Experimentation with timing is encouraged when working on a shot. Introducing a slight delay of two or three frames can enhance the humor of a scene, while removing a couple of extra key frames can intensify the emotional depth (Tina Lee, 2023).

Exaggeration

Exaggeration is a fundamental principle that captures the essence of animation itself. Rather than aiming for mere replication, animation seeks to create an illusion of life. Exaggeration is commonly employed to achieve dramatic or comedic effects. By distorting facial features, expressions, body movements, or body types, this principle effectively communicates actions and emotions, while also enriching the storytelling aspect (Tina Lee, 2023).

Solid Drawing

The concept of solid drawing aims to add a sense of three-dimensionality to animated work, enhancing the realism of the scene. In the realm of computer-generated (CG) animation, this concept is often referred to as "Solid Posing" since traditional drawings are not involved in the process. However, the principles of solid posing can be categorized into six main aspects that require consideration: line of action, weight and balance, asymmetry, silhouette, twists, and contrapposto (counterpose) (Jay Jackson, 2027).

Appeal

Appeal in character design extends beyond mere visual attractiveness. It involves incorporating captivating and charismatic elements into each character to enrich the storytelling, even for the protagonists. One approach to achieve this is through experimentation with various features, shapes, and proportions, resulting in compelling and engaging characters (Tina Lee, 2023).

Acting for animation

To gain a true understanding of the process of animating a character, one must surpass the boundaries of the 12 principles of animation. Within an animated film, effective storytelling and audience engagement rely on clear communication. For the audience to connect with the characters, they must perceive them as living beings with independent thoughts, spontaneous reactions, clear communication, and an appealing presence. Therefore, planning and executing a shot presents significant challenges for the animator (Dana Boadway-Masson, 2021).

The researcher will now list the most important advanced acting tips for animators.

Simplicity

On numerous occasions, animators tend to overcrowd shots with excessive information, resulting in a lack of clarity and a detrimental impact on the realism of the performance. There is often a strong inclination to keep the character in constant motion. However, the key to achieving a smooth shot lies in the balance between movement and moments of stillness. (Dana Boadway-Masson, 2021).

Acting within the pose

When animating a shot, it is crucial for the animator to discern the character's emotional state. If there is a shift in this state, the timing of the change should also be determined. These emotional states serve as the primary poses for the character and should not be altered simply due to changes in dialogue emphasis. It is the character's thoughts, not the dialogue itself, that drive the action. (Dana Boadway-Masson, 2021).

Layers – Creating a believable performance by layering animation techniques.

An animator should approach a performance as if it were an onion, with multiple layers, or perhaps like a song where rhythms are layered to create captivating texture and timing in the animation. These rhythms should align with the chosen acting choices and contribute to the overall quality of the performance. This concept holds particular significance when considering the context of 'Acting within a pose' (Dana Boadway-Masson, 2021).

Emotional hang time

To create believable and spontaneous acting in animation, it is essential for animators to allow characters time to transition through different emotions. Similarly, when a character experiences a shift in emotion within a shot, they require a moment of contemplation or thought processing before the emotional change can occur. Without this moment, the acting will lack authenticity and believability (Dana Boadway-Masson, 2021).

The neutral pose

It is important to avoid using the rig's default neutral pose and instead create their own. By understanding the character's defining characteristics, animators can develop a unique "neutral pose" that reflects the individual's personality when they are idle or not engaged in any specific action. For instance, in the case of Benjamin, a character who is shy, introverted, and lacks confidence, his posing should convey these traits. This may involve tucking his head down, closing his wings, and bending his legs (Figure 36) (Dana Boadway-Masson, 2021).

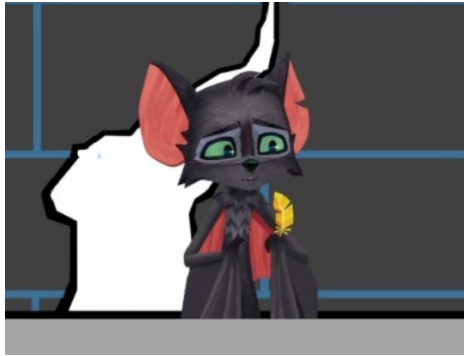


Figure 36. Benjamin's 'default pose'

Movement style

To effectively portray a character's personality, animators should assign them a distinctive movement style. This involves exploring various sources of inspiration and avenues to discover the ideal physicality and mannerisms that align with the character's traits (Dana Boadway-Masson, 2021).

Dynamic facial posing

Interestingly, this understanding of line of action applies not only to body poses but also to facial expressions. By envisioning a hypothetical dot between the brows, on the tip of the nose, at the center of the lips, and on the chin, and connecting them, one can discern the line of action for facial posing. In this context, the 'shoulder line' corresponds to the line formed by the brows and eyes, while the 'hip line' aligns with the line created by the mouth and jaw (Figure 37) (Dana Boadway-Masson, 2021).

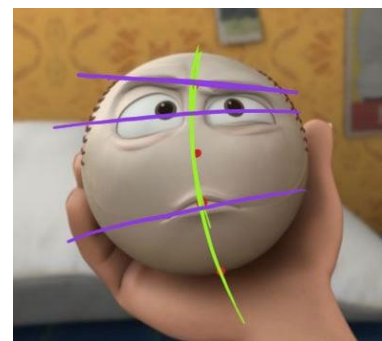


Figure 37. Line of action in the face

Engaging the body

A common issue observed in student work is the tendency to focus on limited body parts when expressing emotions. It is important for every part of the body to convey the character's personality and emotions. Neglecting certain areas like the shoulders, knees, feet, and even the hands can result in a character that appears disconnected from the acting, leading to a lack of authenticity in the performance. This can significantly diminish the overall energy level. Additionally, exaggerating the Translate Y value in the hips can establish a stronger connection between the lower body and the performance, thereby enhancing the emotional delivery (Dana Boadway-Masson, 2021).

Exaggeration

This is a concept that was already explained in the '12 principles of animation' section, but it is always important to keep in mind when building a performance.

Subtext

Subtext in animation refers to portraying a character's thoughts and emotions rather than solely relying on their spoken words. By delving into the character's mindset and inviting the audience to explore it as well, animators can bring more depth and richness to their performances. Merely animating based on the character's dialogue often results in a superficial portrayal, lacking the nuanced layers of subtext (Dana Boadway-Masson, 2021).

Lip sync

Lip sync is that important final step, that is always the least interesting to do. According to the animation supervisor, approximately 75% of the lip sync is achieved through jaw movement. Generally, the jaw should be closed for sounds like M, P, B, and open for vowels like A or E. However, this depends on the specific dialogue and acting.

Around 20% of the lip sync is influenced by the shape of the mouth corners. They should narrow for sounds like O and U, and widen for sounds like E or I. Again, this is dependent on the dialogue and acting. The remaining 5% can be dedicated to shaping the lips and mouth. The tongue is typically visible during sounds like L, and the front teeth should touch the bottom lip for consonants like F or V. Experimentation can be done by shifting all the mouth keys 2 frames earlier towards the beginning of the lip sync. This accounts for the fact that sounds travel slower than the image and usually feels more natural on an instinctive level (Lewis van der Werf, 2023).

Additional guidelines from the production

The animation style of the movie is referred to by the supervisor as 'The Blend' since 3D animation is mixed with 2D backgrounds. This style aims to strike a balance between realism and avoiding a computer-generated appearance. Below are some additional guidelines that every animator should know on top of their already existing animation knowledge.

Working on 2's

In contemporary filmmaking, animations are typically created at a frame rate of 24 frames per second. When working 'on 2's', animators produce animation on 12 frames per second. This approach is a key characteristic of 2D animated films, where characters are often animated on 2's or even 3's (8 fps). However, cameras are still animated at 24 fps to avoid choppy movements. Consequently, the Maya scene should be set to 24 fps, and every animator should work in 'Stepped mode' (no interpolation between keys) and key every other frame (Figure 38 and 39).



Figure 38. 24fps, with keys on 1's

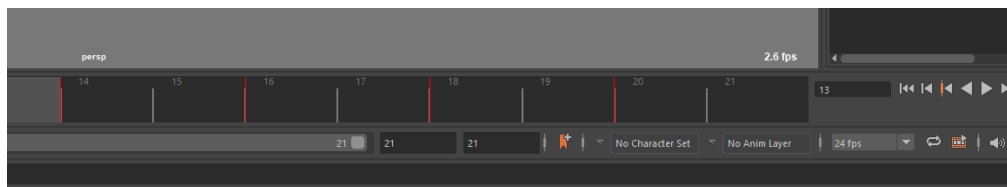


Figure 39. 24fps, with keys on 1's

The production is open to working on 1's, 3's and 4's, depending on the context. 3's and 4's can be used in dialogues for comedic timing, or for a character that is not doing the talking. 1's can be used for quick actions if an animator feels the need for an extra frame between poses to achieve the desired spacing. However, these choices are highly situational and should be discussed with the supervisor before implementation (Lewis van der Werf, 2023).

Silhouette

The silhouette plays a crucial role in the animation of the movie. Each pose should effectively convey the entire story of a shot. There are no restrictions when manipulating the 3D rig – the arm can be bent, the chest – stretched. Silhouette can be divided into four main categories – character, scene-specific action and emotion, line of action and negative space (Lewis van der Werf, 2023).

Scene-specific action & emotion

Every shot sequence has its own mini story arc. Radley might be giving Benjamin advice on how to talk to Sherida, their mentor-student relationship should be reflected in their silhouettes and composition.

Radley is big, confident with open posing. Benjamin is much smaller, looking upwards and intrigued. (Lewis van der Werf, 2023).

Line of action

Line of action is another crucial element of silhouette. When transitioning from pose A to pose B, the in-between pose (also known as the breakdown), is the pose that defines the movement. This means that if Benjamin is flying very fast, the breakdown can be sculpted in the shape of a stretched arrow, emphasizing clear posing without breaking the silhouette. Finally, animators should also consider the negative space to maintain the silhouettes of all on-screen characters and background elements, while being mindful of avoiding tangents (Lewis van der Werf, 2023).

Pose to pose

While 3D animations often strive to replicate real-world lighting and textures, CG animators are encouraged to keep their 3D characters dynamic through overlapping actions, long eases, and idle movements. In 2D however, it is quite common to see a character completely still for more than six frames. There are also relatively quick eases, quick settles and quick overlap. When a character is stationary, they should be very still, with no need for subtle movements. Occasionally, a blink, eye dart, or minimal head movement may be included (Lewis van der Werf, 2023).

Asymmetry

Asymmetry is a fundamental concept that enhances the quality of a pose and prevents animation from appearing robotic or overly symmetrical. For the movie 'Benjamin Bat', asymmetry in posing (the left arm is in a different pose than the right arm) and asymmetry in movement (the left arm reaches its next pose in a different timing than the right arm) are the two crucial points every animator should follow. This concept can also be built in the breakdowns (Lewis van der Werf, 2023).

Prototyping and testing

During the course of the internship, after conducting extensive research about animation theory and how it can enhance the body mechanics and acting of a character in a shot, the student created four fully polished animations of the main character Benjamin, as well as six shots from sequence 160 in the movie. In the following sections, the process behind the animations and their iterations will be presented, based on the feedback provided by the animation supervisor and directors. In order to not make this document too long, all of the documented feedback and list of iterations (work files) will be listed in Appendix 2.

Studio Library Animations

During production, the tool called 'Studio Library' was employed for the management of poses and animations. Its immense usefulness lies in the ease with which animators can import pre-made walk, flight, and run cycles for their characters, greatly accelerating the production process.

The initial animation assigned to the student involved a flight hover cycle for Benjamin. Fortunately, there were pre-existing examples of animations created with previous versions of the rig, along with an extensive library of bat references. The only aspects that needed to be determined were the timing and the specific wing poses.

To begin the process, the researcher opted to create a 2D visualization of each wing pose (Figure 40). This method is typically the most effective approach when planning an animation, for which you cannot record reference, but you almost have to 'invent' the movement.

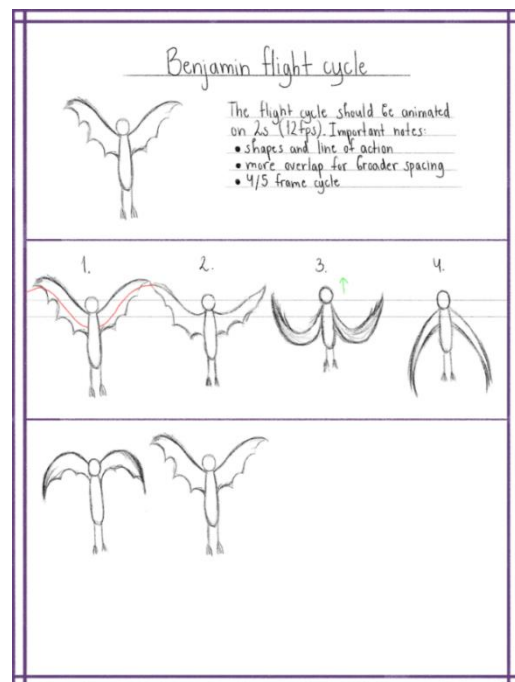


Figure 38. Benjamin flight cycle planning

The animation went through several iterations, with the supervisor's main notes being on overall appeal and silhouette of the wing beats (Figure 41). There were additional notes on toning down the up and down movement of the body and head, so the viewer can be more focused on Benjamin's eyes, as well as feedback on the animation of the feet.



Figure 39. General feedback of the supervisor

Some of the iterations based on testing done with the supervisor can be seen in Figure 42 (Appendix 2A).



Figure 40. Iterations flight hover cycle

After the flight hover was approved, the supervisor wanted an asymmetrical version (Figure 43) to further enhance the cartoony, 2D feeling of the animation. There were no major notes on it, and it was also approved (Appendix 2B).

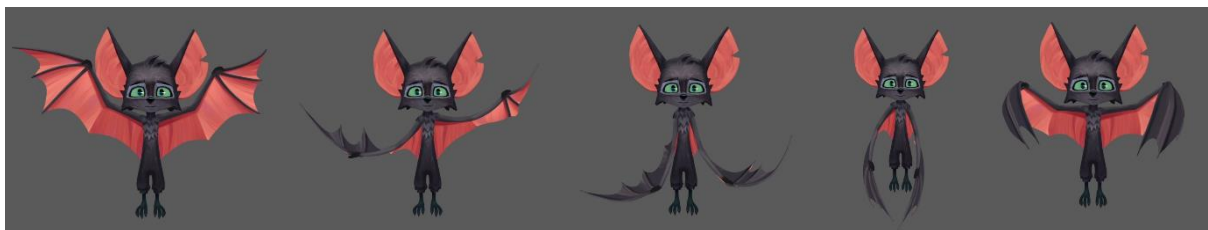


Figure 41. Asymmetrical flight hover

This same process was done also to the other two animations for the 'Studio Library' (landing and fly-off animations, connected with an idle on the ground and flight hover). Multiple iterations were created, and feedback was collected from the supervisor on a daily basis in the form of draw-overs, notes or verbal communication. The main notes were focused on asymmetry and the timing of the overlap and follow-through in the whole body. The final results can be seen in Figure 44 (for all file versions and feedback from Sentinel – Appendix 2C).

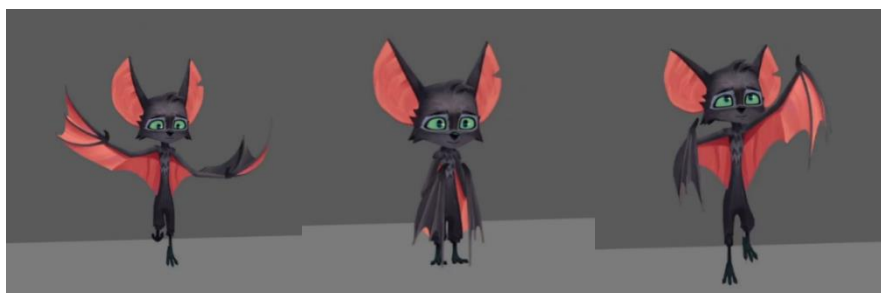


Figure 42. Landing and fly-off animations

Animation Sequence 160

Every shot in this sequence went through two phases of animation – blocking and polish. For the first shot (50) the researcher went for a more detailed approach in blocking, already blocking in all the body parts every two frames. Luckily, the whole idea was approved by the supervisor and both directors, but for the next blocking reviews the supervisor advised the student to use less poses, in order to avoid redoing the entire blocking, if the idea was not reading correctly. The polishing phase went well, besides a few timing adjustments, as well as an asymmetry pass. The final result can be seen in Figure 45 (Appendix 2D).



Figure 43. Final approved version of shot 50

For shot 60, there were several iterations required in order to achieve the final look required for the movie, mainly related to the path of action and speed at which the character is moving. The initial path of action was more linear, with Benjamin flying straight down to the hole in the building. The supervisor however wanted a more interesting path for the character (Figure 46).



Figure 44. Supervisor notes on blocking

After adjusting the path and polishing all the necessary curves, a final result was achieved (Figure 47) (Appendix 2E).



Figure 45. Final approved version of shot 60

Shot 70 was one of the more complicated shots in this sequence, especially with figuring out the timing and finding the right acting performance for Benjamin. The main iterations required by the supervisor were related to the character's facial expressions – there was simply too much symmetry and not enough exaggeration. Some of the iterations can be seen in Figure 48 (Appendix 2F).

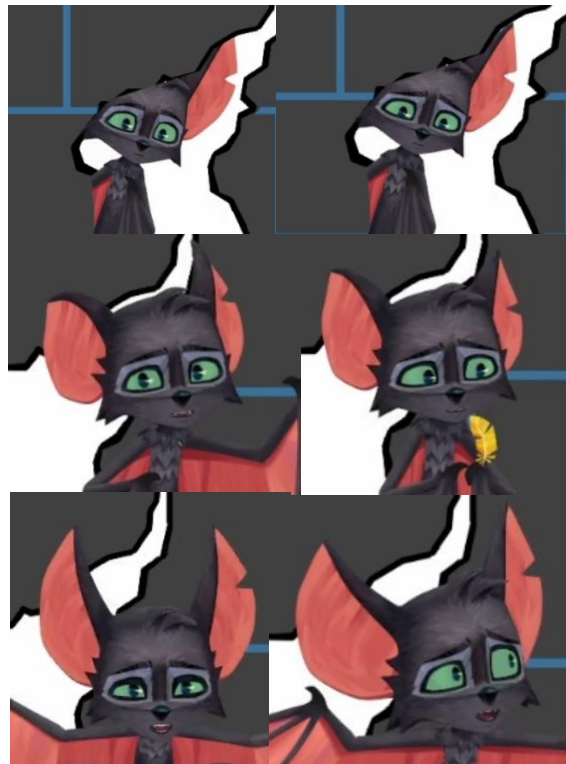


Figure 46. Main iterations for shot 70

The final approved result can be seen in Figure 49.

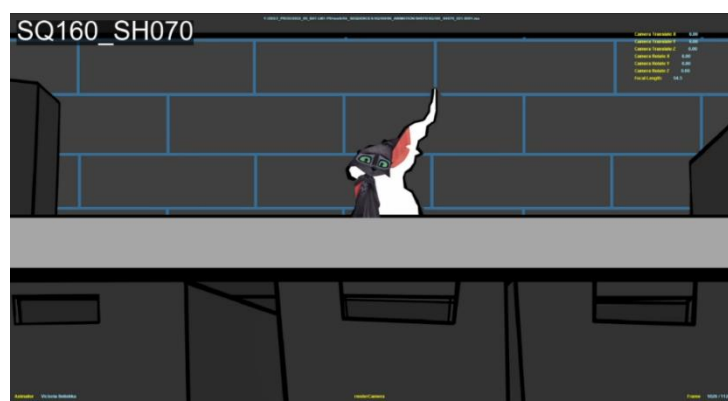


Figure 47. Final approved version of shot 70

Shot 80 (Figure 50) did not require any major changes to either the blocking or the polishing. As mentioned already in the previous sub-question, this particular shot involved a lot of cheating, so tracking the motion path and making it work in the render camera spacing wise, was a big challenge. Nevertheless, this was actually the first shot of the sequence that got approved (Appendix 2G).

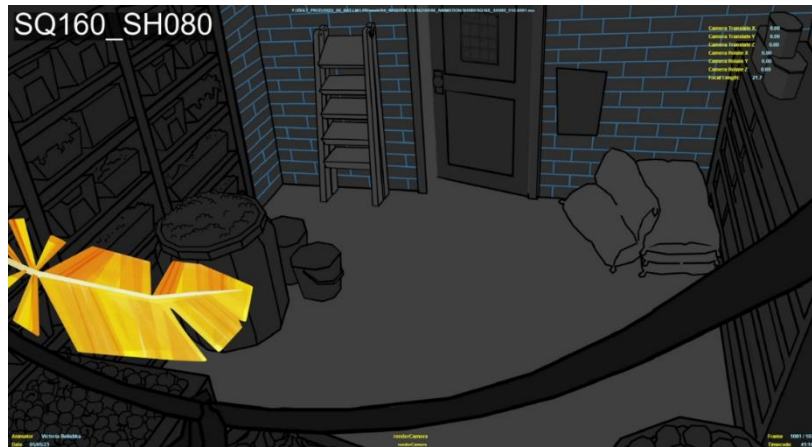


Figure 48. Final approved version of shot 80

For shot 90 there were again some notes about pushing the overall facial expression. These were quickly resolved, but for the shot to be approved, a final asymmetry pass was required by the supervisor. The final shot can be seen in Figure 51 (Appendix 2H).



Figure 49. Final approved version of shot 90

Shot 100 was by far the hardest in terms of body mechanics and performance. It involves flying, landing, settling to a stop and several reactions from Benjamin involving his surroundings. This is where the researcher got to do the most iterations, particularly revolving around Benjamin's facial expressions and his wing posing. Some of the main differences can be seen in Figure 52 (see Appendix 2I for more).

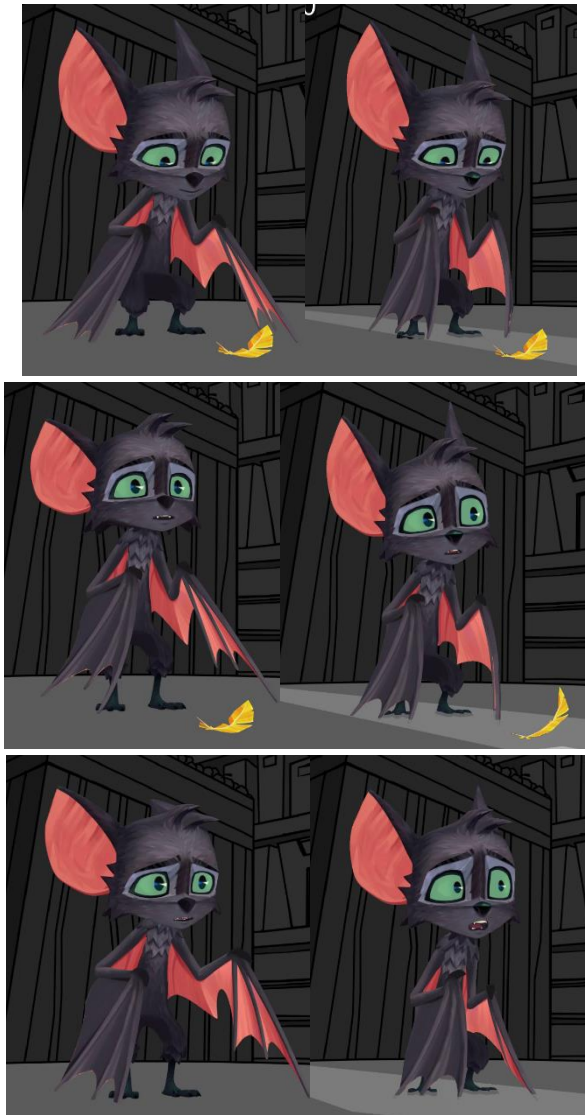


Figure 50. Iterations in body and facial posing

The final result can be seen in Figure 53.

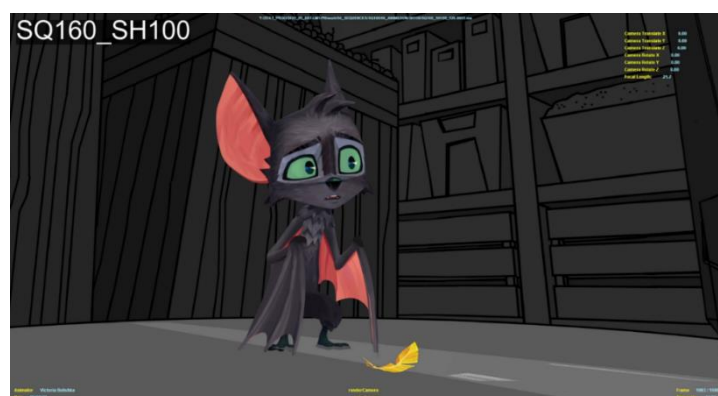


Figure 51. Final approved version of shot 100

Conclusion

Animation is a medium that takes many forms – from 2D to 3D and stop-motion, the possibilities are endless. Even though they are completely different techniques, the main, core principles remain the same. In order for a motion to be believable, it should always follow the 12 principles of animation. In order to effectively sell a character's performance, one should go deeper into advanced acting and body mechanics theory.

Generally, 2D animation is a medium that is known for its exaggeration – it seems like there are no limits when it comes to it. In 3D, we generally see more naturalistic movement in movies released in the past 30 years, with a few exceptions. In order for the animation style in 'Benjamin Bat' to work, blending the CG characters with 2D backgrounds, lays in exaggeration and expressive shapes. The movement should not feel naturalistic, but also it should not be too cartoony. As the animation supervisor of the movie said, the main things that an animator should keep in mind (besides all of the theory) are silhouette, line of action, the pose-to-pose method and asymmetry. Only then can one create believable movement that feels '2D' and works for this particular movie.

How to achieve a sufficient animation workflow in a feature animated production?

Research methodology

In order to answer sub-question 4, the student will gather information by going through the extensive animation documentation on the 'Benjamin Bat' forum, as well as collecting tips and tricks from the animation supervisor of the film.

Research results

In the following section, the researcher will explain the general guidelines that all animated shots in the movie followed. These principles stem from the animation theory discussed in the previous sub-questions, along with insights gained from the director and supervisor's personal experiences working on a feature animated project. The purpose of these guidelines is to outline the animator's key areas of focus and time investment, aiming to avoid unnecessary steps and inefficiencies.

Briefing

During the briefing, the director provides valuable insights regarding the acting, composition, and underlying meaning of each shot in the sequence. The animation supervisor highlights any potential technical challenges that may arise in a specific sequence. Additionally, the Production Manager provides a timeframe indicating when all tasks need to be completed. This is also the opportune moment for animators to seek clarifications and ask questions about their assigned shots, ensuring clarity and avoiding confusion in later stages (Lewis van der Werf, 2023).

Planning

When creating a plan, it is essential to consider the deadline, the designated time for the entire sequence, and the difficulty level of each shot. Based on these factors, a rough plan should be developed. The intention is not to strictly adhere to the plan, but rather to break down a broad and abstract deadline into manageable sub-deadlines that are easier to comprehend (Lewis van der Werf, 2023).

In order to give best explain, the researcher will present the following example:

Animator A has received a briefing for a 15 seconds-long sequence, consisting of four shots and a total time of five workdays. Afterwards, the following steps should be considered:

Step 1: Calculating the quota.

15 animation seconds need to be done in five workdays, so that is three seconds of final animation per day.

Step 2: Mapping out specific shots, based on their difficulty and characteristics (Figure 54)

Shots	Seconds/frames	Shot specifics	Difficulty rating	Work hours/days
Shot 01	3 sec/72f	1 character, close	1 star	0.4 workdays
Shot 02	3 sec/72f	2 characters, medium	2 stars	0.8 workdays
Shot 03	3 sec/72f	2 characters, wide, lots of contacts, props	4 stars	1.4 workdays
Shot 04	6 sec/144f	3 characters, wide, not a lot of action	3 stars	2.4 workdays

Figure 52. Shots ranking example

The total estimated work hours should align with the number of workdays allocated to an animator. These estimations tend to improve as animators gain more experience within the production. Categorizing shots based on their level of difficulty aids in maintaining focus and prevents excessive time spent on easier shots.

Physical interaction between characters and props often presents a significant difficulty factor. Other considerations include the number of characters involved, subtle and emotionally nuanced acting, as well as dynamic shots. However, these factors can vary greatly depending on the animator's individual strengths and weaknesses, making them highly subjective (Lewis van der Werf, 2023).

Step 3: Planning the sequence based on the estimations (Figure 55).

Monday	shot 01 - animation blocking - 0.2 workdays. shot 02 - animation blocking - 0.4 workdays. shot 03 - animation blocking - 0.4 workdays
Tuesday	shot 03 - animation blocking - 0.1 workdays. shot 04 - animation blocking - 0.9 workdays
Wednesday	shot 04 - animation blocking - 0.3 workdays. Animation blocking review - 0.1 workdays. Retakes after blocking review - 0.3 workdays. shot 01 - animation polish - 0.1 workdays shot 02 - animation polish - 0.2 workdays
Thursday	shot 03 - animation polish - 0.4 workdays shot 04 - animation polish - 0.6 workdays
Friday	shot 04 - animation polish - 0.3 workdays Animation Polish Review - 0.1 workdays Retakes after Polish Review - 0.6 workdays

Figure 53. Planning example

The animation supervisor indicates that approximately half of his time is typically spent on the blocking phase. The polishing phase occupies around 25 to 33% of his time, while the remaining time is allocated to reviews and retakes of shots. It is worth noting that retakes may not be evenly distributed across an animator's shots. For instance, shot 1 may require no feedback, while shot 2 may necessitate several adjustments.

Video reference and thumbnails

Utilizing video reference and quick sketches can be an effective method to gain inspiration before working in Maya. According to the animation supervisor, recording reference footage involves three steps: experimenting with various gestures and movements, taking a short break to analyze the footage and identify what works and what doesn't, and then reshooting with a specific timing in mind (Lewis van der Werf, 2023).

Thumbnails and quick sketches are particularly useful during this stage, especially when envisioning acting for non-humanoid characters. When thumbnailing, it is essential to focus on the silhouette and break down the detailed video reference into more stylized poses (Lewis van der Werf, 2023).

Key poses

Key poses are the pivotal poses that convey the character's emotion and define their presence in a shot. They serve as the foundation upon which the animation blocking will be constructed. After creating these key poses, an animator can seek the animation supervisor's feedback. If the supervisor approves the poses, the animator can confidently proceed to block additional poses, as they have already established the two crucial aspects: acting and emotion (Lewis van der Werf, 2023).

Animation Blocking

An effective animation blocking leaves no room for ambiguity or explanation when presented to supervisors and directors. Ideally, the animator should aim to convey the intended message without any verbal explanation. For a typical acting shot, the following elements should be included: key poses, anticipation, breakdowns, eases, overshoots (the character briefly exceeds the designated end pose before settling into position) and texturing (optional - nodding, shaking, wiggling, or pointing) (Lewis van der Werf, 2023).

Animation Polish

This phase doesn't have a one-size-fits-all formula that applies to every animator and every shot. The main objective is to make the animation smoother while maintaining the timing established during blocking. The most important elements to focus on during this final stage are lip sync (should be seen as an additional layer on top of the existing mouth expressions), adding more in-betweens, overlapping action, micro animations (subtle head rotation or an eye dart) and arcs (Lewis van der Werf, 2023).

Additional tools to speed up the overall animation process.

The toolset known as 'AnimBot' is highly powerful and widely used by the majority of renowned full-feature film and AAA game studios. With its extensive collection of over 150 functions, it significantly reduces production time for Maya animators.

Another noteworthy tool is 'Studio Library,' specifically designed for managing poses and animations within Autodesk Maya. When working on the production of 'Benjamin Bat,' this tool serves as a repository for storing various poses (facial expressions, wing movements, etc.) and animations (walk cycles, run cycles, hover flights, etc.), thereby streamlining the animator's workflow.

Animation pickers also prove immensely valuable. 'mGear,' a rigging framework for Maya, forms the foundation for all character rigs in the production. This tool offers the convenience of selecting controllers through a single interface, eliminating the need to navigate Maya's viewport in search of specific controllers.

A project management tool is essential during the production of 'Benjamin Bat,' and the team relies on 'Sentinel' for this purpose. Sentinel facilitates time tracking, provides access to briefings and feedback from supervisors or directors, and offers a clear overview of task readiness and potential retakes.

Additionally, 'Keyframe Pro' serves as a highly useful playback and review tool. Primarily utilized by supervisors, it enables the addition of detailed frame-by-frame notes for animators. This tool allows animators to visually identify any issues with their animation on specific frames, leading to a streamlined feedback application process.

Prototyping and testing

Testing was done by comparing the initial ratings and time spent on blocking between shot 100 from sequence 160 and shot 80 from a new sequence that the researcher recently got assigned – 155. Both shots can be seen in Figure 55.



Figure 54. SQ155_SH080 and SQ160_SH100

Initially, both of these shots were ranked as follows (Figure 57):

Shots	Seconds/frames	Shot specifics	Difficulty rating	Work hours/days
SQ155_SH080	6,3s/152f	4 characters, no facial expressions, flight cycles, wide shot, selling different characters through flying	3 stars	3 workdays
SQ160_SH100	3,6s/86f	1 character, 1 object, facial expressions	2 stars	2 workdays

Figure 55. Shots comparison

The researcher decided to focus on shot 100 due to its demanding nature, consuming the most time (27.5 hours) and presenting significant challenges compared to other shots in sequence 160. Although the shot involves a single character, the researcher faced difficulties in conveying the desired performance through body and facial expressions, resulting in numerous retakes. Insufficient pre-planning caused the researcher to spend hours grappling with understanding the scene. Moreover, no animations from 'Studio Library' were utilized for both the face and body, further prolonging the process.

Shot 80 from sequence 155 is a wide shot depicting the three bat brothers and their father flying towards their bat tower. While facial posing is not required, the shot is generally complex due to the inclusion of four characters, each with distinct paths of action and unique wing beats that reflect their individual personalities. Despite having nearly double the number of frames compared to shot 100, the researcher spent 21 hours on blocking (including initial blocking and retakes), which is significantly less time compared to the shot with a single character.

The crucial difference lies in the meticulous planning undertaken by the researcher for shot 80 in sequence 155. Time was efficiently allocated, and the shot was submitted for review three times during the blocking stage. Another effective approach employed by the researcher was utilizing pre-existing 'Studio Library' animations that had been previously created. This approach substantially reduced the workload and provided a solid foundation for the student to customize the four characters based on their unique personalities.

Several factors should be taken into consideration. The blocking for shot 100 in sequence 160 was completed in April, whereas shot 80 in sequence 155 was worked on in June. During this time, the researcher significantly improved their understanding of animation, production processes, and meeting deadlines. Additionally, shot 100 involved facial posing and conveying various changes in body and expressions, which the researcher had limited prior experience in. Furthermore, the researcher did not have the opportunity to record any reference material, resulting in additional delays for that shot.

Conclusion

Establishing a smooth workflow is crucial in a feature animated production, particularly when there is a daily or weekly quota to meet. As an intern, the researcher did not have a specific quota but recognized the importance of learning how to achieve a faster workflow.

Simply having knowledge of animation theory is not sufficient for increasing an animator's speed and efficiency. However, having a well-defined process and being open-minded about different approaches to a shot can certainly be beneficial. In the case of this specific movie, which focuses on animal animation, relying solely on personal footage recording is not always feasible. Whenever time permits, thorough planning prior to working on a shot can significantly reduce the amount of time required. Creating thumbnail sketches proves especially valuable for this movie, as they provide a solid foundation for key poses and facilitate blending CG characters with 2D backgrounds.

Another crucial aspect of maintaining an efficient workflow is to adhere to the general guidelines of the production, even if different animation methods are employed. Additionally, it is important not only to incorporate feedback from supervisors or directors but also to build upon it, further enhancing the animation. Furthermore, animation tools play a vital role in expediting an animator's workflow. Prior to working on 'Benjamin Bat,' the researcher solely relied on manual animation using viewport selection of controls and did not utilize any pre-made animations to streamline their own process. However, the introduction of tools like AnimBot, animation pickers, and 'Studio Library' animations significantly reduce production time, as evidenced by the comparison conducted earlier between SQ155_SH080 and SQ160_SH100.

It is worth emphasizing that achieving an efficient workflow requires time and practice. Each production presents unique demands, necessitating adaptability on the part of the animator.

INTERACTIVE ANIMATION BOOK

Since in this document the student could only really present their research, a decision was made to make an interactive animation book in Unreal Engine for presenting all polished animations made during the internship (Figure 58). An already existing first person view interactive book from the Unreal Engine's marketplace was purchased (created by the user 'ThatLittleSpider'), that provided the researcher with ability to add a cover page, normal pages (up to 25, 50 – front and back), and to use widgets such as text and images. Everything is done using blueprints.



Figure 56. Interactive animation book in Unreal Engine 5

The researcher built up upon that already existing functionality by creating simple blueprints in the 'Level blueprint' as well as the widgets themselves, that trigger the animations to play in full screen in the viewport by pressing different keyboard buttons (Figure 59).

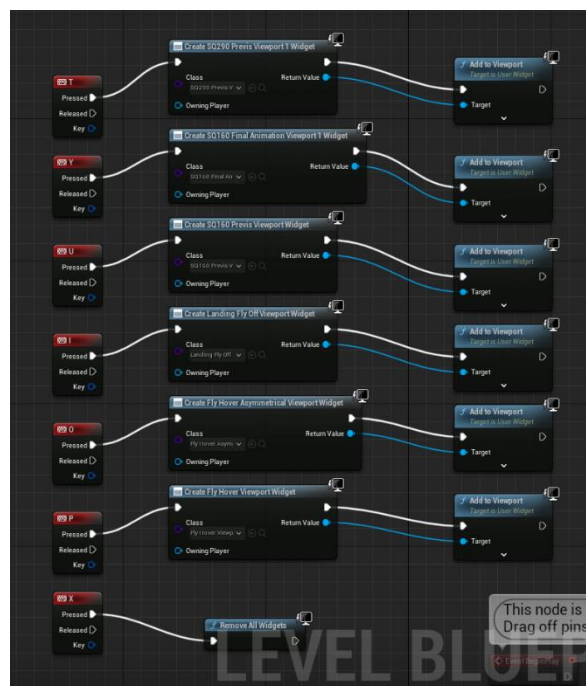


Figure 57. Level blueprint

CONCLUSION

Based on extensive research, prototyping, and testing conducted throughout the graduation internship, several conclusions can be drawn. To comprehensively address the research question *‘How to create animations for 3D characters, in order to achieve a stylized, but yet believable movement that translates well with 2D backgrounds in a feature animation movie, animated in 12fps, that will be presented in an interactive book using Unreal Engine 5?’*, the researcher divided it into three primary topics (sub-questions).

The first sub-question focused on exploring techniques to seamlessly integrate CG characters with 2D backgrounds, utilizing previsualization (previs) techniques. Achieving a seamless blend between CG characters and 2D backgrounds requires the essential initial step of previsualization. The primary goal of previs is to establish optimal camera settings and establish the relationship between the characters and their environment. Although previs does not have a ‘golden’ formula and can sometimes require quite a lot cheating of the perspective, this process holds great significance for animators. It provides a clear visual representation of the characters' positions and the camera's perspective, enabling precise animation of the shot. Through thorough research, guidance, gathering feedback, and engaging in iterative processes, the student successfully created a total of 12 previsualization shots that received approval from the directors. Among these shots, six were subsequently animated by them and the other six served as a foundation for animation work in the movie.

The second sub-question centered around comprehending the fundamental principles of animation theory essential for animating believable body mechanics and captivating performances. In order to excel as an animator, it is crucial to possess knowledge of when and how to apply the 12 principles of animation. Additionally, proficiency in utilizing advanced acting techniques is vital to effectively convey the character's performance. By mastering these theoretical foundations, animators can effortlessly create the desired animation style required for the movie. This is proven by the six director-approved shots the student created in the first two months of their internship.

Finally, the third sub-question focused on attaining an efficient workflow during the creation of the feature animation. Although there is still much for the researcher to learn in this area, it is crucial to prioritize following the general guidelines established by the supervisor and directors. While comprehensive planning may not always be feasible due to time limitations, it frequently leads to a significant reduction in the time animators spend on animation. Additionally, the use of powerful plugins like AnimBot can minimize manual labor, and leveraging pre-existing animations from the animation library as a foundation for their work has also been proven advantageous. These factors are substantiated by a comparison of the time the researcher spent on blocking two vastly different shots, with less time spent on a more intricate shot.

To summarize, the three outcomes derived from these sub-questions directly contribute to addressing the research question while simultaneously delivering valuable, fully refined assets for the production.

FUTURE RECOMMENDATIONS

In terms of future recommendations, the researcher suggests that individuals involved in feature animated productions should prioritize improving their understanding of timing and meticulously planning their shots. While this can be challenging, especially for newcomers, it is essential to engage in detailed planning regarding the specific tasks to be accomplished within a given week.

Another important recommendation would be to allocate time for recording real-life references, particularly for shots involving acting. Analyzing the nuances of facial expressions and body movements can significantly reduce the time spent animating in software like Maya. Although the researcher did not follow this practice, opting instead to animate based on intuition, it proved to be a valuable learning experience. However, it also resulted in missed deadlines throughout the production process.

The third and final recommendation for novice animators is to continuously seek new knowledge and guidance. Actively seeking feedback from supervisors and directors proved to be the most valuable tool for the researcher's skill development as an animator. The remarkable transformation in the researcher's perspective and knowledge over the course of five months is truly astounding and that is all thanks to the constant feedback sessions and the insights gained during the internship.

REFLECTION

Throughout my graduation internship, my supervisor pointed out that my greatest strength and weakness was my perfectionism. I could always be relied upon by the supervisor and director to take their feedback seriously and incorporate it into my work. However, this perfectionistic approach often led to inefficiencies in my workflow. I would become fixated on minute details, sometimes neglecting more significant and prominent actions in my shots. Despite not having a specific quota as an intern, I still felt that I missed important deadlines where I could have submitted my work. Nevertheless, this experience proved to be extremely valuable, and I am committed to improving in this aspect, especially as I prepare to begin as a junior animator at the same studio in mid-July.

Throughout the internship, I faced the challenge of handling my university redoes while also dealing with personal issues that inevitably impacted my performance in the workspace. Despite my active efforts to prevent these factors from affecting my work, they did contribute to a few missed deadlines and instances of being late. Additionally, as the sole international member in the team during the initial three-month period, I experienced imposter syndrome in the office. However, I made a conscious effort to overcome this feeling since it was impacting my behavior at work, causing me to be more distant and less talkative.

Eventually, I do feel that I successfully integrated with the individuals in the studio and actually became quite close with most of them. We engaged in interesting discussions during lunchtime, covering not just animation but also various aspects of life. What left a significant impression on me was that despite each person having a distinct role within the team, everyone was approachable, and there was no noticeable sense of hierarchy. I am immensely grateful for having the opportunity to meet and work with these individuals as I learned a tremendous amount from them. The experience will always hold a special place in my heart.

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APPENDIX

Appendix 1. Previs feedback from Sentinel and file versions (they represent how many times the files were published, or in other words - how many iterations were done).

1A – SQ160_SH050

Name	Date modified	Type	Size
 SQ160_SH050_001.0001	21/02/2023 11:59	Maya ASCII File	62 KB
 SQ160_SH050_001.0002	22/02/2023 14:22	Maya ASCII File	2.943 KB
 SQ160_SH050_001.0002	22/02/2023 14:21	Keyframe Pro me...	344 KB
 SQ160_SH050_001.0003	23/02/2023 15:10	Maya ASCII File	2.987 KB
 SQ160_SH050_001.0003	23/02/2023 15:09	Keyframe Pro me...	327 KB
 SQ160_SH050_002.0001	28/02/2023 15:29	Maya ASCII File	3.029 KB
 SQ160_SH050_002.0001	28/02/2023 15:28	Keyframe Pro me...	314 KB
 SQ160_SH050_003.0001	06/03/2023 15:43	Maya ASCII File	3.028 KB
 SQ160_SH050_003.0001	06/03/2023 15:43	Keyframe Pro me...	321 KB
 SQ160_SH050_004.0001	06/03/2023 16:20	Maya ASCII File	3.028 KB
 SQ160_SH050_004.0001	06/03/2023 16:17	Keyframe Pro me...	315 KB
 SQ160_SH050_005.0001	06/03/2023 16:20	Maya ASCII File	3.028 KB

SQ160_SH050 - 3D Previs

Users assigned: Victoria Belishka
 Estimation: 1:00h
 Priority: **HIGH**
 Status: **DIR-APPR**
 Completion: 100%
 Worked time: 3:00h

[+ ADD RECORD](#)

Retakes

Danielle De Jonge added a retake on Mon, 6 Mar 2023 13:25:
 He locks his eyes, down in front of him; in his body, you will see a slight shock upwards with the neck, then he goes down directly after that.
 Make B exit screen entirely.
 Victoria Belishka has marked the retake as finished on Mon, 6 Mar 2023 16:21

22 May 2023

13:54 **SS** Sarah Sutter changed completion to 100%







13 March 2023

15:29 **SS** Sarah Sutter has changed status to **DIR-APPR**

6 March 2023

16:57 **LVD** Lewis Van Der Werf has changed status to **PR-APPR**
 16:57 **LVD** Lewis Van Der Werf changed completion to 80%
 16:21 **VB** Victoria Belishka has logged time: 1:00h

1B - SQ160_SH060

Name	Date modified	Type
 SQ160_SH060_001.0001	23/02/2023 15:11	Maya ASCII File
 SQ160_SH060_001.0001	23/02/2023 15:11	Keyframe Pro me...
 SQ160_SH060_002.0001	28/02/2023 14:44	Maya ASCII File
 SQ160_SH060_003.0001	01/03/2023 17:28	Maya ASCII File
 SQ160_SH060_003.0001	01/03/2023 17:27	Keyframe Pro me...
 SQ160_SH060_004.0001	01/03/2023 17:28	Maya ASCII File

SQ160_SH060 - 3D Previs

Users assigned: Victoria Belishka
 Estimation: 1:00h
 Priority: **HIGH**
 Status: **DIR-APPR**
 Completion: 100%
 Worked time: 1:40h

[+ ADD RECORD](#)

Retakes

Lewis Van Der Werf added a retake on Wed, 1 Mar 2023 10:32:
 Benjamin can be less far in the background at the end of the shot. Frame 1030 can be his final position.
 Victoria Belishka has marked the retake as finished on Wed, 1 Mar 2023 17:28

22 May 2023

13:54 **SS** Sarah Sutter changed completion to 100%






13 March 2023

15:29 **SS** Sarah Sutter has changed status to **DIR-APPR**







6 March 2023

15:15 **DDJ** Danielle De Jonge has changed status to **PR-APPR**
 15:15 **DDJ** Danielle De Jonge changed completion to 80%
 09:17 **LVD** Lewis Van Der Werf has changed status to **NL SUP-APPR**













1C - SQ160_SH070

Name	Date modified	Type	SQ160_SH070 - 3D Previs
 SQ160_SH070_001.0001	24/02/2023 14:05	Maya ASCII	<p>Users assigned: Victoria Belishka Estimation: 1:00h Priority: Normal Status: DIR-APPR Completion: 100% Worked time: 3:30h</p> <p>+ ADD RECORD</p> <p>Retakes</p> <p>Lewis Van Der Werf added a retake on Wed, 1 Mar 2023 10:34: Benji is yelling for Sherida. And then loses feather from hands. Also have the feather move towards screen more. (and get bigger) Victoria Belishka has marked the retake as finished on Thu, 2 Mar 2023 16:03</p> <p>22 May 2023</p> <p>13:54 SS Sarah Sutter changed completion to 100%</p> <p>13 March 2023</p> <p>15:29 SS Sarah Sutter has changed status to DIR-APPR</p> <p>6 March 2023</p> <p>15:15 DDJ Danielle De Jonge has changed status to PR-APPR</p> <p>15:15 DDJ Danielle De Jonge changed completion to 80%</p> <p>09:21 LVD Lewis Van Der Werf has changed status to NL SUP-APPR</p>
 SQ160_SH070_001.0001	24/02/2023 14:05	Keyframe Preview	
 SQ160_SH070_002.0001	02/03/2023 16:03	Maya ASCII	
 SQ160_SH070_002.0001	02/03/2023 16:02	Keyframe Preview	
 SQ160_SH070_003.0001	02/03/2023 16:03	Maya ASCII	

1D - SQ160_SH090

Name	Date modified	Type	SQ160_SH090 - 3D Previs
 SQ160_SH090_001.0001	28/02/2023 12:12	Maya ASCII	<p>Users assigned: Victoria Belishka Estimation: 1:00h Priority: Normal Status: DIR-APPR Completion: 100% Worked time: 2:00h</p> <p>+ ADD RECORD</p> <p>22 May 2023</p> <p>13:54 SS Sarah Sutter changed completion to 100%</p> <p>13 March 2023</p> <p>15:29 SS Sarah Sutter has changed status to DIR-APPR</p> <p>6 March 2023</p> <p>15:15 DDJ Danielle De Jonge has changed status to PR-APPR</p> <p>15:15 DDJ Danielle De Jonge changed completion to 80%</p> <p>1 March 2023</p> <p>10:36 LVD Lewis Van Der Werf has changed status to NL SUP-APPR</p> <p>10:36 LVD Lewis Van Der Werf changed completion to 70%</p> <p>28 February 2023</p> <p>10:57 VB Victoria Belishka has logged time: 2:00h</p>
 SQ160_SH090_001.0002	28/02/2023 14:49	Maya ASCII	
 SQ160_SH090_001.0002	28/02/2023 14:48	Keyframe Preview	
 SQ160_SH090_002.0001	28/02/2023 14:56	Maya ASCII	
 SQ160_SH090_002.0001	28/02/2023 14:55	Keyframe Preview	
 SQ160_SH090_003.0001	28/02/2023 14:57	Maya ASCII	

1E - SQ160_SH080

Name	Date modified	Type	Size	
 SQ160_SH080_001.0001	24/02/2023 15:27	Maya ASCII File		
 SQ160_SH080_001.0001	24/02/2023 15:27	Keyframe Pro me...		
 SQ160_SH080_002.0001	01/03/2023 17:34	Maya ASCII File		
 SQ160_SH080_002.0001	01/03/2023 17:34	Keyframe Pro me...		
 SQ160_SH080_003.0001	06/03/2023 10:06	Maya ASCII File		
 SQ160_SH080_003.0001	06/03/2023 10:06	Keyframe Pro me...		
 SQ160_SH080_004.0001	06/03/2023 10:06	Maya ASCII File		
 SQ160_SH080_004.0002	20/03/2023 14:08	Maya ASCII File		
 SQ160_SH080_004.0002	20/03/2023 14:04	Keyframe Pro me...		
 SQ160_SH080_004.0003	20/03/2023 14:19	Maya ASCII File		
 SQ160_SH080_004.0003	20/03/2023 14:16	Keyframe Pro me...		
 SQ160_SH080_005.0001	20/03/2023 14:20	Maya ASCII File		

SQ160_SH080 - 3D Previs

Users assigned: Victoria Belishka
Estimation: 1:00h
Priority: Normal
Status: DIR-APPR
Completion: 100%
Worked time: 2:10h

+ ADD RECORD

Retakes

Danielle De Jonge added a retake on Wed, 15 Mar 2023 14:31:

Please animate the door (ask Niels how to do this with the layout that's available)

Victoria Belishka has marked the retake as finished on Mon, 20 Mar 2023 14:03

Lewis Van Der Werf added a retake on Mon, 6 Mar 2023 09:20:

Starting position of the feather is good now. Ending position too. But the feather should be smaller at the end position - to indicate it is further away from the camera. If you are unsure how to accomplish this, please contact Bas or Niels.













Victoria Belishka has marked the retake as finished on Mon, 6 Mar 2023 10:11

Lewis Van Der Werf added a retake on Wed, 1 Mar 2023 10:36:

Feather bigger and closer to camera in the beginning. Ends a bit lower in frame and preferably smaller/more in depth.

Victoria Belishka has marked the retake as finished on Wed, 1 Mar 2023 17:34

1F - SQ160_SH100

Name	Date modified	Type	Size	
 SQ160_SH100_001.0001	23/02/2023 15:12	Maya ASCII File		
 SQ160_SH100_001.0001	23/02/2023 15:12	Keyframe Pro me...		
 SQ160_SH100_002.0001	23/02/2023 16:26	Maya ASCII File		
 SQ160_SH100_002.0001	23/02/2023 16:26	Keyframe Pro me...		
 SQ160_SH100_003.0001	23/02/2023 16:31	Maya ASCII File		
 SQ160_SH100_003.0001	23/02/2023 16:30	Keyframe Pro me...		
 SQ160_SH100_004.0001	24/02/2023 11:15	Maya ASCII File		
 SQ160_SH100_004.0002	01/03/2023 17:19	Maya ASCII File		
 SQ160_SH100_004.0002	01/03/2023 17:18	Keyframe Pro me...		
 SQ160_SH100_005.0001	20/03/2023 11:40	Maya ASCII File		
 SQ160_SH100_005.0001	20/03/2023 11:40	Keyframe Pro me...		
 SQ160_SH100_006.0001	20/03/2023 11:43	Maya ASCII File		

SQ160_SH100 - 3D Previs

Users assigned: Lewis Van Der Werf, Victoria Belishka
Estimation: 1:00h
Priority: Normal
Status: DIR-APPR
Completion: 100%
Worked time: 4:00h

+ ADD RECORD

Retakes

Danielle De Jonge added a retake on Wed, 15 Mar 2023 14:34:

Adjust the floor so that the feather is higher in the frame but still has contact with the floor.
(In Maya, we keep the floor as is)


Victoria Belishka has marked the retake as finished on Mon, 20 Mar 2023 11:41

Lewis Van Der Werf added a retake on Wed, 1 Mar 2023 10:40:






Lewis: I edited the scene, please make final rendercamera and playblast. And also use this camera angle for your shot 120

Victoria Belishka has marked the retake as finished on Wed, 1 Mar 2023 17:23

22 May 2023

13:54  Sarah Sutter changed completion to 100%

1G – SQ290_SH010

Name	Date modified	Type
 SQ290_SH010_001.0001	12/04/2023 14:43	Maya ASCII File
 SQ290_SH010_001.0001	12/04/2023 14:42	Keyframe Proxy
 SQ290_SH010_002.0001	13/04/2023 10:13	Maya ASCII File
 SQ290_SH010_002.0001	13/04/2023 10:12	Keyframe Proxy
 SQ290_SH010_003.0001	13/04/2023 10:13	Maya ASCII File

SQ290_SH010 - 3D Previs

Users assigned: Victoria Belishka
 Estimation: 1:00h
 Priority: Normal
 Status: DIR-APPR
 Completion: 80%
 Worked time: 3:30h

+ ADD RECORD

31 May 2023

16:27 SS Sarah Sutter has changed status to DIR-APPR

22 May 2023

15:59 AK Ami Krusheva has changed status to PR-APPR

15:59 AK Ami Krusheva changed completion to 80%

13 April 2023

10:13 VB Victoria Belishka added a comment: fixed textures for Sherida






12 April 2023

15:18 VB Victoria Belishka added a comment: Sherida's texture didn't work when I playblasted the shot.

14:25 VB Victoria Belishka has logged time: 3:30h

14:25 VB Victoria Belishka has changed status to SUP-RVW

1H– SQ290_SH020

Name	Date modified	Type
 SQ290_SH020_001.0001	11/05/2023 11:58	Maya ASCII File
 SQ290_SH020_001.0001	11/05/2023 11:57	Keyframe Proxy
 SQ290_SH020_002.0001	11/05/2023 14:59	Maya ASCII File
 SQ290_SH020_002.0001	11/05/2023 14:58	Keyframe Proxy
 SQ290_SH020_003.0001	11/05/2023 15:27	Maya ASCII File

SQ290_SH020 - 3D Previs

Users assigned: Victoria Belishka
 Estimation: 1:00h
 Priority: Normal
 Status: DIR-APPR
 Completion: 80%
 Worked time: 8:00h

+ ADD RECORD

31 May 2023

16:27 SS Sarah Sutter has changed status to DIR-APPR

22 May 2023

15:59 AK Ami Krusheva has changed status to PR-APPR

15:59 AK Ami Krusheva changed completion to 80%

11 May 2023

13:22 VB Victoria Belishka has logged time: 4:00h

13:22 VB Victoria Belishka has changed status to SUP-RVW










13 April 2023

15:27 VB Victoria Belishka has logged time: 1:00h














12 April 2023

17:54 VB Victoria Belishka has logged time: 3:00h










1I – SQ290_SH030

Name	Date modified	Type	Side
 SQ290_SH030_001.0001	16/05/2023 16:23	Maya ASCII File	<div> SQ290_SH030 - 3D Previs <p>Users assigned: Victoria Belishka Estimation: 1:00h Priority: Normal Status: DIR-APPR Completion: 80% Worked time: 8:25h</p> <p>+ ADD RECORD</p> Retakes <p>Ami Krusheva added a retake on Mon, 22 May 2023 14:23: Make Benji look a bit more to the left (not that much to the right) Victoria Belishka has marked the retake as finished on Fri, 26 May 2023 10:16</p> <p>Ami Krusheva added a retake on Fri, 19 May 2023 16:43: Camera a bit lower on the floor, so Sherida can come a bit closer/ bigger to the camera. Victoria Belishka has marked the retake as finished on Mon, 22 May 2023 08:52</p> <p>31 May 2023</p> <p>16:27 SS Sarah Sutter has changed status to DIR-APPR</p> <p>15:53 AK Ami Krusheva has changed status to PR-APPR</p> <p>15:53 AK Ami Krusheva changed completion to 80%</p> <p>26 May 2023</p> <p>10:16 VB Victoria Belishka has logged time: 0:15h</p> </div>
 SQ290_SH030_001.0001	16/05/2023 16:22	Keyframe Preview	
 SQ290_SH030_002.0001	16/05/2023 16:43	Maya ASCII File	
 SQ290_SH030_002.0001	16/05/2023 16:43	Keyframe Preview	
 SQ290_SH030_003.0001	22/05/2023 08:52	Maya ASCII File	
 SQ290_SH030_003.0001	22/05/2023 08:50	Keyframe Preview	
 SQ290_SH030_004.0001	26/05/2023 10:15	Maya ASCII File	
 SQ290_SH030_004.0001	26/05/2023 10:14	Keyframe Preview	
 SQ290_SH030_005.0001	26/05/2023 10:30	Maya ASCII File	

1J – SQ290_SH040

Name	Date modified	Type	Side
 SQ290_SH040_001.0001	18/05/2023 13:59	Maya ASCII File	<div> SQ290_SH040 - 3D Previs <p>Users assigned: Victoria Belishka Estimation: 1:00h Priority: HIGH Status: DIR-APPR Completion: 80% Worked time: 6:00h</p> <p>+ ADD RECORD</p> Retakes <p>Ami Krusheva added a retake on Mon, 22 May 2023 14:25: Make Sherida a bit bigger (more like into the STB) Victoria Belishka has marked the retake as finished on Fri, 26 May 2023 10:41</p> <p>Ami Krusheva added a retake on Mon, 22 May 2023 14:24: Better HU of Benji's position and size please Victoria Belishka has marked the retake as finished on Fri, 26 May 2023 11:43</p> <p>Ami Krusheva added a retake on Fri, 19 May 2023 16:44: Sherida can be a bit more close and more to the right. Victoria Belishka has marked the retake as finished on Mon, 22 May 2023 09:13</p> <p>Ami Krusheva added a retake on Fri, 19 May 2023 16:43: Beter hookup position Benji in the beginning of the shot. Victoria Belishka has marked the retake as finished on Mon, 22 May 2023 09:13</p> </div>
 SQ290_SH040_001.0001	18/05/2023 13:57	Keyframe Preview	
 SQ290_SH040_002.0001	22/05/2023 09:10	Maya ASCII File	
 SQ290_SH040_002.0001	22/05/2023 09:09	Keyframe Preview	
 SQ290_SH040_003.0001	26/05/2023 11:14	Maya ASCII File	
 SQ290_SH040_003.0001	26/05/2023 11:13	Keyframe Preview	
 SQ290_SH040_004.0001	26/05/2023 11:19	Maya ASCII File	
 SQ290_SH040_004.0001	26/05/2023 11:19	Keyframe Preview	
 SQ290_SH040_005.0001	26/05/2023 11:42	Maya ASCII File	
 SQ290_SH040_005.0001	26/05/2023 11:41	Keyframe Preview	
 SQ290_SH040_006.0001	31/05/2023 11:01	Maya ASCII File	
 SQ290_SH040_006.0001	31/05/2023 11:00	Keyframe Preview	
 SQ290_SH040_007.0001	31/05/2023 11:01	Maya ASCII File	

1K – SQ290_SH045

Name	Date modified
 SQ290_SH045_001.0001	19/05/2023 11:11
 SQ290_SH045_001.0001	19/05/2023 11:11
 SQ290_SH045_002.0001	22/05/2023 09:26
 SQ290_SH045_002.0001	22/05/2023 09:25
 SQ290_SH045_003.0001	26/05/2023 12:11
 SQ290_SH045_003.0001	26/05/2023 12:10
 SQ290_SH045_004.0001	31/05/2023 11:12
 SQ290_SH045_004.0001	31/05/2023 11:11
 SQ290_SH045_005.0001	31/05/2023 11:13

Type

SQ290_SH045 - 3D Previs

Maya

Users assigned: Victoria Belishka

Keyfr

Estimation: 1:00h

Maya

Priority: Normal

Keyfr

Status: DIR-APPR

Maya

Completion: 80%

Keyfr

Worked time: 1:55h

Maya

+ ADD RECORD

Retakes

Maya

Ami Krusheva added a retake on Mon, 22 May 2023 14:26:

Keyfr

Sherida is still too big when she flies off

Keyfr

Victoria Belishka has marked the retake as finished on Fri, 26 May 2023 12:08

Maya

Ami Krusheva added a retake on Fri, 19 May 2023 16:44:

Keyfr

Sherida is too big when she flies off

Keyfr

Victoria Belishka has marked the retake as finished on Mon, 22 May 2023 09:26

31 May 2023

16:27

SS Sarah Sutter has changed status to DIR-APPR

15:53

AK Ami Krusheva has changed status to PR-APPR

15:53










AK Ami Krusheva changed completion to 80%

11:00

VB Victoria Belishka has logged time: 0:10h

06 May 2023

1L – SQ290_SH050

Name	Date modified
 SQ290_SH050_001.0001	19/05/2023 15:30
 SQ290_SH050_001.0001	19/05/2023 15:29
 SQ290_SH050_002.0001	22/05/2023 09:45
 SQ290_SH050_002.0001	22/05/2023 09:44
 SQ290_SH050_003.0001	26/05/2023 12:35
 SQ290_SH050_003.0001	26/05/2023 12:34
 SQ290_SH050_004.0001	31/05/2023 15:08
 SQ290_SH050_004.0001	31/05/2023 15:08
 SQ290_SH050_005.0001	31/05/2023 15:09

Type

SQ290_SH050 - 3D Previs

Maya AS

Users assigned: Victoria Belishka

Keyframe

Estimation: 1:00h

Maya AS

Priority: Normal

Keyframe

Status: DIR-APPR

Maya AS

Completion: 80%

Keyframe

Worked time: 4:35h

Maya AS

+ ADD RECORD

Retakes

Maya AS

Ami Krusheva added a retake on Mon, 22 May 2023 14:27:

Keyframe

Camera a bit lower and looking up (Frog perspective) Please sit with Patrick

Keyframe

Victoria Belishka has marked the retake as finished on Fri, 26 May 2023 12:35

Maya AS

Ami Krusheva added a retake on Fri, 19 May 2023 16:44:

Keyframe

Camera a bit lower and looking up (Frog perspective)

Keyframe

Victoria Belishka has marked the retake as finished on Mon, 22 May 2023 09:47

31 May 2023

16:27

SS Sarah Sutter has changed status to DIR-APPR

15:53

AK Ami Krusheva has changed status to PR-APPR

15:53

AK Ami Krusheva changed completion to 80%

13:34



VB Victoria Belishka has logged time: 0:15h

11:00

VB Victoria Belishka has logged time: 0:40h

Appendix 2 – Animation Blocking and Polish feedback and file versions (they represent how many times the files was published, or in other words - how many iterations were done).

2A – SQ000_SH270

 SQ000_SH270_001.0001	 SQ000_SH270_003.0002
 SQ000_SH270_001.0001	 SQ000_SH270_004.0001
 SQ000_SH270_001.0001_front	 SQ000_SH270_004.0002
 SQ000_SH270_001.0001_front_feedback	 SQ000_SH270_004.0002
 SQ000_SH270_001.0001_persp	 SQ000_SH270_005.0001
 SQ000_SH270_001.0001_side	 SQ000_SH270_005.0001
 SQ000_SH270_001.0001_side_feedback	 SQ000_SH270_006.0001
 SQ000_SH270_001.0002	 SQ000_SH270_006.0002
 SQ000_SH270_001.0002	 SQ000_SH270_006.0002
 SQ000_SH270_001.0002_front	
 SQ000_SH270_001.0002_side	
 SQ000_SH270_002.0001	
 SQ000_SH270_002.0002	
 SQ000_SH270_002.0003	
 SQ000_SH270_002.0003	
 SQ000_SH270_002.0003_front	
 SQ000_SH270_002.0003_side	
 SQ000_SH270_003.0001	
 SQ000_SH270_003.0001_LewisLegEdit	
 SQ000_SH270_003.0001_LewisLegEdit	
 SQ000_SH270_003.0001_Variations	
 SQ000_SH270_003.0001_Variations2_front	
 SQ000_SH270_003.0001_Variations2_side	
 SQ000_SH270_003.0001_Variations3_front	
 SQ000_SH270_003.0001_Variations3_side	
 SQ000_SH270_003.0002	

SQ000_SH270_Benji_FC_hover - Animation - Blocking

Users assigned: Victoria Belishka
 Estimation: 0:00h
 Priority: Normal
 Status: SUP-RVV
 Completion: 50%
 Worked time: 19:00h

[+ ADD RECORD](#)

Retakes

Lewis Van Der Werf added a retake on Tue, 21 Feb 2023 13:29:

Thanks Victoria. Looks promising. See the feedback in the keyframe pro playlist here; Y:\ZEILT_PROD\2022_05_BAT-LM1-PR\final\REVIEW_NL\Anim\230221_Review_LW_flycycles

Victoria Belishka has marked the retake as finished on Wed, 1 Mar 2023 15:21

6 March 2023

13:32 VB Victoria Belishka has logged time: 2:00h

13:32 VB Victoria Belishka has changed status to SUP-RVV

13:32 VB Victoria Belishka added a comment: added variations








2 March 2023

14:48 VB Victoria Belishka has changed status to SUP-RVV

10:00 VB Victoria Belishka has changed status to WIP

09:59 VB Victoria Belishka has logged time: 4:00h

2A – SQ000_SH440

Name	Date modified	Type
 SQ000_SH440_001.0001	11/04/2023 16:53	Maya ASCII File
 SQ000_SH440_001.0001	11/04/2023 16:52	Keyframe Pro metafile
 SQ000_SH440_002.0001	21/04/2023 16:18	Maya ASCII File
 SQ000_SH440_002.0001	21/04/2023 16:18	Keyframe Pro metafile
 SQ000_SH440_003.0001	25/04/2023 11:46	Maya ASCII File
 SQ000_SH440_003.0001	25/04/2023 11:45	Keyframe Pro metafile
 SQ000_SH440_004.0001	25/04/2023 11:46	Maya ASCII File

SQ000_SH440_Benji_hover_asymmetric - Animation - Blocking

Users assigned: Victoria Belishka
Estimation: 0:00h
Priority: Normal
Status: SUP-RVW
Completion: 0%
Worked time: 7:00h

[+ ADD RECORD](#)

25 April 2023

11:46 VB Victoria Belishka has logged time: 1:00h

11:46 VB Victoria Belishka has changed status to SUP-RVW

21 April 2023

16:23 VB Victoria Belishka has logged time: 4:00h

16:23 VB Victoria Belishka has changed status to SUP-RVW

11:09 VB Victoria Belishka has changed status to WIP
























11 April 2023

15:48 VB Victoria Belishka has logged time: 2:00h

15:48 VB Victoria Belishka has changed status to SUP-RVW

15:29 VB Victoria Belishka has changed status to WIP

2C – SQ000_SH330

Name	Date modified	Type	Size
 SQ000_SH330_001.0001	07/03/2023 11:50	Maya ASCII File	5.000 KB
 SQ000_SH330_001.0002	15/03/2023 23:09	Maya ASCII File	5.261 KB
 SQ000_SH330_001.0002	10/03/2023 15:07	Keyframe Pro metafile	139 KB
 SQ000_SH330_001.0002_front	10/03/2023 15:04	Keyframe Pro metafile	157 KB
 SQ000_SH330_001.0002_side	10/03/2023 15:06	Keyframe Pro metafile	116 KB
 SQ000_SH330_001.0003	15/03/2023 23:09	Maya ASCII File	6.715 KB
 SQ000_SH330_001.0003	13/03/2023 15:58	Keyframe Pro metafile	111 KB
 SQ000_SH330_001.0004	15/03/2023 23:09	Maya ASCII File	6.715 KB
 SQ000_SH330_001.0004	13/03/2023 17:53	Keyframe Pro metafile	150 KB
 SQ000_SH330_002.0001	15/03/2023 23:09	Maya ASCII File	8.330 KB
 SQ000_SH330_002.0001	14/03/2023 18:58	Keyframe Pro metafile	215 KB
 SQ000_SH330_003.0001	15/03/2023 23:09	Maya ASCII File	10.235 KB
 SQ000_SH330_003.0001.maa43536	15/03/2023 11:07	MAA43536 File	8.689 KB
 SQ000_SH330_003.0001	15/03/2023 13:59	Keyframe Pro metafile	227 KB
 SQ000_SH330_004.0001	15/03/2023 23:09	Maya ASCII File	10.393 KB
 SQ000_SH330_004.0001	15/03/2023 17:01	Keyframe Pro metafile	221 KB
 SQ000_SH330_005.0001	16/03/2023 17:55	Maya ASCII File	11.862 KB
 SQ000_SH330_005.0001	16/03/2023 17:55	Keyframe Pro metafile	302 KB
 SQ000_SH330_006.0001	11/04/2023 15:29	Maya ASCII File	15.552 KB
 SQ000_SH330_006.0001	11/04/2023 15:26	Keyframe Pro metafile	230 KB
 SQ000_SH330_007.0001	12/04/2023 09:55	Maya ASCII File	15.555 KB
 SQ000_SH330_007.0001	12/04/2023 09:55	Keyframe Pro metafile	230 KB
 SQ000_SH330_008.0001	07/06/2023 12:17	Maya ASCII File	21.614 KB

SQ000_SH330_Benji_FC_StandintoHover - Animation - Blocking

Users assigned: Victoria Belishka
Estimation: 0:00h
Priority: Normal
Status: SUP-RVW
Completion: 0%
Worked time: 28:30h

[+ ADD RECORD](#)

6 June 2023

17 May 2023

11 April 2023

15:29 VB Victoria Belishka has logged time: 4:00h

15:29 VB Victoria Belishka has changed status to SUP-RVW

5 April 2023

13:20 VB Victoria Belishka has logged time: 2:30h

13:20 VB Victoria Belishka has changed status to WIP


























10:00 VB Victoria Belishka has changed status to WIP

15 March 2023

14:00 VB Victoria Belishka has logged time: 2:00h

14:00 VB Victoria Belishka has changed status to SUP-RVW

2D – SQ160_SH050

Name	Date modified	Type	Size
 SQ160_SH050_001.0001	20/03/2023 17:57	Maya ASCII File	6.998 KB
 SQ160_SH050_001.0001	20/03/2023 17:57	Keyframe Pro me...	91 KB
 SQ160_SH050_002.0001	21/03/2023 14:55	Maya ASCII File	7.394 KB
 SQ160_SH050_002.0001	21/03/2023 14:53	Keyframe Pro me...	115 KB
 SQ160_SH050_002.0002	21/03/2023 12:10	Maya ASCII File	7.280 KB
 SQ160_SH050_003.0001	21/03/2023 17:53	Maya ASCII File	7.316 KB
 SQ160_SH050_003.0001	21/03/2023 17:53	Keyframe Pro me...	116 KB
 SQ160_SH050_004.0001	22/03/2023 11:13	Maya ASCII File	7.268 KB
 SQ160_SH050_004.0002	22/03/2023 12:15	Maya ASCII File	7.270 KB
 SQ160_SH050_004.0002	22/03/2023 12:14	Keyframe Pro me...	111 KB
 SQ160_SH050_005.0001	22/03/2023 18:00	Maya ASCII File	7.735 KB
 SQ160_SH050_005.0001.maa08952	22/03/2023 17:44	MAA08952 File	7.742 KB
 SQ160_SH050_005.0001	22/03/2023 17:59	Keyframe Pro me...	134 KB
 SQ160_SH050_005.0002	22/03/2023 15:59	Maya ASCII File	7.853 KB
 SQ160_SH050_006.0000_lewisedit	26/03/2023 15:19	Keyframe Pro me...	5.517 KB
 SQ160_SH050_006.0001	23/03/2023 10:38	Maya ASCII File	7.786 KB
 SQ160_SH050_006.0001	23/03/2023 10:37	Keyframe Pro me...	134 KB
 SQ160_SH050_007.0000_lewisedit	26/03/2023 15:19	Maya ASCII File	6.731 KB
 SQ160_SH050_007.0001	14/04/2023 16:36	Maya ASCII File	7.871 KB
 SQ160_SH050_007.0001	14/04/2023 16:36	Keyframe Pro me...	138 KB
 SQ160_SH050_008.0001	25/04/2023 15:34	Maya ASCII File	7.906 KB
 SQ160_SH050_008.0001	25/04/2023 15:30	Keyframe Pro me...	232 KB
 SQ160_SH050_009.0001	03/05/2023 12:56	Maya ASCII File	7.932 KB
 SQ160_SH050_009.0001	03/05/2023 12:56	Keyframe Pro me...	235 KB
 SQ160_SH050_010.0001	03/05/2023 12:56	Maya ASCII File	7.932 KB

SQ160_SH050 - Animation - Blocking

Users assigned: Victoria Belishka

Estimation: 0:00h

Priority: Normal

Status: DIR-APPR

Completion: 100%

Worked time: 15:00h

+ ADD RECORD

6 June 2023

22 May 2023

14:12

SS Sarah Sutter changed completion to 100%

17 May 2023

12 April 2023

16:59

DDJ Danielle De Jonge has changed status to DIR-APPR

27 March 2023

11:19

LVD Lewis Van Der Werf has changed status to NL SUP-APPR

11:19

LVD Lewis Van Der Werf added a comment:
I like it! Less poses in your next blocking please :)

11:19

LVD Lewis Van Der Werf changed completion to 70%

SQ160_SH050 - Animation - Polish

Users assigned: Victoria Belishka

Estimation: 0:00h

Priority: Normal

Status: DIR-DIS

Completion: 80%

Worked time: 9:45h

+ ADD RECORD

Retakes

Ami Krusheva added a retake on Fri, 21 Apr 2023 15:38:

The wings need to move a bit more asymmetrically

Victoria Belishka has marked the retake as finished on Tue, 25 Apr 2023 15:35

6 June 2023

5 June 2023

15:54

DDJ Danielle De Jonge has changed status to DIR-DIS

22 May 2023

11:56

AK Ami Krusheva has changed status to PR-APPR

11:56

AK Ami Krusheva changed completion to 80%

17 May 2023

11 May 2023

13:41

AK Ami Krusheva has changed status to NL SUP-APPR

2E – SQ160_SH060

SQ160_SH060_001.0001	SQ160_SH060_013.0001	SQ160_SH060_026.0001
SQ160_SH060_001.0001	SQ160_SH060_014.0001	SQ160_SH060_026.0001
SQ160_SH060_002.0001	SQ160_SH060_014.0001	SQ160_SH060_027.0001
SQ160_SH060_002.0001	SQ160_SH060_015.0001	
SQ160_SH060_003.0001	SQ160_SH060_015.0001	
SQ160_SH060_003.0001	SQ160_SH060_016.0001	
SQ160_SH060_004.0001	SQ160_SH060_016.0001	
SQ160_SH060_004.0001.maa23892	SQ160_SH060_017.0001	
SQ160_SH060_004.0001	SQ160_SH060_017.0001	
SQ160_SH060_005.0001	SQ160_SH060_018.0001	
SQ160_SH060_005.0001	SQ160_SH060_018.0001	
SQ160_SH060_006.0001	SQ160_SH060_019.0001	
SQ160_SH060_006.0001	SQ160_SH060_019.0001	
SQ160_SH060_007.0001	SQ160_SH060_020.0001	
SQ160_SH060_007.0001	SQ160_SH060_020.0001	
SQ160_SH060_008.0001	SQ160_SH060_021.0001	
SQ160_SH060_008.0001	SQ160_SH060_021.0001	
SQ160_SH060_009.0001	SQ160_SH060_022.0001	
SQ160_SH060_009.0001	SQ160_SH060_022.0001	
SQ160_SH060_010.0001	SQ160_SH060_023.0001	
SQ160_SH060_010.0001	SQ160_SH060_023.0001	
SQ160_SH060_011.0001	SQ160_SH060_024.0001	
SQ160_SH060_011.0001	SQ160_SH060_024.0001	
SQ160_SH060_012.0001	SQ160_SH060_025.0001	
SQ160_SH060_012.0001	SQ160_SH060_025.0002	
SQ160_SH060_013.0001	SQ160_SH060_025.0002	

SQ160_SH060 - Animation - Blocking

Users assigned: Victoria Belishka
 Estimation: 0:00h
 Priority: Normal
 Status: DIR-APPR
 Completion: 100%
 Worked time: 11:40h

[+ ADD RECORD](#)

Retakes

Lewis Van Der Werf added a retake on Mon, 10 Apr 2023 22:59:

If you can build in the anticipated landing, it is good!
 Rotate him, so that his legs start reaching for the branch and his wings try to slow down the speed. This will start probably 10 frames before the end of the shot.
 Thanks!

Victoria Belishka has marked the retake as finished on Tue, 11 Apr 2023 11:20

Lewis Van Der Werf added a retake on Thu, 6 Apr 2023 16:30:

Shift whole animation of Benji 4 or so frames earlier.
 At the end have him slow down and slightly anticipate landing on the branch

Victoria Belishka has marked the retake as finished on Fri, 7 Apr 2023 11:00

Lewis Van Der Werf added a retake on Mon, 27 Mar 2023 12:42:

Cool!
 Could you alter the path, so that he approaches the ledge from the right? Make more sense with the hookup.
 Maybe also rotate the little fellow mid-way shot for a more dynamic flight.

Victoria Belishka has marked the retake as finished on Thu, 30 Mar 2023 14:03

SQ160_SH060 - Animation - Polish

Users assigned: Victoria Belishka
 Estimation: 0:00h
 Priority: Normal
 Status: DIR-APPR
 Completion: 80%
 Worked time: 12:00h

[+ ADD RECORD](#)

Retakes

Ami Krusheva added a retake on Fri, 21 Apr 2023 15:36:

Needs a bit of rework at the end of the shot in order to hook up better with next

Victoria Belishka has marked the retake as finished on Tue, 25 Apr 2023 17:28

6 June 2023

22 May 2023

14:09 SS Sarah Sutter has changed status to DIR-APPR

11:56 AK Ami Krusheva has changed status to PR-APPR

11:56 AK Ami Krusheva changed completion to 80%

17 May 2023


























11 May 2023

13:41 AK Ami Krusheva has changed status to NL SUP-APPR

5 May 2023

14:57 VB Victoria Belishka has logged time: 3:30h

2F – SQ160_SH070

 SQ160_SH070_001.0001	 SQ160_SH070_012.0001
⏮ SQ160_SH070_001.0001	⏮ SQ160_SH070_012.0001
 SQ160_SH070_002.0001	 SQ160_SH070_013.0001
⏮ SQ160_SH070_002.0001	⏮ SQ160_SH070_013.0001
 SQ160_SH070_003.0001	 SQ160_SH070_014.0001
⏮ SQ160_SH070_003.0001	⏮ SQ160_SH070_014.0001
 SQ160_SH070_004.0001	 SQ160_SH070_015.0001
⏮ SQ160_SH070_004.0001	⏮ SQ160_SH070_015.0001
 SQ160_SH070_005.0001	 SQ160_SH070_016.0001
 SQ160_SH070_005.0001.maa	⏮ SQ160_SH070_016.0001
⏮ SQ160_SH070_005.0001	 SQ160_SH070_017.0001
 SQ160_SH070_005.0002	⏮ SQ160_SH070_017.0001
⏮ SQ160_SH070_005.0002	 SQ160_SH070_018.0001
 SQ160_SH070_006.0001	⏮ SQ160_SH070_018.0001
⏮ SQ160_SH070_006.0001	 SQ160_SH070_019.0001
 SQ160_SH070_007.0001	⏮ SQ160_SH070_019.0001
⏮ SQ160_SH070_007.0001	 SQ160_SH070_020.0001
 SQ160_SH070_008.0001	⏮ SQ160_SH070_020.0001
⏮ SQ160_SH070_008.0001	 SQ160_SH070_021.0001
 SQ160_SH070_009.0001	⏮ SQ160_SH070_021.0001
 SQ160_SH070_009.0001.maa25892	 SQ160_SH070_022.0001
⏮ SQ160_SH070_009.0001	
 SQ160_SH070_010.0001	
⏮ SQ160_SH070_010.0001	
 SQ160_SH070_011.0001	
⏮ SQ160_SH070_011.0001	

SQ160_SH070 - Animation - Blocking

Users assigned: Victoria Belishka
 Estimation: 0:00h
 Priority: Normal
 Status: DIR-APPR
 Completion: 100%
 Worked time: 23:40h

+ ADD RECORD

Retakes

Ami Krusheva added a retake on Fri, 21 Apr 2023 15:30:
The surprise needs to be longer
 Lewis Van Der Werf has marked the retake as out on Fri, 21 Apr 2023 16:11

Lewis Van Der Werf added a retake on Tue, 18 Apr 2023 08:06:
 Hi! Expression is better. Let's fix the eyelines a little bit before the directors review on wednesday. Please see the drawover in this folder:
 Y:\ZEILT_PROD\2022_05_BATLM1-PR\final\00_REVIEW\REVIEW_NL\Anim\230418_Review_LW_170-160-020
 Victoria Belishka has marked the retake as finished on Tue, 18 Apr 2023 10:35

Y:\ZEILT_PROD\2022_05_BATLM1-PR\final\00_REVIEW\REVIEW_NL\Anim\230418_Review_LW_170-160-020
 Victoria Belishka has marked the retake as finished on Tue, 18 Apr 2023 10:35

Danielle De Jonge added a retake on Wed, 12 Apr 2023 16:51:
 also upon looking through the crack, his expression can be bigger, more scared
 Victoria Belishka has marked the retake as finished on Thu, 13 Apr 2023 14:41

Danielle De Jonge added a retake on Wed, 12 Apr 2023 16:50:
 Reaction of Benji is nice, but his facial pose on that beat can be bigger.
 Victoria Belishka has marked the retake as finished on Thu, 13 Apr 2023 14:41

Lewis Van Der Werf added a retake on Thu, 6 Apr 2023 16:32:
 Feather can end closer to the camera
 Victoria Belishka has marked the retake as finished on Fri, 7 Apr 2023 11:47

Lewis Van Der Werf added a retake on Thu, 6 Apr 2023 16:31:
 Yeah I love this.
 Can you let Benji come in a bit earlier, and less snappy/cartoonish?
 Then 1 eye dart as he looks around, before he calls for Sherida.
 Victoria Belishka has marked the retake as finished on Fri, 7 Apr 2023 11:47

SQ160_SH070 - Animation - Polish

Users assigned: Victoria Belishka
 Estimation: 0:00h
 Priority: Normal
 Status: DIR-APPR
 Completion: 80%
 Worked time: 29:30h

+ ADD RECORD

6 June 2023

25 May 2023

14:47 SS Sarah Sutter has changed status to DIR-APPR

22 May 2023

15:56 AK Ami Krusheva has changed status to PR-APPR

15:56 AK Ami Krusheva changed completion to 80%

17 May 2023

11 May 2023

13:41 AK Ami Krusheva has changed status to NL SUP-APPR
























8 May 2023

13:27 VB Victoria Belishka has logged time: 3:30h

13:27 VB Victoria Belishka has changed status to SUP-RVV




















5 May 2023

2G – SQ160_SH080

Name	Date modified	Type	Size
 SQ160_SH080_001.0001	28/03/2023 16:57	Maya ASCII File	172 KB
 SQ160_SH080_001.0001	28/03/2023 16:57	Keyframe Pro me...	252 KB
 SQ160_SH080_002.0001	28/03/2023 17:50	Maya ASCII File	174 KB
 SQ160_SH080_002.0001	28/03/2023 17:49	Keyframe Pro me...	217 KB
 SQ160_SH080_003.0001	29/03/2023 16:15	Maya ASCII File	175 KB
 SQ160_SH080_003.0001	29/03/2023 16:14	Keyframe Pro me...	216 KB
 SQ160_SH080_004.0001	14/04/2023 17:01	Maya ASCII File	180 KB
 SQ160_SH080_004.0001	14/04/2023 17:01	Keyframe Pro me...	222 KB
 SQ160_SH080_005.0001	14/04/2023 17:27	Maya ASCII File	181 KB
 SQ160_SH080_005.0001	14/04/2023 17:26	Keyframe Pro me...	222 KB
 SQ160_SH080_006.0001	18/04/2023 16:25	Maya ASCII File	185 KB
 SQ160_SH080_006.0001	18/04/2023 16:21	Keyframe Pro me...	230 KB
 SQ160_SH080_007.0001	18/04/2023 17:34	Maya ASCII File	191 KB
 SQ160_SH080_007.0001	18/04/2023 17:34	Keyframe Pro me...	229 KB
 SQ160_SH080_008.0001	18/04/2023 17:55	Maya ASCII File	195 KB
 SQ160_SH080_008.0001	18/04/2023 17:54	Keyframe Pro me...	236 KB
 SQ160_SH080_009.0001	19/04/2023 17:38	Maya ASCII File	194 KB
 SQ160_SH080_009.0001	19/04/2023 17:37	Keyframe Pro me...	313 KB
 SQ160_SH080_010.0001	05/05/2023 15:21	Maya ASCII File	208 KB
 SQ160_SH080_010.0001	05/05/2023 15:20	Keyframe Pro me...	314 KB
 SQ160_SH080_011.0001	14/06/2023 16:18	Maya ASCII File	216 KB
 SQ160_SH080_011.0001	14/06/2023 16:17	Keyframe Pro me...	494 KB
 SQ160_SH080_012.0001	14/06/2023 16:18	Maya ASCII File	216 KB

SQ160_SH080 - Animation - Blocking	SQ160_SH080 - Animation - Polish
<p>Users assigned: Victoria Belishka</p> <p>Estimation: 0:00h</p> <p>Priority: Normal</p> <p>Status: DIR-APPR</p> <p>Completion: 100%</p> <p>Worked time: 1:20h</p> <p>+ ADD RECORD</p> <p>22 May 2023</p> <p>14:12 SS Sarah Sutter changed completion to 100%</p> <p>17 May 2023</p> <p>12 April 2023</p> <p>16:59 DDJ Danielle De Jonge has changed status to DIR-APPR</p> <p>6 April 2023</p> <p>12:46 LVD Lewis Van Der Werf has changed status to NL SUP-APPR</p> <p>12:46 LVD Lewis Van Der Werf changed completion to 70%</p> <p>29 March 2023</p> <p>15:59 VB Victoria Belishka has logged time: 0:20h</p> <p>15:59 VB Victoria Belishka has changed status to SUP-RVW</p> <p>28 March 2023</p> <p>17:01 VB Victoria Belishka has logged time: 1:00h</p>	<p>Users assigned: Victoria Belishka</p> <p>Estimation: 0:00h</p> <p>Priority: Normal</p> <p>Status: DIR-APPR</p> <p>Completion: 0%</p> <p>Worked time: 5:20h</p> <p>+ ADD RECORD</p> <p>6 June 2023</p> <p>17 May 2023</p> <p>21 April 2023</p> <p>15:38 AK Ami Krusheva has changed status to DIR-APPR</p> <p>19 April 2023</p> <p>17:39 VB Victoria Belishka has logged time: 0:20h</p> <p>17:39 VB Victoria Belishka has changed status to SUP-RVW</p> <p>18 April 2023</p> <p>17:52 VB Victoria Belishka has logged time: 2:00h</p> <p>15:19 VB Victoria Belishka has logged time: 2:00h</p> <p>14 April 2023</p> <p>17:29 VB Victoria Belishka has logged time: 1:00h</p> <p>16:41 VB Victoria Belishka has changed status to WIP</p>

2H – SQ160_SH090

Name	Date modified	Type	Size
 SQ160_SH090_001.0001	30/03/2023 12:49	Maya ASCII File	6.779 KB
 SQ160_SH090_001.0001	30/03/2023 12:49	Keyframe Pro me...	92 KB
 SQ160_SH090_002.0001	30/03/2023 16:41	Maya ASCII File	7.210 KB
 SQ160_SH090_002.0001	30/03/2023 16:41	Keyframe Pro me...	96 KB
 SQ160_SH090_003.0001	30/03/2023 16:52	Maya ASCII File	7.210 KB
 SQ160_SH090_003.0001	30/03/2023 16:52	Keyframe Pro me...	94 KB
 SQ160_SH090_004.0001	30/03/2023 17:02	Maya ASCII File	7.210 KB
 SQ160_SH090_004.0001	30/03/2023 17:02	Keyframe Pro me...	188 KB
 SQ160_SH090_005.0001	30/03/2023 17:06	Maya ASCII File	7.210 KB
 SQ160_SH090_005.0001	30/03/2023 17:06	Keyframe Pro me...	94 KB
 SQ160_SH090_006.0001	07/04/2023 12:13	Maya ASCII File	8.273 KB
 SQ160_SH090_006.0001	07/04/2023 12:13	Keyframe Pro me...	93 KB
 SQ160_SH090_007.0001	28/04/2023 14:26	Maya ASCII File	7.440 KB
 SQ160_SH090_007.0001	28/04/2023 14:25	Keyframe Pro me...	176 KB
 SQ160_SH090_008.0001	03/05/2023 17:14	Maya ASCII File	7.444 KB
 SQ160_SH090_008.0001	03/05/2023 17:13	Keyframe Pro me...	177 KB
 SQ160_SH090_009.0001	03/05/2023 17:34	Maya ASCII File	7.449 KB
 SQ160_SH090_009.0001	03/05/2023 17:34	Keyframe Pro me...	187 KB
 SQ160_SH090_010.0001	03/05/2023 17:35	Maya ASCII File	7.449 KB

SQ160_SH090 - Animation - Blocking

Users assigned: Victoria Belishka

Estimation: 0:00h

Priority: Normal

Status: DIR-APPR

Completion: 100%

Worked time: 6:20h

+ ADD RECORD

Retakes

Danielle De Jonge added a retake on Wed, 12 Apr 2023 16:53:

~~Upon landing, his facial expression can be relieved, calm. But only until the feather goes again and the light comes in.~~

Danielle De Jonge has marked the retake as out on Wed, 12 Apr 2023 16:59



Danielle De Jonge added a retake on Wed, 12 Apr 2023 16:52:

~~Have him have a bigger scare reaction when the light hits his face, contrasted with the landing.~~

Danielle De Jonge has marked the retake as out on Wed, 12 Apr 2023 16:59

Lewis Van Der Werf added a retake on Thu, 6 Apr 2023 16:32:

~~Tone down the anticipation of Benji, before he flies down. Maybe 70% towards the first pose.~~

Victoria Belishka has marked the retake as finished on Fri, 7 Apr 2023 12:14

SQ160_SH090 - Animation - Polish

Users assigned: Victoria Belishka

Estimation: 0:00h

Priority: Normal

Status: DIR-APPR

Completion: 80%

Worked time: 5:00h

+ ADD RECORD

6 June 2023

22 May 2023

14:09

SS

Sarah Sutter has changed status to DIR-APPR

11:56

AK

Ami Krusheva has changed status to PR-APPR

11:56

AK

Ami Krusheva changed completion to 80%

17 May 2023

11 May 2023

13:41

AK

Ami Krusheva has changed status to NL SUP-APPR

3 May 2023

16:41

VB

Victoria Belishka has logged time: 3:00h

16:41

VB



















Victoria Belishka has changed status to SUP-RVW

09:52

VB

Victoria Belishka has changed status to WIP

2I-SQ160_SH100

<h3>SQ160_SH100 - Animation - Blocking</h3> <p>Users assigned: Victoria Belishka</p> <p>Estimation: 0:00h</p> <p>Priority: Normal</p> <p>Status: DIR-APPR</p> <p>Completion: 100%</p> <p>Worked time: 27:30h</p> <p>+ ADD RECORD</p> <h4>Retakes</h4> <div>  <p>Lewis Van Der Werf added a retake on Mon, 17 Apr 2023 20:03:</p> <p>Push the emotion! I know you can do it, Victoria! :D</p> <p>See the images I have added to this feedback:</p> <ol style="list-style-type: none"> your pose when he spots the door. My adjusted pose after he spots the feather flying away. <p>So push the last expression a lot more: more scared, less sad.</p> <p>And also delay his reaction, so its not at the same time the feather flies away. He spots it 4-6 frames later.</p> <p>I have added this pose in my Studiolibary if you're having trouble getting to the desired emotion. But I advise to try it first! :)</p> <p>Victoria Belishka has marked the retake as finished on Tue, 18 Apr 2023 14:36</p> </div>	<div> <div>  <p>SQ160_SH100_005.0001</p> </div> <div>  <p>SQ160_SH100_006.0001</p> </div> <div>  <p>SQ160_SH100_007.0001</p> </div> <div>  <p>SQ160_SH100_008.0001</p> </div> <div>  <p>SQ160_SH100_009.0001</p> </div> <div>  <p>SQ160_SH100_010.0001</p> </div> <div>  <p>SQ160_SH100_011.0001</p> </div> <div>  <p>SQ160_SH100_012.0001</p> </div> <div>  <p>SQ160_SH100_013.0001</p> </div> </div> <div> <div>  <p>SQ160_SH100_019.0001</p> </div> <div>  <p>SQ160_SH100_020.0001</p> </div> <div>  <p>SQ160_SH100_021.0001</p> </div> <div>  <p>SQ160_SH100_022.0001</p> </div> <div>  <p>SQ160_SH100_023.0001</p> </div> <div>  <p>SQ160_SH100_024.0001</p> </div> <div>  <p>SQ160_SH100_025.0001</p> </div> <div>  <p>SQ160_SH100_026.0001</p> </div> </div>
<p>Lewis Van Der Werf added a retake on Wed, 12 Apr 2023 17:02:</p> <p>Have him have a bigger scare reaction when the light hits his face, contrasted with the landing. (see image below)</p> <p>Victoria Belishka has marked the retake as finished on Thu, 13 Apr 2023 16:53</p>	<h3>SQ160_SH100 - Animation - Polish</h3> <p>Users assigned: Victoria Belishka</p> <p>Estimation: 0:00h</p> <p>Priority: Normal</p> <p>Status: DIR-APPR</p> <p>Completion: 80%</p> <p>Worked time: 14:00h</p> <p>+ ADD RECORD</p>
<p>Danielle De Jonge added a retake on Wed, 12 Apr 2023 16:56:</p> <p>Upon landing, his facial expression can be relieved, calm. But only until the feathers goes again and the light comes in.</p> <p>Victoria Belishka has marked the retake as finished on Thu, 13 Apr 2023 16:53</p>	<p>6 June 2023</p> <p>22 May 2023</p> <p>14:09 SS Sarah Sutter has changed status to DIR-APPR</p>
<p>Danielle De Jonge added a retake on Wed, 12 Apr 2023 16:56:</p> <p>Victoria Belishka has marked the retake as finished on Thu, 13 Apr 2023 16:53</p>	<p>11:56 AK Ami Krusheva has changed status to PR-APPR</p>
<p>Lewis Van Der Werf added a retake on Mon, 10 Apr 2023 22:56:</p> <p>Hi Victoria! One small last note: Could you have Benjamin fly in a bit lower, so he doesn't get cut off by the camera framing as much? (see image) Maybe somewhere so we see his full forehead, but half his ears are cut off?</p> <p>Victoria Belishka has marked the retake as finished on Tue, 11 Apr 2023 10:25</p>	<p>11:56 AK Ami Krusheva changed completion to 80%</p> <p>11:55 AK Ami Krusheva added a comment: overlap on fingertips can use a better polish pass NTH</p>
<p>Lewis Van Der Werf added a retake on Thu, 6 Apr 2023 16:41:</p> <p>Can you soften up his fingers too? They feel quite stiff now. :)</p> <p>Victoria Belishka has marked the retake as finished on Fri, 7 Apr 2023 13:30</p>	<p>17 May 2023</p> <p>11 May 2023</p> <p>13:41 AK Ami Krusheva has changed status to NL SUP-APPR</p>
<p>Lewis Van Der Werf added a retake on Thu, 6 Apr 2023 16:34:</p> <p>Great job. I like the overall timing and lighting on the floor.</p> <p>When he looks upward, the body-motion can be more subtle. Only an eye dart/brow pose change/rotation of the head and slightly on the chest.</p> <p>Victoria Belishka has marked the retake as finished on Fri, 7 Apr 2023 13:30</p>	<p>8 May 2023</p> <p>15:57 VB Victoria Belishka has logged time: 2:00h</p> <p>15:57 VB Victoria Belishka has changed status to SUP-RVW</p>