



# Specimen 7

Animation Book  
Olivia Mercurio



# Specimen 7

## Animation Book

A Thesis Submitted to the Faculty of the Animation Department in Partial Fulfillment  
of the Requirements for the Degree of Master of Fine Arts in Animation at  
Savannah College of Art and Design

**Olivia Mercurio**

**Savannah**

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Dedicated to my family, whose support has  
been unwavering.



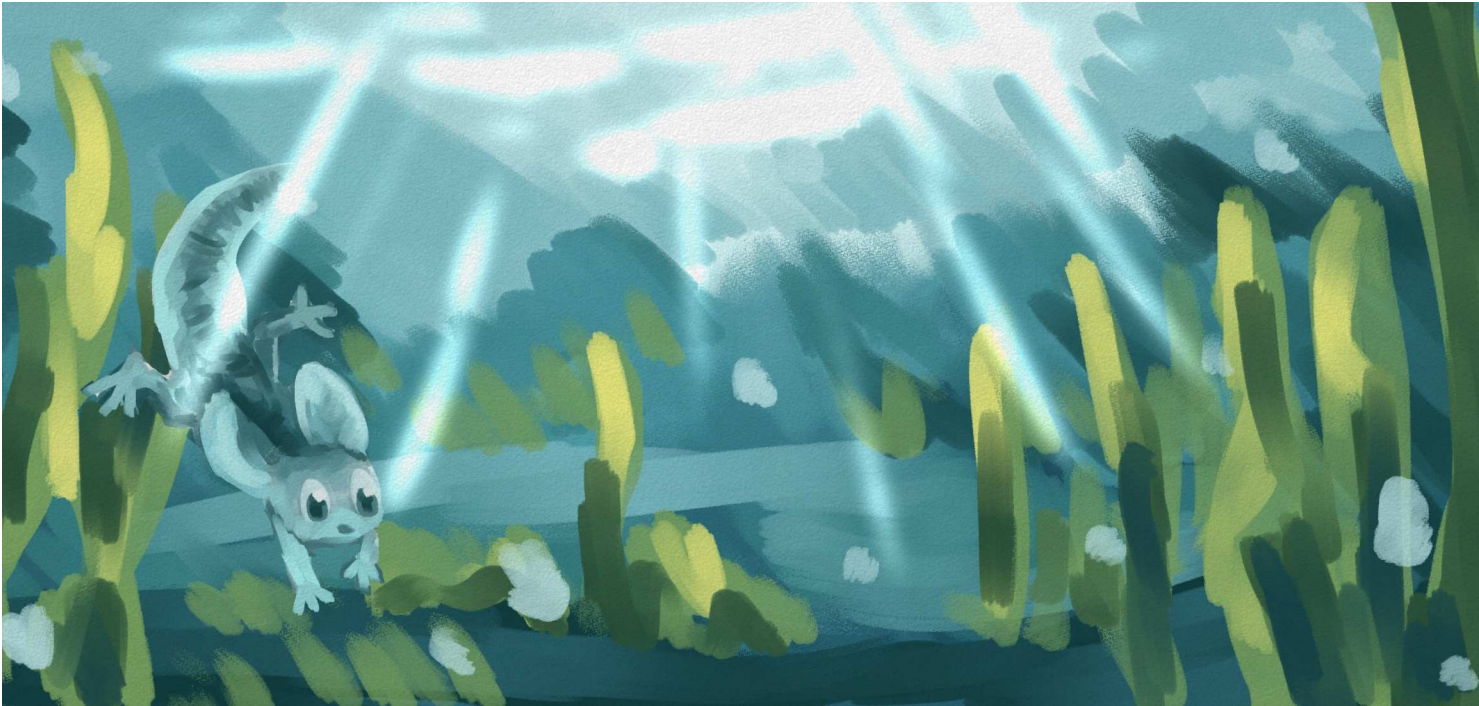
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o.1 Shot 1 color script

## **Specimen 7**

**Olivia Mercurio**

**August 2021**

There is a vast demand for nuanced stories evidenced by the immense success of cinema aimed at adult audiences. However, the medium of animation is often omitted from the discussion of adult-oriented film. That is not to say that there isn't animation already being made for adults. Popular series like *Rick and Morty* show that there is obviously mature content in the U.S animation industry, yet these films are not considered to be half as influential as shows like *Breaking Bad*. When it comes to complex and nuanced storytelling, the truth is that there is no animated equivalent to these live action films.

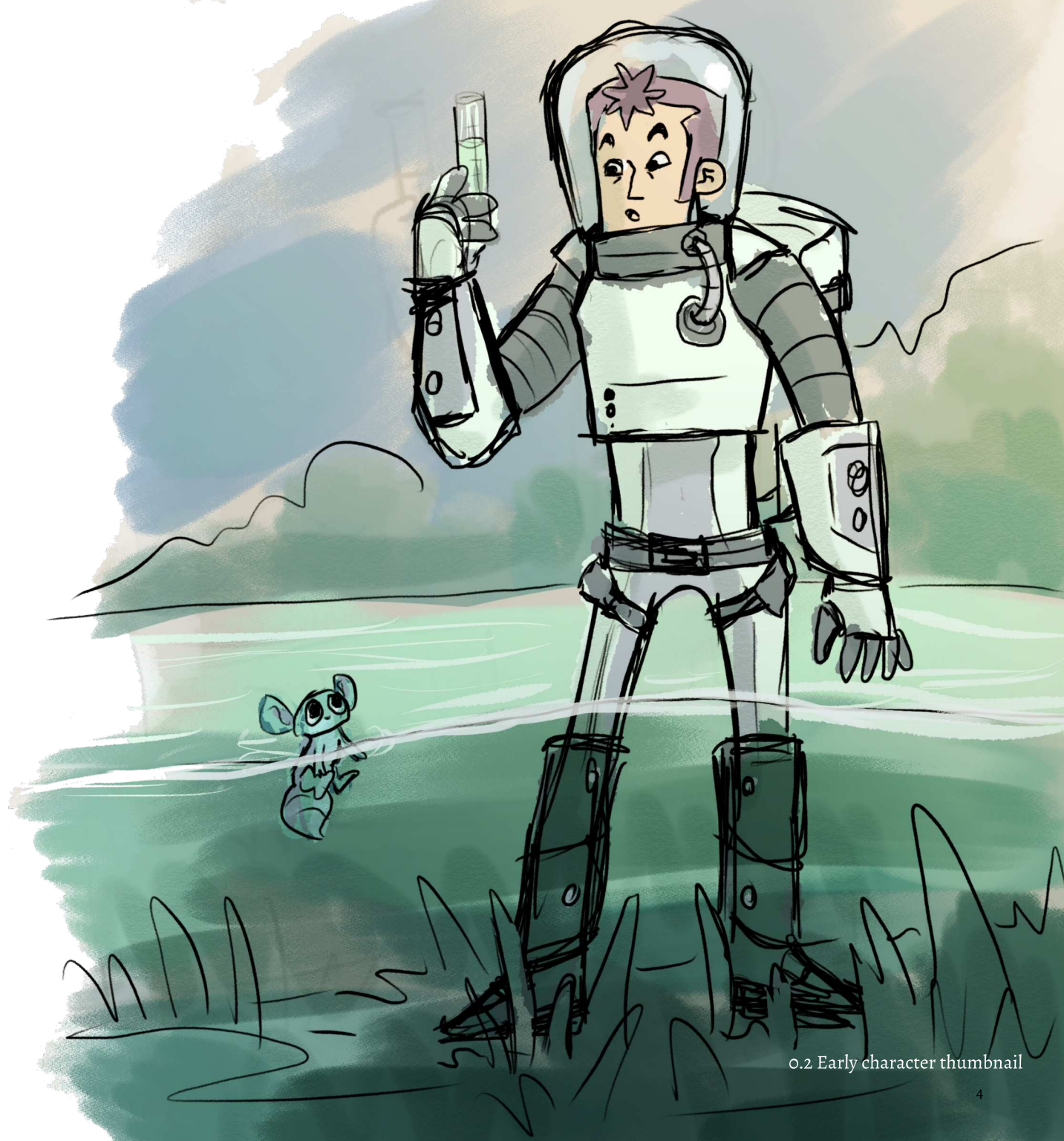
This void can be attributed to a combination of issues surrounding U.S animation, including an avoidance of social issues in narrative. U.S adult-oriented animated films also have a strong tendency towards nihilism, gratuitous sex, violence, and profanity. These tendencies undercut the filmmaker's ability to take on complex topics. If the filmmaker does not take a strong stance on social issues, the narrative will inherently lack depth and therefore lack appeal to an adult audience.

To make an impact on a mature audience, the filmmaker needs to use a multifaceted approach to the craft. This requires taking a strong position on social issues addressed in the narrative and examining the issue from multiple viewpoints. All of this can be accomplished in animation, but it is cheapened by using explicit content and nihilism as a crutch. Rather, the artist should take a more humanist and compassionate approach to animation. By doing so, the animator can successfully engage an adult audience.

Following the production of an animated short film, *Specimen 7*, this thesis shows how animation can resonate with a mature audience. This animation book details the process of animated filmmaking from initial concept to final render.

Keywords:

3D Animation, Short Film, Adult Animation, Concept Art, Filmmaking

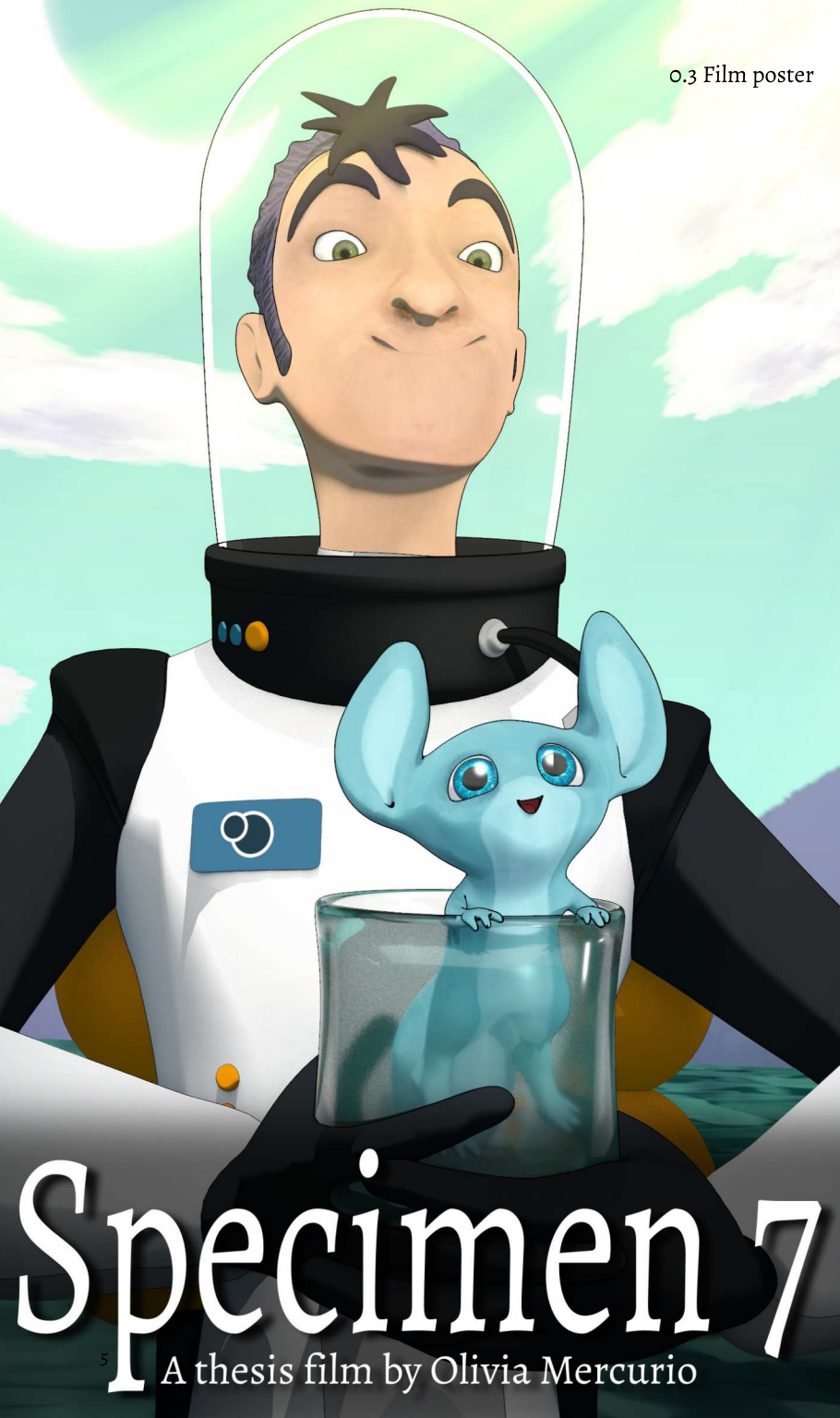


o.2 Early character thumbnail

# Introduction

While there appears to be a thriving demand for complex narratives aimed at a more mature audience, this demand has not yet been met by the mainstream U.S animation industry. With the aid of online streaming, it is now possible to deliver more complex narratives via animated storytelling but there are few success stories that break from the comedy genre.

The history of American animation is scattered with attempts to court adult audiences. Throughout the 1970s, films like *Fritz the Cat* and *Heavy Traffic* pushed right past the limits of what is considered “acceptable” in the medium of animation. In the late 1990s and early 2000s, the



# Specimen 7

A thesis film by Olivia Mercurio

newly created DreamWorks Animation tried a different approach to selling animation to adults with *The Prince of Egypt* and *The Road to El Dorado*. However, DreamWorks' attempt to straddle the family demographic and the adult demographic simultaneously was largely underwhelming. [1] Despite Jeffery Katzenberg's dreams of breaking animated film away from the Disney family demographic, it continues to be shows like *South Park*, *Family Guy*, and *Rick and Morty* that dominate the discussion of "adult animation".

That being said, there are films outside the mainstream U.S animation industry that are more successful with adults. The exponential growth of online streaming has changed the landscape of distribution for animation. So perhaps now it is possible to overcome the challenges that prevented Katzenberg from broadening the definition of adult animation to include films outside of the comedy genre. While there is a market for narratives that deal with complex social issues, the U.S animation industry has largely avoided these topics in favor of either children's entertainment or nihilistic "adult" animation. But by addressing social issues with nuance and intent, animators can reach a more diverse audience.

Seeing a lack of mainstream adult animation outside of the comedy genre, I have decided to try to address that demographic with my thesis film. However, I do not want to lean too heavily on sex, violence, or profanity as shorthand to denote adult content. While many animators have used these shorthands to market their films exclusively to adults, the side-effect is that the films are not taken as seriously by consumers and critics. Paradoxically, by marking animations with gratuitous "adult content", it causes the films to be seen as more juvenile and therefore less worthy of critical examination. I personally disagree with the premise that comedy should not be taken seriously. In fact, comedy (adult comedy included) is just as capable of creating a meaningful narrative as any other genre. That said, not all adult animation has to be comedic. So, as I developed the concept for my thesis film, I wanted to escape the comedy genre while also not using vulgarity or

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[1] Nicole Laporte, *The Men Who Would Be King: An Almost Epic Tale of Moguls, Movies, and a Company Called Dreamworks*. (Boston: Mariner Books, 2011) .

nihilistic stories like the majority of mainstream adult animation does. The idea to push my animation outside the comedy genre came early but the storyline for the actual thesis film didn't emerge until later. Every stage of the creation of my thesis film, *Specimen 7*, has presented new challenges that have forced me to expand my abilities as an artist. Although filmmaking is taxing, I'm proud of what I've achieved, and I hope that this Animation Book gives insight into my production process.



1.1 Shot 5 final render

# Chapter 1: Specimen 7

# How To Watch

The full film is available online and can be found at the following URL or by scanning the QR code on this page.

[oliviadraws.com/specimen7](http://oliviadraws.com/specimen7)



1.2 Specimen 7 QR code



1.3 Shot 4 final render

## The Story

On an alien planet, a small aquatic creature swims through the water of a pond. The water ripples and the creature surfaces playfully. It looks up at the alien sky. A star seems to fall from the sky. It lands in the marsh beyond the creature's view at ground level. The creature cocks its head curiously.



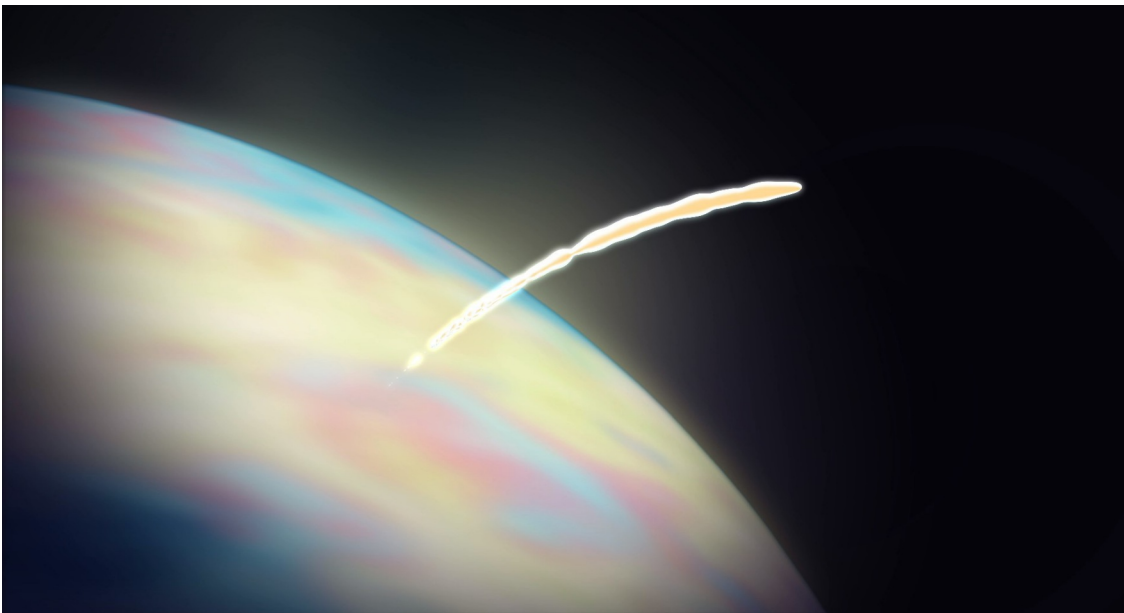
1.4 Shot 8 final render

A space shuttle hovers above the marsh, its engines disturbing the placid surface. The engines power down and it lands in the muck. The shuttle hatch turns with a creak and the door is thrown open. From the shuttle emerges an astronaut. The creature hides in the weeds and watches the astronaut climb out of the shuttle.



1.5 Shot 18 final render

The astronaut reaches down into the water with a measuring container and takes a sample of the water. He looks down and sees the creature smiling up at him. The astronaut uses the measuring cup to scoop up the creature. The creature presses its tiny hands to the glass, happy to have a new friend.



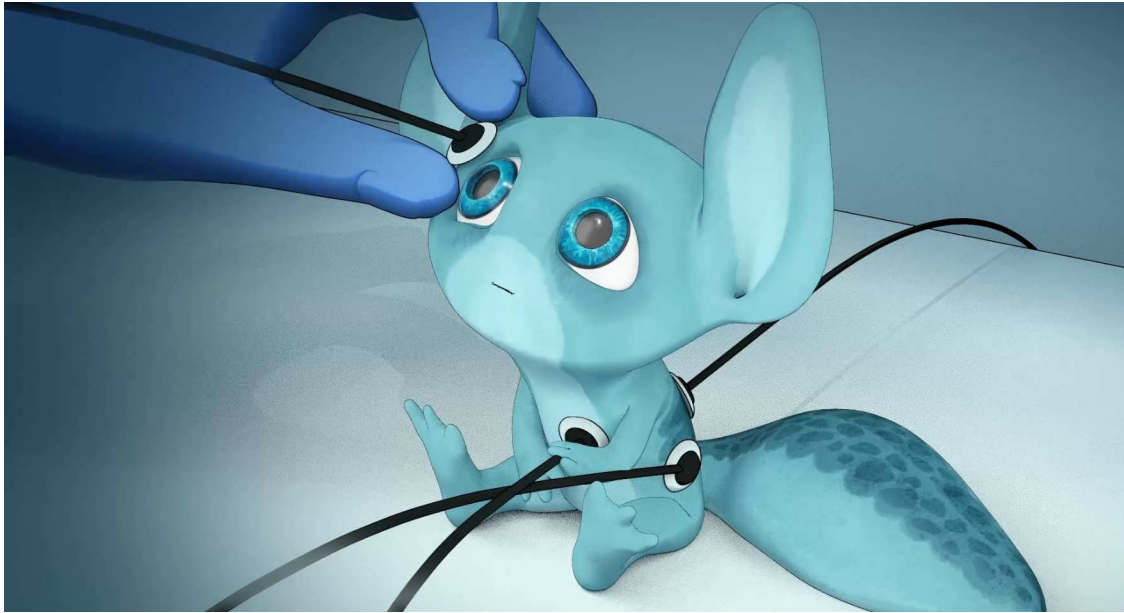
1.6 Shot 24 final render

In the cockpit of the space shuttle, the astronaut sets the creature on his dashboard. Suddenly, the ship begins to rumble with the sound of engines. The creature sees the curve of its own home planet below. Huge and blue at first, it recedes and shrinks as the shuttle ascends.



1.7 Shot 29 final render

The astronaut, now dressed in a suit, speaks to a crowd. On the pedestal next to the astronaut, the creature looks out at its audience. There's a sign next to it with the designation, "Specimen 7."



A scientist's hands poke and prod at the creature in examination. A hand sticks electrodes on its body, which confuses the creature...until the scientist runs an electric current through the wires.

1.8 Shot 37 final render



The astronaut plops the creature back into a fish bowl. Behind the fish bowl is a window. The creature's home planet is visible in the sky outside. It reaches out its hands, as if to grab the planet.

1.9 Shot 42 final render



1.10 Shot 46 final render

As he closes the door behind him, it doesn't latch shut and swings slightly ajar. The creature turns and looks at the gap in the door, determined to escape. The creature carefully pushes its way through the opening of the door. The hallway outside is dark. There's another door open down the hall.



1.11 Shot 50 final render

Inside the room, specimen containers for plants and rocks surround the creature. Movement draws the creature's eyes—the curtains of the window blowing in the breeze. The window is open! It clambers up onto the shelves to make its final escape. It knocks over a display as it goes, losing its balance. The crash of the fallen display is like an alarm.



1.12 Shot 62 final render

The lights turn on with a flash. The creature looks up in fear. It turns to run to the window but it freezes in shock. The light reveals a skeleton inside of the glass dome. The bones are labeled "Specimen 6." The creature backs away in horror. Behind it is an empty display dome labeled "Specimen 7."



1.13 Credits B final render

It closes its eyes as the astronaut approaches. The astronaut reaches past the creature and gently closes the window. He scoops up the creature carefully in his hands. The astronaut puts the creature back in its container. He shuts the curtains of the window, blocking the creature's view of its home world. All it has left are dreams of its home.



2.1 Shot 28 final render

## Chapter 2: Idea Development

# Themes and Inspiration

Having decided that my thesis film would target an adult audience, the first step in my filmmaking process was to come up with a story. To form creative concepts, I always follow the advice of famous choreographer, Twyla Tharp. She strongly endorses the process of gathering artistic influences during the idea development phase of any creative project. To her, this would mean creating a physical “project box” but today, this can be done digitally. [2] So after dutifully combing through every book, painting, movie, and *Pinterest* board that I’ve accumulated, I noticed a clear thread running through my influences.

This thread was a focus on how we, as western colonizers, deal with things and indeed other people who are perceived as different or abnormal. Particularly, I am interested in the historical mistreatment of human subjects in the context of scientific and medical research. Throughout history, women and people of color have been exploited in very specific ways in the pursuit of research. In the human exhibition of people like Saartjie Baartman, Ota Benga, and Minik Wallace, we see a blurring of so-

called “anthropological research” with entertainment. This subject is incredibly deserving of more academic and public attention and it is my hope that the medium of animation could help facilitate this discussion.

Creating artwork on this subject allows audiences to engage with the material on a more emotional level. An excellent example of this would be Marilyn Nelson’s triptych of poems from *“Fortune’s Bones: The Manumission Requiem”*. Fortune was an enslaved man in Connecticut who died in 1798. Fortune’s owner, a medical doctor, boiled down Fortune’s body so that his skeleton could be used as an educational tool. [3] Centuries later, the poet Marilyn Nelson adapted Fortune’s story into a poetic triptych. The first poem is written from the slave-owning doctor’s perspective as he impartially dissects Fortune’s corpse. The second poem is from the perspective of Fortune’s grieving widow as she is forced to clean and dust her own husband’s skeleton. Finally, the third poem is written in Fortune’s own voice, showing him celebrating his freedom from his body. These poems together create

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[2] Twyla Tharp and Mark Reiter, *The Creative Habit* (New York: Simon & Schuster, 2006).

[3] Marilyn Nelson, *Faster Than Light* (Baton Rouge: Louisiana State University Press, 2012).

an emotional progression within the reader from detached, to deeply personal, to a final catharsis. By the time the reader finishes the triptych, which only takes a few minutes, they have gone on an intense emotional ride.

More than anything else, these poems exemplify the power of narrative. However, I felt that if I approached the subject of medical abuse too directly, the resulting film could be melodramatic. One of the strengths of narrative is the ability to employ allegory to create some distance between the literal story concept. In Disney's *Zootopia*, for instance, there are two main allegories at play. The first is the divide in the fictional universe of the film between "predatory" and "prey" animals. This divide is used as an allegory on racism in the modern United States. The second use of allegory, less obvious, is the discriminations faced by "small animals" by their larger counterparts. (For example, the protagonist, a bunny rabbit, is faced with discrimination because she is physically smaller than her coworkers.) This allegory deals more with sex discrimination. The conflict of the film deals with the intersection between these two allegorical prejudices, allowing Disney to address issues of discrimination in a more indirect way. [5] Although these allegorical links don't entirely hold up to real-world scrutiny, I think *Zootopia* proves that allegory in animation is an effective method of storytelling.



2.2 Frank Bender's reconstruction of Fortune [4]

Now, *Zootopia*, despite its use of allegory, is ultimately still a family film. The didactic nature of the story is understandable to younger audiences. In a didactic story, there's usually a clear moral and message with a clear and simple answer. A more nuanced story dilemma can be found in Hayao Miyazaki's *The Wind Rises*. The protagonist of the film, Jirō, engineers a deadly war plane for the Japanese government during WWII. Miyazaki does not use the film to condemn or excuse Jirō's actions. Rather than a didactic message that could be seen in a children's movie, Miyazaki forces the audience to come to their own conclusions about the

---

[4] Frank Bender, "Fortune" (Relief sculpture, 2000).

[5] Jennifer Sandlin and Nathan Snaza, "'It's Called Hustle, Sweetheart': Black Lives Matter, the Police State, and the Politics of Colonizing Anger in *Zootopia*," *The Journal of Popular Culture* 51, no. 5 (October 2018): 1190-1213.

dilemma. [6] In a film targeting an adult audience, I believe that the filmmaker should respect the audience enough to let them think for themselves. The filmmaker themselves will always have their own unique viewpoint and opinions but it is also up to the filmmaker to present multiple counterpoints that result in a more well-rounded narrative.

However, because of the effort to avoid childlike didactic narratives, adult animations often have a muddled final message that can put off viewers. Film should take the audience on a journey that results in some form of change. If the final shift in the world of the story is unsure or ambivalent, the audience will leave disappointed. [7] Worse, this ambivalence can evolve into outright nihilism.

Nihilism, in my view, is the ultimate story killer. In this context, nihilism refers to the idea that life is meaningless, and nothing matters. It's a horrible premise to hinge a film on because if the story is ultimately meaningless, then everyone who watched the film has only wasted their time. Too often in adult animation, this disillusionment with life is used as a stand-in for maturity. This is not to say that negativity and darkness in storytelling is

inherently bad. Certainly, the animation industry could benefit from honestly dealing with more depressing subject matter. But it is a difficult balancing act to show themes of grief without wallowing in it.

So, I knew that I wanted to animate a story about historical medical abuse. I knew that I wanted to use allegory to translate the topic into fiction. I also knew that I would need to avoid didacticism and handle the dark subject matter without wallowing in nihilism.

Taking all those points into consideration, I landed on the story that became *Specimen 7*. However, in my effort to bring the story into an animated and fictitious setting, I think that I lost the severity of the subject. All of this was what I thought about during the film's idea development. And those are just the issues surrounding the narrative. In addition, I also had to figure out what the film would look like visually.

Aside from the story concept on paper, there is also the question of the film's visual style. After all, animation is a visual medium and not just a delivery mechanism for a social statement. Therefore, the film must also be aesthetically appealing to its audience in

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[6] Michal Dalot-Bul, "What Will You Do If The Wind Rises?: Dialectical Cinema by Miyazaki Hayao." *Asian Studies Review* 41, no. 4 (October 2, 2017): 562–76.

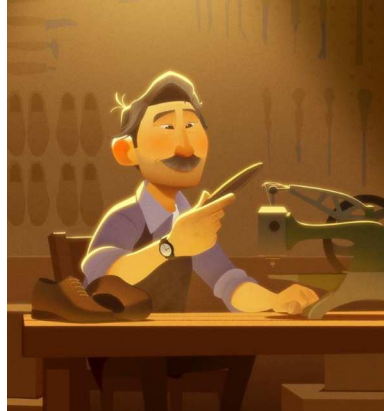
[7] Blake Snyder, *Save the Cat! The Last Book on Screenwriting You'll Ever Need* (Studio City: M. Wiese Productions, 2005).

addition to engaging them intellectually. For this, I decided early on that I would use stylized 3D characters. Seeing the film *One Small Step* by Taiko Studios made me appreciate how 3D animation can push aesthetic boundaries. There is a stylistic expectation surrounding the medium of 3D animation that it emphasizes realistic forms and light, but Taiko uses the tools of 3D to create an extremely stylized and illustrative look for the film. [8] By flattening forms and space, *One Small Step* blurs the boundary between traditional 2D and 3D styles.

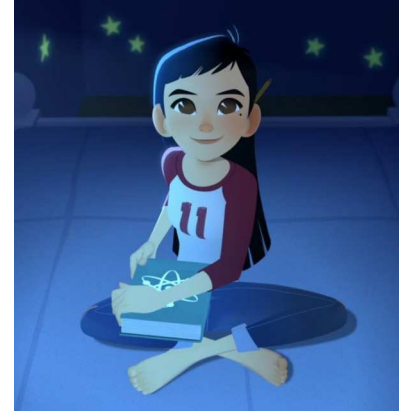
When I developed the concept for *Specimen 7*, I wanted an engaging story that would allow a mature audience to develop their own perspectives on the film while also delivering the story in an aesthetically pleasing form. By pushing against the expectations of adult animation both in story and picture, I took my initial idea and evolved it into a cinematic format.



2.3 *One Small Step*  
screenshot 1



2.4 *One Small Step*  
screenshot 2



2.5 *One Small Step*  
screenshot 3

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[8] TAIKO Studios, *One Small Step* (Digital, 2018).

# Story Structure

Because I did not write a formal script for the film, I made most pacing and storytelling decisions in the storyboarding process. However, I still referred to concepts from traditional screenwriting as I structured the story.

A key concept I learned while researching screenwriting was what Robert McKee calls “Five Part Design.” Most writers are familiar with a traditional three act structure which includes a opening act establishing the world and characters followed by a longer act of escalating conflict which culminates and resolves itself in the final act. McKee takes the traditional three act structure and breaks it down further into five segments. [9] Firstly, there’s the Inciting Incident. This key element falls at the end of Act 1 and is the driving force that sends the protagonist away from their everyday life into an uncomfortable situation. Secondly, is the Rising Action. This will take up the majority of screen-time and encompasses the escalating conflicts of Act 2. This leads to the Crisis, where things are at their most extreme. The Crisis is where the hero must make a

final choice under dire circumstances. This leads into the Climax which serves as a bridge between acts 2 and 3. The Climax shows the unexpected result of the hero’s Crisis decision. Finally, the Resolution wraps up the story in the third act and most importantly, showcases what has changed in the narrative.

However, McKee’s “Five Part Design” mostly deals with plot structure. There is also the question of how to structure a character arc. In most cases, a character changes through the course of the story through the process of learning something. For instance, the protagonist may begin the story as a person who is jaded and cynical but through the course of the story, learns to see the world more positively. Conversely, the protagonist could start off as naïve and become cynical throughout the story. Either way, there is typically a significant change in the protagonist. This change is referred to as a character arc. But what happens when the character doesn’t change? This is possible as well and can be called a “flat arc.” An example of a “flat arc” would be a story with a naïve and peppy character who, when confronted with grim

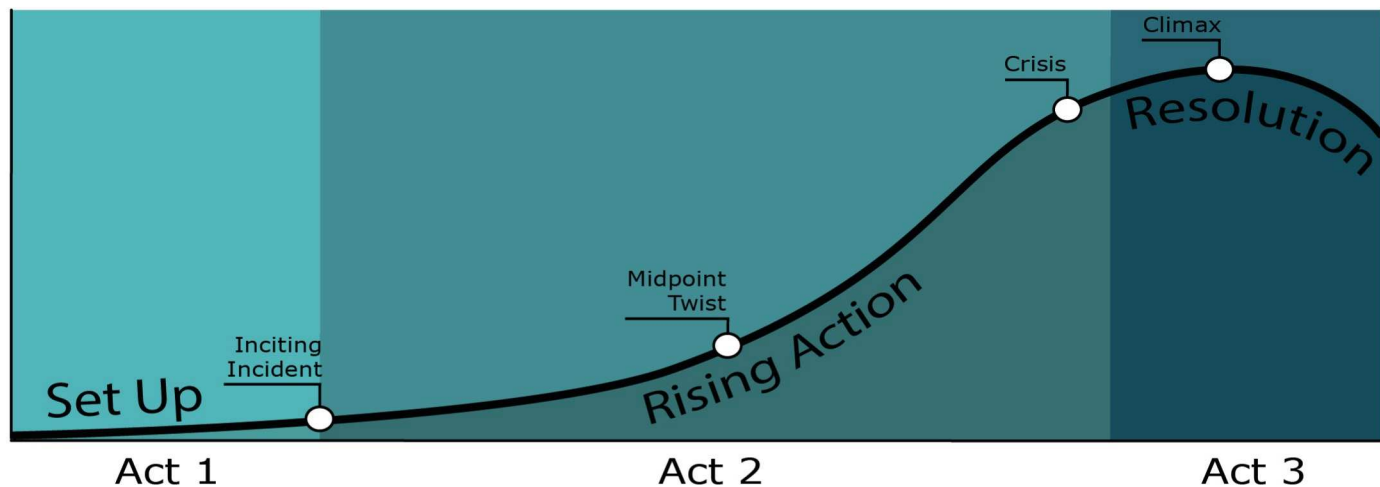
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[9] Robert McKee, *Story: Substance, Structure, Style and the Principles of Screenwriting* (New York: ReganBooks, 1997).

complexity in their world, instead of becoming jaded, remains hopeful and bright. Instead of the world changing the protagonist, the protagonist could change their world, making it more hopeful because of their actions. It's important to note that even in this “flat arc” scenario, there is a change in the world of the story. [10]

In the case of my film, I wanted to portray my protagonist, the “specimen”, as an innocent and naïve character who is put in a situation beyond their control. The astronaut character is more of a force of nature, as far as the specimen is concerned. Ultimately, the specimen is unable to overcome the force of the astronaut’s antagonism. The specimen must accept the horrifying reality of its situation and face death. After all, it’s possible to lose even if you’ve done nothing wrong.

## Three-Act Structure



2.6 Three-act structure graph

[10] Karen Sullivan, Kate Alexander, Aubry Mintz, and Ellen Besen, *Ideas For the Animated Short: Finding and Building Stories* (New York: Focal Press, Taylor & Francis Group, 2013).

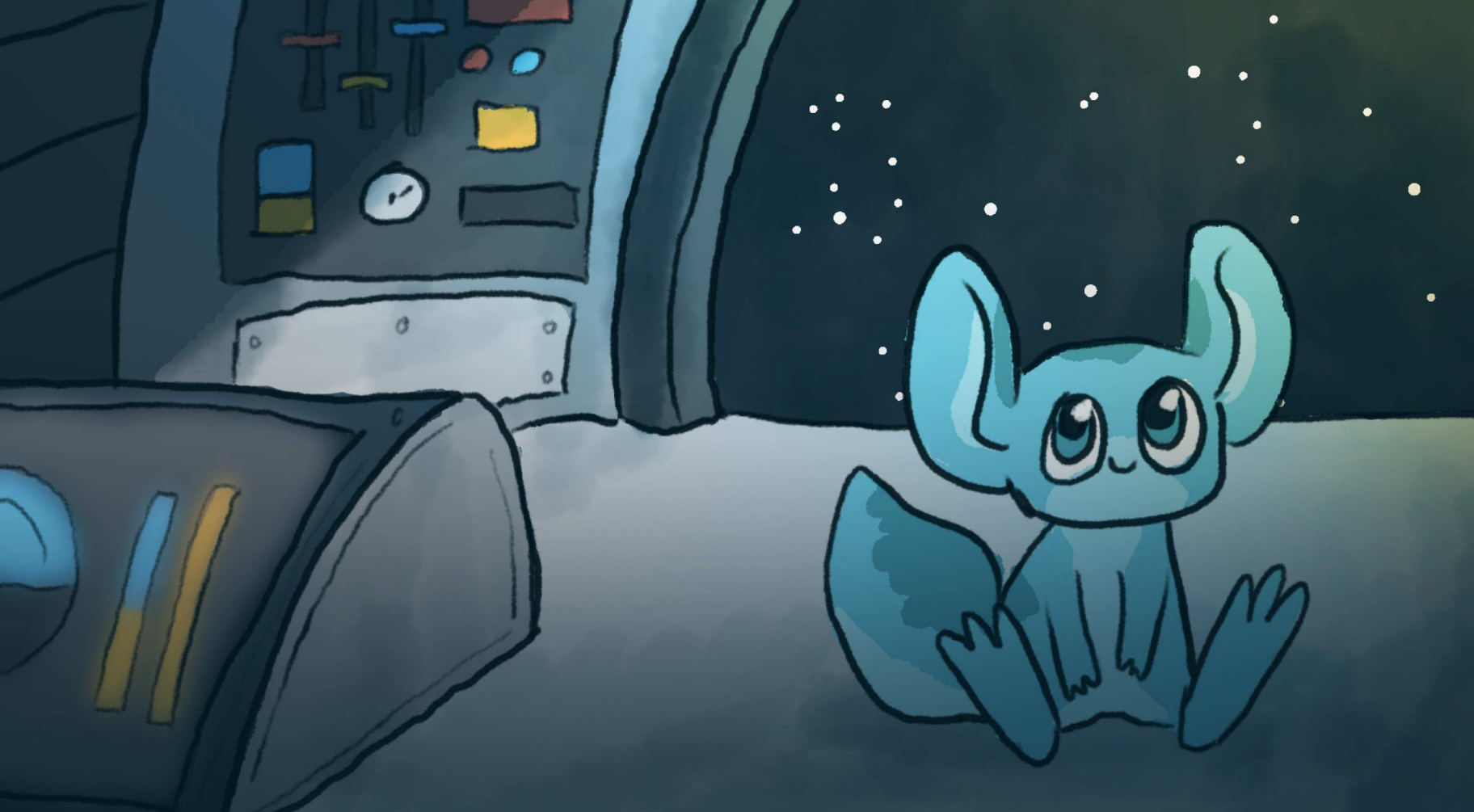
# Production Schedule

Because I wanted to make the film largely on my own, I also had to act as my own Producer. I wrote up the initial production schedule with the intent of stretching out the production as to accommodate the hours required for my day job. But I had no idea what was coming. Like everyone else in the world, I was completely unprepared for COVID-19.

The disruption forced me to slow down my progress due to fact that I could no longer access a computer to animate on. But as we all did, I adapted and with a thorough rewrite of my production schedule, I got my project back on track. I used several spreadsheets and graphs to keep track of my progress. These documents really did save my sanity throughout the whole production, and nothing made me happier than checking off shots on my spreadsheets.



2.7 Gantt chart



3.1 Space shuttle dashboard sketch

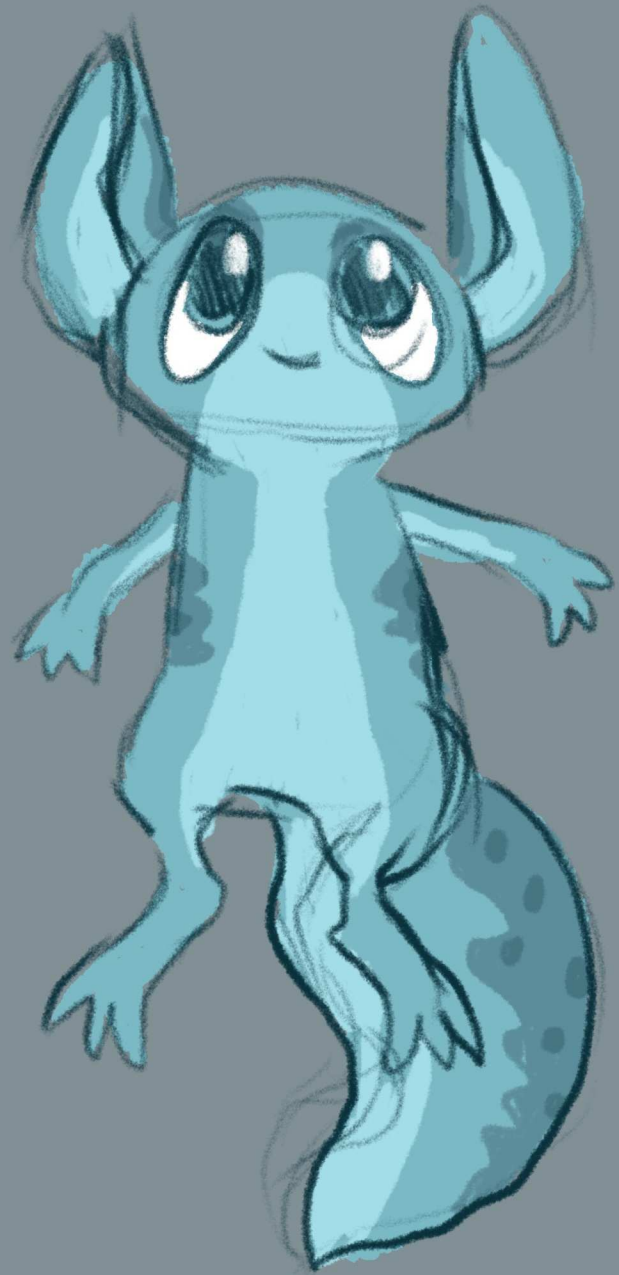
## Chapter 3: Preproduction

# Character Design

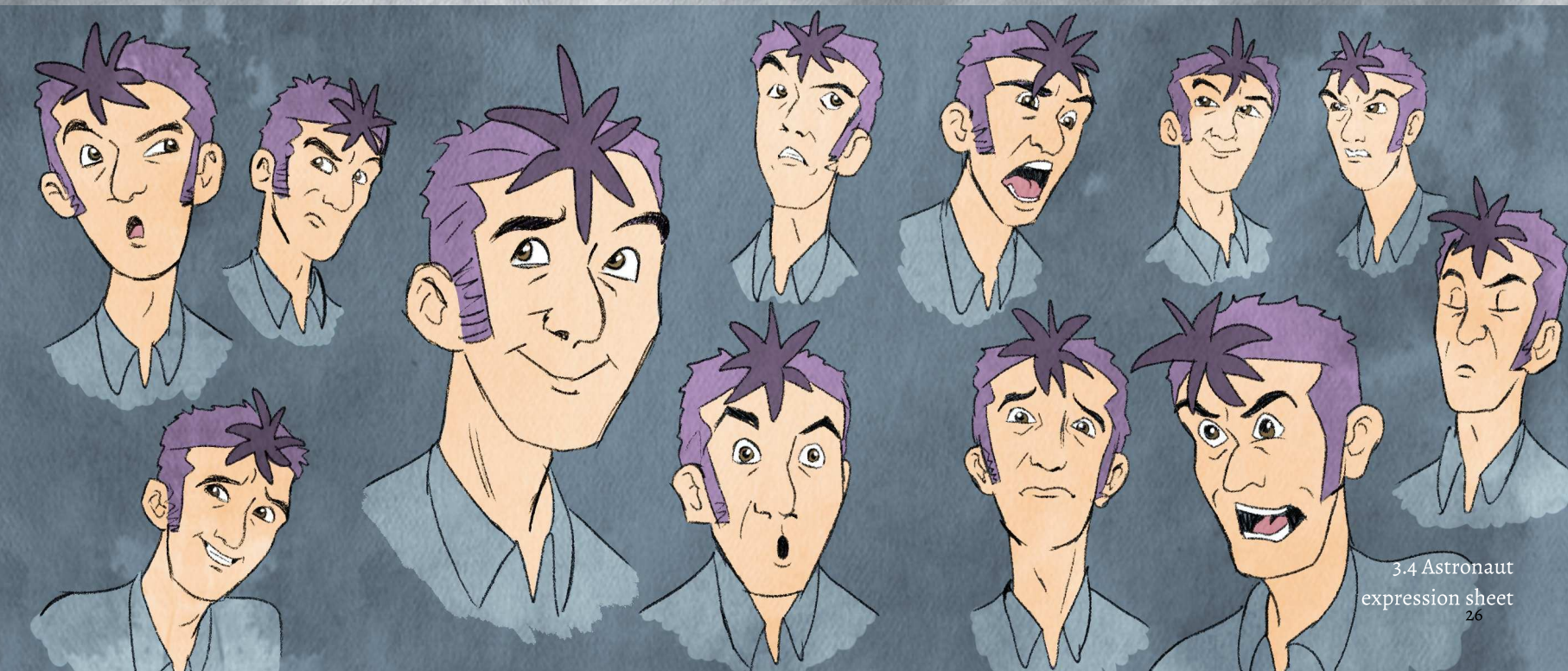
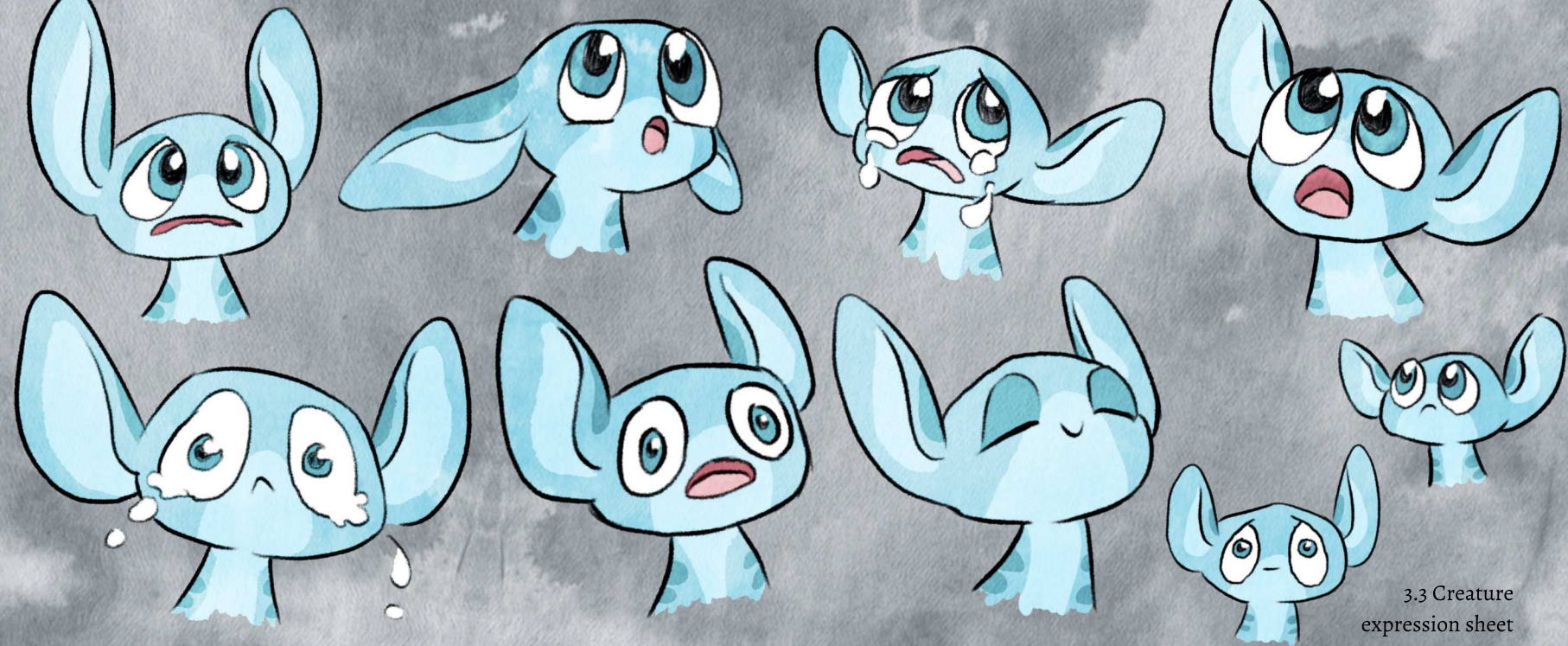
After I came up with the idea for the story, the first thing I did was sketch out some ideas for the alien character. I knew I wanted there to be a difference in scale between the alien and the astronaut so I looked at small animal characters for inspiration. I settled on an axolotl for a starting point and enlarged the eyes to give the design a greater sense of personality. I also used traits of leopard geckos and hamsters to make the character more alien.

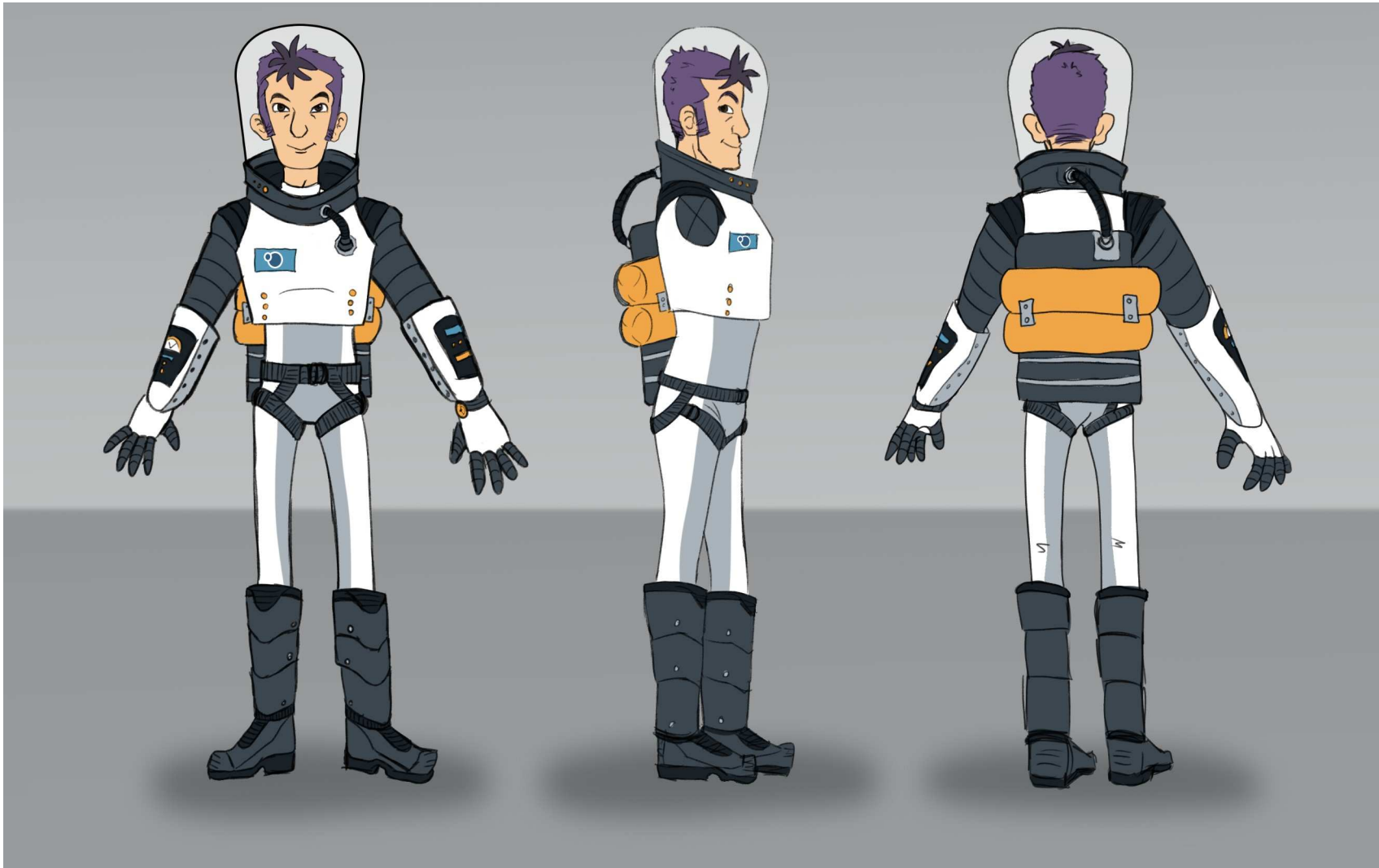
For the astronaut, I knew I wanted a stylized human to fit in with the design of the creature. I decided early on that I was going stylized for my thesis, so I avoided character designs that would require hair, fur or cloth simulation. The astronaut needed to be able to play a soft and friendly character as well as an ominous and threatening figure at the end of the film.

During the process of designing the characters, I bounced between character sketches and concept drawings of key story moments. The characters needed to look good, but above all they needed to fit the needs of the story.

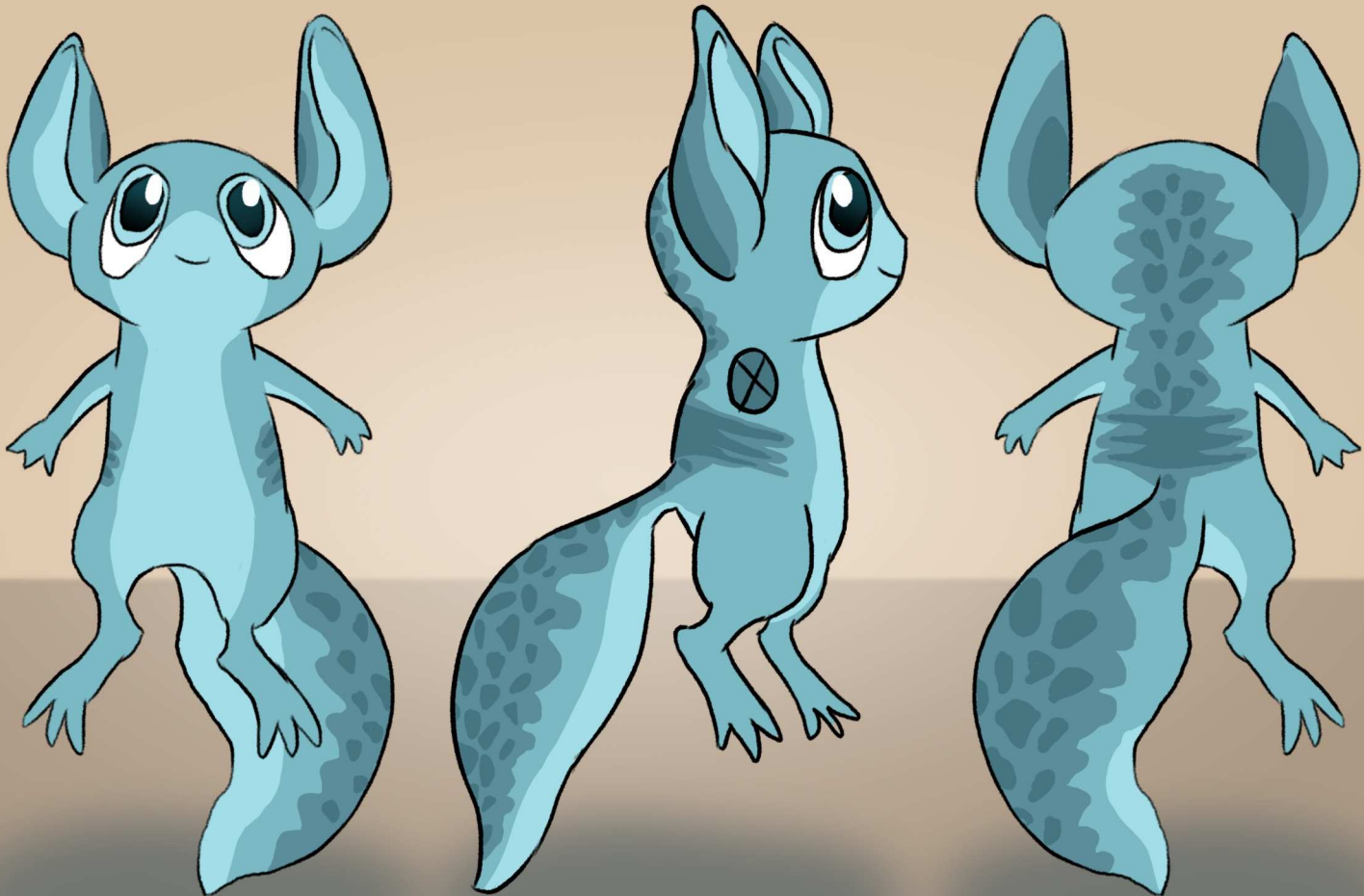


3.2 Creature initial sketch





3.5 Astronaut turnaround



3.6 Creature turnaround

## Concept Art

When I approached the rough concepts of the story, I wanted to stay as loose as possible. I drew fast to get the key ideas and thumbnails down so that those compositions could later be translated into storyboards. I also found that by drawing the characters performing the story beats that I would alter the character designs so they could catch the poses that I knew would be required. For instance, some of the early sketches for the creature didn't have long enough arms or legs for the actions I needed to animate.

Honestly, I could have spent the remainder of my time at SCAD just doing concept art and preproduction but I forced myself to keep it brief so I could get to work on the 3D portion of my project.



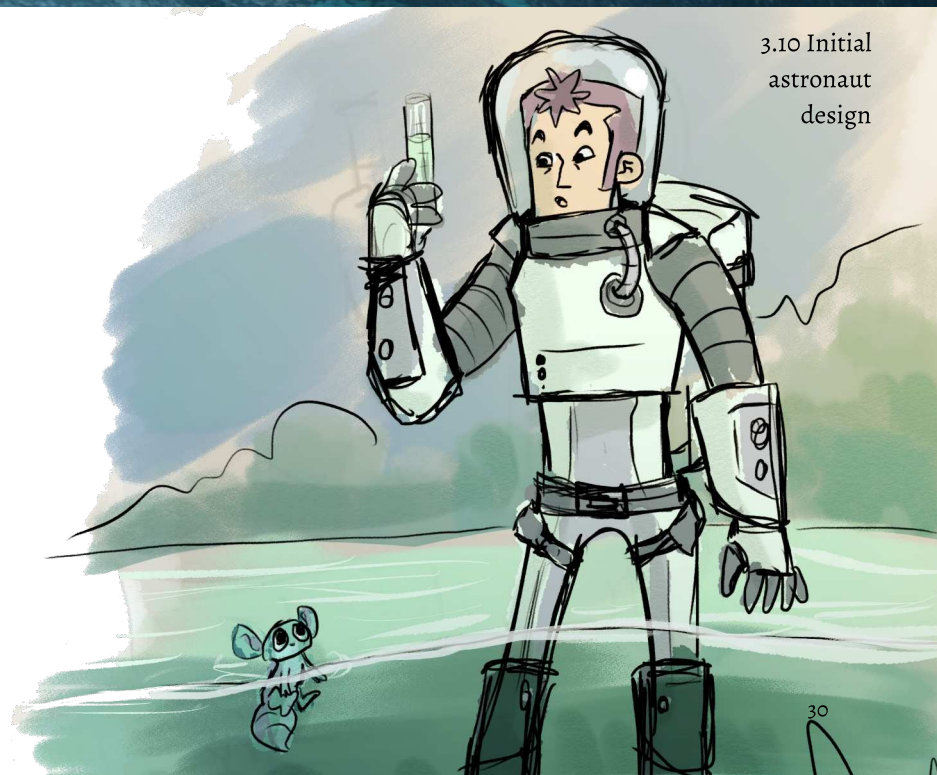
3.7 Poster design



3.8 Pond concept painting



3.9 Early thumbnails



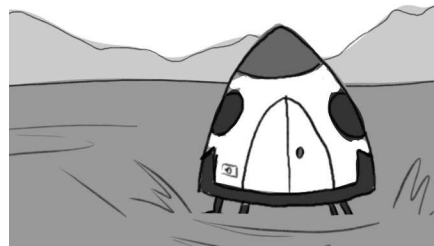
3.10 Initial astronaut design



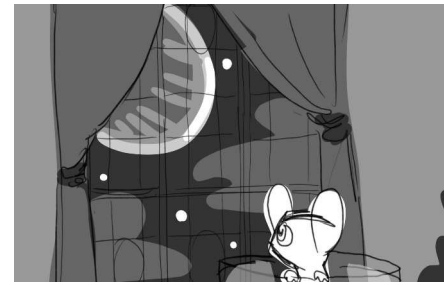
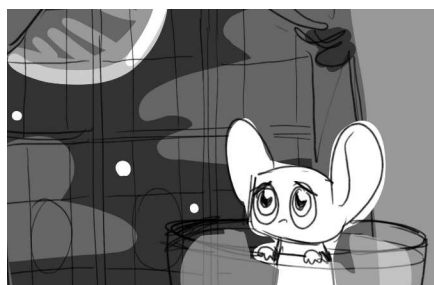
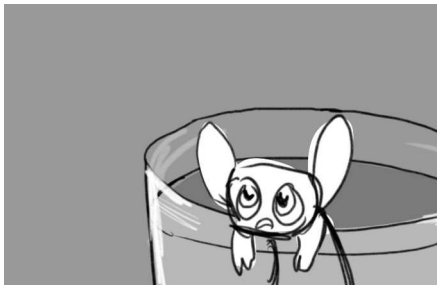
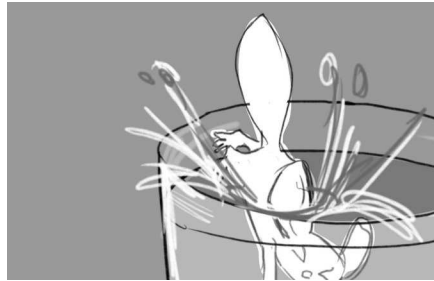
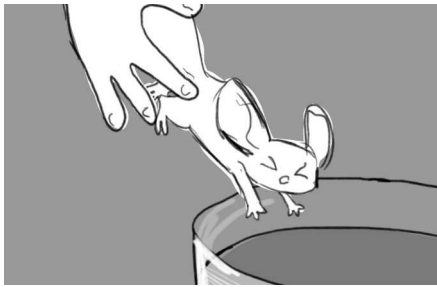
3.11 Scene 2 storyboard frame

## Storyboarding

Using my sketches as a guide, I moved straight into *Toon Boom Storyboard Pro* to work on the animatic. I had written a rough outline of the story, but most of the storytelling decisions I made were made in the boarding process. As I drew each board, I timed it out into the animatic. *Storyboard Pro* allowed me to do all the drawing and camera animation within one software, so it saved me a lot of time. Altogether, the 3 1/2 minute animatic consists of over 200 individual drawings.



3.12 Storyboard excerpt 1



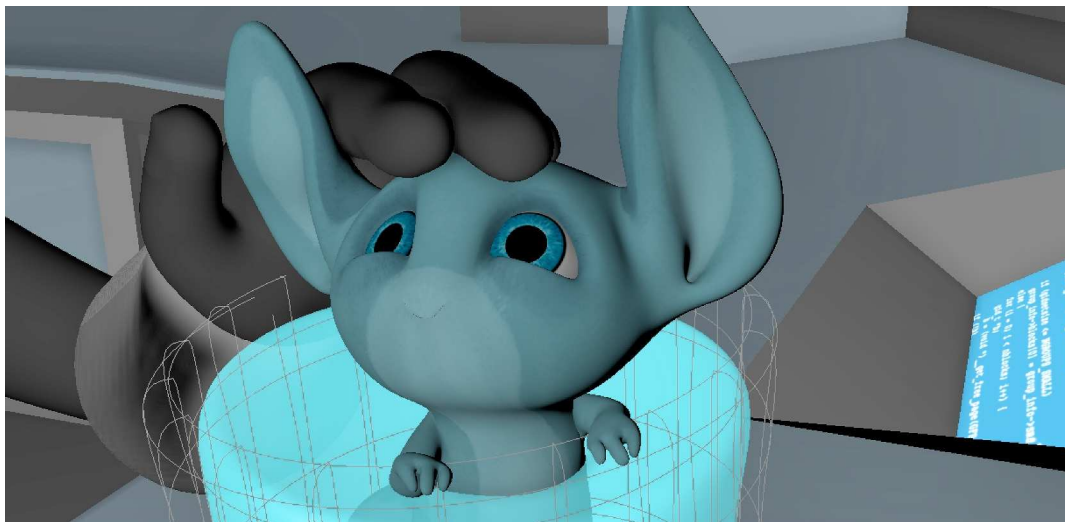
3.13 Storyboard excerpt 2

With the animatic in progress, I was able to split my time between storyboards and character sculpting in *ZBrush*. With the sculpts and the animatic scheduled to finish at the same time, that would allow me to move directly forward into 3D previsualization. In the “previs” process, I translate my 2D boards into *Maya*. This is where I would do the rough modeling for the environments, block in the character positions, and animate the virtual camera for the final shot. The goal, of course, is to match the storyboards as closely as possible. But some things that work in 2D boards don’t work in 3D so it’s important to catch those issues and resolve them in previs.

Having completed the animatic, it was very difficult to move on to the final production of the shots. I was constantly torn between going back and improving the animatic with the need to move the project forward. No matter what I did, it always seemed like the animatic could go further. I felt the same way I did about the concept art, but even more strongly. But my goal from the day I was accepted into the Animation MFA program was to complete a film. So, I forced myself to stop boarding and get to work on the next leg of my thesis.



3.14 Scene 3 storyboard frame

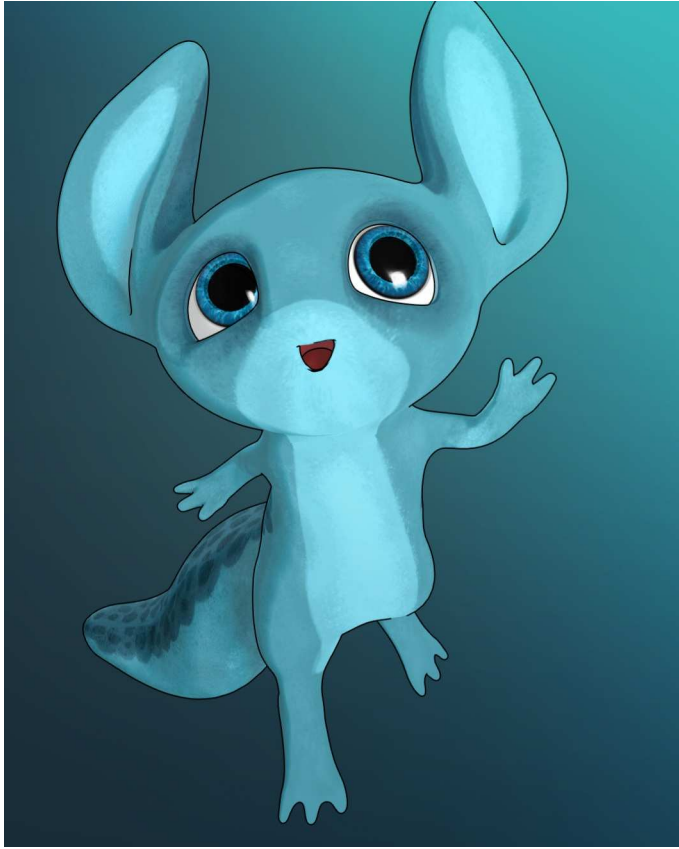


3.15 Scene 3 previs

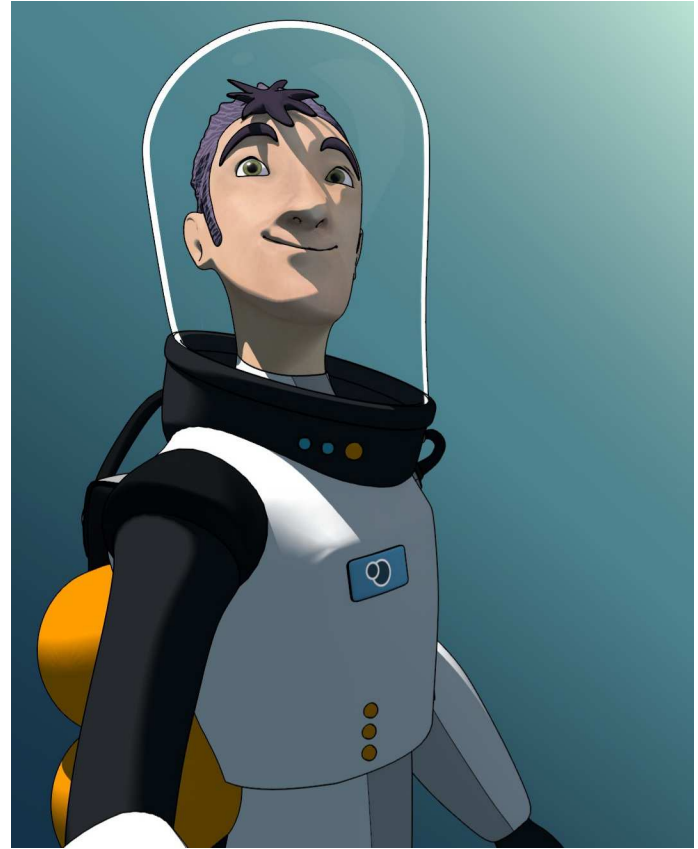


4.1 Shot 2 final render

## Chapter 4: Production



4.2 Specimen textured model



4.3 Astronaut textured model

## Characters

Despite my inexperience with *ZBrush*, I decided that I wanted to use the program for the sculpts of my two characters. I knew that I would lose the personality of the designs if I relied solely on polygonal modeling in *Maya* and digital sculpting is a key skill to develop in today's animation market. Thankfully, at SCAD, I was surrounded with both students and professors who were able to give me advice and critique on my *ZBrush* projects.

I have made many clay sculptures in the past, and those skills were useful to build on, but digital sculpting really is a different beast. I made the mistake of starting with the astronaut sculpt but I really should have held off on that until I had practiced more with the simpler creature design. I was able to sculpt the body and the face fairly quickly, but it was the hair that gave me a hard time.

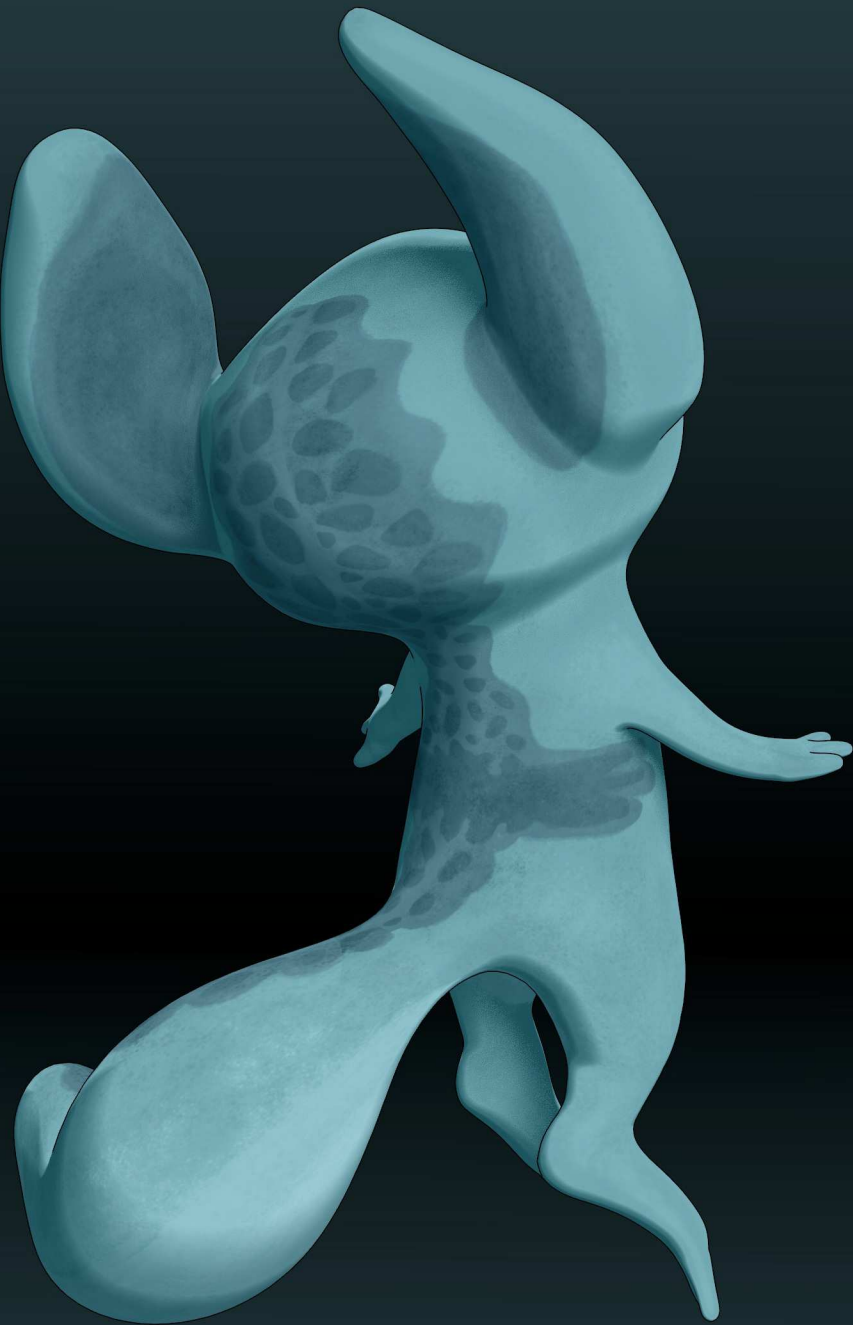
From *ZBrush*, I brought my high-poly .obj file into *TopoGun*, where I re-made the topology of the characters into something that was more suitable for rigging and animation. In hindsight, I probably went a bit too low-poly. I ended up getting rid of a lot of the geometry around the eyelids which made the rigging of the blink feature more difficult than it needed to be. I then did the UV mapping in *UV Layout*, which gave me more control than *Maya*'s native UV editor. I was planning on hand-painting my texture maps so I wasn't too concerned with preparing my models for use in a program like *Substance Painter*. I went ahead and painted the UVs in *Clip Studio Paint* and I had my texture maps very quickly from there.

I then applied my painted texture maps to an aiToon shader in *Maya*. When I directed the film "*Pleasant Grove*" in my Collaborative Experiences course, (ANIM 737) I used the *Arnold* toon shaders extensively, so I had a great foundation with its features and limitations. However, I quickly realized that the painted texture of the astronaut's hair was not working the way I hoped. The low-poly model of the hair just wasn't capturing the detail of the high-res sculpt. So, for that one component, I decided to use a normal map to project the detail back down to the low-poly. Since I was planning to go stylized, I didn't expect to need normal maps, but for the hair, it was a life-saver!



4.4 Astronaut sculpt



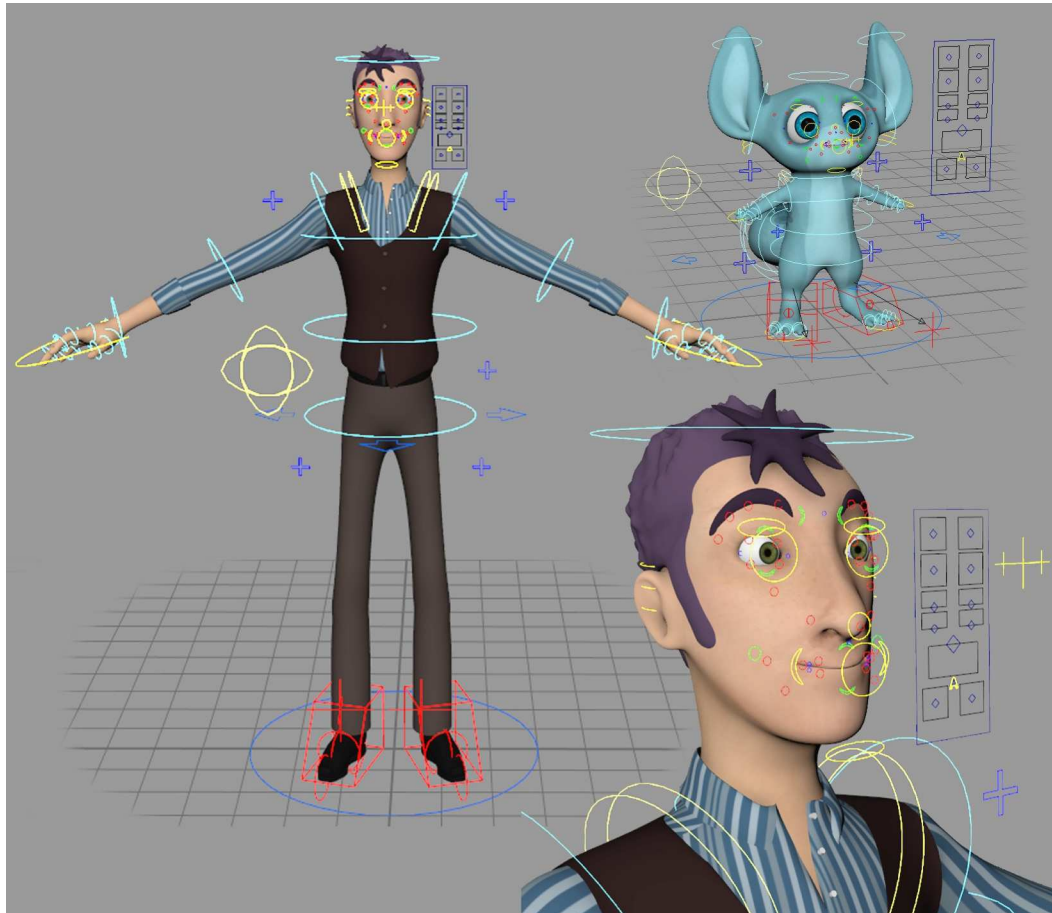


4.5 Creature sculpt

The other complication of the character production was the costumes for the astronaut. I extracted the geometry from the body of the character and modeled the spacesuit and his “street clothes”. So far, so good. But when I tried to add a pinstripe pattern to his shirt, I ran into roadblocks because my UVs for the shirt were...just not good enough. I ended up having to remesh the shirt entirely and even now, the stripes aren’t 100% perfect. But the clock was ticking, and I had to keep moving forward. That was quickly becoming my mantra for this film.

Next up on my agenda was something that I had been dreading since the start—rigging. I had attempted to teach myself rigging over winter break on a model I had already made, but it did not go as planned. I barely got the body working and when it came to facial rigging, I was completely out of my depth. But then my classmate told me about *Advanced Skeleton* and I cannot overstate how this plugin literally saved my film. Within a day, I had a working body rig for my astronaut! I had previously dreamt of a program like this, and it was there all along.

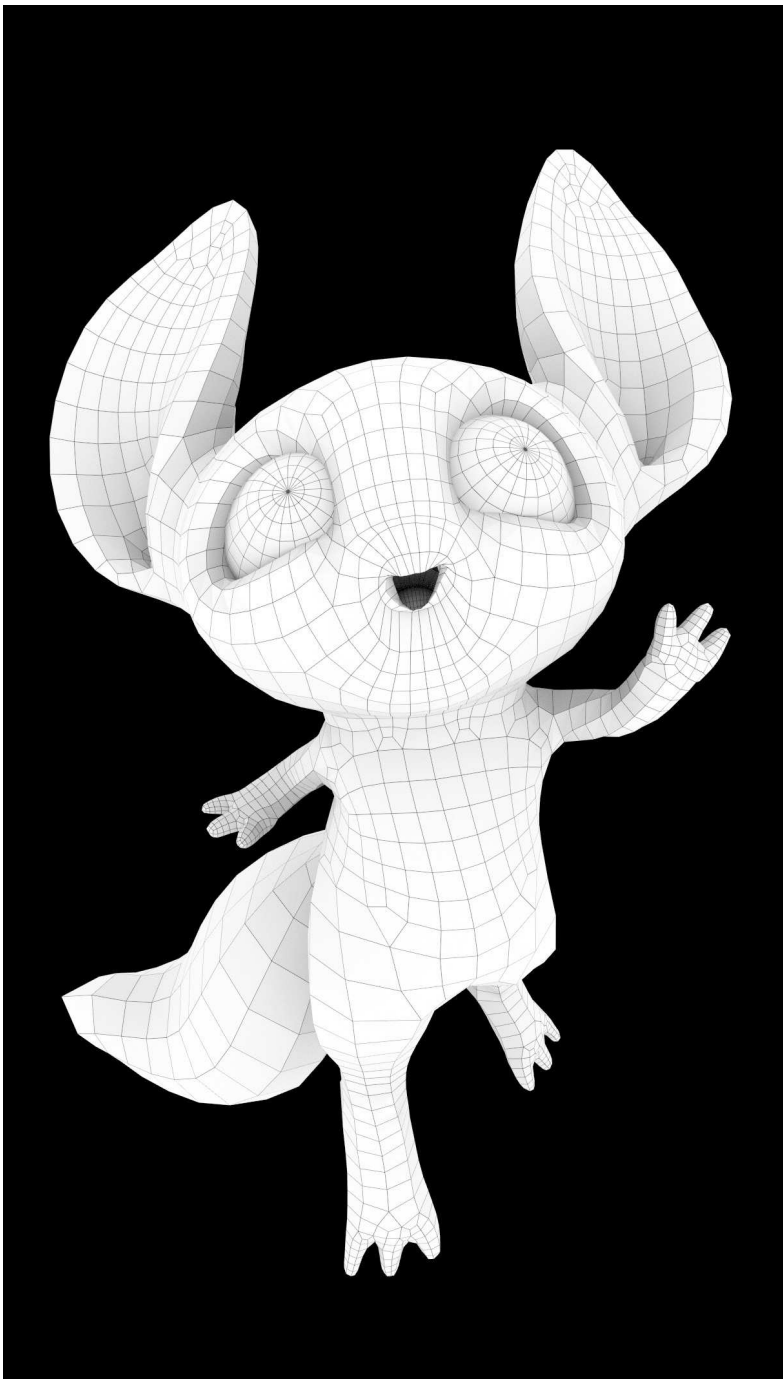
Admittedly, the *Advanced Skeleton* facial rigging gave me some trouble, but that was due to my



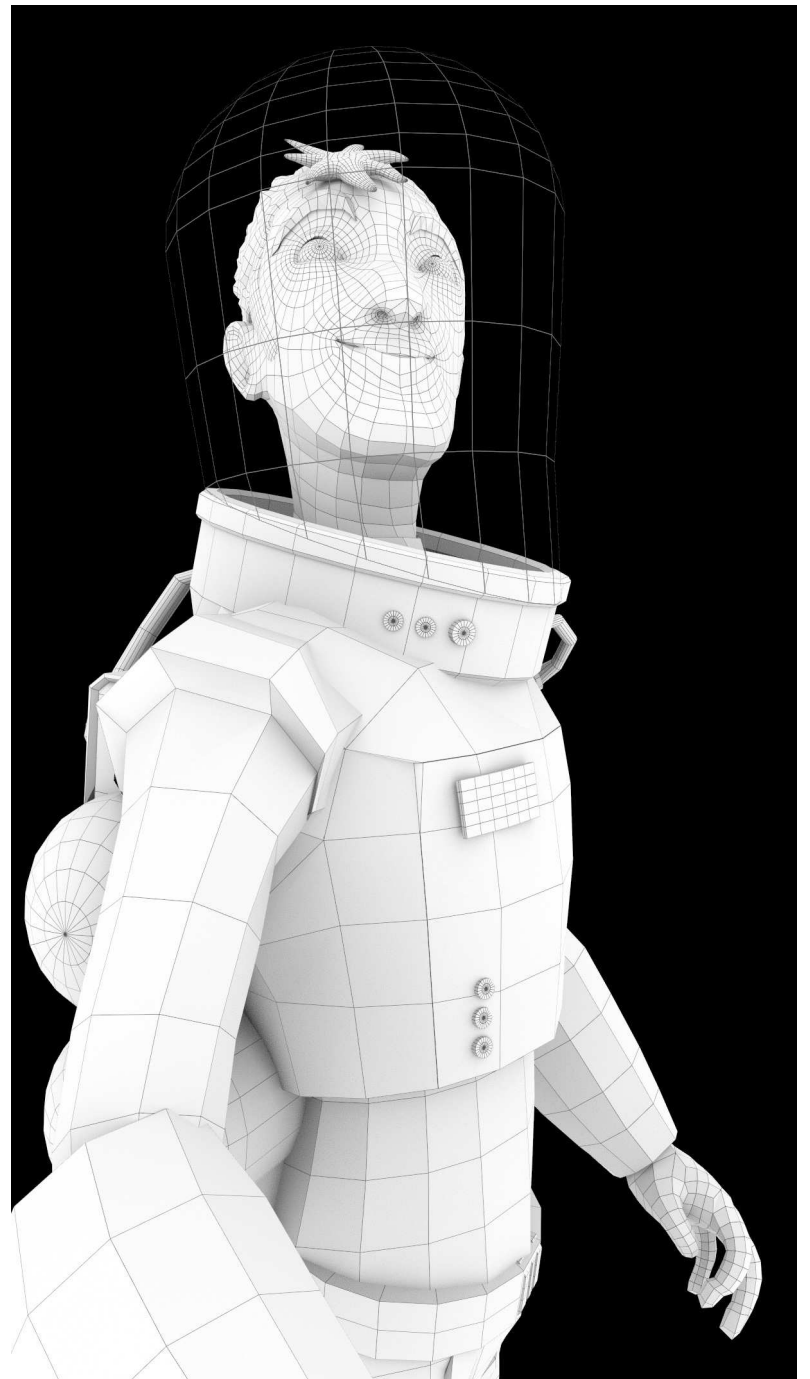
4.6 Advanced Skeleton controls

inexperience rather than a problem of the plugin. I reached out to the creator of *Advanced Skeleton*, and within an hour he got back to me with troubleshooting tips and even offered to look at my *Maya* scene!

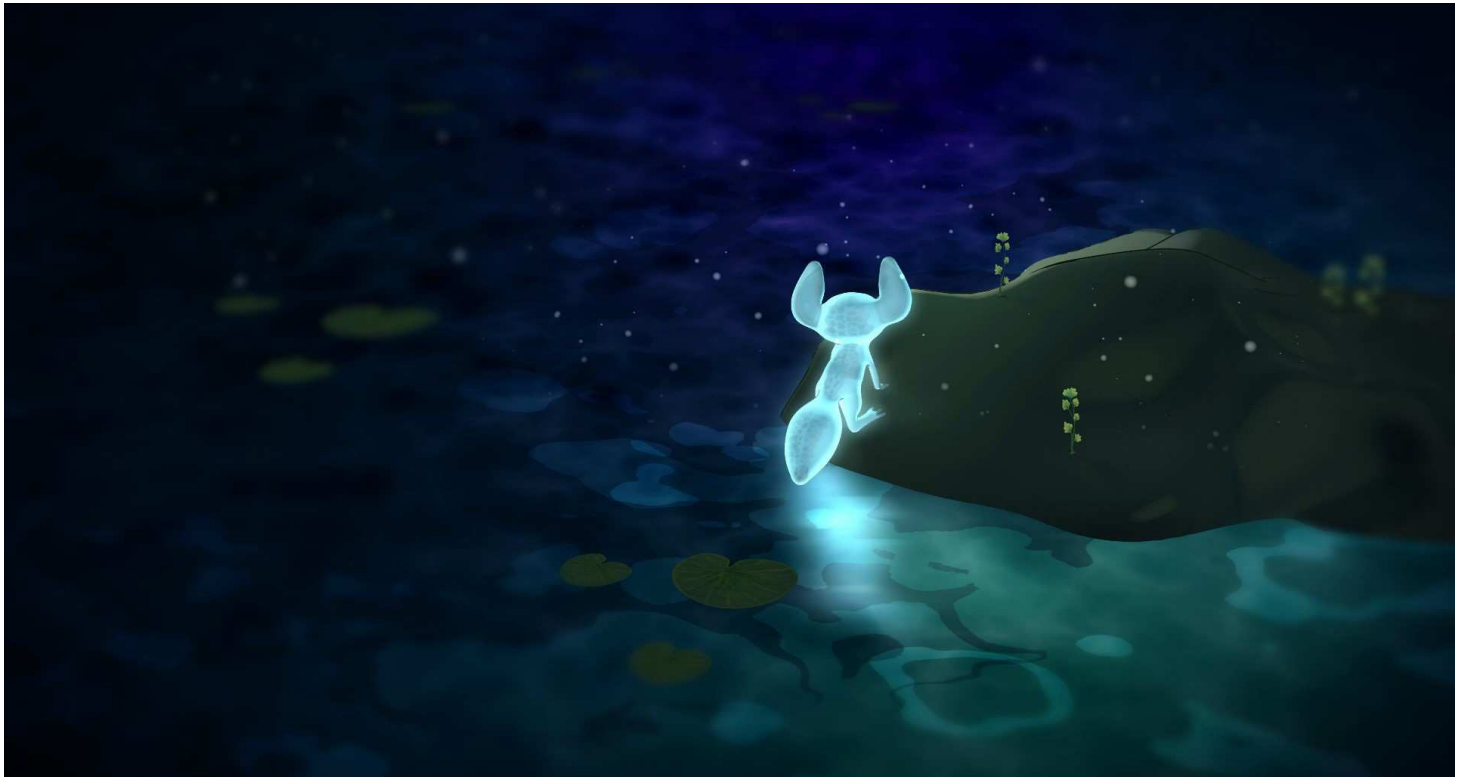
Creating these rigs from start to finish was an extremely valuable experience for me. Not only did I get the two rigs that I needed, but I also taught myself how to do the whole process faster than I imagined possible. Now that I have struggled once through it, I have been able to subsequently churn out custom rigs, fully textured, for my other projects.



4.7 Creature wireframe



4.8 Astronaut wireframe



4.9 Credits after effects composite

## Environments

One thing that I expected to be a challenge was the amount of water in the film. I felt like I didn't have the knowledge to execute 2D styled water effects within *Maya* so after watching a lot of tutorials, I decided to rely on *Adobe After Effects* to execute my vision.

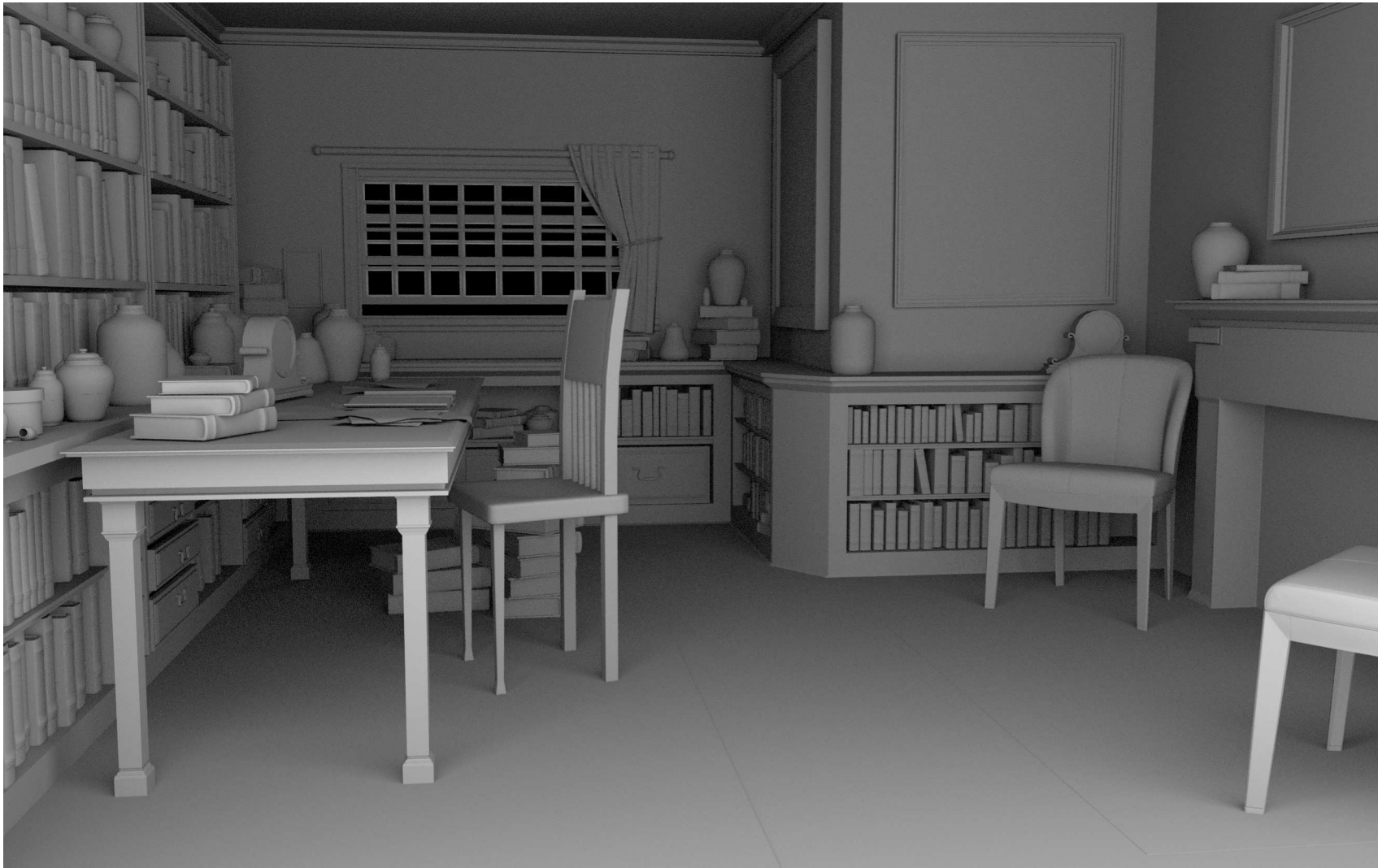
So, as I built the 3D environments, I kept in mind that most of the action would be handled in *After Effects*. My *Maya* scenes held all the characters and foliage but for all the exterior shots, the water and sometimes sky, were

represented by flat planes with nothing on them but a Surface Shader. This workflow allowed me to only model what was necessary and saved significant time.

My good friend, Victoria Lake, stepped up to help me model the interior environments. She is an amazing environment artist, and I was able to use the models that she made and arrange them to populate the interior shots. By lighting and shading Victoria's assets, I was able to integrate them into the overall style for *Specimen 7*.



4.10 Shot 48 viewport display



4.11 Curiosity room ambient occlusion



4.12 Curiosity room textures



4.13 Shot 25 final render

## Animation

I consider myself a generalist within 3D animation. Through the process of creating *Specimen 7*, I knew that I would have to do a bit of everything. Besides rigging, the thing I was most anxious about was the amount of character animation required for the project. Things like visual development, storyboarding, and compositing are very enjoyable for me and I like being able to switch gears and work on all the aspects of the film, but when it comes to character animation, I felt completely out of my depth.

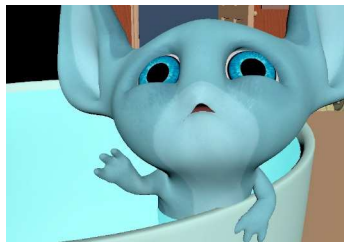
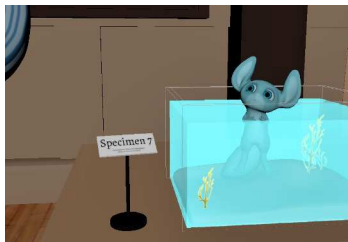
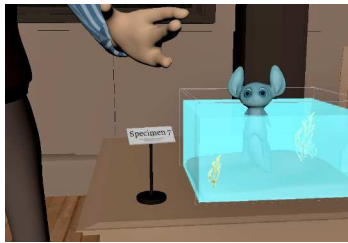
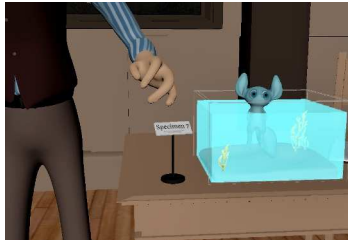
Even as I was drawing the storyboards, I was hesitant to design many shots that had complicated character movements. In hindsight, I think that I included too many cuts in my storyboard as part of my effort to minimize the animation complexity. For instance, rather than having a character continue multiple actions throughout a shot, I would break the actions down into multiple shots so I could cut away when the animation

got too complex. That was my rationale when I designed the shots, but if I were doing it again, I would prioritize the shot composition more. Especially for someone who does not consider themselves a character animator, getting through the scenes was a monumental effort for me.

Another complication was working within the limitations of my own rigging skills. But with a lot of time and effort, it was possible for me to pull performances from the rigs. With each shot that I completed, I gained more and more confidence in the process. I found myself constantly finding new ways to use the rig controls to fit my needs...While also finding new and exciting ways to break the rigs (and subsequently fix them again).



4.14 Shot 63 viewport display



4.15 Playblast frames set 1

4.16 Playblast frames set 2

Despite my initial reservations about completing the animation, I feel like this was one of the topics on which I learned the most. As it's said, "you don't know what you don't know." Well, now I know a lot more about character animation, and I plan to use that knowledge in my future filmmaking endeavors.

I am also extremely grateful for the work that both Heather Marra and Sofia Dubinina did to assist in the animation process. They worked diligently, incorporated revisions, and were gracious with their time.



5.1 Shot 19 final render

## Chapter 5: Post Production

# Rendering

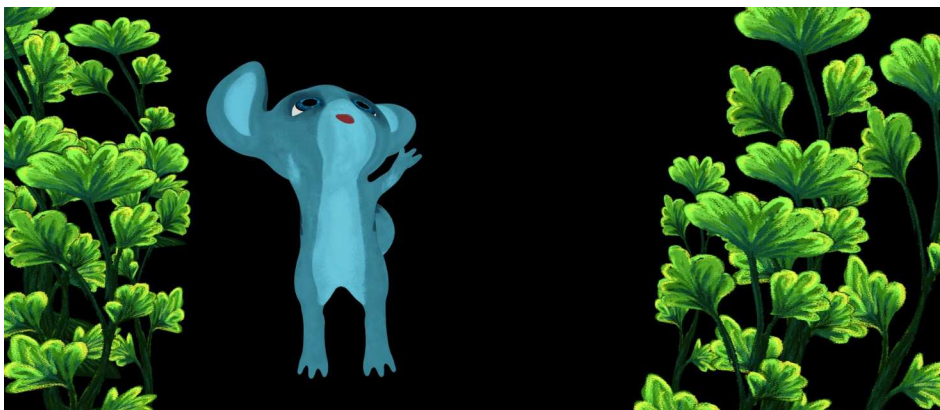
After each shot was animated, I would immediately get it rendering before beginning the next shot. This way, I could make sure that each scene had a good render setup to base subsequent work on. To keep the production on schedule, I would typically animate through the day and finish in the evening. Once I finished animation on a shot, I would render it at night.

I kept the lighting setups in *Maya* very simple. I found that when it comes to working with the aiToon shader, fewer lights are more effective. Because the shadows on toon shaders are sharper, they can make unappealing shapes on the character's faces. So, to minimize the appearance of unwanted shading artifacts, I didn't use many lights.

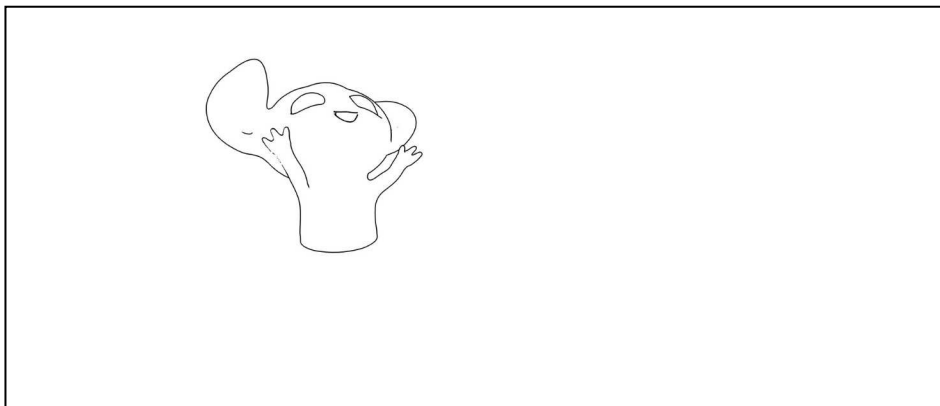
Each shot is made up of several render layers in *Maya*. The master layer contains everything, including the lights. But the master layer, on its own, did not include all the information that I needed to achieve the result I was looking for. Every shot in the film utilizes masks. These black and white masks could then be used in *After Effects* to



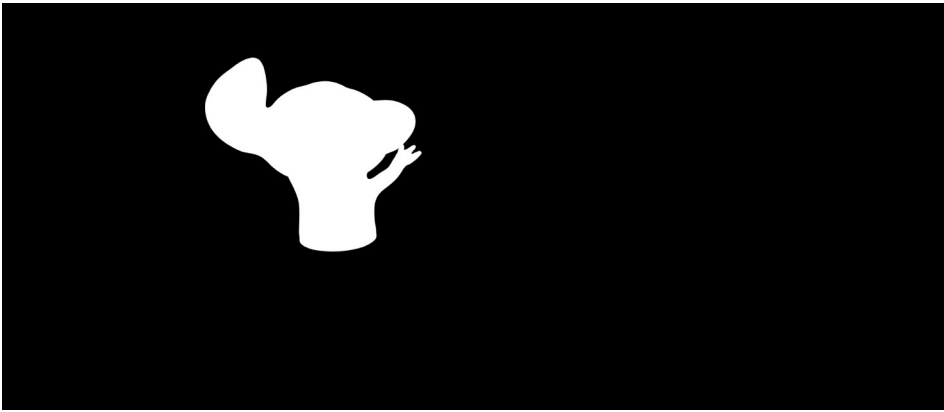
5.2 Master layer pass



5.3 Diffuse pass



5.4 Outlines pass



5.5 Masking pass



5.6 2D animation pass



5.7 After Effects composite

control the finished “look” of the film. Sometimes, a single shot would require two or three different masking render passes. In addition, there were also times when I wanted to use a 2D effect and composite it on top of the 3D render passes. I used this method for things like water splashes and ripples.

Together, these render passes could be brought into *After Effects* for compositing. I used only the effects and presets built into *After Effects* to do my composites. The native tools are extremely powerful and versatile. An artist can do practically anything they need so long as they have a good eye for art direction. By using simple scripts and expressions, I was able to customize some of the most basic effects, such as a noise texture, into various elements for my composites. I love the process of taking my renders from *Maya* and enhancing them. While I found the character animation to be stressful, I discovered that I love compositing more than I ever expected.



5.8 Credits render 1

## Final Edit

Yet another thing that I learned from this project is that getting a score and sound design track is not something that one should postpone. I waited way too long before I added any sound to my film. If I had been more proactive, I probably could have found a sound designer to mix the audio for me...But in the end, I just did it myself. However, the one thing that I absolutely could not do on my own was to compose and record original music.

Thankfully, I was able to connect with Noland Vannoy online and he agreed to join my little crew for the last leg of the production. Noland composed and recorded all the music in a timely fashion and always kept me in the loop about his creative process. The film benefits greatly from his atmospheric and moody score.

As I brought all the composited shots into *Adobe Premiere* and played them with sound effects and music, all the work felt incredibly rewarding. Honestly, there is not one single shot in *Specimen 7* that shows the complexity of the project. But when the shots are cut together, they become greater than the sum of their parts. Each shot is strengthened by subsequent shots. In this way, my individual animations connect and support each other as they make up the final film.



6.1 Shot 33 final render

## Chapter 6: Looking Forward

When I reflect on my work making this thesis film, I am simultaneously proud of and humbled by the experience. There are so many things that I would do differently and many more things that I think I could improve on.

When I first applied for the Masters program here at SCAD, I wrote in my Statement of Intent that I wanted to make a short film. I had this vision in my head of getting all the credit and owning something that I had made all on my own. It's difficult to express just how much I learned in graduate school. I went from someone who had never touched a 3D application to someone who can animate, rig, texture, composite, and more. But one of the most vital lessons was one I did not expect to learn: no one person can own a film.

When I pitched *Specimen 7* as my thesis film, everyone asked me who I wanted on my crew. I was adamant that I would do it alone. At the time, it was my film. Honestly, I couldn't bring myself to trust another person to get the work done and do it the way I wanted it done. And this was such a mistake on my part! This is one of the most important lessons that I'll take away from this project: it's good to have a team. In the real world of animation, artists must rely on and trust one another, coming together to create something bigger than one person. Eventually, I had to put my ego aside and ask for help and I am glad that I did.

I think it was a great learning experience for me to make a film with such a small team. It forced me to adopt roles that I wouldn't have otherwise tried, and I discovered strengths that I didn't know I had. But at the end of the day, learning how to effectively collaborate in filmmaking is a skill that can only be learned through doing. There's a good reason why we don't see animated films in theaters made by one person.

If I was going to pitch a project for a thesis film again, I would do it in one of two ways: make a short project with a small scope alone or do a larger project with a team.

This is not to say that I am unhappy with my thesis! I learned so much and improved exponentially. The thing that I think pleases me the most about having finished the film...is that it is actually finished! Over the years, I have come up with ideas for films, comics, books, and more. But I had never completed something of this scope.

As I come out of this project from the other end, I feel that I have a better perspective on my goals as an artist. Part of me wants to look backward on the process and with hindsight make changes and tweaks. I could spend forever on tweaks, but I know that the best thing to do now is to look at what's ahead of me.



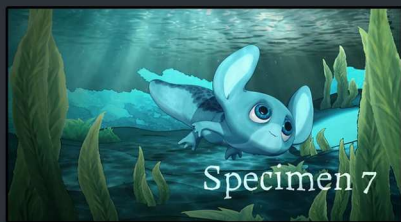
6.2 Credits render 2

## Special Thanks

I will be forever grateful to everyone who supported me through this project. Professors Reichenbach, Webber, and Osborn were always filled with insightful suggestions. Moreover, they are also understanding of the struggle of filmmaking and always had kind words for me.

I'd also like to thank my crew and teammates for all their hard work on this project. Student life is demanding enough already, so to take on additional work voluntarily is remarkable. So, thank you to Victoria, Heather, Sofia, and Noland for all the meetings and revisions!

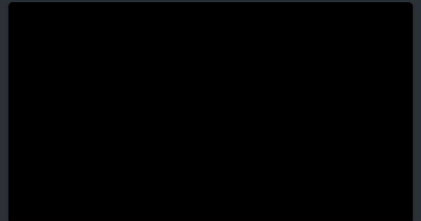
I never in a million years could have finished this program without the help and support of my family. My sister has endured an untold amount of phone calls from me wanting to bounce ideas off her, complaining about my rendering, lamenting my production schedule, and asking for feedback. My dad always was there with advice and a pragmatic eye for problem-solving. My mom's unrelenting support pushed me through the hardest obstacles and her optimism has kept my head above the water. Through both distance and a pandemic-fueled lockdown, they were always with me. Their support means the world to me.





6.3 Collected shots spread 1





# Annotated Bibliography

Anjirbag, Michelle Anya. "Mulan and Moana: Embedded Coloniality and the Search for Authenticity in Disney Animated Film." *Social Sciences* 7, no. 11 (November 11, 2018): 230. <https://doi.org/10.3390/socsci7110230>  
Although the Disney film, *Moana* has been praised for its attempt to showcase Polynesian culture in western animation, the author points out that much like *Mulan* and *Pocahontas* before it, the "Otherness" of the cultures depicted is used as a selling point by the colonialist filmmakers. Moreover, mass-media retellings of traditional cultural stories often supplant the source material, replacing it with a westernized version fit for consumption by a colonial audience.

Bender, Frank. Fortune. 2000. Relief sculpture  
Forensic sculptor, Frank Bender, created a facial reconstruction of the man, Fortune. The story of Fortune's skeleton was the initial inspiration for this thesis and I wanted to honor that inspiration within this book by including an image not of the skeleton, but of the man as he may have looked in life. The image of the relief portrait was kindly provided by the Mattatuck Museum for use in this book.

Daliot-Bul, Michal. "What Will You Do If The Wind Rises?: Dialectical Cinema by Miyazaki Hayao." *Asian Studies Review* 41, no. 4 (October 2, 2017): 562–76. <https://doi.org/10.1080/10357823.2017.1365817>  
Rather than focusing on the controversy caused by Miyazaki's choice to make a film about the engineer who designed the deadly A6M Zero Fighter, the author showcases the open-ended character arc of the film's protagonist, Jirō. Rather than painting Jirō as either innocent or guilt-ridden by his actions, Miyazaki shows through his chosen protagonist that any person has the potential to be swept along by forces outside their control. The fact that Jirō does not directly deal with the moral dilemma of the film forces the audience to grapple

with the issue in his place. In a way that is unique to adult-oriented cinema, *The Wind Rises* does not encourage its audience to “identify emotionally” with the protagonist. Rather, the audience is encouraged to form their own thoughts on the problems poised in the narrative.

Hauser, Tim. *The Art of Up*. San Francisco: Chronicle Books, 2009

A key concern described in this book is “simplexity.” To create the graphic style of the film, the artists simplified forms and images down to their essence but layered complexity on top of the basic form. For instance, the plants flowers that the artists designed were simple shape and color blocks. However, those blocks were not convincing in a 3D realistically lit and textured world. So extra detail was added, such as new and dying leaves. This made the design more believable in the final film.

Idelson, Karen. “Dip in the Deep End: Low-Tech Animation, Offbeat Comedy Shorts Make ‘Adult Swim’ Fly.” *Daily Variety* 288, no. 20 (2005): A3

Despite the low production cost of Adult Swim’s animated programing, they have been undeniably successful. Although Adult Swim is not known to be particularly sensitive in its content, their success is evidence that there is a market for animation aimed at adults. And although its been years since Adult Swim launched, I would say that the adult-animation market is still underutilized.

Kadono, Eiko, Miyazaki, Hayao, and Oniki, Yuji. *The Art of Kiki’s Delivery Service: A Film by Hayao Miyazaki*. San Francisco, Calif.: Viz Media, 2006

Hayao Miyazaki is famous for the unique and consistent aesthetic of his animated films. He is a key influence in the works of American artists such as John Lasseter of Pixar and when looking at the distinction between adult and children’s animation, Miyazaki’s films are unavoidable. Of all of Miyazaki’s films, *Kiki’s Delivery Service* is probably my favorite. 30 years since it premiered, it still has the undeniable ability to connect emotionally with its audiences. Amazingly, it can bring a viewer to tears without any melodramatic death or on-screen misery. The film’s emotional crescendo is in a quiet scene where one of Kiki’s customers bakes her a cake. Looking at the

visual development for the film similarly inspires a more delicate approach to animation. Big and flashy can be great, but there is also a place for quiet and understated animation—yes, even in a feature film.

Kalison, Scott. “The Rise of the Anti-Hero in Modern Adult Animation.” Master’s Thesis, Savannah College of Art and Design, 2019. Savannah College of Art and Design Digital Collections (b1821518)

Overall, the author takes no stance on this subject of the anti-hero in animation. He only provides synopses of mostly relevant media. The analysis of what “anti-hero” means is flawed from the beginning and does not address the key difference between a traditional hero and the modern anti-hero. But most importantly, the author doesn’t answer the question of how nihilistic animation makes a social statement. This nihilism perpetuates the attitude that society is “so corrupt” that morality becomes a pointless endeavor. This becomes an excuse to take no action or stance to fix any of the problems found in a “corrupt society.” Moreover, the author ignores the humanist writing in many of his case studies such as *Futurama* and *the Simpsons*, cherry-picking examples to suit the essay’s theme.

Kohok, Yadnee. “Subverting the Children’s Animation Aesthetic to Create Dark Humor.” Master’s Thesis, Savannah College of Art and Design, 2018. Savannah College of Art and Design Digital Collections (b1805024)

Reading this, I wondered what motivates artists to use a children’s aesthetic to create adult content. It appears to be an attempt to surprise the audience acting on the assumption that animation is a children’s medium. The adult artists are not content with that categorization and push back on it. In these examples, the animators use graphic violence to make that point. But I wonder why violence is used to denote adult content rather than other mature themes. These films are meant to shock the audience with violence. Perhaps if instead of graphic violence, graphic sexuality was used then the film would become too shocking and offensive to even a mature audience.

Laporte, Nicole. *The Men Who Would Be King: An Almost Epic Tale of Moguls, Movies, and a Company Called Dreamworks*. Boston: Mariner Books, 2011

The book chronicles the creation of DreamWorks Animation and the strife within Disney that motivated Jeffery Katzenberg to break away into his own studio.

Li, Hang. "Animation Inspired by Art History: The Aesthetics of Flattening Space and Simplifying Forms in Tomm Moore's Animation." Master's Thesis, Savannah College of Art and Design, 2018. Savannah College of Art and Design Digital Collections (b1813203)

In addition to talking about the influence of Art Nouveau on Tomm Moore's animation, the author also talks about the connection between European Art Nouveau and Japanese Ukiyo-e. As an animator, I am interested in the flattening of space as depicted in traditional Japanese art and how those techniques could be applied to 3D animation. Until reading this essay, I had not considered that the camera could be used to emphasize the flatness of the picture plane. Moore uses only 2D camera moves in his films as not to interrupt the flat aesthetic of the film.

McDonnell, Chris, Rebecca Sugar, and Tartakovsky, Genndy. *Steven Universe: Art & Origins*. New York, NY: Abrams, 2017  
When talking about mature topics in animation, the show *Steven Universe* often comes up. The show is primarily aimed at a young audience but still deals with complex subject matter. However, the target audience for the show seems to be murky. As the filmmakers court an adult audience, they risk alienating younger viewers.

McKee, Robert. *Story: Substance, Structure, Style and the Principles of Screenwriting*. 1st ed. New York: ReganBooks, 1997  
This book is invaluable to me as an inspiration for screenwriting. No matter the duration of the story, McKee's principals can be applied to create structure. The five-part design that McKee outlines has become the lens through which I understand film.

Nelson, Marilyn. *Faster Than Light: New and Selected Poems, 1996 2011*. Baton Rouge: Louisiana State University Press, 2012  
Although my own thesis has changed considerably from my initial idea, Nelson's poems were my true starting point. Her triptych of poems dealing with the slave, Fortune, was my inspiration for *Specimen 7*. The triptych

progresses through three viewpoints dealing with the same subject. The first poem, from the slave-owning doctor's perspective, is detached and removed. The second poem, from the perspective of a grieving widow, is extremely emotional by contrast. And finally, the last poem from Fortune's own view provides the reader with catharsis and a changed perspective. That emotional progression is from where *Specimen 7* originates.

Pontillas, Bobby, and Andrew Chesworth. *One Small Step*. Digital, Animated Short Film. TAIKO Studios, 2018.

<http://www.taikostudios.com/one-small-step.html>

This short film is a model of how I think animation can be used to address adult audiences. It has a story that has incredible emotional resonance and a carefully crafted visual style that pushes the limits of traditional 3D rendering.

Rinzler, J. W., and Lucasfilm, Ltd, eds. *Star Wars Storyboards: The Original Trilogy*. New York: Abrams, 2014

The boards in this collection are great examples of both how the storyboard industry has changed but also how it has remained consistent. The medium has shifted from pen and ink to mostly digital since the original *Star Wars* films were produced in the 1970s. So, while the boards in this book are at times rougher than what is seen today in VFX-heavy shoots, the principals of shot composition remain the same. Studying these boards was a great touchstone for myself while drafting the animatic for my own film.

Sandlin, Jennifer, and Snaza, Nathan. "‘It’s Called a Hustle, Sweetheart’: Black Lives Matter, the Police State, and the Politics of Colonizing Anger in Zootopia." *The Journal of Popular Culture* 51, no. 5 (October 2018): 1190–1213. <https://doi.org/10.1111/jpcu.12714>

The authors take a deep look at Disney's *Zootopia*, examining how the film attempts to address racial discrimination in the US police system in the light of the Black Lives Matter movement. The film is fairly direct in its racial allegory with white people being represented by the majority of prey animals in fictional Zootopia while black people are represented by the minority of predatory animals. The movie's theme is firmly on the side of racial acceptance, but the allegory creates a muddled execution. In the fictitious world of the film, predatory

animals are not a threat to prey animals. The distinction between the two groups is a social construct in their universe. But in reality, there is a difference between those animals, thereby justifying the prejudice in the film.

Scott, Ellen. "Agony and Avoidance: Pixar, Deniability, and the Adult Spectator." *Journal of Popular Film and Television* 42, no. 3 (July 3, 2014): 150–62. <https://doi.org/10.1080/01956051.2014.881773>

This article contrasts Pixar's approach to addressing an adult audience with the differing approaches of competing animation studios. Dreamworks and Blue Sky have tended to insert adult humor into their animation in a way that the adults watching can laugh without the children understanding the joke or reference. Pixar, on the other hand, deals thematically with mature themes in their films such as *Toy Story* and *WALL-E*. The children can enjoy the narrative and humor fully, while the adults can appreciate the more complex subtext. *Toy Story*, for example deals thematically with the adult fear of aging and becoming irrelevant. The adults can understand the character's fictional journey of accepting change simultaneously as their children follow the more "surface-level" narrative. This also allows for younger audiences to rewatch the films and gain alternative interpretations of the story as they get older themselves. This adds to the "timeless" quality of Pixar's animation.

Snyder, Blake. *Save the Cat! The Last Book on Screenwriting You'll Ever Need*. Studio City, CA: M. Wiese Productions, 2005

Two of the major features of this book are Snyder's breakdown of the "10 genres" of film and his infamous 15-point Beat Sheet. For the 10 genres of film, Snyder separates all of the major story types into 10 categories based on the types of content and conflict featured. The more famous Beat Sheet is basically a road map of a traditional feature-length Hollywood screenplay. Each of the 15 beats is broken down not only into what story points to hit, but exactly when to hit them in a 110-page screenplay.

Solomon, Charles. *The Prince of Egypt: A New Vision in Animation*. London: Thames & Hudson, 1998

When I began this project, *the Prince of Egypt* was one of my key influences. I believe that the film is extremely successful at addressing a mature audience without being vulgar. This book examines individual sequences in detail, looking at color scripting and environments primarily. A great deal of thought clearly went into the design

of the movie, giving it a unique aesthetic that has aged wonderfully.

Staton, Marquise J. "How African American Representation Has an Influence in Storytelling." Master's Thesis, Savannah College of Art and Design, 2017. Savannah College of Art and Design Digital Collections (b1769011)  
This essay seems to have more to do with character design and stereotypes than storytelling. Still, the author makes good points and recaps some of the historical significance behind the depictions of black people in US animation. One of the strengths of this essay was the fact that the author examined not just the visual influence of racial caricatures but also the inclusion of minstrel songs with the invention of "talkies."

Sullivan, Karen, Alexander, Kate, Aubry Mintz, and Besen, Ellen. *Ideas for the Animated Short: Finding and Building Stories*. Second Edition. New York ; London: Focal Press, Taylor & Francis Group, 2013  
The authors begin by breaking down filmmaking into 5 Dimensions: line, tone and color, space, time, and content. Each of the dimensions should serve to enhance the story so that they work in tandem to convey a theme to the audience. Special emphasis is given to the idea of what the authors call the "Story Question." This is the question that is set up in the film's inciting incident that must be answered by the end of the film. The theme is derived from how that story question is answered.

Tharp, Twyla, and Mark Reiter. *The Creative Habit: Learn It and Use It For Life: A Practical Guide*. 1st Simon & Schuster pbk. ed. New York: Simon & Schuster, 2006  
This book outlines the author's method for creative productivity. Her three main rules are to maintain a ritual and pattern of work to keep on track, to make a "project box" that keeps artistic influences in one place, and to stop work for the day with a task already started for tomorrow.

Woodhull, Brittany M. "Pre-Established Character Design Archetypes: Using or Abusing Stereotypical Elements in Character Design." Master's Thesis, Savannah College of Art and Design, 2017. Savannah College of Art and Design Digital Collections (b1593475)

The author addresses the strengths and weaknesses of using stereotypes in character design. The strength would be that the character is easily read and categorized by the audience so they can quickly figure out who that character is. But if these visual shorthands are relied upon too much by the creator, the designs become boring and predictable to the audience. However, the author does not address the social implications of the perpetuation of stereotypes in animation.

Wright, Aszia. "Representation of Black Women in North American Animation." Master's Thesis, Savannah College of Art and Design, 2018. Savannah College of Art and Design Digital Collections (b1806098)

The essay examines racist depictions of black women in popular US animation and looks at the stereotypes that these depictions are based upon. The essay also looks at how even Black artists are influenced by racism and can unintentionally recreate it in the form of colorism. But due to the long history of discrimination against black women, even films that seek to positively depict black women are held to an impossibly high standard. It seems that today's audiences have so many negative associations assigned to black women, that it becomes a near-impossible minefield to navigate.

Zahed, Ramin, and Brad Bird. *The Art of the Iron Giant*. San Rafael: Insight Editions, 2016

This book chronicles the design and creation of the famous film, *the Iron Giant*. In particular, the issue of integrating 2D and 3D characters into the same shot was a focus. The technicians made a program that allowed the CG lines of the giant's model to match the hand-drawn lines of the 2D characters. Another issue that was addressed was how to show two characters with a massive height difference on screen together and create a connection between them.







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