

Aqualumina Thesis Defense Script

Hi everyone, and welcome to my thesis defense, Aqualumina! I'm very excited to share what I've been working on for the past semester. If you don't know who I am, my name is Sean Semick. I'm an illustration major here at PNCA. Along with illustration, I practice animation. I've been interested in art for as long as I can remember, and it brings me a lot of joy to see people enjoy the things I've created. So, what is Aqualumina? Aqualumina is a video game concept I created last semester, and this thesis is a collection of character designs, animations, and assets for that game. The game is a 2D platformer metroidvania, and follows the protagonist, Tetra, a rebellious fish girl on a journey to fix the balance of her world.

I covered three main elements within the project - character design, animation, and environment and asset design. These separate parts came together to form a cohesive showcase of what the game Aqualumina could look like. I chose these elements because I thought it was the best way to represent my overall vision for the project. I also took on several roles for this project, being an artist, animator, environment and character designer, project director, and storyteller. Those are a lot of parts I had to juggle, and it certainly wasn't easy, especially environment design, which wasn't something I had a lot of experience doing. I think each and every hat I wore was important to developing the final project. My illustration aided the animation, and the storytelling impacted the environment and character design. There are so many other roles I could have taken on, but these few were the ones that I have the most experience in.

So, why did I choose video games? I think video games are an extremely special form of storytelling. Being interactive, they involve the player in the story and experience through many different methods. Visuals, writing, design, and gameplay come together to tell a story, spread a message, or purely entertain. Game designers and artists almost communicate with the player

through a game, which is incredibly impactful. I also enjoy flawed characters, and how they improve themselves, or in some cases, get worse. Nobody is perfect, so these kinds of characters allow us to connect with them and their struggles on a deeper level.

I wanted to tackle a variety of themes within Aqualumina, and the one that sparked the whole idea was the duality between the sea and space. Both are dark, mysterious, and vast. Bioluminescence in water can look like stars in the sky, and I thought it would be interesting to exaggerate that concept - what if the stars were in the sea? This visual concept naturally evolved into a broader, narrative one. Dealing with the duality of light and dark, good and evil, and the blurred lines between them. As a trope, light often portrays good, and dark portrays evil. Instead, light is a massive disruptor in the world of Aqualumina, and the balance of light and dark has shifted in favor of the former. Following Tetra's adventure into the ocean, it visually subverts expectations of the environment. The further down she explores, the brighter the environments become, instead of darker as one might expect. Other themes are reflected in Tetra herself. Tetra as a character is brash, stubborn, and rebellious. Throughout the game, she has a habit of solving problems for people without taking time to truly listen to them, which results in even more damage. I wanted to explore the theme of a flawed hero, her impacts on the people and places she meets, and the character growth she experiences throughout the story.

While specifics and details in the story weren't at the forefront of my development, Aqualumina has a rough plotline that follows Tetra and her journey to the bottom of the ocean. Our story begins on the surface, in the coastal village of Seabrink. Tetra and her semi-aquatic kin live in a village set in routine and ritual. Seabrink and its people are content with living simply, and fear change, especially when it comes to the neighboring ocean. There are tales of the adventurous types entering the water and not returning. This is where Tetra gains her defiant personality, infamous throughout town as a troublemaker. One day, suddenly, their world is

literally flipped upside down. The once-bright night sky filled with stars goes dark, and the ocean begins to glow with celestial light. This sends Seabrink into a frenzy, and in the darkness, time passes. Tetra seems to be the only voice of reason, angrily criticizing her town for shutting down in the face of calamity. After having to deal with the fear and cowardice of her village, she decides to dive into the ocean by herself.

In her exploration, she comes across a ruined temple with a mysterious shrine. This is where she accidentally summons the forgotten God of the Stars, Gallea. They tell her that the light and stars were stolen from them by the sea god, Aphosa, and that Tetra has been chosen to become the hero who will save the balance of their world. Gallea is an arrogant and dramatic character who mirrors and reinforces a lot of Tetra's negative qualities. Accompanied by Gallea, she experiences magic and wonders she had no idea existed in the vast world outside her small village. Unfortunately, her self-righteousness gets in the way of helping the communities and characters she meets along the way. By the time she reaches Aphosa, she is so set in her ways she doesn't question the motives of either god. Aphosa is selfish, apathetic, and took the light to become more powerful, which is true to what Gallea said. Aphosa didn't care about the impact their actions had on their ocean domain, and only acted in spite of Gallea. However, after defeating Aphosa and reclaiming the light, she realizes that was only part of the story.

Gallea double crosses Tetra, and she learns the Star God wasn't trying to restore balance, but rather tip it in their favor. A long long time ago, they abandoned the surface world, and retreated from their duties as a god. In doing so, the surface was stripped of any magic it had. They take the light, and on her journey back upward to set things right, Tetra has to fix all the problems she unintentionally caused. By the time she faces Gallea at the end of the story, she has grown as a character. The journey teaches her the importance of listening, being present, and caring for others.

Aqualumina has changed a lot over the course of the past semester. For context, I had initially proposed several character animations of Tetra, three main character sheets, and three environments, along with two character designs per environment. Several times, I had to evaluate what was most important to keep, to maintain the project's vision while also helping me stay motivated. The first cut happened in January. After finishing the idle animation for Tetra, I had realized I was already behind schedule for moving on to the three main character sheets. I decided to cut an environment - the Verdant Faelands, which was a lush, algae forest landscape home to little moss faeries. I also decided to stop working on any additional animation, both decisions that would allow me to focus more of my energy on character design.

A few weeks into working on the first environment, the then-named Constellation Caverns, I realized I was fairly in over my head. It was daunting working on one environment, so it was hard to consider fully finishing a second in the amount of time I had left. The additional character designs were also something that seemed unnecessary, though I had already started on designing some jellyfish creatures, and doodled Atlas, the hammerhead shark guy who would act as a recurring cartographer NPC. Talking it over with my mentor, Jack, I was encouraged to push forward and not fully scrap the second environment. The second environment is a mechanical mine area overgrown by magic crystals. By the time I was close to finishing the first environment, I began development on the second, but decided to fully devote myself to finishing what I had.

Character design was always going to be a main part of my thesis, since character design is one of the biggest reasons why I got into art in the first place. Generally, I tend to lean more humanoid in my character designs. For Aqualumina, I wanted to challenge myself by designing two non-humanoid characters, along with Tetra, who already had a design going into the project.

Aphosa was the character sheet I started with, since I had a pretty solid idea of what I wanted them to look like. Their slug-like design was based on the nudibranch, or sea slug, which not only reflects their position as the sea god, but also reflects their apathetic, sluggish personality. I think it's cool when all-powerful beings are designed as non-human, so I aimed to make them look very alien. I wanted their design to feel liquid and flowing, like water. If I were to animate them, they would subtly shift in color and waves would roll down their wings and body. Because their design was already planned, I made a few color variants. The first is based on the Spanish Shawl nudibranch, which is bright purple and orange, also similar to the colors of a sunset. I tried darker colors to reflect the night sky theme, but eventually settled on bright blues and pinks. Those colors weren't based on anything in particular, but it aided the ethereal, alien nature of their design. The waves rolling down their body went through a few iterations, and eventually I decided on a swirling vortex design.

Aphosa's expressions were fairly straightforward given the simple design of their face, and towards the end of the rendering process, I thought it would be a fun idea to change the color of their antennae based on their emotion. Their lesser form's body was inspired by sea angels, another small kind of sea slug. One struggle I had with their character sheet was the actual layout of the sheet. Graphic design is not something I have a lot of practice in, so finding a layout that felt thematic but uncluttered was difficult, especially with a character as wide as Aphosa. With help from Jack, we landed on a subtle water-stained paper texture that didn't distract from the character and expressions. As a little bonus, since I tried to give them a massive, imposing presence in the bottom expression, I wanted to see what it would look like in a dialogue box.

Gallea was a lot more challenging. Their little sprite form was already designed, so I had to make a godly form based on the lesser form they'd take for a large part of the game. Some design motifs I used were birds, biblically accurate angels, and space formations like galaxies

and nebulas. Wings were one of the most important parts of the design, but I thought portraying them in a more beastly form would fit their personality well. Eventually, I went with a more abstract and angular design to reflect their unstable nature which also highlights their disconnect with the world they were supposed to protect.

Compared to Aphosa, I went through many more color variations with Gallea. First, I had their body be lighter and their wings darker, to help them stand out better on a dark background, but decided the wings should be the main focal point instead. My color choices were inspired by sunsets, the night sky, and cooler space associated colors. I ended up going with blues and purples to add a bit of warmth into their palette, while still feeling celestial.

Their wings were the part of the design that took me the longest. I felt like I just couldn't get them to look right. I went a long time with no progress, which led me to work on Gallea at the same time as Tetra, who I'll talk about in a minute. Switching between two pieces really helped me to let go of getting caught up in detail, because I was trying to draw each individual "feather" on their four wings. The pose, with some closed wings, also caught me in that process. The original pose, with some closed wings, also caught me in that process. After stepping back and doing more research on how other games and artists approached wing design, I redrew their pose, with the wings taking on a much more jagged and chaotic outline.

I opted to draw the space texture in their wings myself, instead of using a pre-made overlay like I had with the initial sketches. I think it was a good choice because it stylistically fits with the rendering style of the overall design. After I had finished the character render, their lesser form was a breeze. It didn't change much at all, except that I gave them a little star tail for more expressiveness. Because of their simple, abstract design, and the fact they have no mouth, I found it fun to draw their expressions exclusively through their single eye.

Now you're about to hear a LOT about Tetra, because her section is a saga. I figure I should start at the very beginning, since she is the first and oldest character from this project. I

hadn't developed the story or world she'd belong in, only that her personality was bubbly and upbeat. She was going to have more of a classic hero personality, which evolved into the more flawed character she is today. Her design went through many initial iterations. I tackled this in an assignment during a character design class in January 2025. I wasn't sure which direction I wanted to head, only that she would have vaguely fish and elf-like design elements. I eventually decided on a mix between the first and second designs.

This was her first character sheet, which is where Gallea's design was also created. Her present personality was formed by this point, and I made sure to get that across in the character expressions. In this iteration of the story, she meets Gallea through a magic pendant she finds. This pendant would allow her to wield Gallea's power as some kind of weapon. Her longer hair was something I thought would be cool in concept, floating outward underwater instead of falling straight down. I had started learning the animation program Spine2D that same semester. During this class, I decided to animate Tetra, and found out in practice that this was a terribly difficult idea to pull off. Hair was the first thing I wanted to change during the redesign. Not only did I fear animating flowing hair underwater, but I don't think it fit her personality well. Eventually, much to the chagrin of some people who preferred the original design, she got a haircut. I felt like shorter hair did a better job at communicating her rebellious and adventurous personality.

This was where I had started planning for Spine animation. I wanted to show off her character using short idle animations, so I drew up a couple of ideas for what that could look like. I especially liked the fistbump with Gallea. I haphazardly threw together a couple of test rigs, just to see how I could effectively rig the character for real. I was especially set on making the shawl work with extreme arm rotations, and this is where I decided to redesign her outfit. Her clothes were extremely complicated to animate, so if I wanted to achieve that stretching pose, I would have to get rid of the shawl. I did some explorations to try to find something more

easily animated. In the end though, I was way too attached to the shawl she had in the original design. It felt appropriate for her character, and I had spent so much time agonizing over it that I didn't consider that I didn't have to do that stretching pose.

Moving on to the actual rigging and animation, I drew a reference pose, and then split up the different parts. By connecting them with bones, I could move each part individually. By this point, after I had finished rigging, I was still set on animating several idle animations. I even considered going a step beyond and animating a walk cycle. If you know animation, you know that was a bit too ambitious. I find rigging really fun, especially when you're able to do silly things with it. Eventually, like I said before, I ran out of time for the animating part so I had to cut everything but the base idle animation. As much as I would have liked to continue animating using the rig I made, the other parts of my thesis took priority, and I think this was the right call. In the future I want to utilize this rig I've created more, and improve on it.

Moving on to her character sheet, I started with her pose. I chose an action pose because it feels like promotional art for the game. While drawing this pose, I realized she didn't have a proper weapon to wield, since at some point between then and her creation, I had scrapped the magic pendant idea. She would need a weapon to carry her through the game, since she's not the kind of person to fight well with her fists. A staff felt like the best choice, and I thought it would be funny if Gallea blessed her with a rare, powerful relic, a handle that can turn into several weapons, only for her to use it through brute force in the completely wrong way.

Lighting and shading gave me a lot of trouble. I had initially started with thicker linework, which is how I often start with rendering characters. I went through two different attempts at this, and each one felt like I was throwing myself at a wall I couldn't pass. Eventually, after being stuck and frustrated for quite some time, I decided to try a different approach and started over on the linework, opting for thinner lines.

It was a very subtle difference, but taking this step back was the thing that helped me push forward. It allowed me to see from a different angle, and assess what I had created while building off of it. The same thing happened when I redrew Gallea's pose, and when I was focused on getting rid of Tetra's shawl. Often I will get stuck in one idea, one process, and this project as a whole has helped me see how I work so I can recognize when it's time to take that step back. This will be a recurring theme later on.

Expressions were the next step, which were also a bit of a struggle. I tend to have trouble staying on-model, and I had to be reminded of some character design rules I had forgotten. In the end though, I had finished rendering the main pose, so rendering the expressions using that as a guide greatly helped me speed through the process. After finishing Gallea and Aphosa's character sheets, I found it a lot easier to create Tetra's. Her first sheet's design held up well, so I decided to use the same background and general layout.

But wait, there's more! Last month, I realized I needed more original character animation in my portfolio. By this point in the project, which you'll see in the next section, I was extremely burnt out from illustration work. It had been a good 3 months since I had animated Tetra's idle, so I was ready for a change of pace. I had created this character very early on, the Faerie Queen, to act as the boss for the scrapped Verdant Faelands zone. The whole area was themed around algae, moss, and overgrowth, so I created creatures based on moss balls. Completely separate from my thesis at this point, I thought it would be fun to animate her in Spine. Like I did with Tetra, I started with a test rig, and also wanted to experiment with particles and effects in Spine for the first time. It was a bit of a puzzle figuring out how her weird body mouth would open, but eventually this is what I created.

Finally, the last part of the project. A video game like Aqualumina isn't complete without environments for characters to live in, for the player to experience, and I planned to challenge

myself by taking on a role I had never fully explored. This was by far the hardest part of the project. There were a range of emotions felt during these last months. I asked myself over and over if it was ever a good idea to pursue something I'd never done before for a project as important as my college thesis. In the end though, I'm so glad I decided to step out of my comfort zone and take on this challenge. Going into the first environment, I didn't have a solid idea in my head for what it would actually look like. I wanted the first environment in the game to sell the magical, celestial, unnatural element of the plot, and be tied to bioluminescence and jellyfish. I started with what I knew- I created a color palette to reference, and blocked out ground planes.

After going over the first iterations with Jack, I was guided to start by blocking out the different planes in 4 colors, separating depth by foreground, middleground, and background. This is where I had the idea to include mushrooms into the theme. Mushrooms are sort of shaped like jellyfish, so I thought it would be interesting to create flora that look like both. This is also where the concept of a temple that housed Gallea's shrine started. Over the next few weeks, I kept adding to the blockout I had created initially. After some research, the hexagonal basalt columns you can find on coasts felt like appropriate rock structures to incorporate. I also decided the statue and ruined temple would be the main focal point, so I increased the size of the temple. If you couldn't tell by the minimal steps I was taking, I was starting to burn out. I had a hard time envisioning what the environment would look like rendered, so I just kept adding details to the blockout in the hopes something would click.

By the time midterm rolled around, I hadn't started rendering any objects yet. My goal for midterm was to render and showcase a couple mushroom trees, the exterior ground, and the main focal point, the statue. The statue is also a bit of unsubtle foreshadowing for Gallea's winged form at the end of the game. I also threw the blockout into After Effects, a video editing software. I hadn't initially planned to incorporate camera movements into the environment

showcase, but it felt more natural than a static shot. To be honest, I was pretty unprepared to speak about my work during the midterm. If I'm not prepared, I tend to ramble, which led to me not explaining myself or my project well. With guidance from the panelists, it left me with a lot of things to think about. I had to assess not just the project's contents by clarifying some of the visuals, but also about my process during it, and how I approach talking about my work to an audience. This was yet another moment where I needed to take a step back. I needed to try something new, so I did a quick sketch using different colors and inserted the temple as an even bigger part of the scene. This was the thing I needed to move forward. It also helped to reuse the assets I had previously created.

Now that my motivation was back, I needed to start rendering the rest of the environment. This is where a checklist became really helpful. It allowed me to separate each part of the environment into assets I could work on individually. I started with the temple walls. I created a tileable group instead of drawing the full wall, which saved me a lot of time. I moved on to the stained glass windows next, the middle one depicting an abstract rendition of Gallea. One of the more important parts of this development were the mushrooms. I had a good idea of how I wanted the temple to look, but the designs of the mushrooms were still up in the air. I had drawn these as a style guide to inform the rest of the assets, and in total I illustrated 19 mushroom variants. I added the glowing bits under the trees to help them resemble jellyfish. Overall, I'm happy with the final designs of the mushrooms, even though they went through a lot of iterations. I don't have time to go over every single asset I created, but these were the most notable.

Finally, I had most of the assets done, I just needed to composite them all in After Effects. By laying out the 2D assets in a 3D space, it let me see what additional assets it still needed. I also used depth of field blur to obscure more unrefined assets in the background. It was unclear whether or not the environment was underwater, which was another thing that was

mentioned during the midterm. To help push the underwater theme, I added caustic lighting to the temple, which are the patterns that appear when light shines through water. The video was still feeling like it was missing something, and that was audio. I had a specific song in mind, which captured the feeling of the first environment perfectly. It came from one of my favorite series, specifically from Monument Valley 3. This is when I decided to call the environment the Ruined Temple, since the temple was so important to the whole scene and story.

Over Spring break, I also started work on Environment 2. I was content with not finishing it, but having something to show during the presentation was important to me. I didn't get very far at all, only creating some color comps and solidifying the local storyline. This area is deeper, later on in the game, and themed around crustaceans who reside in a very steampunk-inspired environment. The mines were originally an excavation and processing factory for magic crystals the crabs used in their inventions, kind of like D&D artificers. When the light was stolen, the entire area was changed. With the newfound light came rapid crystal growth, which encased and overgrew the factory. The crystals corrupted the robots in the factory, turning them hostile towards the living factory workers. When Tetra arrives, she makes it her mission to solve this problem by charging straight in. It would be so terrible if she destroyed the factory mainframe and cut the crabs off from their source of magic. That would suck.

The first environment taught me to have a main focal point, so I decided that point for the mechanical area would be a big central intelligence. Its name is EMMA, which stands for External Magic Management Apparatus. I wanted to make it look like a crab, but also feel integrated with the rest of the environment. Additionally, I started experimenting with rendering crystals. After my thesis, I would like to continue development for this environment. I think all of the gears and mechanical parts could look really cool in motion, and it would give me more practice rendering metal and machinery. I am excited about the direction of this area, but I'm glad I decided to really focus on and finish Environment 1 with the time I had left

During my midterm review, one of the things I was asked to think about was who my project's audience was and how that informs my creative process. After thinking about it, this project is mainly for me. Creating a world and characters that are inspired by all of the works that I love and care deeply about is very important to me, and I am using those inspirations to guide the quality of my work. Additionally, in thinking of myself as the primary audience, my audience for Aqualumina also extends to people who like video games, the stories told within them, and the themes I'm exploring with this work.

As much as I'd love to take Aqualumina beyond my college thesis, I think for the time being, it will serve as a great stepping stone for future projects. Post grad, I want to spend some time on my own personal art, and learn new crafts that will compliment and help me grow in other facets of my creative practice. I never intend to stop learning and growing as an artist. Working in a game space is my end goal, but the future is a hard thing to plan for, and I'm content with knowing no matter where I go and what I do, my passion for creating will follow me.

Thank you all so much for your time, it means the world to me. I want to give a special thank you to my family for supporting me through both this project and my time here at PNCA. I'd like to thank Jack for being such a kind and supportive mentor and project partner, it was an absolute joy being able to work with you on this. Thank you, Lazaro, for printing the stickers at a moment's notice. And last but not least, thank you to all my wonderful, creative, and insanely talented friends. To the people who are in the audience, and to the people who can't be here today. You've stayed with me for so long, through thick and thin, and have listened to me and my ideas at my worst and at my best. You all inspire me to continue pursuing my dreams. I love you all and I look forward to growing alongside you in the future.