How Are You, AGI?: A Short Digital Animation on the Factors That Threaten the Survival of the Philippine Eagle Using Clip Studio Paint, Possible Alternative to Other 2D Animation Program for Online Collaborative Projects

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Abstract

Soaring through the sky, is one of the largest eagles on the planet. Pithecophaga jefferyi, or the Philippine Eagle, was named the national bird of the Philippines in 1995. It became a proud symbol of the country. Its likeness was minted on commemorative coins and made the mascot for both the 2005 Southeast Asian (SEA) games and Gilas Pilipinas Men's Philippine Basketball team. But soon, if nothing is done to help them, all that will be left of these birds would only be memories and art. The Philippine Eagle is recognized as being critically endangered and on a decreasing population trend according to the International Union for Conservation of Nature (2018). Using Clips Studio Paint, our project aimed to create a high-quality digital animation that spreads awareness on what a Philippine Eagle would go through in the wild that has caused its critically endangered status. We also hope to increase public awareness of their plights and present Clip Studio Paint as an alternative for the students at Asia Pacific College (APC) who are interested in creating both illustrations and animation especially when collaborating remotely online.

Keywords: *critically endangered, Clip Studio Paint, conservation, digital animation*

Introduction

The Philippine Eagle is known to be one of the largest eagles and the most evolutionarily distinct animal species in the country. It was declared to be the country's national bird on July 4, 1995 and has since been featured on various local prints such as coins, stamps, and the country's passport, as well as being a mascot for international scale sports events. Not only that but they are also known as an "umbrella species", in which protection of the birds will also help save the surrounding plant and animal species. These birds used to populate nearly every island of the archipelago, but due to decades of habitat loss, there is only an estimate of 400 left (Ibañez, 2006). Although conservation organizations, such as the Philippine Eagle Fund and the Haribon Foundation, are fighting for the bird's survival the IUCN still sees a downward trend in their population growth (2018).

During the COVID-19 Pandemic, animation students are forced to adapt to the sudden shift of online learning as a necessity, and this has posed many problems especially in effectively communicating and collaborating in group projects. They had to get acquainted with accomplishing their requirements at home, which causes logistical problems like the lack of animation software. Many 2D animation software are too expensive for students. Some educational institutions have opted to make students use free open-source applications like FlipaClip for mobile devices. However, this app is too limited in features when compared to industry-standard software like Toon Boom Harmony. This can limit their learning of technical skills.

Clip Studio Paint (CSP) is a versatile graphics software developed by the Japanese company, Celsys. It is currently heralded by many artists as one of the best programs for illustration and 2D animation. The program is also known for their frequent 50% off sales on a one-time purchase, making it a great alternative for subscription-based graphics software such as the popular, industry-standard, Adobe Photoshop. Its unique features like camera vector layers allow precise control of camera movements for the animator, and its licensing and customer support features like discounted shared licenses and in-client Cloud file storage can alleviate specific problems that arise when working on a collaborative animation project remotely.

Animate 2 Explain also says that animation allows animators to capture a viewer's imagination while you tell their story. The statement is backed up by researchers as well, with a psychological theory named "Transportation theory." Transportation theory explains that when a viewer experience entering a story's world due to empathy for the characters and the imagination of the viewer (Van Laer et al., 2014). The planned story for the animation will be narrative based, helping viewers themselves connect and empathize. The narrative-based animation would be like Green Peace's "Rang-Tan" short animation made by Salon Alpin but with a different and original flow to the story.

The proponents aim to create a short animation on CSP that will help spread awareness by engaging viewers into the visuals and the narrative of the animation, shedding light about the

eagles and in turn, bringing attention to the organizations that are doing their best in conserving these birds. It will also be documenting the entire process of animating in CSP to look at the strengths and the software's areas for improvement to show its capabilities of producing high-quality 2D animation in online environments.

The project was focused on creating an appealing, narrative based short digital 2D animation created on CSP spreading awareness about the problems that a Philippine eagle may face in the wild that have caused its endangered status. The research is based on data and reports from articles and research studies on the bird. Any mention of other animals would be due to deforestation and the massive scale and effect that it has on the ecosystem itself. The comparative analysis of 2D animation software is limited to options widely available online at this time. The applications mentioned in this paper is subject to changes and updates from their respective development teams. So, the observations made in this paper may not reflect the state of these products in the future.

To quantify the merits of each chosen 2D animation software as to objectively compare them, the proponents employed a comparative analysis method. The comparative analysis entailed the gathering of publicly accessible information about the features, pricing models, and minimum system requirements of each 2D Animation software. Three of them are licensed applications: Adobe Animate, Toon Boom Harmony, and Clip Studio Paint. Two of the five are free or open-source software: Open Toonz and Blender. From the compiled data, the proponents can extrapolate comparisons between software.

Using the findings produced by Measuring Emotional Response: Comparing Alternative Approaches to Measurement (Marcus G., MacKuen M.B., & Neuman R.W., November 2015) wherein they compared two distinct questionnaire designs: Radio point and Slider scales. Both formats produce reliable results when collecting data for emotional response, although the slider produces marginal difference, especially when measuring enthusiasm. This study will be focusing on the other two categories of emotional response: Anxiety and Aversion because these can be associated with feelings of sympathy and desire for action that the advocacy aims to receive. The post-survey aimed to produce 3.1+ standard median on emotional responses associated with Aversion and Anxiety to prove that the short film was effective on producing the desired emotional response.

Pre-Production

Pre-production consisted of the proponents gathering data such as reference material for the environments, characters, and effects. A storyboard was also created to plan out the sequencing of the story. Along with the storyboard, color scripts and character references were created to guide the animator and background artists in coloring and to keep the consistency of the characters' look. The character animator and line artist also employed live footage of animals used as a reference for the characters in the short film. During the planning stage, the sequences chosen are deemed "Highly work-intensive" which refer to animated sequences with many moving objects, or complex motions like flying or four-legged walking. Other sequences that only involve camera movement or limited character motions are lower in the priority to consider time constraints.

Production

Production began by creating sketches for the backgrounds and an animatic to plan out timings for the final animation. Final rendering of background, line work and coloring was done simultaneously by both proponents. All camera movements, animations and stills are done on Clip Studio Paint. Using CSP's in client Cloud storage the proponents were able to frequently update Clip files without constantly downloading a copy into their personal computer.

Through CSP's shared license offer, the two proponents were able to obtain a copy of the software with a one-time payment and gain full access to its features like Cloud storage. Having the same software also ensured no loss of data and less risk in corruption of data when transferring files between collaborators, allowing a smooth workflow. CSP also has an auto-save feature that automatically saves any changes periodically and frequently. It also acts when the software detects a lapse in device performance which lessens the risk of losing work due to program or device crashes.

Notably, most of all, the utility of keyframing technology in the acceleration of progress. Using the keyframing feature, the software may fill in the in-betweens for the animator like the Curve editors in 3D animation software. This is a rare feature for 2D animation software when contrasted to other software available, especially among software in CSP's price range.

Post-Production

Post-production commenced when the entire animated film is finished. This is where proponents will start cleaning up the animation and consultation with advisors for final revisions. After its revisions and clean up, the short film undergoes color grading and foley using Adobe After Effects.

Review of Related Literature

This section presents related literature and information about the Philippine eagles such as habitat, ecosystem, and behaviors in an animated medium. Other listed writings are about Transportation theory and its effectiveness in putting a message across viewers.

2D Digital Animation

2D animation or animation in general is the art of "breathing life" into still images through a rapid display of a sequence of images (Withrow, 2009). Steven Withrow also talks about the basics of animation such as writing, character design, and showcases works of other 2D animators.

In Steven Withrow's book, he talks readers in a basic overview of the workflow of a 2D digital animation being like the flow of a live-action film and a basic walkthrough on making a "tweened" animation in Adobe Flash (Now discontinued in December of 2020 and replaced with Adobe Animate). Currently, most industry-standard animation programs are dominated by Adobe, though many users and people looking into getting into animation are barred from using Adobe products as the price of the subscriptions goes for Php 1,061.96 per individual program and Php 2,680.94 a month for the entire bundle.

The project aims to animate the entire project on Clip Studio Paint to assess its strengths in the context of online collaboration. It also plans to bring it forth as an alternative to monthly paid animation software as Clip Studio Paint only requires a one-time payment.

The Population of the Philippine Eagle

According to National Geographic and the International Union for Conservation of Nature (IUCN), the wild population of the birds ranges from only 180 to 500 adult individuals remaining with the IUCN adding that the current population trend of the eagle is on a decline. They are speculated to be scattered around in the whole, including the less explored ranges of Luzon despite most of the conservation efforts being focused on Mindanao (Bueser et al., 2003).

Despite the plethora of other threats that an eagle may face in the wild such as unintentional traps and farmers defending their livestock, the main threat to the eagle's population is deforestation (Ibañez, 2006), the tall hardwood trees that eagles nest in are prime targets for illegal loggers. This forces birds to move from their low-land to mid-altitude forest homes farther into the mountain ranges with the country losing almost 75 percent of its forest since the start of the 20th Century (Lu, 2019).

Importance to the Environment

Articles from environmental news sites such as Mongabay and non-profit organizations like the Peregrine Fund and the Philippine Eagle Foundation state that the eagles are an "umbrella species." Umbrella species are described as an organism whose role in an ecosystem and the efforts put into protecting these organisms will in turn protect and help save other plants and animals (Miller, 2018). The Philippine eagle is a top predator in its environment, it plays an important role in being a signifier of a healthy ecosystem.

The bird's diet consists of small to medium-sized animals such as monkeys, civets, fruit bats (Kennedy, 1985, as cited in Ibañez et al., 2003), which in turn requires the protection of those animals. Protection of the forest home of these birds will also help in increasing the food, homes, and population of its prey animals. Habitat loss will not only affect the eagles, but also other plants and animals that are important to the delicate balance of the forest's ecosystem.

Conservation Efforts During the COVID-19 Pandemic

From a news article by Mongabay in the last months of 2020, Philippine Eagle Foundation (PEF), a nonprofit that has worked for more than 30 years in conserving the species, celebrates milestones such as the sighting of two eagle families in the Davao Region, a record number of rescues from trappers and on July 28, a release of a rescued eagle named Makilala Hiraya (Sarmiento, 2021). The Executive Director of PEF, Dennis Joseph Salvador said he is optimistic that the protection of the birds is off to a good start for 2021 even amidst the debilitating impacts of COVID-19's pandemic.

Despite the rousing success of last year's milestones, PEF has been short on its funding due to the lockdowns (Ibañez, 2021). The rehabilitation center that had welcomed about 200,000 visitors annually had lost its main income as it was forced to be shut from the public from March (2020), with losses amounting up to PhP2 million a month. This makes it hard for the organization to respond to the needs of wild eagles yet the foundation states that they will do their best to respond to the needs of captive eagles.

Measuring Emotional Responses

For the collection of data regarding the effectiveness of the project in terms of evoking empathy to the viewer, this paper borrows from the observations in "Measuring Emotional Response: Comparing Alternative Approaches to Measurement" by Marcus G., MacKuen M.B., and Neuman R.W. (May 2021), which compares different forms of surveys and how they can reliably use to collect data about a respondent's emotional response. This paper is especially relevant since they used stimulus material like visual media in their experiment. Their findings on questionnaire design specifically greatly influenced the data collection method of this project's post-survey. They also reintroduced the three dimensions of emotional response: Enthusiasm, Anxiety, and Aversion. These are the three types of responses they identified from audiences viewing sensitive or political content. Enthusiasm is a positive experience evoking hope or pride for the content shown. Anxiety and Aversion are different types of negative responses evoking uneasiness and anger respectively. They also noted that Anxiety and Aversion are responses that spur the most action, because of this, this project aims to produce this response from the audience.

Transportation Theory

Transportation theory is a psychological theory that describes the tendency of consumers to be mentally drawn into the reality described in a narrative, as well as the outcomes associated with this experience (Green, 2017). The Extended Transportation-Imager Model expands on it, creating a comprehensive model that includes antecedents, consequences of the narrative transportation, and a multidisciplinary framework where cognitive psychology and consumer culture theory cross-fertilize this field (Van Laer, et al., 2014).

Understanding this tendency of human behavior can prove to be useful in the planned multimedia output as researched by Tom van Laer (2014) in the field of advertising. Using an animated medium to tell a compelling narrative far removed from what one would normally experience from their everyday lives, such as the story of a Philippine eagle, further allows one to capture the imagination of a viewer.

Very Approachable and Affordable

Malaysian-based Japanese animation studio, OLM Asia and longtime Japanese animation studio Nippon Animation Co. said that they both came to CSP both for the software's affordable price point and its ability to simulate the feeling of traditional, paper-based workflow. This point was further punctuated when observing Nippon Animation's case, as they chose CSP in their transition to a digital medium (Celsys Case Studies, 2018, Kato & Chang Oon Seong, 2018). Even outside of Japanese style animation, CSP has gained praise from American-based game studio Filament Games. In a blog, they state their positive experience with the software having over 192 brush materials, 3D pre-rendered and poseable human figures for reference, and highly customizable brush settings that beat both Paint Tool Sai and Photoshop for the PRO version's

price point of 50 USD (~2,539.38 PHP) or 20 USD (~1015.75 PHP) during their frequent sales (as cited in Soglin, 2016).

In their interview with SIGNAL MD, President of the studio, Katsuji Morishita said that CSP was very easy to use and understand. He claimed that the features such as line correction functions that instantly make line art thicker or thinner which saves them time during retakes (as cited in Celsys Case Studies, 2016, SIGNAL MD, 2016). Photoshop users looking to switch to CSP will easily get comfortable as the program can be customized to use Photoshop's shortcuts and even use custom Photoshop brushes.

The intention in reviewing this related literature is to gain a better understanding of the subject matter at hand, the behaviors, and the situation of the eagles. Learning about these will help in the portrayal and movement of the main character for the final output. Study of Transportation theory as well as supplementary insights on animation can improve narrative writing and the creation of a character design that will be appealing for the audience. The output will determine whether Clip Studio Paint is a strong contender for other animation software and if the work output from the program will be effective in telling a story.

Review of Related Works

This section of the paper explains other 2D animation works with either a narrative-driven story with an environmentalist message or works that use Clip Studio Paint. The works discussed below were analyzed to help in creating the style, characters and story of the final project as well as providing insights on the capabilities of CSP.

Figure 1

Rang-tan: The Story of Dirty Palm Oil (2018)

Note: Figure 1 show screenshots of two (2) scenes showing the child's bedroom and the forest being cut down. This screenshot can be found in: (https://www.youtube.com/watch?v=TQQXstNh45g)

In this one (1)-minute and thirty (30)-second short from Greenpeace International, narrated by Emma Thompson, is a story about a baby orangutan finding herself in a child's bedroom. It makes use of a colorful, bright palette in scenes set inside the bedroom while a contrasting black and white for when the baby orangutan recalls what happened to its mother and its forest home. This was used to show the contrast between the comfort humans feel in their homes while the orangutans are driven away from the forests, they call home being cut down in place of massive palm oil plantations for products such as candies and shampoo. The project's output will be using the same technique of using color palettes to show the contrast of an eagle living in comfort and hope while a black and white palette for the harsh realities they face.

Figure 2

Fern Gully: The Last Rainforest (1992)

Note: Figure 2 shows screenshots of two (2) scenes showing smoke rising from the canopies and Batty during a musical number. This screenshot can be found in: (https://www.youtube.com/watch?v=GLolvr7dOV4)

In this one (1)-hour, fifteen (15)-minute long 2D animated film adaptation of a book of the same name by Diana Young. It is a story about fairies who have for the longest time, thought humans have gone extinct. Its concept is more on fantasy with all the magic, anthropomorphic animals such as Batty, and personified concepts such as Hexxus, the personification of pollution and artificial destruction. Despite this, the movie still shows the realities of deforestation and the damage humans have done to nature. The project output will be making use of making an animal's range of motion and on how to best get them to move in an appealing way, as well as to portray the reality of deforestation to get the idea across.

Figure 3

Evangelion: 3.0+1.0 Thrice Upon a Time (2021)

Note: Figure 3 a screenshot of Asuka, one of the main characters, as a child. The screenshots can be found in: (https://youtu.be/GZfuWMDEJpw)

Figure 3a

Evangelion: 3.0+1.0 Thrice Upon a Time (2021)

Note: Figure 3a is a photo of animator, Touko Yatabe, animating on CSP using a Wacom Mobile Studio Pro 16. The screenshots can be found in: (https://youtu.be/mNWOKSgjY00)

Evangelion 3.0 + 1.0 Thrice Upon a Time is the final installment in the “Rebuild of Evangelion” movie series of the globally popular mecha anime. With a total runtime of two (2)-hours, thirty-five (35)- minutes, the movie features the use of mixed media such as painted backgrounds, 3D and 2D character animations and even scenes using the storyboards and rough animations done in traditional mediums. In an interview with key animator Touko Yotabe, she shows the

process of animation, she states that they did character line art with a binary pen, colored within the lines using a bucket tool and then softened the line art in Adobe After effects. The final project will be using only CSP, but seeing the final animation gave a glimpse of the capabilities of the program will be very helpful in forming the project's workflow

Figure 4

There's a Monster in My Kitchen (2020)

Note: Figure 4 shows screenshots of two (2) scenes from the short film. The first one depicts the main character moments before they discover a wild animal in their home kitchen. The second photo on the right is lifted from a montage of how that animal ended up in his home, depicting a forest in flames. These screenshots can be found in: (There's a monster in my kitchen)

Another narrative-style animation from Greenpeace International was produced by Cartoon Saloon. In its two (2)-minutes and twelve (12)-second runtime, it tells the story of a jaguar entering a home's kitchen and recalls the story of how its forest home was burnt to the ground for livestock farming. The visuals of the short are less painterly than the Rang-tan short. This look is what the project aims to go for the final output, a less textured, simpler cell-shaded look and use of simple shapes for character design and their environment.

The following are the results of a comparative analysis of the various factors that affect animation students in online collaborative projects: accessibility based on pricing, accessibility based on minimum requirements, and features. This section will also discuss the creative process behind the project, and details on the production for documentation purposes.

Research Results

Table 1

Table of Pricing Models for Various 2D Animation Software

2D Animation Applications	Pricing	Net cost per semeste	Net cost per year	Net cost til graduation *(2 years of 2D Animation related courses and Thesis Project)*
Adobe Animate	₱997.00 /mo.	₱2,991.00	₱8,973.00	₱ 17,946.00
ToonBoom Harmony	₱ 1,315.16 /mo.	₱3,945.48	₱11,836.44	₱ 23,672.88
OpenToonz	free	n/A	n/A	n/A
Blender	free	n/A	n/A	n/A
Clip Studio Paint EX	₱ 463.66/ mo.	₱1,390.98	₱4,172.94	₱8,344.00
Clip Studio Paint EX	₱11,294.93.23 /one time	n/A	n/A	n/A

Note. In Table 1, the net cost up to graduation assumes that the college level academic track requires at least 2 trimesters worth of 2D Animation related electives during an animation student's residency within their respective learning institution. This is modelled after the Asia Pacific College academic track intended for Bachelor of Multimedia Arts, specialization on Animation and Game art courses.

Toon Boom Harmony comes in as the most expensive to use software among the sample group, with a difference of upwards to 5, 727 PHP – 15, 329 PHP compared to the other paid programs in this analysis. Among the paid software, Clip Studio Paint EX (monthly subscription model) is the cheapest. It is also notable that Clip Studio Paint EX (one time purchase model) is still cheaper compared to the subscription-based software in the group, with difference upwards to 6, 652 PHP - 12,378 PHP. This one-time purchase grants its buyer permanent access to all the software features, live services, and updates.

Table 2

Table of Relevant Features

2D Animation Applications	Collaborative Tool	Cloud Storage	Virtual Camera
Adobe Animate	yes	yes	yes
ToonBoom Harmony	yes	no	yes
Clip Studio Paint	yes	yes	yes
OpenToonz	no	no	yes
Blender	yes	yes	yes

*Note***.** In Table 2, Toon Boom Harmony is the only paid software without their own cloud saving feature because of the issues concerning possible data corruption. Users are advised to upload their files to other cloud storage hosting services. Toon Boom Harmony, of the making of this paper, cannot handle simultaneous cloud saving unlike Adobe Animate and Clip Studio Paint EX. However, this may be subject to change when future updates to Toon Boom Harmony arise.

Open Toonz, being an open-source software, lacks live services that facilitate the same level of collaboration as other software in this group. Blender on the other hand has add-ons that can make simultaneous collaboration and flexible cloud file sharing available despite being a free software. Blender especially has features at par with paid software like Adobe Animate and Clip Studio Paint EX that set it apart from other open-source programs.

Table 3

Table of Minimum System Requirements

	Minimum Requirements					
2D Animation Application	Processor	Operating System	RAM	Hard Disk Space	Monitor Resolution	GPU
Adobe Animate	Intel Pentium 4 or Intel Centrino	Windows 7 +	2 GB	4 GB	1024x900 px	OpenGL 3.3
ToonBoom Harmony	Intel Core i5	Windows 7+	8 GB	1 GB	1280 x 800 px	NVIDIA GeForce GTX 560
Clip Studio Paint EX	2 GHz Intel Pentium 4	Windows 7+	2 GB	3 GB	1024×768 px	OpenGL 2.1
OpenToonz	Intel Core i	Windows 7+	4 GB	500 MB	1280 x 1024 px	n/A
Blender	unspecified	Windows 8.1+	8 GB	500 MB	1280×720	OpenGL 4.3

Note. Windows 7 was released in 2009 and most processors are as old as 2011. By this metric the general minimum requirements are very low end compared to the capacity of technology today. OpenGL is a default Graphics Processing Unit (GPU) that most computers have, and it is generally advised to use computers that are no less than 10 years old when using these programs. Also note that meeting the minimum requirements does not mean a user can use these programs to their full capacity or have stable performance. Running these programs under these conditions may have varied results.

Toon Boom Harmony has the highest demand on Random Access Memory (RAM), this is low end compared to recent technologies but here in the Philippines, laptops can still range as low as 2 gigabytes of RAM. This position is also shared by Blender, whoever Blender also hosts 3D animation and sculpting while Toon Boom Harmony is only intended for 2D animation. Clip Studio Paint Ex is the software in this group with the lowest minimum requirements except for Hard Disk Space.

Production Results

Production started with the creation of a storyboard. The narrative story will be done non-verbally hence using a storyboard driven approach to develop the narrative. This way, the proponents can focus using visual language and motion to convey specific emotions. Using the transportation theory, the proponents conceptualized a way for the audience to empathize with the animal characters. Focusing in on feelings of unease and impending danger, the narrative throughline of the short film became "the threat of encroaching forces that endanger your home and family." This is a sentiment that can evoke strong emotional reactions, especially considering the cultural context of the average Filipino viewer to be deeply family oriented. So, for the first part of the short film, the narrative takes its time to set up a simple family structure of a protective parent and a dependent child. These thought processes informed the creation of animal character designs.

Figure 6

Official Character Designs of the Parent Eagle

Note: Design for the parent Agila character above the Personal Anecdotes by Lead Character Designer of the Project, Bielle Baral (2022):

"I started out doing character sketches and some stylization studies on bird characters, mainly taking inspiration from other artist's take on creating a bird character using both 2D art and other works such as 3d models and mascots heads… "

The adults were designed to be angular and sharp to be a bit intimidating as compared to the pair's child. A lot of Filipinos are familiar with the eagle and the air of power surrounding its iconic look such as its striking colors and crest.

Figure 7

Official Character Designs of the Baby Chick

Note. Design for the Baby Chick Character above.

Personal Anecdotes by the Lead Character Designer of the Project, Bielle Baral (2022):

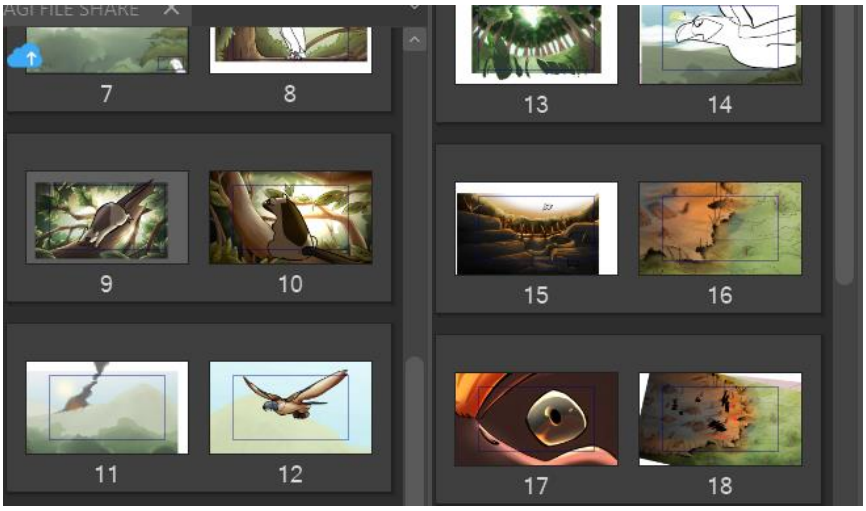
“Same as the adult, I looked at both real-life references and looked at other artists’ interpretations of birds as inspiration. I tried making the chick round and soft looking, something that looks cute and squishy.”

The design of the baby chick character is aimed to be as cute and innocent seeming as possible to evoke the protective instincts of the viewer and thereby transport them into the perspective of the Parent Agila character.

Production workflow started by creating individual files to compile into the format of CSP's collaborative feature. It was convenient as the production team did not have to constantly update a google drive of files. The downside was that file syncing would take quite some time and would occasionally fail if it was a large change such as working on multiple scenes. This lag in syncing can be obstructive during workflow or can crash the program. So, users must be advised to use this only if they have a good and stable internet connection. Thankfully, CSP has a robust autosave feature that can reliably salvage any progress made on a file. It also cannot be corrupted since a copy of it exists externally from your hard drive.

Figure 8

Screenshot of the Live Cloud Synchronization Feature in Clip Studio Paint



Note: Each scene is laid out on the side of the screen, acessible to everyone in the team.

Figure 9

Screenshot of the Live File Sharing During Use

Note. This is a feature primarily intended to be used for online collaboration in the production of comics, which the proponents discovered can be used for animation as well.

On a positive note, you can hold off on syncing when you do work on multiple files and do the file sync after you close the art program. This has been found to be a more stable method of syncing everything.

The real challenge in producing a fully animated narrative driven short film is the physical strain on the artists. It can take at best 3 days to produce a scene of 144 frames that roughly translates to 6 seconds of footage. Most of the time spent in this cycle is the rough animation and line work. Working 3 to 6-hour intervals of drawing in-between frames is very physically straining on the wrist and back. We have tried our best to mitigate this with frequent breaks, but the threat of Carpal Tunnel Syndrome is unavoidable given the time constraints and deadlines of this project.

Many aspects of the production have been streamlined due to the presence of certain features in Clip Studio Paint, however, the live cloud syncing feature has been instrumental to the production of this short film, expediting file sharing between the pair of animators. This feature also tracks which team member is working on what file. This has been an effective way of keeping track of progress and productivity. It also allows team members to edit files freely and immediately, enabling them to work on one file simultaneously. This, however, requires high internet speed for both parties involved.

Personal Anecdotes by the Colorist and Background Artist of the Project, Bentley De Guzman (2022):

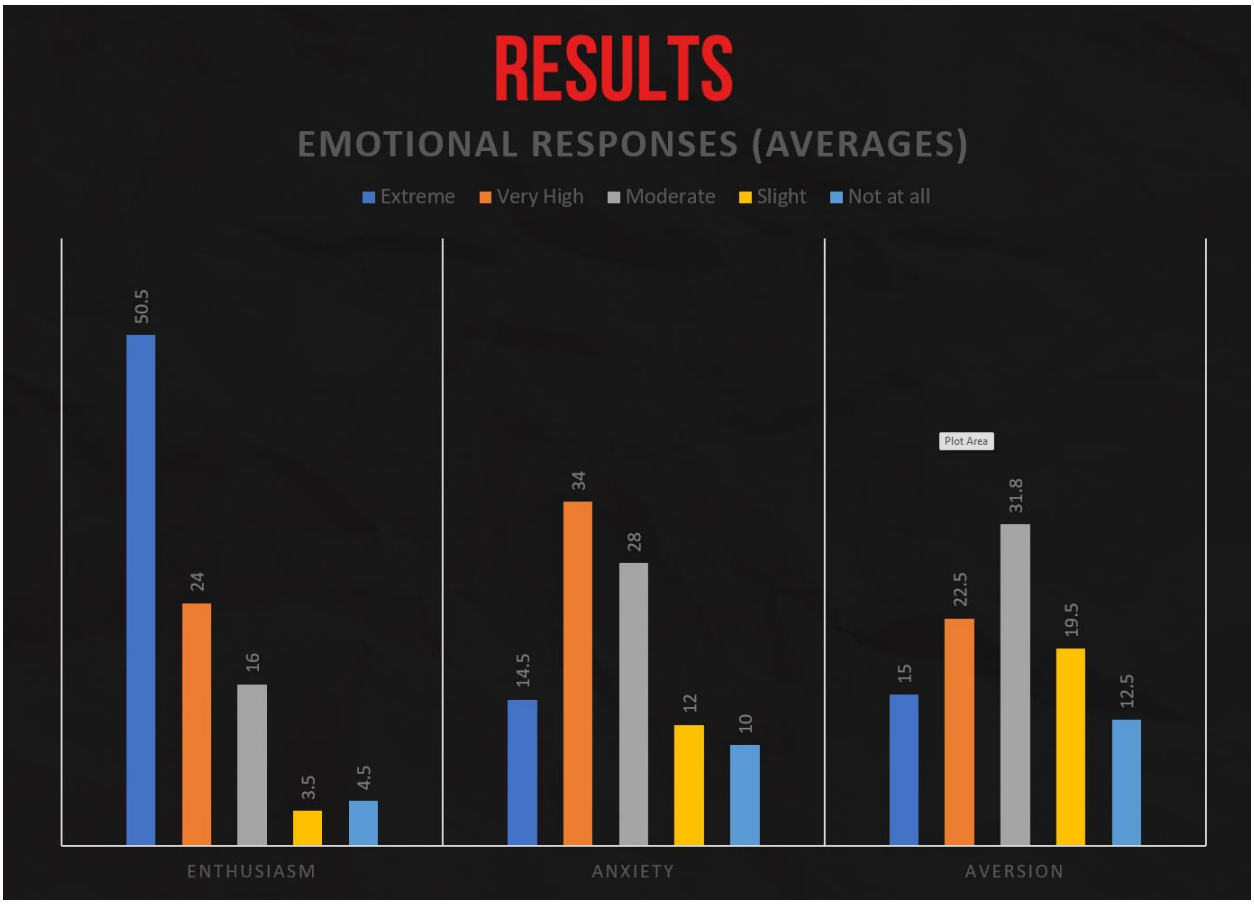
“The switch to remote offices has been very difficult especially in an inherently collaborative field like Animation, however, Clip Studio Paint seems to be well equipped for the unique hurdles and challenges of the new normal.”

Emotional Response Measurement Results

The proponents have collected a total of 44 responses from a randomly selected set of participants. We played the fully finished short film to them and instructed them to answer the questionnaire immediately after. The results have been compiled in the graph below:

Figure 10

Emotional Responses (Averages)



Note. The most extreme response the short film produced with an average of 50.5% of responses was Enthusiasm. After further interviews, the respondents mostly express their enthusiasm for the quality of the animation. Our target emotional responses however were also met with satisfactory results, we can say that our project successfully creates Very High Anxiety and Moderate Aversion associated emotions which will be beneficial to the advocacy presented. Feelings associated with anxiety and aversion as defined by the three dimensions of emotional responses model led to reactions that encourage direct action towards certain issues.

Conclusion

The quarantine has forced many schools to change the way they approach things, and one of the compromises is the hurried transition to fully online classes. This has been especially difficult for Animation students who must find their own applications to use. This has also made group projects inconvenient, since file sharing and collaboration is unmanageable. Adobe Creative Suite may have similar cloud syncing features, it is far less accessible in terms of pricing and hardware requirements. Other free applications like Krita are sorely lacking in features compared to its contemporaries. Clip Studio Paint, based on the observations made in this paper, is uniquely equipped to meet the demands online learning has introduced. Its affordable pricing models, in comparison to its scope in features and its overall user experience, these factors combined make it conducive to what animation students in online learning needs.

Recommendations

Bigger Scope in Collaboration

This paper only tests how feasible online collaboration is between two people in the production team. Then we suspect that the Live Cloud synchronization may suffer performance issues if used by many people at the same time. It would be a valuable endeavor to try using this feature for a larger production team with varying Wi-Fi connection and see if it is still convenient under those conditions.

Examine the Potential of Blender

During the comparative analysis of five 2D animation software (e.g., Adobe Animate, Toon Boom Harmony, Clip Studio Paint EX, Open Toonz, and Blender), we uncovered that Blender has all the same virtues of Adobe Animate and CSP that we deemed relevant to this paper. It may be a valuable endeavor to interrogate if Blender and all its own unique quirks and features would be effective for online collaboration.

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Authors' Biographical Note

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With over 7 years of experience being a freelance illustrator, Bielle decided to take it up a notch and study Animation in Asia Pacific College. They specialize in 2D illustrations and 2D animation. Growing up with cartoons, nature, and animal documentaries, they embraced them and found inspiration in them to put those in their works. Always willing to learn new things in their field and up their skills as an artist. Bielle specializes in stylized artwork with bold lines and shapes with their skills mainly in anthropomorphic animal characters.

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A digital artist with eclectic interests and use of mediums. They specialized in 2D painted illustrations of characters and backgrounds. They are also an avid fan of Tabletop RPGs, collectable card games and video games which influence his work.