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ROGUE

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ABSTRACT

Rogue is a short 2D-3D animated film about an unexpected friendship between two unlikely beings: a relentless killer robot programmed to end all living things, and a black cat named Bambam. Pollution has ruined the world, leaving the once cybernetic urban-filled cities in ruins. The only living things left are a few felines. The world is overrun by Killer N3KO Bots whose tasks are killing all living things in sight. What happens when one of the only beings left on the planet makes an unexpected friendship with a Rogue N3KO Bot? The primary objective of this project is to create a short 3D animation film entitled "ROGUE" that will bring perspective to unexpected friendships, 3D animated films, and other demonstrating skills and learnings of the animator. The film's significant impact on the audience underscores its success in sparking vital conversations. Witnessing the audience's positive feedback validates the film's objectives in featuring a dystopian future, tackling unexpected friendships and bonds formed, and lastly animation skills of the artist. Multiple respondents commented on the quality of the film and the style; some also commented about the animation and the sound design. Moreover, respondents pointed out that the film effectively communicated the message it was trying to portray despite the lack of resources and movement. Creating animations such as Rogue, an animation about unexpected friendships, can benefit the community, as it can effectively communicate important messages to people of different classes engagingly and memorably.

Keywords: *Unexpected friendship, cybernetic, unlikely beings, 3D animation*

INTRODUCTION

In the past two decades, dogs and cats have long coexisted in human settlements, playing important roles in society. Cats, once tamed primarily for rodent control (Driscoll, 2009), are now especially valued for their adaptability (Feuerstein, 2008). Though often seen as independent and solitary, cats frequently form unexpected social bonds with other species. A study by Tel Aviv University (2008) found that cats can develop friendships with animals such as dogs, rabbits, and birds. One notable example is Sappy, a cat who, despite being a natural predator, became the guardian of orphaned newborn squirrels. These unusual alliances challenge the stereotype of cats as aloof and highlight the potential for meaningful interspecies relationships.

Building on this theme of unexpected empathy, the rise of voice-activated assistants like Siri and Alexa, alongside humanoid robots such as Pepper, marks a new era in daily life. Service robots have grown popular thanks to rapid advances in AI, big data, sensors, and speech recognition (Jörling et al., 2019; Wirtz et al., 2018). They are recognized as significant innovators capable of performing tasks independently (Rust & Huang, 2014; Huang & Rust, 2018; Colby et al., 2016). However, questions arise when these tasks involve harming living beings. This story aims to explore how robots might deviate from their programming to develop empathy toward living creatures, paralleling the surprising social flexibility observed in cats.

Project Objectives

The main goal of this project is to create a short 3D animation film titled "Rogue," depicting a futuristic wasteland on the brink of extinction. The project aims to feature a dystopian future with 3D semi-cartoony assets and scenarios, illustrate how robots could contribute to living things' extinction, showcase my animation skills, sketching, modeling, and rendering skills, and inspire future artists who may reference this work.

Significance of the Project

This project aims to produce a globally successful 3D feature film that inspires future artists in 3D animation. It seeks to encourage aspiring artists to persevere in the creative industry, highlight students' talents at the Colegio, and provide researchers with insights into potential future scenarios. Additionally, it serves as an example and source of inspiration for future researchers, contributing positively to society.

Review of Related Works and Literature

Unexpected Friendships

Animals that appear vastly different can form unexpected friendships. Research in anthropology indicates that friendship can endure across variations in language, culture, and species (Luttrell, 2010). For example, cats and work robots, despite their differing appearances and functions, can develop relationships in workplaces (Johnson, 2018).

Robot Deviation

Given the potential for robot deviation, the mechanics of such partnerships are made more challenging. The ethical implications of autonomous robots that can reason and act independently are a growing concern as robotics technology advances (Asaro, 2012). The connection between cats and industrial robots may become increasingly challenging in this scenario as the robots begin to doubt their place in the workplace and society. Since robots lack bodily autonomy, they appear to fall outside of such humanism. A self-driving car, for instance, cannot choose to leave for the beach on its own. However, advances in machine learning, the process by which artificial intelligence is taught to teach itself, have begun challenging that premise (Heller, 2016).

Animals and Robots
According to Haraway (2003), animals and robots intersect significantly, encompassing themes like freedom versus constraint and diversity versus extinction. As robots evolve, they may have to make decisions like humans. Heller (2016) notes that society has not addressed the potential abuse of intelligent AI like Siri or driverless cars. If human moral standards apply, why should intelligent artificial life be excluded from ethical considerations? Understanding the grievances of animals may help us discern our responsibilities toward robots and each other.

Unexpected friendships among different species remind us of the importance of empathy and connection. As Luttrell (2010) suggests, friendship transcends cultural barriers; perhaps it is time to extend this understanding to non-human entities like cats and robots.

Spiderman: Into the Spider-Verse
According to Debruge (2018), In the 2018 movie "Spiderman: Into the Spider-Verse," After being bitten by a radioactive spider in the subway, Brooklyn teen Miles Morales gains enigmatic powers that enable him to become Spiderman. After meeting Peter Parker, he rapidly discovers that many people share the same rare, high-flying powers. Now that Miles has received new powers, he must utilize them to battle the Kingpin, a terrifying, lousy guy who has the power to bring numerous Spiderman versions into our world and open portals to other universes. *"Spiderman: Into the Spider-Verse"* pioneered the 2D-3D Hybrid of the 21st century. It shows how not all animated films must incorporate a photorealistic look in line with the stability of Pixar's style. The movie serves as a gentle reminder that, like the characters in Rogue, we are all stronger when we stick together and ask for aid.

WALL-E
"WALL-E" stands for Waste Allocation Load Lifter Earth-class, and it refers to the last robot remaining in use on Earth in the 2008 film "WALL-E." During the day, he removes everything he can from the planet. After 700 years, WALL-E finally developed a personality and now feels lonely. Then he looks at EVE (Elissa Knight), an angular, sleek probe deployed on a scanning mission to Earth and just returned. As he decides to pursue EVE outside of space, WALL-E sets off on his biggest adventure to date (Ebert, n.d.). Like *"WALL-E,"* Rogue's setting would be in a similar futuristic wasteland, where there are minimal to no living things on Earth. It shows how an unlikely Friendship can form between two beings and how you can impact the people, places, and things around you.

Puss in Boots: The Last Wish
In the animated movie "Puss in Boots: The Last Wish," Puss in Boots finds that his love of exploration has cost him something after discovering that he has used up eight of his nine lives. Puss sets off on a valiant mission to reclaim his nine lives and find the fabled Last Wish D'Alessandro, 2023). *"Puss in Boots: The Last Wish"* also follows the Spider-verse's innovation in terms of its art style. It focuses on 3D but stylizes its elements cartoony or 2D-like. Rogue's main protagonist is also a cat.

Cyberpunk 2077
According to Martin (2018), In the game *"Cyberpunk 2077"*, our story is set in a future cyber city; we follow a mercenary named V as they battle to deal with a mysterious cybernetic implant that threatens to overwrite their body with the personality and memories of a deceased superstar only perceived by V; the two must cooperate to be separated and save V's life. The cinematic setting of "Cyberpunk 2077" is an inspiration for Rogue in terms of how the environment of the film would look. However, it would have its twist of being a wasteland but set in the future, like cyberpunk.

Love, Death and Robots" episode "Three Robots
Based on Hilkinger's (2023) review, in the "Love, Death, and Robots" episode "Three Robots," three robots—XBOT 4000, a tall skeleton-shaped robot, K-VRC, a small doll-like robot, and 11-45-G, a triangular robot with a flat electronic assistant's voice—appear in a post-apocalyptic city. Before VRC pulls out a map and identifies the ideal site to visit next, XBOT laments that they are completely disoriented when they arrive in the city to start a sightseeing trip. They are on vacation to try comprehending how people live based on what little they know about them and what they have left behind. This episode is an example of how a futuristic abandoned wasteland would look like, which is a massive inspiration for Rogue.

Conceptual Model
The short film is created using Various hardware devices and software tools, which play crucial roles throughout the stages of pre-production, production, and post-production to achieve the desired outcomes in each phase. Employing the input-process-output methodology ensures a systematic and organized approach to successfully executing each step in the project development process, as illustrated in Figure 1 below.

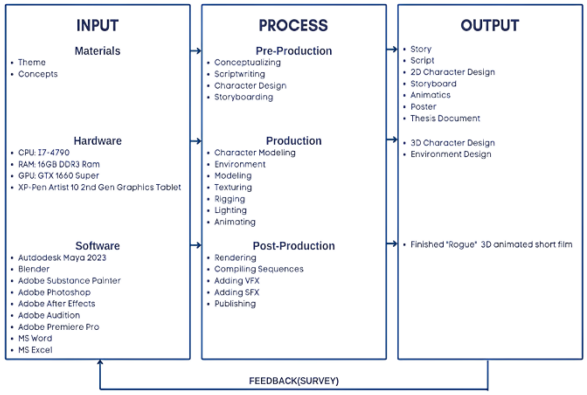

Figure 1. IPO Model

METHODOLOGY

Project Design
Creating *Rogue* follows a structured 3D animation pipeline from pre-production to post-production, designed to bring the dystopian vision to life while showcasing advanced animation, modeling, and rendering skills. The process begins with concept development and scriptwriting, where the story is crafted into a visual screenplay that frames the narrative of a futuristic wasteland threatened by robotic extinction. Next, environment and character designs are finalized, followed by storyboarding and animatics to pre-visualize the sequence and pacing of the film.

In the production phase, modeling and texturing give form and unique traits to the semi-cartoony assets, while rigging establishes skeletal structures for realistic character movement. Animation is then executed using audio tracks as references to synchronize motion and expression. Lighting is carefully set up to enhance mood and visual detail, culminating in rendering the animated scenes. Finally, post-production integrates video editing, sound effects, and background music to polish the film for its intended impact. This comprehensive methodology supports the project's goal to deliver a compelling, skillful animation that inspires future artists and explores the complex relationship between robots and living beings in a dystopian future.

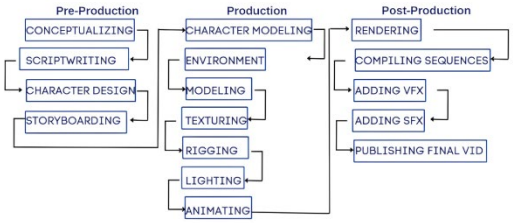

Figure 2. 3D Animation Pipeline

Project Components

The short film's 3D character models highlight the distinct traits and personalities of the main characters, significantly enhancing the audience's grasp of their essence. Promotional materials such as handbills and posters give potential viewers a glimpse of the film, helping shape their initial perceptions. Beyond capturing the characters' essence, this artistic representation is an effective marketing strategy to attract viewers.

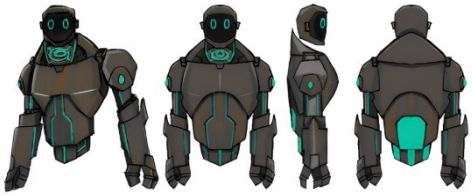

Figure 3. Rogue N3KO Bot Character Sheet

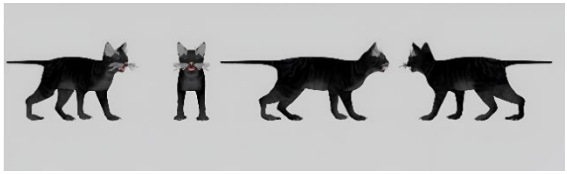

Figure 4. Bambam Character Sheet

Figure 5. Poster

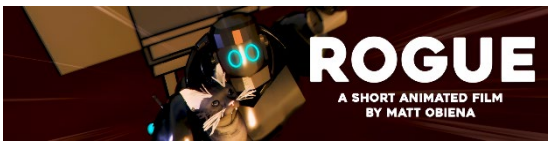

Figure 6. Handbill

Project Structure

Pre-production started with conceptualizing, storyboarding, and scriptwriting the flow of the film. These materials were then used to create the animatics, which served as a reference for how the film would look. The animatics were first done in 2D to save time for the animator and later converted to 3D for the final film.

The production of the short film started with modeling the main character models in Maya, which begins with basic polygons, using tools to streamline the process and align with the film's design. Textures and some models are sourced from free-use websites to save time due to constraints on hardware and deadlines. Once finished, it was time to go to the next step of the production process.

Rigging the characters is facilitated by free plugins like Advance Skeleton, which simplify creating controllers and joints for accurate articulation during animation. Because of this, animating the characters has become much more straightforward than traditional animation in Maya. The Maya animation interface displays the timeline for keyframing, polygon outlines, and motion controllers from rigging. This interface is the main factor in animating in Maya. Each joint controller is manually animated in the timeline to create a complete animation tailored to the scene. This process became more manageable with the plugins used because instead of animating each polygon, we made it easier and animated each joint.

Once the animations are finished, image sequences are rendered with a resolution size of 2440x1080 to mimic the cinematic resolution. Once exported, image sequences are then imported into After Effects for visual effects and final editing. The compiled scenes are then brought into Premiere Pro for final video edits, where sound effects, background music, color grading, transitions, and text effects are added to complete the film.

Evaluation Procedure

The film was evaluated online via Google Forms after audiences had watched it, using the standardized survey instrument for Digital Arts. According to the demographics of the respondents (20 - 25 years old), the majority of the people who participated in the survey were young adults. Most of this sample consists of female respondents. Above half of the respondents were students, with a small percentage of artists, and almost 40% were non-artists.

Overall, the majority of the respondents had the highest rating for the film based on the criteria given in the survey, including the story, content graphics, music, etc. The questionnaire included items rated on a scale from 1 to 5 to gather feedback.

Table 1. Likert Scale

Numeric Scale	Descriptive Rating
5.0	Excellent
4.0	Above Average
3.0	Average
2.0	Below Average
1.0	Poor

Statistical Treatment of Data

The data collected from the assessment form is converted into meaningful results, allowing the researcher to interpret the information gathered effectively. To further evaluate the respondents' feedback, the researcher calculated the average and the mean and then interpreted them according to the numerical scale values. This calculation of the mean is a crucial step in understanding and analyzing the data, offering valuable insights for thorough interpretation and informed decision-making.

Table 2. Likert Scale Interpretation

Numeric Scale	Descriptive Rating
4.21 – 5.00	Excellent
3.41 – 4.20	Very Good
2.61 – 3.40	Satisfactory
1.81 – 2.60	Fair
1.00 – 1.80	Poor

RESULTS AND DISCUSSION

"Rogue" is a 3D animated short film that explores an unexpected bond between a protagonist cat and a killer robot, focusing on survival and malfunctions. The film uses visual symbolism and is designed to be interpreted without voiceovers, adding complexity and drama to its storytelling. This project aims to make a brief 3D animated film that examines a possible future wasteland where all living things are in danger of going extinct. Through semi-comic 3D objects and scenes, it aims to portray a dystopian future in which robots may play a role in the extinction of living things.

The project also allows the artist to demonstrate their modeling, rendering, animating, and sketching abilities. In addition to its creative goals, the movie aims to educate viewers about the problem of extinction, hoping that it would motivate upcoming artists to use it as a reference in their work. The concept is kept simple to ensure it remains accessible to all audiences. Several adjustments were made during production as a science fiction piece, including changing the cat's color from orange to black to avoid similarities with existing designs. Additionally, various scenes were modified regarding timing, cinematography, and shot composition to enhance the overall storytelling.

Table 3. Criteria Based on Content

Criteria	1	2	3	4	5	Mean	Interpretation
The short film presents information that is clear and effective.	0 (0%)	0 (0%)	4 (3.7%)	27 (24.8%)	78 (71.6%)	4.68	Excellent
The short film meets the objective of the project	0 (0%)	0 (0%)	2 (1.8%)	24 (22%)	83 (76.1%)	4.74	Excellent
Overall	**0 (0%)**	**0 (0%)**	**3 (2.8%)**	**25.5 (23.4%)**	**80.5 (37.2%)**	**4.71**	**Excellent**

Table 4. Criteria Based on Story

Criteria	1	2	3	4	5	Mean	Interpretation
The story has a beginning, middle, and end.	0 (0%)	0 (0%)	2 (1.8%)	17 (15.6%)	90 (82.6%)	4.81	Excellent
The film holds the audience's attention throughout.	0 (0%)	0 (0%)	4 (3.7%)	37 (33.9%)	67 (61.5%)	4.54	Excellent
The story adheres to the theme.	0 (0%)	0 (0%)	1 (0.9%)	22 (20.2%)	86 (78.9%)	4.78	Excellent
Overall	**0 (0%)**	**0 (0%)**	**2.3 (2.1%)**	**25.3 (23.2%)**	**81 (74.3%)**	**4.71**	**Excellent**

Table 5. Criteria Based on Production Design

Criteria	1	2	3	4	5	Mean	Interpretation
The short film makes innovative use of graphics, text-sound, and resources to create a superior film.	0 (0%)	0 (0%)	4 (3.7%)	31 (28.4%)	74 (67.9%)	4.64	Excellent
The title and credits are presented well.	0 (0%)	0 (0%)	1 (0.9%)	20 (18.3%)	88 (80.7%)	4.8	Excellent
The text is easy to read and appropriate for the contents.	0 (0%)	0 (0%)	2 (1.8%)	15 (13.8%)	92 (84.4%)	4.83	Excellent
The images have high resolution.	0 (0%)	0 (0%)	5 (4.6%)	26 (23.9%)	78 (71.6%)	4.67	Excellent
Overall	**0 (0%)**	**0 (0%)**	**3 (2.8%)**	**23 (21.1%)**	**83 (76.1%)**	**4.74**	**Excellent**

Table 6. Criteria Based on Music and Scoring

Criteria	1	2	3	4	5	Mean	Interpretation
The sound elements add to the overall quality of the short film.	0 (0%)	0 (0%)	7 (6.4%)	27 (24.8%)	75 (68.8%)	4.62	Excellent
The music played throughout the animation is fitting to the story.	0 (0%)	0 (0%)	3 (2.8%)	28 (25.7%)	78 (71.6%)	4.69	Excellent
Overall	**0 (0%)**	**0 (0%)**	**5 (4.6%)**	**27.5 (25.2%)**	**76.5 (70.2%)**	**4.66**	**Excellent**

Table 7. Criteria Based on Visual Technical Elements

Criteria	1	2	3	4	5	Mean	Interpretation
The animation's quality (color, texture, layers, and moving parts) is excellent.	0 (0%)	1 (0.9%)	5 (4.6%)	39 (35.8%)	64 (58.7%)	4.52	Excellent
The sound and animation are synchronized.	0 (0%)	0 (0%)	1 (0.9%)	28 (25.7%)	80 (73.4%)	4.72	Excellent
The color balance and color choice enrich the overall effect of the film.	1 (0.9%)	0 (0%)	6 (5.5%)	30 (27.5%)	72 (66.1%)	4.58	Excellent
The various elements of multimedia (text, video, audio, animation, and marketing collaterals) used appropriately are integrated throughout the film.	0 (0%)	0 (0%)	4 (3.7%)	21 (19.3%)	84 (77.1%)	4.73	Excellent
Overall	**0 (0%)**	**0 (0%)**	**4 (3.7%)**	**29.5 (27.1%)**	**75 (68.8%)**	**4.66**	**Excellent**

Table 8. Criteria Based on Uniqueness of Concept

Criteria	1	2	3	4	5	Mean	Interpretation
The short film shows originality and uniqueness.	0 (0%)	0 (0%)	1 (0.9%)	28 (25.7%)	80 (73.4%)	4.72	Excellent
The content and ideas are fresh, original, and unique.	0 (0%)	0 (0%)	4 (3.7%)	23 (21.1%)	82 (75.2%)	4.72	Excellent
Overall	**0 (0%)**	**0 (0%)**	**2 (1.8%)**	**25.5 (23.4%)**	**81 (74.3%)**	**4.72**	**Excellent**

Table 9. Criteria Based on Contribution to Multimedia Industry

Criteria	1	2	3	4	5	Mean	Interpretation
The short film contributes to the new media technology.	0 (0%)	0 (0%)	3 (2.8%)	25 (22.9%)	81 (74.3%)	4.72	Excellent
The short film is useful to Digital Arts students.	0 (0%)	0 (0%)	0 (0%)	20 (18.3%)	89 (81.7%)	4.82	Excellent
Overall	**0 (0%)**	**0 (0%)**	**1.5 (1.4%)**	**22.5 (20.6%)**	**85 (78%)**	**4.77**	**Excellent**

Table 10. Criteria Based on Contribution to Multimedia Industry

Criteria	1	2	3	4	5	Mean	Interpretation
The short film exhibits high level of artistic creativity and technical skills.	0 (0%)	0 (0%)	1 (0.9%)	27 (24.8%)	81 (74.3%)	4.73	Excellent
Overall	**0 (0%)**	**0 (0%)**	**1 (0.9%)**	**27 (24.8%)**	**81 (74.3%)**	**4.73**	**Excellent**

Table 11. Interpretation of Data

Category	Mean	Interpretation
Content	4.71	Excellent
Story	4.71	Excellent
Production Design	4.74	Excellent
Music and Scoring	4.66	Excellent
Visual and Technical Elements	4.66	Excellent
Uniqueness of Concept	4.72	Excellent
Contribution to Multimedia Industry	4.77	Excellent
Overall	**4.71**	**Excellent**

Despite some delays in production caused by unfinished minor tasks from the animator, the film has ultimately been a success. Survey results reveal that the movie is visually appealing and effectively communicates its story to a wide audience. According to the Criteria for Content and Story, no respondents rated the film below 3 on the Likert Scale. This reflects that most viewers clearly understood the film's message and found the storyline complete and engaging, with an impressive average rating of 4.71.

When it comes to Production Design, over half of the respondents rated it as excellent. This is further supported by a strong mean score of 4.74, indicating general satisfaction with the film's graphics and visual presentation. However, there is room for improvement in the areas of Music and Scoring as well as Visual Technical Elements. Feedback was mixed: some praised the music as a standout feature, while others found it redundant. Additionally, several viewers noted that the color treatment appeared too dark, especially on mobile devices. Consequently, these criteria received the lowest average ratings, both scoring 4.66. Despite this, most participants agreed that the film's sound quality and visual elements were appropriate and effective.

Regarding the Uniqueness of Concept, 81% of respondents felt the short film presented an original premise, with many appreciating its distinctive and less saturated style. The film's Contribution to the Multimedia Industry earned a commendable mean score of 4.77, highlighting its value and relevance to the multimedia field-one of the project's key objectives. Lastly, 82% of participants recognized the film's overall creativity, describing it as imaginative and artistically impressive.

Overall, the survey results demonstrate a consistently high level of satisfaction across all evaluation criteria, with mean scores ranging from 4.66 to 4.77. Production Design stood out as the most highly rated aspect, reflecting strong appreciation for the film's visual and technical craftsmanship, including set design and cinematography. This attention to detail significantly contributed to the film's positive reception.

In summary, the data reveals a strong positive consensus among viewers, with overall creativity and uniqueness of concept receiving the highest praise. While technical elements like music, scoring, and visuals scored slightly lower, they still maintained solid ratings, underscoring the film's overall quality and appeal.

CONCLUSION AND RECOMMENDATION

Several areas present opportunities for improvement to further enhance the film's overall quality. The animation of the main feline protagonist, particularly in terms of movement and facial expressions, could be made more natural and fluid. By refining these elements, the character would appear more lifelike and emotionally engaging, strengthening the audience's connection. Additionally, the music and sound effects would benefit from improved consistency and higher audio quality. Enhancing these auditory elements will better support the film's atmosphere and storytelling.

Some scenes were noted to have insufficient lighting, which was partially corrected during post-processing. However, addressing lighting issues earlier in production would improve the visual clarity and mood of these scenes. Furthermore, the modeling of the environments could be refined to create a fuller, more realistic look that adds depth and immersion to the film's world. Storytelling and pacing also emerged as areas needing attention. Several participants expressed uncertainty about what happened next to the protagonists, suggesting that the narrative could be clearer and more consistent. Improving the timing and flow of the story would help guide viewers more smoothly, reducing ambiguity and avoiding unintended cliffhangers.

In conclusion, despite initial production delays and technical challenges, the animator produced a highly successful final output. The film received zero "poor" ratings for overall inventiveness, with 82% of survey respondents describing it as imaginative and artistically compelling. This positive reception reflects the animator's technical expertise and creative abilities. Survey findings show that the film is visually appealing and effectively communicates its story to a broad audience, resulting in consistently high ratings across multiple evaluation criteria. While there is room for improvement-especially in animation fluidity, sound design, lighting, and storytelling-the overall success of the film is clear.

With focused refinements in these key areas, future projects can further elevate the animator's work, enhancing both technical execution and audience engagement. The film's strong foundation and positive reception provide a promising platform for continued creative growth.

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