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Cultural and Technical Analysis of 12 Basic Principles of Animation in the 2D Short Film 'Prognosis

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ABSTRACT
This study analyzes the application of the 12 basic principles of animation in the Indonesian 2D animated short film Prognosis. Without using dialogue, the film relies entirely on visual elements to construct an emotionally rich narrative between a child and his father. Through qualitative analysis, this research identifies how animation principles such as Squash and Stretch, Anticipation, Staging, and Timing are employed to evoke empathy, tension, and resolution. The study also explores how these principles are contextualized within Indonesian cultural narratives, especially those concerning familial hierarchy, emotional restraint, and symbolic representations of motherhood and protection. The findings reveal that the animation not only demonstrates technical mastery but also conveys local values through universally resonant visual storytelling. This contributes to broader discussions on how animation serves as a medium for expressing social meaning and emotional realism.

Keywords: *Animation Principles; Cultural Context; Indonesian Film; Visual Storytelling; 2D Animation.*

INTRODUCTION

Animation refers to a sequence of still images arranged to create the illusion of motion when played rapidly. Since ancient times, humans have attempted to depict motion through visual media, from cave paintings to early devices such as the zoetrope and flipbook (Bieberstein & Feyersinger, 2022). The most significant development in animation occurred in the 20th century, particularly through the innovations of Walt Disney and his team, whose contributions marked a turning point in both aesthetic and technical sophistication (Holliday, 2023). Among them, Ollie Johnston and Frank Thomas formulated the 12 basic principles of animation, which have since become foundational guidelines for creating animated works that are expressive, lifelike, and communicative (Thesen, 2020).

These principles—such as *Squash and Stretch*, *Anticipation*, and *Appeal*—are not limited to classical hand-drawn animation. They remain highly relevant and widely

applied in contemporary animated productions, including digital shorts, hybrid formats, and interactive media (Lamotte, 2022). Their persistent usage reflects not only their technical utility but also their flexibility in adapting to evolving narrative forms. According to Wang and Zhong (2023), these principles continue to serve as the underlying framework for modern animation practices, especially in creating visually compelling and emotionally resonant storytelling—even in formats with minimal or no dialogue.

One compelling example is the short 2D animated film *Prognosis*, created by Ryan Adriandhy. The film portrays the emotionally charged relationship between a grieving father and his son following the loss of a mother. Delivered entirely through visual cues, animation, and music—without any spoken dialogue—it exemplifies how visual storytelling alone can communicate complex emotions and narrative arcs. The film also reflects local cultural nuances, particularly through atmosphere, character behavior, and symbolic imagery, positioning it as a valuable subject of academic inquiry into culturally rooted, non-verbal animation.

Previous studies, such as that by Pratama (2023), who analyzed the application of these principles in *Weathering with You*, affirm the academic value of animation analysis from both technical and narrative perspectives. Similarly, Sabri and Adiprabowo (2022) emphasize the expressive strength of nonverbal storytelling in short films, especially in conveying emotional complexity through movement and framing. However, most of these existing studies are focused on international, often dialogue-based productions, with limited exploration of locally produced animated films that prioritize visual over verbal communication.

Thus, examining *Prognosis*—a culturally grounded Indonesian short film—offers an opportunity to explore how the classical principles of animation remain relevant in shaping emotionally meaningful narratives within non-verbal storytelling frameworks. It also contributes to the limited but growing body of research on Indonesian animation in scholarly discourse.

Therefore, this study aims to identify and analyze the application of the 12 basic principles of animation in the short film *Prognosis*, and to examine how these principles contribute to the construction of an emotionally resonant visual narrative in the absence of spoken dialogue.

LITERATURE REVIEW

Definition of Animation

Animated films originated from hand-drawn techniques, where each frame was illustrated on paper and sequenced to simulate motion—a method that marked the foundational stage of animation history and continues to influence digital practices (Qin, 2024). In contemporary practice, animation has evolved into a highly technical and creative discipline, often utilizing digital tools to enhance production efficiency and visual quality.

Animation itself is the art of making images appear alive by simulating movement, emotion, and intent through visual elements. Wang (2024) defines animation as a cultural and artistic expression, where visual forms are imbued with lifelike meaning

that transcends mere motion. Beyond its technical dimensions, animation frequently draws from well-known narratives—such as comics, novels, and folklore—to build emotional resonance with audiences. Alsabbagh and Al-Rashidy (2023) affirm that the desire to see familiar characters "come alive" through animated storytelling continues to drive both audience engagement and the creative direction of contemporary animation.

Basic Techniques in 2D Animation

Animated films are generally categorized into two main types: two-dimensional (2D) and three-dimensional (3D). 2D animation encompasses a range of techniques including traditional hand-drawn animation, cut-outs, silhouette animation, sand animation, and direct-on-film methods. In contrast, 3D animation involves methods such as computer-generated imagery (CGI), model-based animation, stop-motion with puppets, pixilation, and time-lapse (Luntraru et al., 2022). These two forms differ not only in production workflow but also in their visual language and artistic demands.

In the context of this study, the focus is on two-dimensional animation as employed in the short film *Prognosis*, where foundational principles such as squash and stretch, anticipation, and timing play a critical role in creating the illusion of dynamic, lifelike movement.

12 Basic Principles of Animation

The 12 basic principles of animation—originally developed by Disney animators—remain a fundamental reference in both traditional and digital animation practices. These principles, such as squash and stretch, anticipation, timing, and pose to pose, are widely applied to ensure natural movement and emotional expressiveness in animated sequences. Widadijo (2021) notes that the application of motion design fundamentals rooted in animation principles has been essential in creating effective visual communication, particularly in public service campaigns. In support of this, Nadya and Sari (2019) emphasize how these principles significantly enhance emotional storytelling in animated series, while Pintero and Kaulam (2018) affirm that their relevance extends even to motion-captured animation, showcasing their adaptability across diverse production techniques.

Drawing on Thomas and Johnston's original framework as summarized by Adiwijaya and Ihwanny (2023), the twelve principles are described as follows:

1. Squash and Stretch

Adds flexibility and weight to objects or characters. For instance, a bouncing ball appears squashed upon impact and stretched during rebound. This principle enhances realism and expressiveness, particularly in facial and body animation.

2. Anticipation

Refers to preparatory movements before the main action—like bending knees before jumping—to create smoother and more predictable motion for the audience.

3. Staging

Involves arranging elements in a scene to ensure clarity. Through composition, lighting, and posing, staging directs the audience's attention to the key narrative or emotional elements.

4. Straight Ahead Action and Pose to Pose

These are two animation approaches: *Straight Ahead* involves drawing frames in sequence, producing spontaneous movement, while *Pose to Pose* focuses on planning keyframes first, allowing for better control over timing and storytelling.

5. Follow Through and Overlapping Action

These principles address how different parts of a body or object continue to move even after the main action has stopped, contributing to realism and fluidity.

6. Slow In and Slow Out

Motion starts and ends slowly, while the middle moves faster. This reflects natural movement and creates smoother transitions between poses.

7. Arc

Suggests that most natural actions follow an arched path rather than a straight line, making motion appear more organic and aesthetically pleasing.

8. Secondary Action

An additional movement that supports the primary action. For example, a character talking might also gesture with their hands to reinforce meaning without distracting from the main message.

9. Timing

Refers to the number of frames allocated for a specific action. It affects the speed, weight, and mood of a movement, such as slow, cautious steps versus fast, aggressive motion.

10. Exaggeration

Emphasizes certain actions or expressions to heighten emotional or comedic effect, making the animation more engaging without losing believability.

11. Solid Drawing

Ensures that forms have volume, depth, and proper anatomy, even in stylized or cartoon-like characters, to maintain a sense of physical presence.

12. Appeal

Pertains to the charisma or visual charm of characters. It involves design elements—such as shape, color, and posture—that draw viewers in and create emotional connection.

Prognosis Animation

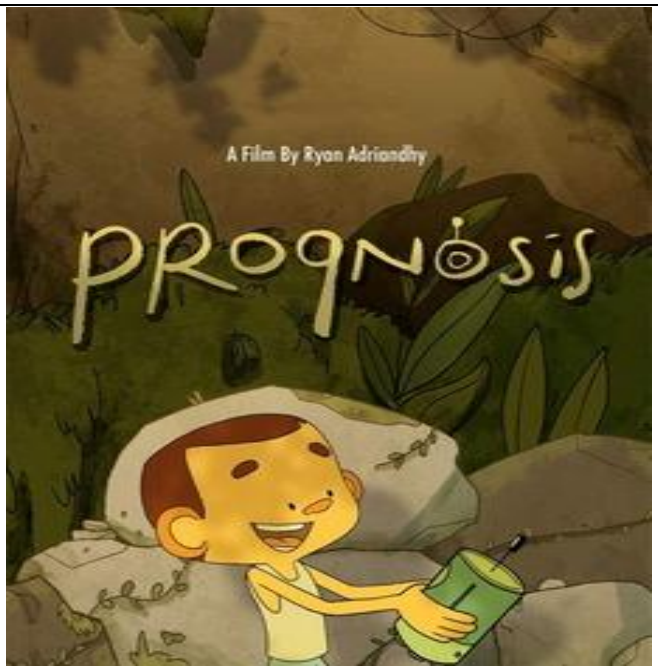

Figure 1. Prognosis animated movie poster image (Adriandhy, 2020) .

Prognosis is a short animated film by Ryan Adriandhy that was released in 2020 as his final assignment at the Rochester Institute of Technology (RIT). The film features an emotional story about the relationship of a son and his father after losing his mother, aided by the presence of a mysterious robot from outer space. Without dialogue, this film relies on the power of visuals and music to convey a message, as well as showcasing a thick local Indonesian atmosphere.

This work received the 2020 Citra Cup award for the Best Animated Short Film category. The prognosis shows the potential of Indonesian animation in conveying a powerful narrative through a simple yet touching visual approach, as well as depicting authentic local culture.

METHODS

Types of Research

This research uses a descriptive qualitative approach, as the main focus is to understand and describe how the principles of animation are applied in a short animated film titled Prognosis. This study does not use numerical or statistical data, but rather emphasizes visual observation and interpretation of the meaning of each scene analyzed.

Data Source

The source analyzed in this study is the animated film Prognosis which aired on YouTube through the "Short of the Week" channel and Ryan Adriandhi's personal channel with a duration of 10 minutes and 24 seconds. The data observed was in the form of visual scenes, character expressions, movements, and camera placement that showed animation principles such as anticipation, staging, and other principles.

Data Collection Techniques

Data is collected through direct observation of animated videos. The researcher watched the animation several times to capture key moments related to the principle of animation. After that, screenshots were taken of certain parts of the scene as documentation and analysis.

Data Analysis Techniques

Once the data was collected, the researchers analyzed each scene based on the 12-principle animation theory of Disney and Ollie Johnston. The researcher selected some of the principles that looked most prominent in this animation, then described how they were applied in the context of the story, characters, and emotions shown.

As according to Anggara and Yusa (2024), the qualitative descriptive method is used to describe the characteristics and properties of the object or phenomenon observed. So, explanations are made using language that is easy to understand so that readers can also grasp the meaning of each principle used.

RESULT AND DISCUSSION

The animated film *Prognosis* is a 2D short film that blends refined visual techniques with symbolic narrative elements to portray the protagonist's internal struggle in coping with personal trauma. Without relying on verbal dialogue, the film communicates emotional depth through visual cues, spatial design, and character motion. This study analyzes the film through the lens of the 12 basic principles of animation, aiming to evaluate how effectively these principles are employed to enhance visual quality, movement realism, and narrative delivery.

To systematically examine the film's visual dynamics, the following analysis explores how each of the 12 basic principles of animation is applied in *Prognosis*. Each principle is discussed with reference to specific scenes, highlighting not only its technical implementation but also its contribution to narrative structure, emotional tone, and cultural subtext.

Squash and Stretch

At minute 7:50–8:00, the principle of *Squash and Stretch* is applied subtly yet effectively to create dramatic and emotional impact through visual movement and atmosphere. This is particularly evident in the luminous green particles that float and swirl around the two main characters. The particles dynamically elongate and contract depending on their direction and speed, generating a believable illusion of elasticity and vitality. The *stretch* effect becomes prominent when the particles shoot swiftly through space, while the *squash* effect appears as they decelerate or come to a stop.

Although this principle is not applied directly to the characters' bodies, its presence in the surrounding elements effectively contributes to a vibrant and non-static portrayal of the digital environment. The visual treatment reinforces the notion that the characters inhabit an unreal or liminal space—symbolizing the prognosis world. Moreover, the use of *Squash and Stretch* in this sequence reflects a stylistic choice that resonates with local cultural symbolism. The flexible and ever-changing movement of the luminous particles can be interpreted as a visual metaphor for spiritual or

metaphysical forces common in Javanese cultural narratives, where the boundaries between the seen and unseen worlds are fluid (Suseno, 1984; Mulder, 2001).

Recent studies also affirm that Javanese cosmology continues to shape expressions of narrative and visual art. Surjono and Titisari (2023) highlight how the concept of an "intermediate realm" (*alam antara*)—a space bridging material and spiritual dimensions—persists in contemporary interpretations of symbolic environments. In this context, the animation principle operates not merely as a technical device, but as a vehicle for integrating traditional cosmological depth into modern visual storytelling.

Figure 2. example of application of Squash and Stretch

Anticipation

At timestamp 2:05, the principle of *Anticipation* is clearly demonstrated when the child discovers a toy robot in the river. Overwhelmed with excitement, he begins to run and eventually jumps up and down while holding the robot. Before the actual leap, the animation includes a subtle preparatory motion—his body slightly bends at the knees and leans forward. This anticipatory gesture not only fulfills a physical requirement of movement but also functions as a visual cue that prepares the audience for the upcoming action.

Such pre-action gestures exemplify how anticipation adds realism and fluidity to motion. More importantly, in this context, the anticipation does not merely serve a technical purpose but also heightens emotional engagement. The slight pause and bend communicate the child's joy, allowing the audience to connect with his experience before he energetically presents the robot to his father. Alsabbagh and Al-Rashidy (2023) emphasize that animation techniques—particularly motion preparation and timing—

play a key role in reinforcing emotional tone in nonverbal storytelling. Additionally, such movements help shape narrative expectations and visual comprehension, particularly among young audiences (Diehm et al., 2020), making the subsequent action feel both physically and emotionally earned.

The successful use of anticipation here aligns with the principle as described by Thomas and Johnston, who emphasized its role in guiding the viewer's attention and enhancing the believability of movement (Thomas & Johnston, 1981).

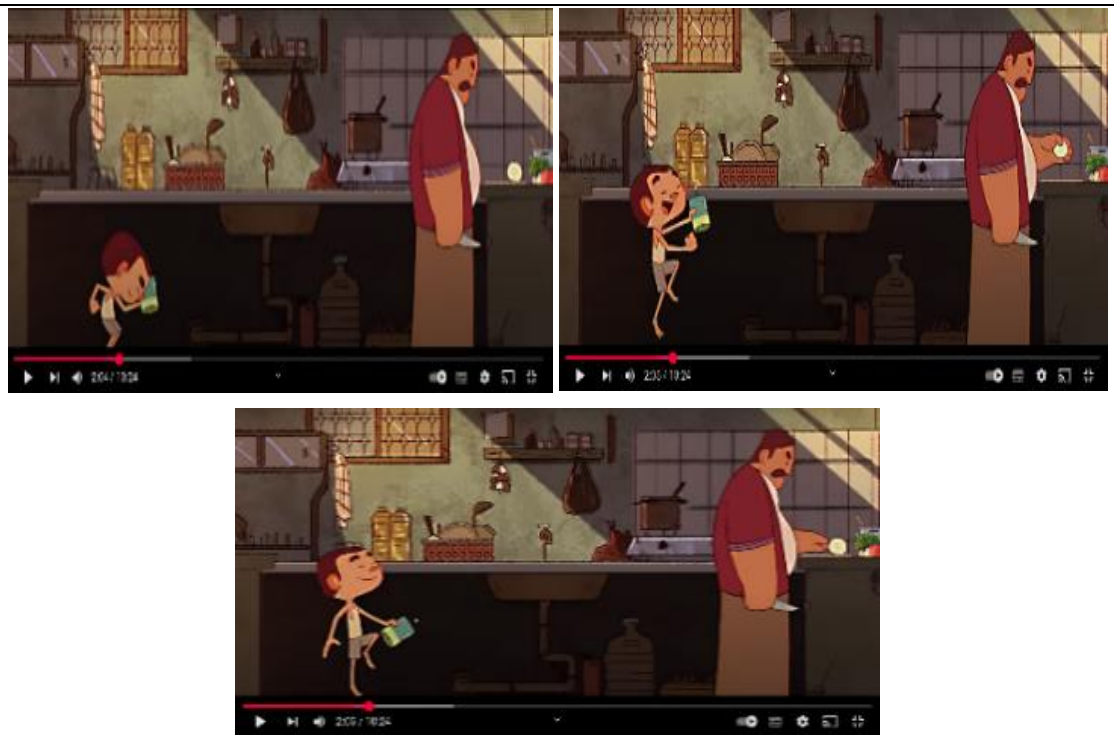

Figure 3. Examples of Anticipation Applications

Staging

At timestamp 3:41, the child is shown in his bedroom, surrounded by colorful toys, drawings, and homemade crafts that hang on the walls—visual cues that emphasize his rich imagination and creativity. Despite the abundance of vibrant details, the composition does not draw the audience's attention to the background. Instead, the camera strategically centers on the child walking slowly, with a visibly downcast expression.

This intentional arrangement exemplifies the *Staging* principle in animation, which involves organizing elements—such as character placement, lighting, and focus—so that the narrative or emotional core of a scene is clearly communicated. By downplaying the background and highlighting the child's body language and facial expression, the animation conveys a strong sense of sadness and disappointment. The viewer is visually guided to interpret the emotional tension: the child feels ignored after his attempts to impress or connect with his father go unnoticed.

Such use of staging transforms a static scene into an emotionally expressive narrative moment. As Guan (2024) explains, staging in animation not only organizes

visual hierarchies but also plays a philosophical role in shaping the viewer's temporal and emotional perception of a scene. Moreover, this aligns with Liang's (2021) findings, which emphasize that emotional experience in visual communication is closely shaped by how information is structured and staged—suggesting that compositional control in animated scenes enhances both clarity and affective engagement.

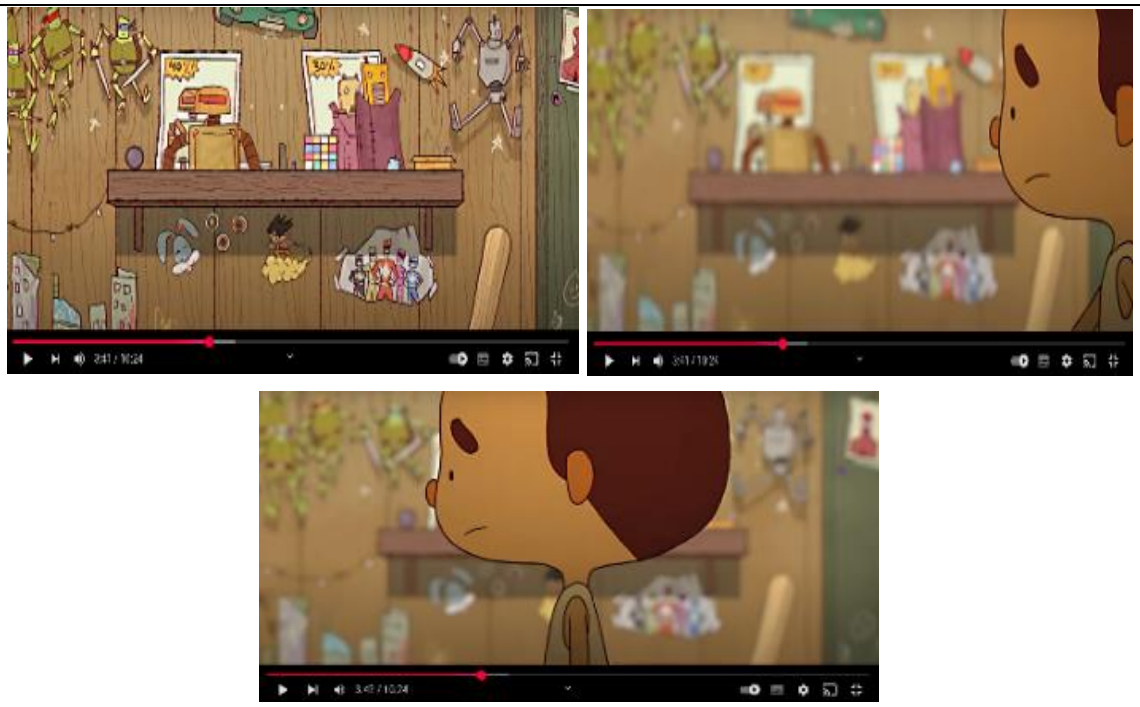

Figure 4. Examples of Staging Applications

Straight Ahead Action and Pose to Pose

a. Straight Ahead

At 08:14, the film presents a visually emotional moment: a holographic light figure of the mother emerges from the robot the child found. Her body floats gracefully, and her hair and clothing flutter softly with natural continuity. The movement appears fluid, uninterrupted, and emotionally resonant—delivered frame by frame in real-time progression, without reliance on keyframe anchors. This exemplifies the *Straight-Ahead Action* technique, where each frame is drawn sequentially, allowing for organic and spontaneous motion.

This technique proves particularly effective in building a magical and spiritual tone, reinforcing the ethereal nature of the mother's appearance as a non-verbal manifestation of memory—an entity that exists not in the physical world, but within an emotional or digital space. Yang et al. (2023) emphasize that emotionally charged animated sequences benefit from carefully orchestrated rhythms and continuous motion effects, which deepen emotional immersion and sustain the viewer's engagement over time.

Culturally, the mother's depiction as glowing light aligns with Javanese cosmology, in which ancestral spirits or *roh leluhur* are believed to appear symbolically through light or dreams. This reflects Clifford Geertz's (1961) interpretation of Javanese

spirituality, where the boundary between the seen and unseen is fluid, and maternal figures often represent warmth, protection, and interdimensional connection.

Figure 5. Examples of Straight Ahead Implementations

b. Pose to pose

At 06:29, a dramatic scene unfolds as the father—misinterpreting the robot's presence—pushes the child, causing him to bounce back, strike the wall, and fall to the floor, resulting in a bleeding forehead. This moment is conveyed through a series of clearly staged and emotionally charged key poses, capturing the child's trajectory in slow and precise phases: the push, mid-air motion, wall impact, and the final fall. The Pose-to-Pose technique is skillfully employed to emphasize each critical point in the sequence, allowing the audience to absorb the emotional intensity and anticipate the consequences of the conflict. This structured approach enables animators to regulate timing and dramatic weight, particularly in scenes involving trauma or confrontation.

Even, Bénard and Barla (2023) note that Pose to Pose animation offers significant narrative control by focusing on spatial and emotional transitions between frames, making it ideal for storytelling moments that demand precision and gravitas.

From a cultural perspective, the conflict echoes deep-rooted hierarchical values in Indonesian family dynamics. The father's impulsive act, while harsh, symbolically reflects authoritarian familial patterns where parental authority often suppresses the child's agency. This aligns with Koentjaraningrat's (1989) sociocultural analysis, which emphasizes how traditional patriarchal systems perpetuate asymmetrical communication—particularly in emotionally tense situations. In this context, Pose to Pose serves not only as a technical strategy, but as a narrative medium to visualize emotional distance, generational misunderstanding, and systemic dominance within the

family structure. Such motifs are frequently revisited in Indonesian visual storytelling as a mirror of unspoken emotional fractures behind normative familial ideals.

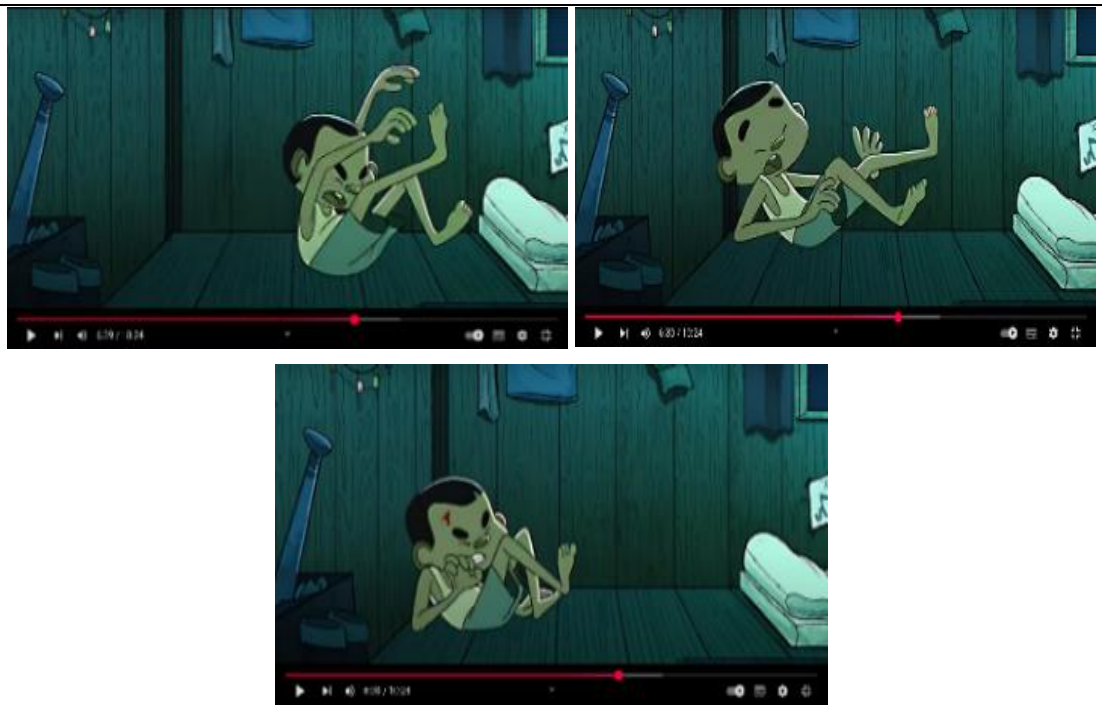

Figure 6. Example of Pose to pose

Follow Through and Overlapping Action

At 02:07, the child is depicted jumping up and down in delight upon discovering the robot. After the main vertical movement ceases, the animation captures a secondary motion: his right arm continues to swing for a moment before gradually coming to a natural halt. This exemplifies the principle of Follow Through, where a specific body part continues to move even after the core motion ends. Simultaneously, the slight asynchrony between the child's torso and his arm movements illustrates Overlapping Action—a technique where different body parts move at varied timing rather than in perfect unison.

These techniques contribute to the illusion of realism by reflecting the inertia and fluidity of natural movement. As Wang et al. (2022) emphasize, maintaining coherent spatial-temporal correspondence in animated sequences significantly enhances perceptual realism, ensuring that character movements remain fluid and physically plausible rather than mechanically rigid.

By incorporating Follow Through and Overlapping Action, the film not only refines its movement quality but also conveys emotional authenticity. The lingering motion of the child's hand reinforces his uncontainable excitement, allowing viewers to sense the **residual joy** even after the action subsides. This subtle physicality deepens the audience's empathetic connection and supports the expressive depth of the scene.

Figure 7. Examples of Follow Through and Overlapping Action

Slow In and Slow Out

At 02:12, the animation portrays the child raising his hand quickly, brimming with enthusiasm and hope for a positive response from his father. However, when his father remains unresponsive and emotionally detached, the child's facial expression shifts to disappointment. This change is mirrored through his gesture: the hand begins to descend gradually, with a slow out at the start—indicating emotional tension—followed by a slow in movement as the hand completes its fall, symbolizing a rapid emotional decline when his hopes are dashed.

Applying the Slow in and Slow Out principle enhances the scene's emotional resonance, transforming temporal changes into a narrative device that deeply affects viewers. Moreover, in Indonesian family dynamics, especially between children and parents, disappointment is often expressed indirectly through restrained gestures and nonverbal cues. Koentjaraningrat (1989) notes that traditional familial relationships favor emotional restraint and indirect communication, especially toward authority figures. In this scene, the carefully managed hand movement not only deepens the psychological portrayal of the child but also faithfully reflects local cultural values, thereby enhancing both narrative authenticity and viewer empathy.

Figure 8. Examples of Slow In and Slow Out implementations

Arc

At **00:21**, the **Arc Principle** is clearly demonstrated when the child is shown collecting used items and **throws a plastic bottle** into a cardboard box already filled with other objects. The trajectory of the bottle does not follow a straight line; instead, it **moves along a curved path**, rising into the air, floating momentarily, and then falling under the force of gravity. After impact, the bottle **bounces twice**, each bounce forming **subtle arcing motions** before settling.

This movement exemplifies the Arc Principle, which states that natural motion—whether by living beings or physical objects—tends to follow a curved trajectory due to momentum and external forces like gravity. The use of arcs in animation is critical to simulate realistic dynamics and maintain smooth and organic movement. Polykretis et al. (2023) emphasize that visually realistic motion synthesis, when grounded in biologically inspired models, allows for more fluid and expressive animation sequences that mirror real-world kinetic behavior.

From a **cultural perspective**, the act of collecting and throwing used goods reflects the **socio-economic realities** of many Indonesian children, particularly those in lower-middle income communities. Rather than relying on commercial toys, these children often repurpose everyday objects into **imaginative play tools**. Kuswarno (2009) notes that such behaviors illustrate a form of **spontaneous creativity** rooted in resourcefulness and socio-cultural adaptation. Thus, the animation not only adheres to technical principles but also captures **authentic social narratives** familiar to many local viewers.

Figure 9. Arc implementation example

Secondary Action

At 06:25, the Secondary Action principle is illustrated vividly when the child desperately attempts to stop his father, who is in a fit of anger and about to destroy the robot. The primary action involves the child running towards the father, while the secondary actions—his arm pulling at the father's hand and his legs lifting off the ground as he lunges forward—add emotional intensity and realism to the scene. These supporting movements underscore the child's sense of urgency and emotional desperation, visually expressing his plea for his father to reconsider.

The synergy between the primary and secondary actions enriches the animation's expressive depth. As Even et al. (2023) argue, secondary actions not only enhance the liveliness of a scene but also reveal character motivation and emotional nuance that may be absent from the main motion alone. Here, the animation effectively conveys a psychological tension—a child's desperate hope clashing against a parent's impulsive authority.

Culturally, this scene resonates with Indonesian family dynamics, where hierarchical and patriarchal structures often shape parent-child interactions. The act of a child physically reaching out in a pleading gesture symbolizes both subordination and emotional closeness—a dynamic that aligns with local storytelling traditions emphasizing subtle, empathetic portrayals of familial conflict (Mulder, 2001). Such non-verbal expressions are a staple in many Indonesian visual narratives, where emotional depth is often conveyed through gesture and restraint rather than confrontation.

Figure 10. Example of Secondary Action

Timing

At **08:36**, when the mother's hologram appears and extends a hand toward the father and son, both characters instinctively run toward her. Despite their differences in body size and stride length— the father takes slow, deliberate steps, while the child sprints rapidly— they both arrive simultaneously. Here, **Timing** is expertly managed to ensure that the speed and rhythm of each character's movement align with their physicality while still allowing for shared emotional resonance. This precise control over timing not only maintains visual harmony but also reinforces the emotional connection of the moment.

Chen and Lv (2022) demonstrate that adaptive animation synthesis—adjusting motion to accommodate character-specific traits such as size and posture—is crucial for maintaining coherence and realism in multi-character scenes. In *Prognosis*, this is evident when the father and son move at different rhythms yet arrive at the same point simultaneously, symbolizing unity despite physical disparity.

From a cultural perspective, the scene echoes Javanese and broader Indonesian philosophies that value harmony in diversity (*rukun*), where distinct individuals can align and unify in a balanced way (Geertz, 1961). In this light, the synchronized arrival of father and son expresses not only familial unity but also deeper cultural ideals of togetherness across differences.

Figure 11. Examples of Timing implementations

Exaggeration

At 06:14, the film vividly demonstrates the principle of Exaggeration: the father wakes in shock when a robot flies near his sleeping son. His reaction is highly dramatized eyes widening, leaping from bed, and sprinting toward the robot in a motion that seems to defy gravity. His movements, almost defying realism, are amplified to clearly communicate his panic and protective instinct. This exaggerated depiction allows the audience to instantly perceive the urgency and emotional intensity of the moment, turning an ordinary action into a symbolic, expressive gesture.

From a cultural perspective, such instinctive and dramatic action resonates with the Indonesian concept of "ngayomi"—a paternal duty to protect and shield one's child, especially in Javanese tradition. Koentjaraningrat (1989) describes how fathers are often portrayed as guardians who react decisively in times of danger. This cinematic portrayal mirrors the dramatic flair found in traditional Javanese performing arts and popular soap operas, which frequently employ heightened expressions and intense gestures to evoke empathy and convey moral lessons.

Figure 12. Example of Exaggeration

Solid Drawing

The principle of Solid Drawing is clearly demonstrated throughout *Prognosis*. Although the film is rendered in 2D, both characters and environmental objects are crafted with careful attention to volume, anatomical accuracy, and perspective, preventing them from appearing flat and lifeless. For instance, whenever a character moves or shifts posture, their body maintains consistent proportions while their forms respond convincingly to directional lighting and point of view. This visual realism creates the illusion that characters possess weight and occupy a coherent three-dimensional space.

Chen and Zwicker (2022) assert that maintaining spatial consistency and volume preservation in 2D animation is critical to achieving perceptual believability. Their study highlights that such attention to form enhances viewer immersion and prevents the jarring effect of perspective errors. By applying Solid Drawing effectively, *Prognosis* ensures each movement feels grounded—not merely a sequence of outlines but a reflection of characters interacting plausibly with their environment.

In cultural terms, meticulous attention to form reinforces the film's emotional gravity. Consistent character volume underscores sincerity in performances—especially during poignant moments—helping audiences engage with the story on a deeper level. This aligns with broader cultural values in Indonesian visual arts, where expressive authenticity and visual refinement contribute to emotional resonance with local viewers.

Figure 13. Examples of Solid Drawing

Appeal

The principle of appeal is vividly reflected in the character designs and expressive animation in *Prognosis*. The child is represented with a proportionally small body and a large head—an aesthetic choice that conveys innocence and endearment, instantly creating viewer empathy. In contrast, the father's design—large body, smaller head—subtly balances strength with emotional vulnerability, contributing to a multidimensional sense of character.

The robot's design further enhances the film's appeal. Its friendly, non-threatening form symbolizes the emotional bridge between father and son, and visually stands out, especially when animating the mother's light hologram. The robot's appearance is both functional and symbolic: while halting conflict, it also facilitates emotional reconnection.

As Suyadi et al. (2023) note, appealing design is key to drawing audience attention and fostering narrative engagement in multimedia animation. By integrating endearing character traits with thoughtful movement and emotional storytelling, *Prognosis* strengthens its emotional bond with audiences—making the visual narrative both relatable and memorable.

Figure 14. Example of Appeal

The analysis of *Prognosis* reveals that the 12 basic principles of animation serve not only as technical foundations but also as expressive vehicles that amplify visual storytelling and emotional resonance. By implementing principles such as Squash and Stretch, Anticipation, and Timing in culturally nuanced contexts, the film effectively evokes empathy without relying on dialogue. These findings align with prior research demonstrating the narrative power of visual movement in non-verbal animated media (Nadya & Sari, 2019; Pintero & Kaulam, 2018). Moreover, Yang et al. (2023) demonstrate that rhythmic motion and carefully orchestrated movement cues can significantly enhance emotional perception—even in minimal visual formats—highlighting how expertly timed animation can foster strong affective connections via purely visual signals. Thus, *Prognosis* exemplifies how traditional animation techniques, enriched with local symbolism, can create emotionally resonant experiences that transcend linguistic and cultural barriers.

CONCLUSION

The animated film Prognosis successfully implements the 12 basic principles of animation, which not only reinforces the visual quality, but also supports the emotional and narrative delivery of the story. Each principle, from Squash and Stretch, Anticipation, Staging, to Appeal, is used to deepen the characterization, build tension, and convey the character's emotions subtly. Techniques such as Pose to Pose in scenes of conflict between father and son, Slow In and Slow Out during emotional transitions, to Timing which emphasizes the synchronization of movements, provide a strong and realistic dramatic rhythm. The unique and expressive character designs also strengthen the visual appeal, creating an intense emotional connection between the audience and the story.

The novelty in this study lies in the analysis of animation principles that are not only focused on the technical aspects of visuals, but also associated with the context of local culture, Indonesian narrative styles, and representations of emotional relationships in family structures. This approach expands the scope of animation analysis from purely technical to contextual cultural discourse. Thus, Prognosis is not only a stunning visual spectacle without dialogue, but also shows how animation techniques are able to

articulate social values, family dynamics, and collective emotions in a universal and local manner.

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