

## 1.2 CREATIVE OBJECTIVES

This study aims to design character motion for animation inspired by pixel games, focusing on the character Lena from the 2D animated short film *Patching Up*, in shots that show her improving fighting style, and covering the implementation of anticipation, exaggeration, and follow-through action.

Beyond that, this study intends to broaden the horizons of research in regards to college-level education for animation; exploring a unique process of the art form, in this case, pixel animation.

## 2. THEORETICAL FRAMEWORK

### 2.1. PRINCIPLES OF ANIMATION

Animators in the early 1930s had been searching for better methods of relating drawings to each other, methods and techniques that offered some security that their character in motion would result in creating the illusion of life. As they defined and perfected these methods, eventually Thomas & Johnston (1981) determined the 12 fundamental principles of animation: squash and stretch, anticipation, staging, straight ahead action and pose to pose, follow through and overlapping action, slow/ease in and out, arcs, secondary action, timing, exaggeration, solid drawing, and appeal.

- a. **Anticipation:** According to Thomas & Johnston (1981, as quoted by Adiwijaya & Ihwanny, 2023), anticipation is the method of implementing a specific movement/pose to anticipate the main action. For example, in an action where a character throws a small object, their arm is pulled back before it throws the object forward to portray a more realistic action to the audience.
- b. **Exaggeration:** Exaggeration as a principle is just as the name suggests: to exaggerate. If a character was to be sad, make them sadder; bright, make them brighter; worried, more worried; wild, make them wilder (Thomas & Johnston, 1981). It is not only the exaggeration of the action, forces, and

movement, but also the exaggeration in every aspect of the figure's pose to strengthen its visual communication (Thesen, 2020).

- c. **Follow-Through & Overlapping Action:** Thesen (2020) states that the principle follow through and overlapping action implements with the progression of forces through the character's body and affects its various appendages like limbs, clothing, or hair, affecting their timing and motion.

## 2.2. VIDEO GAME CHARACTER ANIMATION

Cooper (2019, as quoted by Larsson & Strömbom, 2023) states that it is very important for a game developer to understand an animator's perspective when developing a video game, because animating for video games is quite different from animating for film. Game developers need to work with animators and understand their terminology to create the experience they're looking for.

The way a character is animated in a video game could affect the player's perception of the character, using the concept of *game-feel*, which is the relationship between the player and the character they play in the game, making the player feel connected to them while also being in control. In some ways, the player *is* the character in the game they play, which adds to the experience's immersion (Larsson & Strömbom, 2023).

## 2.3. PIXEL ANIMATION

### 2.3.1. Uniqueness

What makes pixel art, pixel art? Every image on a computer is created using pixels, but reducing an image to a 16-bit resolution does not make it pixel art. What makes pixel art unique is the method in which an image is created, almost literally one pixel at a time. Some programs exist now to assist in making pixel drawing easier, such as *Graphicsgale* and *Aseprite*, but these tools do not take away the control of the artist when creating pixel art (Azzi, 2019).

What makes pixel animation unique is that it was specifically created to be programmed into video games. Oftentimes, programmers use the same sprite over

and over again to ease the process of game development. Despite the technical restraints of video game programming growing increasingly advanced in the last few decades, the pixel animation pipeline is still much easier than programming a 3D character model into a game. And so, many developers today take advantage of that aspect, especially developers who don't have much experience with creating games. Pixel animation is a great way to start, as they direct their focus on other aspects like music and storytelling (Silber, 2015).

### 2.3.2. Subpixelling

Subpixel, on its own, is defined as being smaller than a pixel. However, Azzi (2019) states that the pixel is the smallest unit of resolution. The artist cannot go any smaller, nor split pixels between two squares, so subpixeling is the art of imitating it. It is achieved by shifting pixel colors to create smooth motion while maintaining the subject's silhouette (Andito & Kurniawan, 2020).

Subpixeling, in particular, may apply the animation principle "follow through," where a figure in motion is able to track the way energy is directed through the body as an action progresses (Thesen, 2020). But with subpixeling, it's the technique where a shifted color follows through from a previous frame to create the subpixel effect (Azzi, 2019).

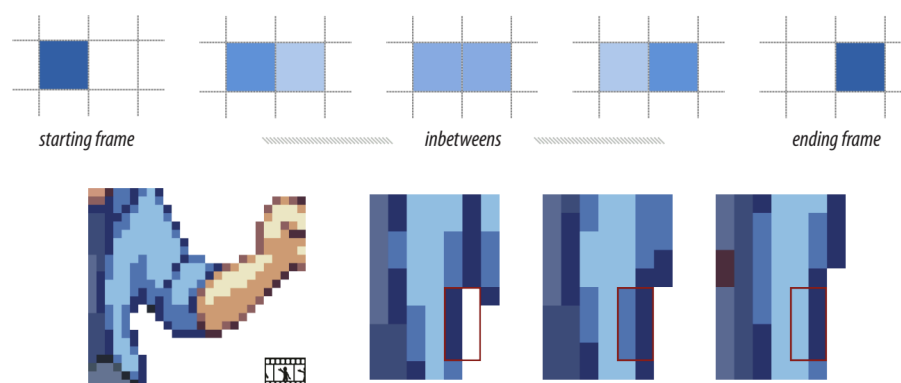


Figure 2.1. Example of Subpixeling

(Source: Pixel Logic, 2019)