Cinematography of Win or Lose

PATRICK LIN and BRIAN BOYD, Pixar Animation Studios, USA

ACM Reference Format:
Patrick Lin and Brian Boyd. 2024. Cinematography of Win or Lose. In *Special Interest Group on Computer Graphics and Interactive Techniques Conference Talks (SIGGRAPH Talks '24), July 27 - August 01, 2024.* ACM, New York, NY, USA, 3 pages. https://doi.org/10.1145/3641233.3664319

1 INTRODUCTION

Win or Lose is Pixar's first original, longform Disney+ streaming production. The 8 episode series follows a middle school softball team in the week leading up to their championship game. Each episode is told from the perspective of different characters over the same one-week period. Since the series is all about perspectives, our cinematography is structured and designed to help differentiate between the real world and our characters' perspective world. Combining a hyper realistic camerawork with a stylized lighting design, this juxtaposition between camera and lighting adds emotional impact to the unique visual style of the series.

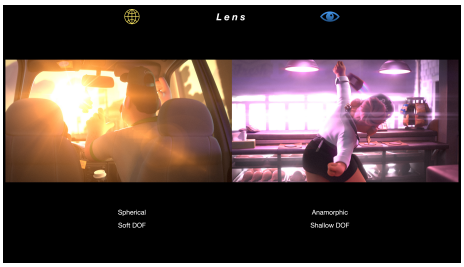
2 CAMERA LANGUAGES

Starting with our camera language, the camera behaves differently between the real world and the perspective world. Although the design of our characters and the world they inhabit are very cartoony, the challenges that they face are very mature, serious and relatable — such as anxiety, regrets, insecurity, jealousy, divorce, single parenthood, fulfilling expectations or financial hardship. To underscore the serious nature of our characters' struggles, we wanted our camera to feel hyper realistic in the real world. But in the perspective world, it could be more theatrical. We used Spherical Lenses, Soft Depth of Field, Off-set Camera and Imperfect Focus to represent the real world. Conversely, we used Anamorphic lens, Shallow Depth of Field, Nodal Camera and Perfect Focus to represent our characters' perspective world. The more obvious camera trait between the two worlds is how we move our camera. In the real world, we embrace imperfection with unlocked or handheld cameras, keeping the camera in constant motion. Contrasting the imperfection of the real world, the perspective world is more restrained, with locked off camera and controlled camera movement, such as using track or crane. How the camera moves in the series is the biggest clue to the audience as to whether we are in the real world or in the character's perspective world. Because we want our camera to feel as realistic as possible, we draw inspiration from live action filmmaking to achieve certain effects to support the characters' emotions. For example, we want to smoothly transition from the real world's soft depth of field into the perspective world's shallow depth of field within a shot. In live action, the way to change the depth of field at a constant exposure is by using a system which interlocks a variable ND filter with the camera's aperture. When you increase the darkness of the filter, the aperture opens up the same amount, keeping the exposure constant. Although this is a lot simpler to achieve in the computer, the idea is still based on a realistic camera.

Manuscript submitted to ACM

3 LIGHTING PLAN

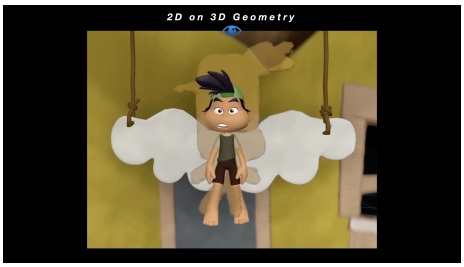
Our production design and pipeline embraced minimal complexity in form and texture, which allowed for creative latitude in the lighting plan. Not beholden to realism, we were free to explore the characters' emotional state with unconventional palettes and unique setups. Using accent colors, atmosphere, wide dynamic range, shallow depth of field, and varied compositions, we accentuated the emotional impact of each character's internal struggle throughout the episodes. Likewise, theatrical lighting setups in combination with 2d elements and stylized graphics were chosen to exaggerate this effect when appropriate. We used color palette choices to differentiate between each character's different perspectives when viewing the same story events. Additionally, the characters in the series were designed with a contrasting color scheme in mind to represent their own desires and struggles. The lighting plan incorporated these palettes as a visual foundation for the cinematography, using the distinct hues to supplement the character arcs throughout the series.



4 2D AND 3D INTEGRATION

The series employed different animation devices to help tell the story from our characters' perspective. Each character has their own unique animation device, some of which use 2D animation integrated into a 3D environment, or 2D animation mapping onto a 3D object, or pure 2D animation. Even though they are 2D, we still needed to lock down the composition and timing of our shots first before sending them to our 2D animators. So all of the 2D shots had to be laid out in 3D first, even the pure 2D animation portion.

Once the layout was approved, the 2d shots went through a few variations. Completely 2D was done in a traditional pipeline — hand animated and painted in TVPaint, and then post-processed in After Effects for the final look. For hybrid shots where 2D was added to the 3D scenes, camera tracking was first done in 3D, animated in 2D, and then integrated back into the 3D shots for compositing in Nuke. The final hybrid style started in 2D, was mapped through Houdini to add dimension, and then exported back to our 3D software through USD and was lit within the 3D scene.



5 SETS TRANSITIONS

From the beginning, our directors Carrie Hobson and Michael Yates wanted to do a lot of creative transitions. Transitioning between scenes, going in and out of flashbacks or into our character's own fantasy. There are many ways to do transitions in CG, such as the opening title sequence from Toy Story 4. The 1 minute and 48 seconds sequence combined 9 separate shots into a single shot, transitioning between 5 locations and 4 Andy's at different ages. The transitions are seamless but they are very complicated. It took months of work across multiple departments to achieve. If we wanted to do a lot of transitions in *Win or Lose*, we had to find a more efficient way.

Inspired by live stage show's scene transition and how by just sliding and moving set pieces around, the stage can be transformed from one location to another in front of the audience within seconds. Striving for that kind of efficiency, we have decided to embrace the theatricality of our camera language by using a CG versions of "practical sets" and do all of our transitions in-camera.

Some transitions are achieved simply by animating the sets while it is offscreen. Some are achieved by putting one set on top of the other, or merging two sets into one, transitioning between them with a simple camera movement. We went as far as breaking up an entire apartment set and rearranging each room to fit our camera needs. Approaching transitions this way is no doubt more work for our Sets department. Lighting was also a challenge with this approach, as two or more lighting setups had to be integrated into the single shot. But the advantage of this extra work and in-camera transition is that we can see the result immediately during our layout process and we can address any directors' notes and timing changes without delay, making it a more efficient way than our Toy Story 4 approach.Each of the combined sets had their own distinct lighting setups, which had to be rendered separately to match the sequences they were derived from. Those setups, often including a third lighting setup, were combined together to create a new look. Borders between the two sets sometimes needed to be hidden with in-camera lighting or compositing adjustments to make the transitions seamless to the eye.

6 CONCLUSION

Our cinematography is always in service of story. Every composition, lens choice, camera movement, and color decision are there to support our character's emotion so that our shots are not just beautiful, but meaningful as well.