

PROFESSIONAL PORTFOLIO CREATION

An Honors Thesis (ART 490)

by

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Abstract

This paper is a supplement to understanding the purpose and design of my thesis project. This includes background information about animation as an art form, my personal specialization in character performance and animation, and elaborates on the workflow of creating each animation for my final demo reel and website.

Acknowledgements

I would like to thank Andy Beane, for providing guidance and resources throughout all of the steps in the production process. Having advice from someone experienced in the animation industry and who is willing to offer straightforward advice was invaluable, and will follow me over the course of my career.

I would also like to thank Brad Condie, who also contributed greatly to teaching me the foundations of animation over the course of two years. From 2D to 3D and experimental, he pushed me to become a better artist and animator.

I would finally like to thank my peers in the School of Art, including but not limited to my animation classmates, for setting a high bar of performance and creativity that I strive to compete with. Having their support and critique throughout my time as a student has been an honor.

Goals and Intentions

The animation industry is widely varied, not only in the range of jobs in the production pipeline, but where the final products can be implemented. From advertising and entertainment to education and forensics, there is a demand for virtual simulations reflecting the real world. In an industry where the products require a high volume of time and manpower, there are gains to be made in being highly specialized in one or two aspects of the production pipeline. In my case, character animation is my specialization, particularly for performances in film and television.

The goal of this creative project is to create a strong demo reel that is approximately one minute in length that I will use to promote myself and my work to animation studios. To accomplish this, I created four new animations over the course of 13 weeks to supplement the reel, as well as revising previous animations that I have done at Ball State. The result will be a reel that shows not only my technical skill following the principles of animation, but also artistic thought.

Principles of Animation

Created by Disney animators, the twelve principles of animation are guidelines that hold the foundation to captivating animation. They are most useful in making animation feel more real, while emphasizing that it is beyond reality. Many of these have overlap due to most of them being based in real-life physics, but each serves a unique purpose in reminding animators what to be conscious of while working.

Squash and Stretch

This is the principle that when nearly anything moves, its form is influenced and changes accordingly. The ball bounce animation, one of the most basic exercises in animation, shows that a perfectly round ball can be smashed down when it hits the floor, and responds with stretching out when it comes off the ground, before settling back into its default shape.

Staging

This principle is used not only in animation, but in most art forms, where the silhouette of the objects and characters is important for visual clarity.

Anticipation

This is the concept of preparing for an action, rather than it instantaneously occurring. Before walking, people need to lift their feet, lean forward, and begin to fall before catching themselves and moving forward.

Straight Ahead vs Pose to Pose

These are more unique to animation, where artists can decide if they will animate by simply drawing frame after frame and just make slight changes to convey movement, or if they will draw all of the major poses of an action, and draw how the movement occurs between each pose.

Follow Through and Overlap

Similarly to Anticipation, when an action ends, it does not just freeze in time, but rather there is the visible moment that marks the end. With the example of walking

again, when a person stops, there is always the slight sway forward as their momentum catches up, but they pull themselves back into place.

Slow in, Slow Out

This principle is similar to Anticipation and Follow Through and Overlap, in that it pertains to the beginning and end of an action. When something starts or finishes, it does not immediately reach top speed or no speed, but rather builds up and decays.

Arcs

Arcs are the natural trajectory at which most things move, so it is important to emulate that in animation, whether it be how objects move when falling, or how limbs bend.

Secondary Action

This principle contributes to the believability of an action by adding in lesser actions that read as a response to the initial action. This could be as simple as the can that falls over when someone pounds their fist on a table.

Timing

Timing differs from other time related principles in that it applies to any part of an action rather than the beginning or the end. This could affect the meaning between a slow meander and a quick pacing.

Exaggeration

While most of the above principles are used to increase realism, exaggeration is what reminds the audience that what they see is an illusion based on reality. Intentionally defying physics for the sake of entertainment is part of what makes animation more attractive than live action performances.

Solid Drawing

This mostly applies to 2D animation, where characters and objects need to have consistent forms and shapes from any angle in order to help suspend the disbelief of the audience.

Appeal

Although this is the hardest to define, appeal is often compared to charm or charisma. Many people know it when they see it, even if they cannot put to words what they enjoy. Many classic characters' success relied on their appeal to consistently attract audiences.

Software Used

Before discussing my workflow, it is important to understand what kind of programs I used in order to create all of my work.

ToonBoom Harmony

ToonBoom Harmony is a 2D animation software where users can draw within a set space and, with the use of a timeline integrated into the workspace, make sequential drawings to create animations. A common standard when animating is using a framerate of 24 frames per second, which equates to 24 drawings playing consecutively in one second real time. To save time, many artists and studios will have one drawing hold for two or three frames, reducing the framerate to 12 or 8 frames per second, or even mix framerates to create different visual effects.

I used ToonBoom to create blocking animations that plan how I wanted my final animation to look before moving into 3D formats. This included how the characters would be staged within a 1920 x 1080 aspect ratio (standard high definition), the poses they would take, their movements, as well as how long each movement would take. Each of these aspects are what serve the overall meaning of each animation, as adding or subtracting a few extra frames to a pose can be the difference from expressing hastiness to hesitation. Most of my blocking animations had, at the very lowest, drawings that lasted 3 frames, and had some that went up to 10 or 15 frames, all depending on the intent of the scene.

Autodesk Maya

Maya is a 3D animation and modeling software, meaning that all of the work that is done takes place in a digital 3D space. Rather than drawings, 3D characters called “models” are designed with bone structures called “rigs” that allow the model to be moved and posed within the space to create an animation.

One of the key differences between 2D and 3D animation is the use of mathematical interpolation to simulate movement. 2D animations create the illusion of movement by displaying individual drawings in such quick succession that the brain is able to fill in any blanks. Meanwhile, 3D animation software uses series of coordinates that define where the rig is in the 3D space on one frame, called a “keyframe” or “key,” and interprets how to move the rig to the pose in the next frame.

By default, interpolation tends to make animations appear stiff and floaty, as the model will look like it is sliding from pose to pose; however, after applying the principles of animation, adding in extra poses, and altering the types of interpolation, 3D animation can look almost as good as reality.

A downside to 3D animation is the technical complexity of it makes it hard to everything independently and quickly. I personally do not know a lot about rigging or modeling, so part of my workflow involves finding rigs that are already made. For this project, I used Dana Rig by Gabriel Salas, Malcolm Rig by AnimSchool, and Caroline and Henry Rigs by Cogswell.

Adobe AfterEffects

This is a video editing software that I used to compile all of my exported animations into one reel. Using the various texts and effects, I was able to add music, my name, and my information to the beginning and end of my reel.

Planning the Animations

The first step to doing character animation is creating the context in which the performance will occur. In the case of film and animation, performances rely on the emotions conveyed, regardless of what is being said. That said, I decided to search for dialogue and sound clips that met the requirements of (1) being 10-15 seconds long

before editing, (2) had the sense of a beginning, middle, and end, and (3) had a strong sense of emotion. The time restriction was the most straightforward of the three, while the other two led to a lot of trial and error in picking sound clips.

My main source for finding audio clips was the 11 Second club website. This is an online forum that hosts monthly animation competitions using clips that are approximately 11 seconds. They may come from movies, television shows, and occasionally songs. The site has archived their samples since its inception in 2007, so I spent the first week of this project working through all of them to pick what I thought would make the strongest animation. I also wanted each clip to be distinct in its emotional tone, so that I would have to be creative in portraying each performance. The sound clips I chose are follows:

1. "I'm Right!"

Person 1: "Well, I think you're wrong."

Person 2: "Well, I think I am right, I know I am right, I am right... I am right."

Person 1: "Well... I think it is worth some... research."

- "The Truth" Podcast/ May 2015 11 Second Club

2. "There's a Moment"

Woman's Voice: "There's a moment, there's always a moment, I can do this, I can give in to this, or I can resist it... and I don't know when your moment was, but I bet you there was one." -*Closer* (2004)/ August 2007 11 Second Club

3. "Not Typed?!"

Voice One: "Have you written it?"

Voice Two (stammering): "I... can.... No."

Voice One: "Have you written it?!"

Voice Two: "An outline!"

Voice One (exhaling): "Okay. But it... it's just an outline, right?"

Voice Two: "Yeah! Sort of."

Voice One: "Sort of?!"

Voice Two: "Yeah, it's just not typed."

Voice One: "Not typed??"

- *Stranger than Fiction* (2006)/ December 2008 11 Second Club

4. Clip from Bruno Mars "That's What I Like" Official Dance Choreography (2017)

The first clip, "I'm Right!" was chosen to capture both skepticism and mild indignation, two emotions that are more nuanced than others. The second clip, "There's a Moment" is meant to capture a range of strong heartfelt emotions, with a begging tone developing more determination. The third clip, "Not Typed?!" is more comical, but through the characters feeling exasperated and stressed. The final clip, which is more fun and carefree, is an animation replicating a dance

Having a beginning, middle, and end in a short piece of dialogue means that more than a complete story being told, a complete action needs to be shown. This was necessary

in order to have a performance that felt complete. In going through sound clips, I evaluated how specific the dialogue was and if I could clearly picture the performance in my head. If it was too conditional, it would be more restrictive when planning the staging and acting. On the other hand, if it was too vague, it most likely did not have a defined progression that I could make a complete performance with. The only exception would be the dancing clip, which was trimmed to fit the time restrictions.

Creating the Animations

At the beginning of each month, I started a new animation that I tried to mostly finish within three to four weeks. This allowed me to save time at the end of the semester to cut together a demo reel and still have time to make any necessary edits to each animation. Each week, I dedicated at least 20 hours, and most 30 hours.

The first step to the animation process was the blocking phase. After I had planned the scene out in 2D, I set up the scene with any rigs and props needed and uploading the audio. Once all of the pieces were present, I started by animating the mouth and face for lip syncing. Not every animator has the same workflow, but I prefer to start with the lipsync before moving the rig because it is easier to make sure that the mouth shapes are accurate before moving the head and body.

Once I was satisfied with the lip sync, which typically took around one work week, I began posing and moving everything to the right position and setting keys on the major poses. I then would play this back, but without any interpolation, meaning that the rigs would snap to each pose as the clip played. This “blocking” phase allows me to understand the timing and staging, similarly to the 2D blocking. Any changes that need to be made at this stage can be done quickly without affecting too much of the overall animation.

At this point in the process, I would usually get a critique from my advisor and classmates before committing any more detail or time. Hearing advice from others after working so long by myself always provided new insight, and made all of my animations better in the long run. Even if the work was still unfinished, I was still told whether to change poses, timing, or staging, all of which can be planned for very early on.

After critiques, I would start cleaning up the animation by working with the interpolation through the Graph Editor window in Maya, and deleting keyframes that were unnecessary or detracted from arc movements or timing. This part of the process always takes the longest, simply because of the amount of tweaking that is necessary to make each movement look just right. Having natural pauses, not moving too quickly or slowly, and making every part have weight takes a lot of time and patience, as well as attention to detail. This also can be the hardest part mentally, since there is a long time where it feels that there is no hope for the animation to turn out well. Through a lot of perseverance and outside support, I was able to make all of my animations in this project into something that I can be proud of.

Designing the Demo Reel

After finishing all of my animations, as part of the professional portfolio development, I created a demo reel showcasing snippets of all of my best animation work using Adobe AfterEffects. The length needed to be anywhere from 45 seconds to 2 minutes.

At the beginning of the semester, I watched various demo reels from other artists, and along with my classmates, critiqued the positives and negatives for each one. Something that I found appealing across different reels beyond just the animation quality was making sure that the music matched the tone of what was playing. Since a reel includes a variety of clips from typically larger projects, there may be a wide range of colors, expressions, or actions. Having the music respond to the changes in content the way a singular work would makes a reel more captivating, and I wanted to copy that effect. Overall, I believe that this reel was a good culmination of the work that I have done over the course of the term.

Works Cited

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