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Independent Study Mentorship

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Anatomical Sculpting

Assessment 2: Research

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**MLA Citation:**

Sanden, Henning, and Morten Jaeger. "Top Tips for Improving Your ZBrush Sculpt." *YouTube*, YouTube, 12 Mar. 2018, [www.youtube.com/watch?v=iAVGcCuSjxA](http://www.youtube.com/watch?v=iAVGcCuSjxA).

ZBrush is a very powerful tool often used to create lots of concept art and models for approval from art directors and modeling leads. ZBrush is used by modelers due to how quickly modelers can sculpt entire characters and add textures to the sculpts at a very high resolution. It creates very good sculptures and is often considered to be a more artistic software than programs such as Maya which are more technical. However, ZBrush has various disadvantages in topology and its uses for animation. Most notably it creates very high resolution sculpts that have millions of polygons that use poor topology and can not be animated. Thus models have to be retopologized in order to be animated for games or film. Although it has disadvantages ZBrush is very good for sculpting concepts of characters and part of all characters is anatomy which is a important particularly in humanoid characters that all have the same basic anatomical structure.

Anatomical sculpting for characters begins with creating bony landmarks which are pieces of the sculpture that show important bones such as the scapulas, clavicle, and rib cages. On the back the spinal column is significant as it shows through muscle protrusions of specific vertebrae can be seen. These bones and others are important to add to the base mesh first because they are the basis for all of the musculature that is sculpted on top of the torso. These landmarks allow for proper proportions and placement of muscles on top of the bones. The bones also allow the muscles to be attached to something specific on the body and also allow for the muscles to flow in the correct direction and shows how the various muscles work together in the body. While creating the bony landmarks seems like too much detail to add to a base mesh it is very important to remember when creating proper anatomy. While the landmarks are helpful for placing musculature it is also important since it shows through the musculature and makes a sculpt seem more real.

Following the placement of landmarks musculature is added to the sculpture to create different amounts of realism and create the type of character in the model. The main muscle forms for the torso include the pectorals, abdominals, and the deltoids. These are major muscle groups that are visible on sculpts of males though the most important thing is not that the muscle is placed correctly, but rather how muscles are woven together on a sculpture. This process of muscles is usually less intensive than adding bones since the muscles have a foundation to be formed upon. Following muscles a slight amount of smoothing will be needed in order to add an extra level of refinement to the piece.

In addition to the importance of anatomical sculpting for the body facial anatomy is very important to create strong expressions, and make a face look natural. Important portions of the

face that are more difficult include the skin that comes off the nose. This is difficult because of how it flows on a person or in this case a 3D model. Often the skin that flows off of the nose and into the rest of the face can be cheated in 2D art, but in 3D art the skin has to all flow correctly since it is all visible. Part of the key to creating this flow is examining the peaks and valleys of the face that allow for the creation of correct flow in the face. I created an angry facial bust in ZBrush to practice these basic anatomical concepts in order to learn more about facial sculpting. This sculpt turned out well, but the jawline has a few issues and in the future I will not use the clay build up brush on the jaw. The clay build up creates too much of a stroke for the jawline, so I will be working on the jawline with inflate and move brushes. As a whole facial sculpting is very important to a lot of different 3D disciplines and is something I will continue to work on throughout this year.

