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# Choppy Forgeries: A VR Sculpting Game

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# Choppy Forgeries: A VR Sculpting Game

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Choppy Forgeries is a fast-paced sculpting game made for virtual reality headsets. The game is intended to give players the opportunity to practice and appreciate the skills associated with artmaking and sculpture (Seeley and Kozbelt, 2008, 163–166) in a fun, light- hearted, competitive context. The game also requires players to closely examine and engage with famous classical sculpture from art history through its gameplay.

## I. SETUP

In Choppy Forgeries, the player is first presented with abstracted recreations of classical sculptures in voxel form. There are currently three to choose from: Myron's Discobolus, Michelangelo's David, and The Thinker by Auguste Rodin. 3D models of the sculptures were downloaded from the Scan the World project (MyMiniFactory, n.d.) and abstracted into voxels using 3D modeling software. The player can choose from low, medium, and high-resolution settings, determining the number voxels in each recreation, loosely mapping to difficulty.

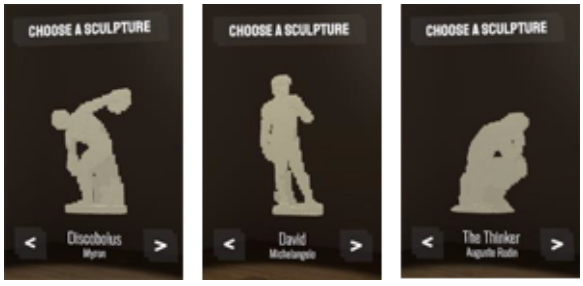


*Fig. 1. Three classical sculptures the player can choose to copy: Discobolus, David and The Thinker.*

## II. CONFIGURATION

Prior to playing, the player can choose their "sculpting hand" on a configure screen available from the main menu to determine which hand they sculpt with. The configuration menu also allows the player to rearrange the initial position of the goal sculpture and the player's copy to ensure a comfortable in-game experience and facilitate stationary setups. Players can also practice moving the sculptures as they would within the game, rotating both sculptures with the joystick on their sculpting hand's controller, or moving both sculptures with the joystick on the other.

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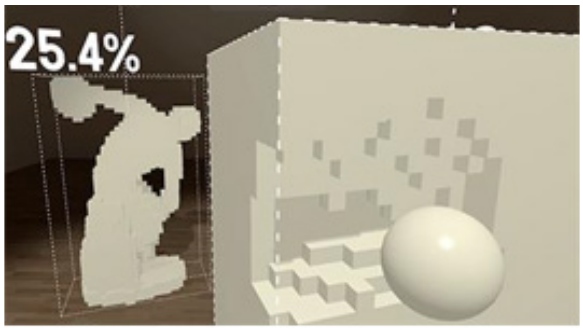


*Fig. 2. A player starting to copy Discobolus using their hand as a carving tool. A percent accurate score is shown.*

## III. GAME PLAY

After pressing play, the player sees the classical or "goal sculpture" they selected, a rectangular slab of the same size and resolution, a timer, a percent accurate score, and a "hint" time. The player must use their hand, represented as a sphere, to carve a copy of the goal sculpture as accurately as possible in three minutes. The player carves by moving their hand over the slab. Any voxel the hand overlaps will disappear. The percent accurate score is determined by the number of correctly placed voxels divided by the number of voxels in the slab.

During play, players can rotate or move the sculptures by using the controllers' joysticks. Players can resize their carving tool by using the controller's primary button and dragging towards/away from themselves. They can also use their "hint" by pressing the trigger, which momentarily replaces their sculpture with the original, allowing players to immediately see the differences between the two. The player can only use the hint for three seconds, so they must use it sparingly.

## IV. CONCLUSION

Choppy Forgeries challenges players to recreate classical sculpture from art history in virtual reality. In doing so, it gives the player an appreciation of the artform and the opportunity to practice the perceptual and motor skills associated with it.

**Keywords**—*virtual reality, sculpture, art history.*

## V. REFERENCES

William Seeley and Aaron Kozbelt. 2008. "Art, Artists, and Perception: A Model for Premotor Contributions to Perceptual Analysis and Form Recognition." Philosophical Psychology 21(2): 149-171. https://doi.org/10.1080/09515080801976573.

MyMiniFactory, "Scan the World, the open-source museum", n.d., Accessed October, 2021. https://www.myminifactory.com/scantheworld/