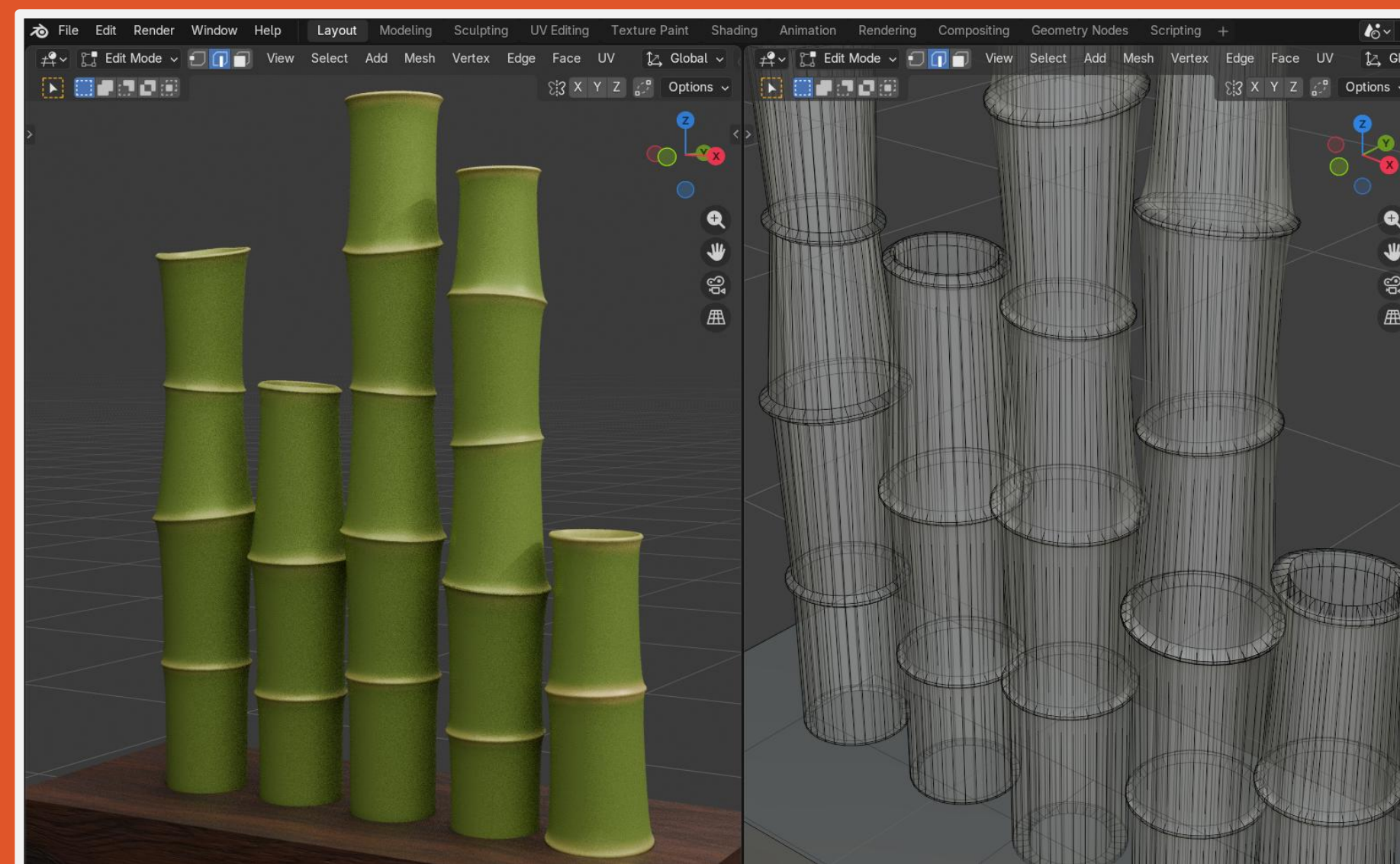


ART DEVELOPMENT

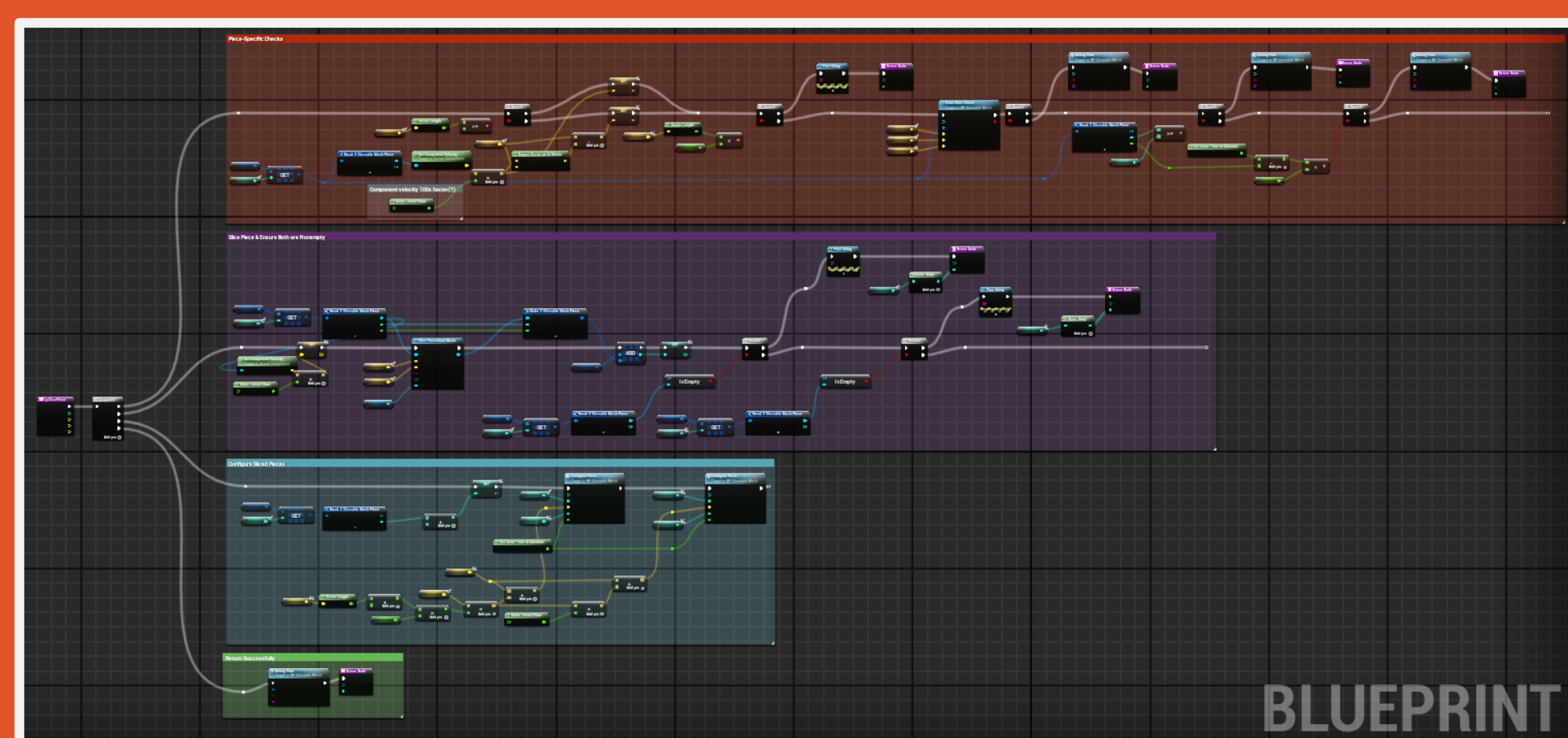
- The Art Development team defined the aesthetic vision of VRyu, focusing on 3D asset creation, staging, lighting, texturing, and more.
- Assets were modeled and animated in Blender, with the game's textures being a mix of preexisting free-to-use PBR and custom textures.
- Models, materials, and animations were exported and tuned for realtime rendering in Unreal Engine.



Above: game assets viewed in Blender

GAME DEVELOPMENT

- The Game Development team designed and programmed VRyu's core gameplay systems, mechanics, and hardware integration in Unreal Engine.
- Version control for code and assets was done through Perforce, Unreal's industry standard version control software.
- Game programming was developed with Blueprints, a node-based language, and used many polymorphic techniques to generalize cutting mechanics.



Above: a section of slicing code in Unreal



VRyu

Virtual Reality Training Simulator for Traditional Japanese Swordsmanship



Above: wooden bokken, scroll, and photos of real-life training

SWORD ARTS

VRyu is designed around a central verb: **cut**. You practice by **cutting** bamboo, you **cut** flying watermelon, you **cut** your humanoid opponents made of wood, and when they try to attack, you **cut** them right back! The sword arts are about focus, practice, and attention, which is why we have designed every player interaction to center on bettering their own **cutting** skills.



Above: the ending tea room scene

OVERVIEW

The Japanese sword arts, **Kenjutsu**, are a difficult practice to enter due to a lack of approachable entry points. **VRyu** is an answer to this problem, a way to introduce beginners to the field in a fun, **gamified** way. Through tightly designed gameplay and tasteful visuals, we aim to spark **curiosity** and **excitement** for this traditional martial art and its associated culture.

Download it for yourself at osu-vryu.github.io/



Above: swords the player can equip

Right: a mannequin enemy the player battles



AESTHETICS

The graphics of the game were custom made, inspired by a mix of authentic iconography from **Japanese culture**. VRyu resides where one might traditionally learn Kenjutsu, the famed dojo, which contains an assortment of decorative details, from custom **calligraphic scrolls** to a meditative **tea room** to the player's choice of several stylized, **bespoke katanas**.



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