

1. Record Nr.	UNINA9910967010303321
Autore	Li Jingtian
Titolo	Creating games with Unity, Substance Painter, & Maya : models, textures, animation, & code // Jingtian Li, Adam Watkins, Kassandra Arevalo, and Matthew Tovar
Pubbl/distr/stampa	Boca Raton : , : CRC Press, , 2021 ©2021
ISBN	1-00-305049-2 1-000-28201-5 1-003-05049-2 1-000-28197-3
Edizione	[1st ed.]
Descrizione fisica	1 online resource (769 pages)
Disciplina	778.5347 794.81526
Soggetti	Animation (Cinematography)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Cover -- Half Title -- Title Page -- Copyright Page -- Dedication -- Table of Contents -- Acknowledgments -- Authors -- Introduction -- Chapter 1: Maya Modeling -- Basics of Navigation -- Rendering -- What is a 3D Model? -- Translation -- Anatomy of a Model -- Edge -- Vertex -- Face -- Object Mode -- Normal -- Modeling Rules -- Polycount -- Topology -- Size and Proportion -- Basics of Modeling -- Tutorial 1.1: Modeling a Security Camera -- Other Useful Commands -- Grow and Shrink Selection -- Extract Faces -- Combine and Separate -- Create Cables or Pipes -- Extrude Along a Curve -- Duplicate, Duplicate with Transform -- Duplicate Special -- Mirror -- Center Pivot -- Change Pivot -- Snapping -- Hide Model -- View Control -- Assignments -- Geometry Errors -- Tutorial 1.2: Modular Set Pieces -- Grid -- Create a Base Floor -- Conclusion -- Chapter 2: Maya Set UV -- The UV Editor -- UV Points -- UV Tiles -- Cut UV -- The Problem -- UV the Floor -- Texel Density -- Chose the Right Texel Density -- UV the Pod -- Conclusion -- Chapter 3: Set Texturing -- PBR -- Baking -- Tutorial 3.1: Texturing Modular Pieces -- The Substance Painter UI --

Navigation -- Light Direction -- Ambient Occlusion -- PBR Material Channels -- Generators -- Levels -- Assignment: Texturing the Rest of the Models -- Conclusion -- Chapter 4: Unity Asset Creation -- Game Engines -- Unity -- Tutorial 4.1: Installing Unity, Visual Studio, and Starting a Project -- A Bit About the Unity UI -- Tutorial 4.2: Exporting Asset from Maya and Substance Painter into Unity -- Rebuilding Materials -- Moving On...For Now -- Tutorial 4.3: Creating Prefabs -- A Bit About Colliders -- Tutorial 4.4: A Bit of Material Adjustment -- Conclusion -- Chapter 5: Unity Level Creation -- A Quick Review on Snapping -- The Long View -- Tutorial 5.1: Level Layout -- Kitbashing -- Tutorial Conclusion.

Tutorial 5.2: Walking Through -- Conclusion -- Postscript -- Chapter 6: Lighting and Baking -- What It Means for You? -- Unity Lights -- Tutorial 6.1: Lighting the Scene -- The Power of Prefabs -- Make Way for Cookies! -- Baking -- Camera Adjustments and Postprocessing -- Final Challenge -- Conclusion -- Chapter 7: Character Modeling -- Concept Art -- Style Sheets -- Workflow -- Polycount -- Setting Up Image Plane in Maya -- Eyeball -- Create the Eyelids -- Create the Eye Socket -- Forehead and Nose -- Mouth -- Rest of the Head -- Ear -- Neck -- Internal Structures -- Body -- Hands -- Hairs -- Weapon -- Final Clean Up -- Conclusion -- Chapter 8: UV Mapping -- UV Mapping -- Tutorial 8.1: Character UV Mapping -- Mesh Inspection and Cleanup -- Body UV -- Eye UV -- Hair UV -- Garment UV -- Conclusion -- Chapter 9: Character Texture Painting -- Skin Texturing -- Hair -- Eye -- Upper Body -- Pants -- Belts, Straps, Pockets, Holster, and Boots -- Gloves -- Watch -- Gun -- Other Details -- Export Textures -- Conclusion -- Chapter 10: Rigging -- Joint Behavior -- Joint Placement -- Hip, Spine, Neck, and Head -- Tutorial 10.1: Create the Joint Chain for Our Character -- Joint Placement -- Left Arm -- Joint Setup -- Right Arm -- Joint Setup -- Legs -- Foot Roll Rig -- Setting Up the Foot Hierarchy -- Tutorial 10.2: Bind and Paint Skin Weighting -- Painting Skin Weights -- Mirroring the Skin Weights -- Copying the Skin Weights -- Tutorial 10.3: Set Up Arm Controls -- Constrains -- IK Arm Setup -- Tutorial 10.4: Finger Controls -- Tutorial 10.5: Clavicle and Body Controls -- Gun Joint -- Final Hierarchy -- Conclusion -- Chapter 11: FPS Animation in Maya -- FPS Animation Overview -- Referencing the Character Rig -- Save Files -- Display Layers -- Camera Configuration -- Game Animations -- Creating a Pose -- Weapon Movement Simplified -- Two-Handed Weapon Setup.

Frame Rate -- Idle Animation -- Cleaning Up Odd Jitters -- Ease-In's and Ease-Out's -- Graph Editor -- Keywords Aside -- Attack Animation -- Walk Animation -- "Got Caught" Animation -- Keywords Aside -- Reload Animation -- Considerations and Conclusion -- Chapter 12: Auto Rigging -- Mixamo -- Tutorial 12.1: Mixamo-Based Auto Rigging and Mocap -- Substance Painter Output -- Putting it All Together -- Setting Up the Animator -- Conclusion -- Chapter 13: Introduction to C# -- C# -- C# in Unity and Visual Studio -- Tutorial 13.1: Hello World! -- Tutorial 13.2: Opening Doors -- DOTween -- Variables -- A Final Note: Unity's API -- Conclusion -- Chapter 14: FPS Animations -- Tutorial 14.1: First Person Animation in Unity -- Maya Animation Preparation -- Baking Keys -- Substance Painter Output -- Putting It Together in Unity -- Importing and Adjusting Animation Rigs -- Animations in Unity -- Controlling Animations -- Controlling Animator with Code -- Tutorial Conclusion -- Chapter 15: Raycasting and Render Textures -- Tutorial 15.1: Animating the Camera -- Tutorial Conclusion -- Tutorial 15.2: Raycasting -- Tutorial Conclusion -- Tutorial 15.3: Camera Extras -- Conclusion -- Chapter 16: Weapons -- Tutorial 16.1: Grenade Launcher -- Making a "Smart" Grenade --

Tutorial Conclusion -- Tutorial 16.2: Firing the Gun and Introduction to Ammo -- Tutorial Conclusion -- Tutorial 16.3: Raycasting For Accuracy -- Problem and Solution -- Conclusion -- Chapter 17: AI -- Tutorial 17.1: Creating an AI-Based "Tic-Tac" -- Tutorial Conclusion -- Tutorial 17.2: Using Animations (Animator) With Navmesh -- Preparing FBX Animation Files -- Placing Animations in the Animator -- Changing the Triggers and Booleans Via Script -- Tutorial Conclusion -- Tutorial 17.3: Animation Events and a Working Weapon -- Creating the Function to Fire -- Animation Events -- Awkward Implementation. Tutorial Conclusion -- Tutorial 17.4: Assembling it All in Mainlevel -- Conclusion -- Chapter 18: Health and Inventory -- Tutorial 18.1: Player Health Script -- Tutorial Conclusion -- Tutorial 18.2: Building the AI Health System -- Tutorial Conclusion -- Tutorial 18.3: Ammo -- Reloading Ammo -- Conclusion -- Chapter 19: UI -- Screen Space -- Tutorial 19.1: Reticle, Ammo, and Health UI -- Health Indicator -- Tutorial Conclusion -- Tutorial 19.2: Using Code to Effect UI Elements -- Case Switches or Switch Statements -- Health UI -- Tutorial Conclusion -- Tutorial 19.3: Buttons and Moving Between Scenes -- Interactive Buttons -- Tying Up Some Loose Ends -- Conclusion -- Chapter 20: Boss Battle -- Tutorial 20.1: Final Boss -- Boss Health Bar -- Final Theatrics -- Conclusion -- Index.

Sommario/riassunto

This tutorial-based book allows readers to create a first-person game from start to finish using industry-standard (and free to student) tools of Unity, Substance Painter, and Maya. The first half of the book lays out the basics of using Maya and Substance Painter to create game-ready assets. This includes polygonal modeling, UV layout, and custom texture painting. The book then covers rigging and animation solutions to create assets to be placed in the game, including animated first-person assets and motion-captured NPC animations. Finally, readers can put it all together and build interactivity that allows the player to create a finished game using the assets built and animated earlier in the book. Written by industry professionals with real-world experience in building assets and games Build a complete game from start to finish Learn what the pros use: construct all assets using the tools used at game studios across the world All software used are free to students When complete, students will have a playable version of an FPS game Jingtian Li is a graduate of China's Central Academy of Fine Arts and New York's School of Visual Arts, where he earned an MFA in Computer Art. He currently is an Assistant Professor of 3D Animation & Game Design at the University of the Incarnate Word in San Antonio, Texas. Adam Watkins is a 20-year veteran of 3D education. He holds an MFA in 3D Animation and a BFA in Theatre Arts from Utah State University. He currently is the Coordinator and Professor of the 3D Animation & Game Department at the University of the Incarnate Word in San Antonio, Texas. Cassandra Arevalo is an instructor of 3D Animation & Game Design at the University of the Incarnate Word in San Antonio, Texas. She previously worked as an animator at Immersed Games. Matt Tovar is an industry veteran animator. He has worked at Naughty Dog, Infinity Ward, and Sony Interactive on such games as The Last of Us, Call of Duty: Modern Warfare, and most recently Marvel's Avengers with Crystal Dynamics. He is an Assistant Professor of 3D Animation at the University of the Incarnate Word in San Antonio, Texas.
