

John Chandler Welter

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English (Native) | Norwegian (Spoken, Written) | Japanese (Spoken, Written)

SUMMARY

Experienced programmer with 6+ years in game development and credits on 10 titles, specializing in animation and gameplay programming. I have deep experience in Unreal, Unity, and Godot, creating and owning systems for animation and locomotion control handling, graphics programming, UI, gameplay, tools, and cinematics. I have created many custom solutions for animation and gameplay systems that go beyond what the base engine could handle, such as custom collision for zero g flight in Unreal and custom IK in both Unreal and Godot for designer friendly control of any chain of bones. I've worked on all types of combat, from on-rails, to RTS style, to real-time combat against large groups of enemies, and turn-based RPG combat with QTE and animation based actions. I've created many dynamic graphics solutions, including simple dynamic materials, modular VFX, as well as more complicated data-driven terrain shaders and wall cutaway effects. I also have experience with optimization, finding bottlenecks and generating solutions to improve performance.

SKILLS

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|-----------------------------|----------------------------|--------------------------------|
| • C++/ C# | • Animation Programming | • 2D and 3D Math |
| • Unreal, Unity, Godot | • Graphics Programming | • Tools Programming |
| • Designer Friendly Systems | • Architecture Refactoring | • Performance Tracking |
| | | • Forklift Certified (T1 - T5) |

EXPERIENCE

Catfort Software

Feb. 2025 – Present

Owner | Contract Animation Programmer

- Created a modular, data-driven VFX system in Unreal for cutscenes at the start of online matches for *Enginefall* that generates a holographic visual based on the level data, avoiding the need for multiple bespoke sequences.
- Simplified the job of designers by creating a generic gameplay ability that allowed for interactions between players and objects in the world with selectable animations per interaction.
- Streamlined the animation import process in *Ascent Of Ashes* by creating a data-driven animation tree that was built at runtime, allowing animations to be added and removed simply through text.
- Improved player visibility by creating a system to cutaway walls, doubling up as a system to keep track of individual rooms for later features like beauty score and ownership.
- Improved visuals and performance by creating a data-driven terrain shader, allowing terrain types to bleed into adjacent tiles and to only use a single material instance.
- Expanded on *Ascent Of Ashes*' features by creating the base system for combat and hunting, handling melee and ranged weapons.
- Improved long range combat animation by creating systems for aim correction based on distance to target and weapon range.
- Removed the need for unique animations for each weapon by creating a custom IK solution to fix hand placement.
- Optimized graphics and CPU processing by merging meshes and taking advantage of batch rendering.
- Saved 50 hours and \$125K in development costs for a solo indie developer on *Hail Macbeth* by advising and reworking plans for the core animation requirements for gameplay and cinematic animations.
- Upgraded and refactored the engine and systems of *Max The Elf* to optimize memory use for low end machines, allow for native handling and rebinding of all compatible controllers, reduce the necessary maintenance of assets across levels and animation sets, and allow for customized connection to external peripherals for a more immersive player experience.

Deck Nine Games

Mar. 2020 – Dec. 2024

Technical Artist | Animation Programmer

- Created, owned, and maintained player control, animation, and camera systems on all games I shipped with Deck Nine, both in blueprints with custom nodes and in pure C++.
- Simplified, perfected, and expanded the systems for blending characters between cinematics and gameplay, as well as removing single frame pops on camera cuts.
- Fostered a collaborative work environment that allowed for quick updates and fixes by working closely with all departments to bridge communication and needs between art and tech.
- Gave designers more artistic control by creating custom, streamlined solutions for camera rigs with stackable modifiers and IK solvers.
- Created the ability to have 6DOF zero g flight and arbitrary floor and wall collision by making custom collision handling that allowed for collisions with multiple walls, and collision rotation.
- Improved player immersion by creating dynamic visual effects for thrusters, landing location cursors, and diegetic information displays.
- Achieved better visual fidelity, reduced clipping with character accessories, and removed the need for more unique animations by creating control rigs to handle animation corrections and combinations.

- Created a more life-like character by creating a system of facial animation based on reaction to stimulus in the game world, as well as working on custom look-at solutions.
- Created a more intuitive combat experience when against large groups of enemies by building a soft and hard toggleable targeting system for real time combat, including enemy priority, attention tethering, and camera handling.
- Helped experiment with rapid content creation by creating a system for running a real-time, data-based dialogue that included full capture animation with synced audio, reaction animations, looping idles, and camera control that did not require more than minimum pre-engine cleanup.
- Helped remove processing overhead by converting blueprints to C++.

Clemson University

May 2016 – Jul. 2016 & Summer 2019

Research Assistant (2019)

- Engineered a physically based hand-interaction simulator using Unity's built-in physics to capture force-based motion (grip release), matching tracked hand movements

Research Assistant (May 2016 – Jul. 2016)

- Created an immersive VR experience to simulate riding in a battle mech, assisting in level design and layout, creating signposts and HUD design, and composing the backing track and SFX.
- Coded many of the scripts for the game mechanics, including the drones, intro, level section transitions, and aiming behavior.
- Optimized performance by defining a chunk loading system between rooms.
- Presented the simulation at SIGGRAPH 2016.

CREDITS

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|---|--------------------------|---|
| • Life is Strange: True Colors | • Hail Macbeth | • Cinematic combat focused narrative adventure game (Unreleased) |
| • The Expanse: A Telltale Series | • Ascent of Ashes | • Real-time combat focused narrative adventure game (Unreleased) |
| • Life is Strange: Double Exposure | • Enginfall | |
| • Life is Strange: Reunion | • Max The Elf | |

Additional Projects

fMOTHER Forever (Jul. 2026 - Present)

- Creating a Procedurally generated, explorable MOTHER map in Unity.
- Expanding on my abilities and understanding of customizing the Unity editor through custom importer and property attribute scripting

QTE RPG (Working title) (Feb. 2026 - Present)

- Expanding my personal abilities in Unreal by creating a small game project exploring interactive RPG battle mechanics that are tied to animations and gameplay actions.
- Engineering a QTE system that handles the communication between player controls, animation cues, and UI commands.

PictoPuzzler (Jan. 2025 - Present)

- Creating a homebrew NES nonogram game in 6502 Assembly.
- Streamlining puzzle creation through a custom tool to draw puzzles and generate binary files automatically.
- Simplifying music authoring and playback testing by building a custom NES 2A03 chip emulator and tracker.

Narrative and Environmentally-based Character Animation System for Video Games (Jan. 2019 - Apr. 2019)

- Modeled, surfaced, created blendshapes, and animated a game character in Maya for Unity, making a set of animations to match different environmental reactions and points in the narrative arc.
- Engineered a system to switch between animation and reaction sets in the narrative arc.
- Created extensive customization by building shaders for character's skin, clothes, and eyes.

Ship VR (Jan. 2018 - Apr. 2019)

- Created a virtual reality (VR) starship fighting simulation in Unity, using procedural terrain to generate an infinitely looping level allowing seamless warping back to the point of origin without losing floating point precision at far distances.
- Built an additive control scheme using 2 control sticks attached to a motion simulator.
- Defined custom particle effects and shaders portraying a minimal vector style with distance terrain darkening for a seamless appearance.
- Implemented work-arounds in the Unity physics engine to enable additional artistic control of collisions.
- Created a custom torsional spring-based rotation model to increase flight realism.

EDUCATION

Clemson University

Aug. 2017 – May 2019

Master of Fine Arts, Digital Production Arts

Clemson University

Aug. 2013 – May 2016

Bachelor of Arts, Computer Science