

Joshua Krauchi

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SKILLS

Tools: Unreal Engine 4 / 5, Unity, Godot, Perforce, Git, Slate UI, Wwise, React, Node.js, MongoDB, DirectX 12
Languages: C++, C, C#, Python, Java, HTML / CSS, JavaScript, Ruby, Autolt

INDUSTRY EXPERIENCE

HELLBENT GAMES

June 2022-June 2023

Gameplay / Tools Developer (Unreal Engine) steampowered.com/app/611360

- Used Behavior Trees and EQS to implement AI systems for four different enemies.
 - Allowed for the inclusion of bot matches against enemy AI.
 - Used Behavior Trees to determine how to react to different sounds, weapons, and engage a player.
 - Created EQS queries to retrieve the best target character and best cover position from danger.
 - Implemented a noise event system integrated with Wwise for the AI system to perceive sound.
- Eliminated shader compilation stutters by creating a Pipeline State Object generation tool.
 - Saved ~2 hours of manual work every time a new update was released.
 - Upon launch, the tool surveys every piece of content, including maps and cosmetics, in order to build a PSO cache to be included with each update of the game.
- Developed a software packaging tool using C++ and Slate UI.
 - Included options for building for specific platforms and logging in to an online storefront with credentials.
 - Provided a simple interface for non-coders to build the editor and run the game.
 - Allowed for easy testing when fixing bugs that only appear under specific circumstances.
- Refactored the weapons system to have a more uniform object-oriented design.
 - Extracted similar functionality into a separate interface for chargeable weapons.
 - Simplified logic in other pieces of code that relied on weapons of certain subtypes.

PROJECTS

DIRECTX 12 SOFTWARE DEVELOPMENT ENGINE

April 2022

Engine Developer (DirectX 12) github.com/notyalcs/LBD_Engine

- Used the DirectX12 rendering pipeline to create a full software project.
- Coded an API based on a component-oriented architecture which allowed for the creation of reusable components, such as for rendering and physics.

SPOOKY HORROR GAME

January 2022

Developer (Unreal Engine) steampowered.com/app/1764910

- Self-developed using Unreal Engine 4.
- Integrated AI to power features such as enemy audio/visual perception, patrolling, and decisions.
- Designed and implemented an inventory system, gun mechanics, and randomized spawning logic.

EDUCATION

BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

Graduated 2022

Computer Systems Diploma

3.7 GPA

- Helped organize two coding events as VP of Events for Coding for All, an educational club.

Hobbies: Gaming, piano, running, anime, music, writing.

Other: Published a children's book. 100% completed 30 games including Skyrim.