
Abby Welsh

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Gameplay & Graphics Engineer

Seattle, WA

Generalist Engineer with particular expertise in rendering engine architecture, systems bridging the gap between gameplay and graphics, real-time GPU-driven simulation, and developer-facing workflows. Experienced in networked gameplay systems and multi-platform live service projects. Previously the particle simulation, VFX tech, and in-engine debug workflow expert at Bungie.

WORK EXPERIENCE

Bungie, Inc

- Supported and shipped 5 Annual Expansions and 20 Seasonal Expansions for Destiny 2.
- As a member of artist and designer focused teams, balanced the needs of developing upcoming content, supporting live content, and upgrading systems to eliminate tech debt.

Graphics Engineer – June 2021 - June 2026

- Maintained and upgraded Tiger's graphics engine, including planning and implementing framework and feature upgrades driven by customer needs, supporting the live game, and platform-specific debugging and certification work.
- Became the expert on the Tiger Engine's particle simulation and VFX tech, including leading efforts to upgrade its capabilities to support gameplay-focused VFX content, maintaining the systems through years of live service demands, and shepherding other engineers working in the area.
- Researched, planned, and drove a 15 month initiative to upgrade our developer-facing workflows to use Dear ImGui. This work significantly improved iteration times, improved tool discoverability, and reduced workflow-related developer fatigue across Destiny 2.
- Planned and drove a cross-project and cross-team initiative to upgrade our internal editor toolset to support WYSIWYG rendering from unbaked content, drastically reducing the need for round-trips to the game and improving the quality and speed of map development.
- Performed tech art work as needed, including stylized rendering prototyping, VFX prototyping, and authoring the procedurally rendered loading animation for Marathon.

Gameplay Engineer – May 2020 - June 2021

- As a member of the Shared Engineering team, regularly jumped into new areas, ramped up quickly, and addressed cross-area problems.
- Debugged complex networking synchronization and lifetime issues across multiple clients and servers in complex multiplayer content.

VOLUNTEER EXPERIENCE

Recharge Gaming League – rgl.gg – 2019 - 2024

- As a Division Admin and Assistant Head Admin, managed the administration of North America's premiere competitive Team Fortress 2 league. Handled a variety of administrative tasks, including ruleset development and technical writing, dispute resolution, and league PR and public communication.
- As a Developer, engineered and maintained RGL's matchmaking infrastructure.

Canada at Midnight – *a Vampire the Masquerade LARP troupe* – 2025 - present

- As Assistant Storyteller, manage collaborative storytelling and writing for a monthly game of thirty people as part of a team of four. Duties include administration, data handling, community communication & management, creative writing, narrative design, prop & makeup work, and improvisational acting.

EDUCATION

Ithaca College – *Bachelors of Science in Computer Science* – September 2016 - May 2020

Minors in Graphic Design and Mathematics

SKILLS

C++, C#, Python, Java, HLSL, GLSL, Linq

Unreal Engine, Godot, Proprietary Engines

RenderDoc, PIX, Razor, Dear ImGui, RAD Telemetry, Blender

DirectX 11 and 12, OpenGL, Vulkan, Xbox and PlayStation development workflows

Jira, TFS, Perforce, Git, Windows, Linux, Microsoft and Adobe software