Jim van der Heijden

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Portfolio: https://github.io | LinkedIn | Github: https://github.com/J111M

Skills

- Vulkan, PlayStation 5, DirectX 12
- C++, C#, HLSL
- Visual studio, CMake, Github, Git, Perforce, Unreal, Unity, RenderDoc
- API abstractions, Optimizing, Debugging
- Researching, Teamwork, Scrum, Task tracking and estimation, Problem solving mindset
- Dutch (native/fluent), English (fluent)

Education

Breda University of Applied Sciences   Netherlands, Breda
Creative Media and Game Technologies, Bachelors Programming   2023 - Present

SintLucas   Netherlands, Eindhoven
Game developer, MBO-4   2019 - 2023

Projects

Firefly | Custom DirectX 12 and PlayStation 5 Renderer   (Year 2)

- **Implemented graphics features for the PlayStation 5**, These features are deferred rendering, PBR, shadow mapping, HRD, post process effects and focusing on performance.
- **Worked on Abstracting both API's** to make it easier to develop new features.
- **Integrated our renderer into 2 other engines**, where I focused on implementing requests they had. One engine was focused on FPS and the other on roguelikes.

Ocean Simulation Based On J. Tessendorf Paper | PlayStation 5   (Year 2)

- **Conducted research on state of the art Ocean rendering** and implementing a real-time, physically based simulation into my custom PlayStation 5 renderer.
- **Profiling tests with appropriate debugging tools,** to identify bottlenecks for both CPU and GPU.

Godot Hybrid Hardware-Accelerated Ray Tracing | Vulkan   (Year 3)

- **Adding a new rendering pipeline** within a large, existing engine ensuring smooth integration.
- **Adapting and following the Godot coding style** to maintain consistency in the codebase.
- **Developed Hybrid reflections,** enhancing visual fidelity but still preserving the renderer's original appearance.