

➤ Gaëtan MONNIER

Graphics Programmer

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Personal profile

Over five years of experience making games, and over three years of working experience specialized as a graphics programmer.

Currently mostly working on console and PC ports, as well as codevelopment with other studios, at Virtuos Cergy, near Paris.

Known as determined, hard working, highly motivated, reliable, logical, curious and with a positive attitude.

Summary of Key Skills & Strengths

- ∞ **Programming:** C++, C#, Java.
- ∞ **Platforms:** PC, PS4 (+Pro), XB1, VR, mobile.
- ∞ **Rendering APIs:** DX11, GNM, DX12, OpenGL.
- ∞ **Development:** Multi-threading, CPU/GPU, OOP, Git/P4.
- ∞ **Debugging/Profiling:** RenderDoc, NSight, Razor, PIX, Telemetry, GPUView.
- ∞ **Game Engines:** Unreal 4, Unity 5, Anvil.
- ∞ **Softwares:** Blender, Photoshop, Substance.
- ∞ **Languages:** French (native), English (fluent), Spanish (beginner).

Professional projects

2019 - Present: Ongoing projects

(Virtuos)

- ∞ Cubemap relighting.
- ∞ DX12 port.
- ∞ Low level PS4 GPU optimizations.
- ∞ Monoscopic far field rendering.
- ∞ Streaming optimizations.

2018: Assassin's Creed: Liberation Remastered

(Virtuos)

Porting and improving the visual quality of a 2012 PS Vita game to PC, PS4 and XB1.

- ∞ Total PBR conversion:
 - o Changed rendering to support physically based lighting model and materials.
 - o Interaction between Anvil and external tools (Substance Designer, Photoshop).
 - o IBL and local cubemaps.
- ∞ Global illumination with dynamic time of day.
- ∞ Post processes: Motion blur, TAA, lens flares.
- ∞ Clutter instancing.
- ∞ Low-level shader optimizations on PS4.
- ∞ Back and forth with the Art Team to satisfy their needs.



2017: L.A. Noire: The VR Case Files

(Virtuos, in collaboration with Video Game Deluxe and Rockstar)

Porting a PS3/360 era 3rd person game to PCVR.



- ∞ Refactoring of the GFX engine:
 - o Multithreaded rendering.
 - o Deferred command list execution.
 - o Instanced stereo Rendering.
 - o MSAA.
- ∞ Implementing various VR APIs (OpenVR, Oculus).
- ∞ Small graphical improvements (God Rays, Smog, SSAO).
- ∞ Many optimizations to reach and maintain 11ms target.
- ∞ CPU and GPU profiling on PCVR.

2016: Assassin's Creed: The Ezio collection

(Virtuos)

Porting three AAA games (Assassin's Creed II, Brotherhood, and Revelations) PS3/360/PC to new consoles PS4/XB1.

I mainly worked on Assassin's Creed II for PS4.

- ∞ Porting game to PS4/GNM
- ∞ Upgrading existing engine (Anvil) on Assassin's Creed II :
 - o Refactoring of the GFX engine.
 - o Multi-threaded rendering.
 - o Brand new and improved post-effect shaders.
 - o HDAO implementation.
- ∞ Implemented 4K checkerboard on PS4 Pro for the three games.
- ∞ General bugs fixing and optimizations.



Education & Qualifications

2013 - 2015

University of Maine's Institute of Technology, Laval, FRANCE

Graduated with a two year-technical course specializing in computer science.