

➤ Gaëtan MONNIER

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Personal profile

Young and highly dynamic graphics programmer located at Cergy, France.
Over three years of experience working as a game programmer.
Graduated in computer science at the Laval Institute of Technology, with the French equivalent of HNC.
Currently working 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++, C#, Java.
- ∞ **Platforms:** PC, PS4 (+Pro), XBl (+Scorio and X), VR, mobile.
- ∞ **Real time rendering:** Direct3D 11, GNM, OpenGL.
- ∞ **Shaders:** Vertex, Pixel, Compute. (HLSL, PSSL, GLSL).
- ∞ **Development:** Multi-threading, profiling, OOP, Git / P4.
- ∞ **Engines:** Unreal, Unity, Anvil.
- ∞ **Debugging tools:** RenderDoc, NSight, Razor, PIX, Telemetry.
- ∞ **Project management:** Planning, risk management, Agile (Scrum, XP).
- ∞ **Languages:** French (mother tongue), English (fluent), Spanish (beginner).

Professional projects :

I am a Graphics Programmer in a very ambitious company. I want to increase my knowledge on computer graphics and improve my skills.

Current projects

(Virtuos)

Because of NDA, I am not able to talk into too much details about the projects I have worked on during 2018. Nonetheless, here is a non-exhaustive list of what I did this year:

- ∞ PBR from the ground up: from artists pipeline to the lighting equations
- ∞ IBL with local cubemaps
- ∞ Global illumination with dynamic time of day
- ∞ HDR (tone-mapping and true HDR)
- ∞ Post processes: Motion blur, TAA
- ∞ Clutter instancing
- ∞ Study of wavefront and low-level shader optimizations on PS4
- ∞ Interaction with Texture, Lighting and Technical Artists to satisfy their needs

December 2016 - November 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.

- ∞ Maintaining terribly old code
- ∞ Refactoring of the GFX engine, including multithreaded rendering, delayed commandlist execution, instanced stereo Rendering, MSAA.
- ∞ Implementing various VR APIs (OpenVR, Oculus).
- ∞ Small graphical improvements (God Rays, Smog, SSAO).
- ∞ Many optimizations to reach and maintain 90FPS target.
- ∞ CPU and GPU profiling on PCVR.



May 2016 - November 2016: Assassin's Creed: The Ezio collection

(Virtuos)

Porting three AAA games (Assassin's Creed II, Assassin's Creed : Brotherhood, Assassin's Creed : Revelations) PS3/360/PC to new consoles PS4/XBL. (Mainly Assassin's Creed II on PS4).

- ∞ Porting game to PS4
- ∞ 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.
- ∞ Implementing 4K checkerboard on PS4 Pro for the three games.
- ∞ General bug fixing and optimization.



April 2015 - August 2015 : Internship in a video game company

(Polm Studio)

Developing a strategy / management mobile game (Maya Wars) on Android and iOS.

- ∞ Porting of a native application (C++) to Android mobiles.
- ∞ Mobile specific programming on Android and iOS (E.g. SDKs).
- ∞ Gameplay programming, VFX (E.g. clouds, waves, eagle).
- ∞ Server-side (Javascript) and client-side (C++) programming.



Personal project : Wolfen-Doo

Creating a small 3D game from scratch, heavily inspired by Wolfenstein 3D.

- ∞ Learning about OpenGL and computer graphics in general
- ∞ Learning shaders
- ∞ Conceiving a game engine
- ∞ Gameplay programming
- ∞ 3D Mathematics



Education & Qualifications :

2013 - 2015

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

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

2011 - 2013

Lycée le Mans Sud, Le Mans, FRANCE

French A-Levels (Baccalaureat) in Management Sciences and Technologies