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## SKILLS

### </> Coding

C++ C# UE4 Blueprints Lua JavaScript PHP ASP.NET   
HTML CSS Python Twig

Professional  
 Advanced  
 Intermediate  
 Beginner

### Software

Perforce GIT SVN Unreal Engine 4 Unity Xenko   
SOURCE CONTROL GAME ENGINES  
Premiere Pro After Effects Affinity Designer Flash Pro   
DESIGN & EDITING  
Maya ZBrush Simplygon Visual Studio VMware FileZilla   
3D TOOLS IDEs & MISC  
Word PowerPoint Excel Outlook   
OFFICE

## EXPERIENCE

Learn more about these and other projects on my portfolio: <http://hugo.fyi/>



### Professional Experience



#### Junior Game Programmer

Ubisoft / Massive Entertainment - Malmö, Sweden

January 2018 - Present



#### Game Programmer Internship

Ubisoft / Massive Entertainment - Malmö, Sweden

September 2017 - December 2017



### University Projects

#### Bolt Storm - Gameplay Programming

NHTV University

October 2016 - August 2017

Student project, with around 25 team members. 12 programmers in total. Using Unreal Engine 4.

- Unreal Engine 4 source build to include Xbox One functionality
- Custom finite state machine in C++ with full Blueprints accessibility
- Implemented all player logic in C++ using the custom state machine
- Melee and ranged combat system in C++
- UI implementation & design
- Support to many technical issues within the team
- Animation blending and interpolation features in C++
- Custom collision checking for fast paced combat
- Slot manager for mapping skeleton sockets to weapons
- Aim-assist system with object prioritization

#### Soul Knight - Lead Programming

NHTV University

December 2015 - June 2016

Student project, with around 25 team members. 4 programmers in total. Using Unreal Engine 4.

- Implemented all gameplay mechanics and state machine in C++
- Free-roaming 3rd person camera in C++
- Optimisation for PlayStation 4 using profiler and debugging solutions
- Level streaming framework in C++ on top of UE4's
- Gameplay mechanics using advanced engine features such as procedural meshes
- Planned, keyframed, shot and edited the reveal teaser trailer
- Leadership over other programmers, managing tasks and deadlines
- Built Unreal Engine 4 from source to include PlayStation 4 functionality
- Animation systems through Blueprints and C++
- Light / fog blending based on triggers and splines
- Gameplay design for core mechanics



### Personal Projects

#### Warlock Game Engine

July 2016 - Present

Game engine from scratch in C++, with custom C# build tools that allow for Visual Studio project file generation, code generation, compiling and linking and build rules for each engine 'module'.

- Support for GameCube, PlayStation 3, PlayStation 4, PlayStation Vita, Android, Windows x86/x64, and soon iOS and JavaScript (ASM.JS / Emscripten).
- Early stages, but initial tool and rendering backends for DX11 completed.
- 'Dependency injection' class system
- Entirely modular, each module is a separate Visual Studio project

#### DirectX 11 Renderer

November 2015 - January 2016

Basic renderer using abstracted DirectX 11 API, supports Physically Based Rendering

- Basic implementation of render windows in Qt
- Physically Based Rendering (using pre-existing shaders)
- Input handling for keyboard and gamepad

#### The Runthrough

December 2011 - Present

Music / rhythm action-arcade game. Went through multiple redesigns / rewrites, now working on the final revision using my 'Warlock' engine.

- 'Track Development Tool' - slick level creator with backgrounds effects editor, music scrubbing, login / account / licensing system and more.
- Went from Game Maker to C# to C++
- A lot of hours put into this...

#### Reverse Engineering / Porting 'Beyond: Two Souls'

April 2014 - ?

I was asked to stop working on it by the CEO...

- Reversed class system, type/id registration code
- Reversed Lua bytecode by making a converter for big/little endian
- Implemented a custom Lua framework for auto-generated game scripts
- Implemented custom class system with binary components
- Around 6 full rewrites of my 'port' from the ground up
- Most of the game playable on PC, with models, but no shaders :(
- Reversed and implemented sequences (camera shots, dialog, audio, script events, etc), audio streaming, model / vertex formats, GUI middleware "Menus Master", choice events / branching story, user actions, Lua function handlers, area / scene loading, videos, more?
- Literally boots the game like a PS3 would, natively - not a remake

## EDUCATION

#### 'International Game Architecture & Design'

NHTV Breda University of Applied Sciences, The Netherlands

September 2014 - June 2018

Bachelor of Science (BSc) - graduated cum laude

#### 'Higher General Secondary Education' (HAVO)

The Netherlands

2010 - 2014

## AWARDS



#### Dutch Game Awards 2017

Bolt Storm - Winner Best Student Technical Achievement

I designed and implemented most gameplay systems in the game, from player movement to combat, gameplay scripting, the game's tutorial and more. We were nominated alongside two other projects, from a total of 20 projects.



#### Best Code in a Student Project

Bolt Storm won this award at our University, NHTV Breda University of Applied Sciences, in my 3rd year. There were 7 other projects eligible for these rewards.



#### Dutch Game Awards 2016

Soul Knight - Nominee Best Student Game Design

I was heavily involved in the design process of Soul Knight, designing most of the gameplay mechanics. We were nominated alongside two other projects, from a total of 25 projects.



#### Unreal Engine Community Highlights Feature

Soul Knight was featured in the July edition of Epic Games' community highlights video.



#### Best Code in a Student Project

Soul Knight won this award at our University, NHTV Breda University of Applied Sciences, in my 2nd year, as well as 'Best Art in a Student Project' and 'Best Game' after our first few months of development (after each 'block' awards were given). There were 16 other projects eligible for these rewards.