

Peter Leontev

Unreal Engine Streaming Technologies & Visualization Platforms

Contacts

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Skills

Core: C++, Unreal Engine 4/5, Pixel Streaming, 3D Visualization, Geometry&Texture processing, Game Tools development, Systems design, Algorithms, Data Structures, Debugging, CPU/GPU framerate optimization, Multithreading techniques

Familiar: DCC tools (Houdini/Maya/Blender), C#, Python, SQL & NoSQL Databases, Math, Perforce, Git, SVN, Teamcity

Work experience

Founder, Streaming Technologies & Visualization Platforms Expert

Nov 2019 – Current

at PL Game Tools

I help startups to create Streaming Technologies & Visualization Platforms via Unreal Engine.
My clients & work:

1) Concurrents (US): <https://www.concurrents.com/> (Unreal-based cloud / game content streaming technology)

I led efforts to:

- improve realtime asset streaming (textures / geometry / sounds / animations / skeletal meshes)
 - introduce CPU/GPU optimizations (DirectX) to achieve stable frame rates
 - optimize networking via multithreading approaches (win&linux sockets)
 - implement timeslicing techniques to avoid GPU stalls and hitches
 - enable level streaming optimizations
 - investigate how to extend built-in virtual texturing system to stream texture data from the server
 - add VCS automation to the pipeline
- (UE4, C++)

2) Spherical Studio (US): <https://spherical.studio/> (3D framework for watershed visualization in Los Angeles)

I developed first ever Unreal SDK to create realistic face animations from audio files at runtime.

3) Sber AR/VR Lab (Russia): <https://www.unrealengine.com/marketplace/en-US/product/digital-avatar-service-link> (Face Animation SDK for MetaHumans)

I created Unreal framework to simulate high-quality visual defects on shaving razors based on the client's raw requirements.

(UE4, C++)

4) Conundrum AI (Russia): <https://conundrum.ai> (industrial automation via AI)

I created Unreal framework to simulate high-quality visual defects on shaving razors based on the client's raw requirements.

(UE4, C++, vertex shaders)

5) Evovor (Canada): <https://www.evovor.com> (cloth & fashion design platform)

I developed quite a few Unreal plugins to accelerate the company asset pipeline and the in-house development (cooking & packaging assets, runtime assets importers/exporters), implemented hitch-free image loading at runtime (https://github.com/RaiaN/ue4_runtimeimageloader)

(UE4, C++)

**Senior Unreal Engine Programmer
at [1C Entertainment](#)**

Oct 2018 – Nov 2019

[King's Bounty 2](#). Personal results (Unreal Engine 4, C++, Python):

- 1) Tools development: road editor (texture atlases support, World Composition integration, no Houdini required), realtime blending system for dynamic lighting, FMOD preview support, landscape utilities in open world context
- 2) Engine modifications: landscape tools customization, blueprint snapping support (to speed up level design workflow), occlusion culling R&D
- 3) Codebase adaptation to YWYU ideology to improve development workflow and decrease compilation time (by 2-2.5x)
- 4) Frame rate optimization using built-in CPU/GPU profiling tools to fix Garbage Collection hitches, Async Loading time and Level Streaming bottlenecks
- 5) Build pipeline and CI support, batch processing of game content
- 6) Mentoring new members of the team to increase efficiency of onboarding process

**Technical lead
at Screwdriver Entertainment**

Feb 2017 – Sep 2018

[POSTWORLD](#) is Hardcore Action RPG with non-linear story and possibility to replace character body parts on the fly (Steam, 2018). What I did (Unreal Engine 4, C++ & Blueprints):

- 1) Architecture development of gameplay systems (modular characters, modular weapons, inventory, etc.) and game flow
- 2) R&D of procedural terrain generation and procedural object placement to speed up level design
- 3) UMG UI logic (in-game interfaces)
- 4) Editor extensions and plugins to speed up level design workflow

**Backend Python Developer
at [Panoramik Inc.](#)**

Dec 2015 – Jan 2017

My job responsibilities were:

- 1) Maintenance and support of mobile games backend: [Forge of Gods](#) and [Mighty Party](#) (Flask, Python, GAE, NoSQL + SQL Databases)
- 2) General improvements of the backend logic in terms of performance and scalability, with respect to time complexity, sync/async trade-off (memcache, taskqueues, cron)
- 3) Experimental migration from AppEngine to Appscale (open-source implementation of

AppEngine) to significantly reduce the server costs (based on container-based virtualization techs)

Education

BSc, Applied Math, [Tomsk Polytechnic University](#) (2010 – 2014)

Professional development, Algorithmic Bioinformatics, Saint-Petersburg [Bioinformatics Institute](#) (2014 – 2015)