Peter Leontev

Unreal Engineer Making 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, Unreal Engineer   **Nov 2019 – Current**
at PL Game Tools

I work with startups to create Streaming Technologies & Visualization Platforms via Unreal Engine:

1) Concurrents (US): https://www.concurrents.com/ (Unreal-based cloud / game content streaming technology GPEG)
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 multihreading 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
- design "preview streaming" tool to ease debugging process in high volume content context
- add VCS automation to the pipeline
(UE4, C++)

2) Spherical Studio (US): https://spherical.studio/ (3D framework for watershed visualization in Los Angeles)
I set up Pixel Streaming pipeline and did multiple improvements there (Google Cloud specific), established asset delivery pipeline, investigated multiview rendering in Cesium context and did profiling and optimizations to achieve stable frame rates.

3) Sber AR/VR Lab (Russia): https://www.unrealengine.com/marketplace/en-US/product/digital-avatar-service-link (Face Animation SDK for MetaHumans)
I developed Unreal SDK to create realistic face animations from audio files at runtime.
(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 from scratch.
(UE4, C++, vertex shaders)

5) Evovor (Canada): https://www.evovor.com (cloth & fashion design software EvoFashion)
I designed & developed Unreal plugins that constitute the core of EvoFashion software (cooking & packaging assets, runtime assets importers/exporters, client-server communication, runtime image loading).
(UE4, C++)

Senior Unreal Engine Programmer   **Oct 2018 – Nov 2019**
at 1C Entertainment

King's Bounty 2. Contributions (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   **Feb 2017 – Sep 2018**
at Screwdriver Entertainment

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   **Dec 2015 – Jan 2017**
at Panoramik Inc.

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)