Anton Firszov

Software engineer with focus on complex interactive systems, architecture, software design, performance and user experience.

Personal data

· Year of Birth: 1985
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· GitHub: https://github.com/antonfirsov

Specialties

SKILLS AND INTERESTS

· Expertise in OOP/OOD, deep architectural & design pattern knowledge, ability to develop reusable code following SOLID principles, using TDD methodology
· Continuous learner, OSS fan and contributor. I follow the evolution of the .NET & the C++ ecosystem, continuously evaluating new technical possibilities.
· Strong math & algorithm development skills (geometry, linear algebra, image processing basics, graphs)
· Expertise in profiling & optimization. Familiar with x86/x64 internals.

PROGRAMMING LANGUAGES & TOOLS

· **.NET**
  WPF (+MVVM +Caliburn.Micro), WinForms, WCF, xUnit, Moq, DI-containers, async programming, ASP.NET, DLR & Iron-languages, .NET Core basics
· **C/C++(11)**
  boost, googletest, eigen, glm, Graphisoft SDK, SketchUP SDK, template metaprogramming
· **3D**
  OpenGL, XNA/MonoGame, HLSL, GLSL, OpenCL
· **Web frontend/ECMAScript basics**
  HTML5, CSS3, TypeScript, jQuery, AngularJS, Bootstrap, WebGL, three.js, Adobe Flash/Flex
· **Data**
  Mostly experienced with non-relational solutions (xml, json, msgpack), having basic knowledge of MS-SQL + EF and willingness to learn
· **Misc./Tools**
  OS: Windows, OSX, Linux | **VCS:** Git, SVN | **IDE:** Visual Studio + R#, Xcode, Eclipse | **CI:** TeamCity

LANGUAGES

· **English:** Business
  Written & spoken communication experience with European colleagues on a regular basis.
· **Russian:** Fluent
· **German:** Basic (passive)

Experience

2015- | SAPA BUILDING SYSTEMS | SOFTWARE ENGINEER/TECHNICAL LEAD

Developing easy-to-use, modular CAD/BIM software for architects, metal builders & salespeople.

Role
· Technical Lead in an agile team of 5 developers
· Translate explicit & implicit requirements of the management & the users to a feasible architectural plan
· Mentor junior colleagues, hold code reviews, maintain internal quality & test coverage of the codebase, cooperate with other teams on long term plans
· Contribute to the implementation
· Write technical documentation & development guidelines

Notable accomplishments
· Implemented Domain Driven Design for modeling aluminium building systems. Developed Roslyn based DSL & code generation tools to speed up transforming domain logic into working code
· Extended xUnit framework to support domain specific testing requirements

2008-2015 | HIRSCHENFELD LTD. | SOFTWARE ENGINEER

Role
· CAD/BIM application development
· Developing reusable software components for CAD/BIM applications

Notable projects & accomplishments
· Cross-platform ArchiCAD Add-On development in C++:
Introduced modern concepts & development tools in a legacy C/C++ environment (C++11, boost libraries, TDD). Result: high-stability solutions for complex problems in a native environment
· Developed a parametric 3D CAD modeling engine with focus on performance & distributed applications
· Introduced an IronRuby-based scripting environment for procedural product modeling
· Online 3D product configurator solutions
    · Browser-based, client (flash, HTML5)
    · Server-side modeling backend in .NET (+ server-side 3D rendering for certain applications)

Open Source

2016- | IMAGESHARP CONTRIBUTOR

ImageSharp is a new, popular, cross-platform image processing library, targeting .NET Standard. As a core contributor:
· I have **redesigned its Jpeg decoder**, implementing data locality and SIMD optimizations, introducing significant (≥2×) speedup, reducing the decoders memory footprint and the number of heap allocations by an order of magnitude.
· Had a significant contribution to libraries API design. Developed reusable utilities for common internal low-level tasks.
· Established the QA infrastructure of the library.

Education

2005-2013 | Budapest University of Technology and Economics | Computer Engineering

· Specialization: Software Development
· Finished BSc grade in 2009
· Completed all MSc courses
· Title of (unfinished) MSc Thesis: Procedural Modeling Framework for CAD Applications

2000-2004 | Lovassy László High School, Veszprém

· Specialization: Computer Science, Mathematics, Physics