Dmitry Dvoinikov

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I am a programmer, and I love my job. I have 25 years of experience building software for money and a few years more of programming for fun before that.

Over the years I have worked on a lot of interesting projects (some award-winning even), building frameworks, applications, network services, web sites and databases mostly in financial/payments area with focus on security and cryptography.

I held a "lead" position a few times, leading a team of 1-2 other developers, but regardless of the title, I always try to lead by example, mentoring and working closely together.

Although my positions were invariably some kind of "software developer", I always assumed a large part of product ownership, from the overall design and architecture down to the smallest details, and certainly enjoyed such autonomy.

Today I'm a precise analytical pragmatist with "let's get it done (and here is how)" mentality, caring for the project, striving for reliability and robustness through simplicity, well-defined architecture, high quality code and perfecting things through perpetual improvement.

My best languages would be Python, Java, C/C++ and SQL for relational databases (PostgreSQL, MSSQL) plus MongoDB, I prefer working in Windows, administer Linux and FreeBSD, but the full list of languages, products and technologies that I had to work with would be far too long, I only mention some of them in small print alongside the jobs below.

Experience

- **Nov 2021 – present   Lead Crypto Engineer, HSM at Finoa, Berlin**

  As a part of the team in one of the Germany's largest crypto banks, my job is to design and build a security framework around the HSM devices, write HSM code for the blockchains, and provide all-round security expertise. The framework has succesfully passed a dedicated pentest by Cure53, with conclusions like "unanimously commendable opinion" and "robust overall verdict".

  C++
  proprietary
  device C SDK
  PostgreSQL

- **May 2021 – Oct 2021   Senior Software Developer at Reserve, USA (remotely)**

  The project that I built here was the "OFAC replacement", an algorithm, implementation and network service for fuzzy name matching, to be used by the compliance team in the course of KYC approval process.

  Python
  some alchemy
  JS/React

- **2017 – Apr 2021   Technical Lead at 3T Software Labs GmbH, Berlin**

  Developing "Studio3T" – the best GUI tool for MongoDB. Designed and implemented new features, refactored the existing code, reviewed others' work. Focused on SQL to NoSQL translation, query plans, security and architecture.

  Java
  MongoDB
  SWT

- **2015 – 2016   Senior Software Developer at FinReach GmbH, Berlin**

  Developing a web application for switching bank accounts in a FinTech startup within a large Berlin incubator HitFox.

  Ruby/Rails
  Angular
  JS/Coffee

- **2009 – 2015 <u>Lead software developer</u> at [Infosysco](#), Ekaterinburg, Russia**

  Designed and developed a proprietary online banking system and related crypto security products (classic PKI w/operational procedures, digital signatures, TLS stack, web and desktop app), worked on integration of various financial systems, such as credit card processing and online payments.
  Our product was rated the best online banking solution in Russia in [2013](#).

  Python
  C++
  Delphi
  PostgreSQL
  crypto hw/sw
  protocols

- **2011 *Participated in Intel Parallel Programming contest "Acceler8"***

  My solution ended up to be the fastest of the "industrial" kind. Unfortunately, a quirk in test data generation made it possible for the winners of that particular contest to cheat around having to parallelize computations efficiently and go for the direct single-threaded solutions.
  The story was so intriguing that I [wrote a post](#) about it (in Russian).

  C++
  Intel TBB
  x86
  assembler
  SSE intrinsics

- **2004 – 2009 <u>Lead software developer</u> at [Severnaya Kazna](#), Ekaterinburg**

  Designed and developed a proprietary online banking system and related crypto security products, worked on integration of various banking systems. Our product was rated the best online banking solution in Russia in [2006](#) and [2007](#).

  Python
  C++
  MSSQL
  PostgreSQL
  crypto hw/sw
  protocols

- **2006 <u>Remote consultant/contractor</u> at ScriptLogic Inc, USA**

  Designed and developed a product for tunneling TCP through HTTP for the purpose of defeating firewalls and proxy servers. Later part of [Desktop Authority](#), a secure desktop management software suite.

  C++
  WinSock
  OpenSSL

- **2001 – 2004 <u>Lead software developer</u> at [CIFT](#), Ekaterinburg**

  Designed and developed proprietary financial systems, such as remote banking, stock accounting or OLAP budget reporting framework for the local ministry.

  C++
  Visual Basic
  MSSQL
  T-SQL
  MS Access
  crypto libs

- **2000 – 2001 <u>Software developer</u> at [SSI Micro](#), Yellowknife, Canada**

  Built web sites for customers, written software for controlling various satellite networking hardware remotely.

  FreeBSD, C
  Apache

- **1998 – 2000 <u>Software developer</u> at Uralvneshtorgbank, Ekaterinburg**

  Built an interactive bank [web site](#) with a back-end connected to various information sources inside the network.

  Windows NT
  IIS, ISAPI

- **1996 – 1997 <u>Database software developer,</u> Ekaterinburg**

  Designed and developed a database application for keeping records on archaeological sites and artifacts, with media, such as photos and maps.

  Windows 95
  MS Access
  Delphi

Education

Bachelor degree in mathematics, graduated in 1998 from the [Urals State University](#) in Ekaterinburg, Russia. Short-term post-graduate study in Russia-specific cryptography and information security.

References

"Dmitry is one of those rare developers that are incredibly strong both algorithmically as well as architecturally. He has profound knowledge across the board in software engineering and his level of professionalism has always been exemplary. But perhaps most importantly Dmitry is a very pleasant person that I have had the pleasure of having countless thought-inspiring conversations with over the years."

– Dr. Thomas Zahn
Co-Founder and Managing Director at 3T Software Labs GmbH

"I have worked with Dmitry on multiple projects, and he always exceeded our expectations, he's one of the best experts in the field, it's really easy to work with him and Dmitry always bringing his 'A' game."

– Rafi Nagli
Director of Product Development at ScriptLogic

"Dmitry is one of the best engineers I have pleasure to work with. In many projects he has been able to successfully think through the most complex business processes, architect comprehensive frameworks and apply existing technologies in most right way."

– Mikhail Sidorov
Technical Director at NPO Sapfir (CIFT)

"I would heartily recommend Dmitry for any technical project, firstly for his technical skills, secondly for his professionalism, and lastly for his genuine warmth, patience, well-rounded education, and genuine interest in the world."

– Jeremy Childs
Director of Development at SSI Micro