Actual version of my resume (cv) may be found here:
http://korvin.deeptown.org/cv_en.pdf
http://korvin.deeptown.org/cv.pdf (in Russian)

# Dmitriy Kashitsyn


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|---|---|
| Year and Place of Birth: | 1985, Almaty, Kazakhstan. |
| Marital Status: | single |
| Education: | certified engineer |
| Citizenship: | Republic of Kazakhstan |
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## Professional Experience

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|---|---|
| Jul 2014 | Lead developer at HDSoft (dept. of the Zodiac Interactive), Novosibirsk |
| Nov. 2013 – jun. 2014 | Senior Programmer and Engineer at the navigation dept., JSC CNT, brand «Navitel» (cartography, navigation algorithms, etc.), Novosibirsk |
| Jan. 2013 – oct. 2013 | Senior Programmer and Engineer at the porting dept., JSC CNT, brand «Navitel» (develop and porting to new platforms), Novosibirsk |
| Aug. 2010 – nov. 2012 | C++ Developer, Noveo, Novosibirsk |
| Авг. 2009 – июль 2010 | Senior Programmer and Engineer, Katelco company, Kazakh Satellite Communication Company, Almaty |
| 2002 – aug. 2009 | System Administrator and Programmer Design-Center Ltd., Almaty |
| Jan 2001 – dec. 2001 | Programmer, Technical Department of Kazpage, paging communication company based in Almaty |

## Education

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|---|---|
| 2002 | Graduated from a Republican Secondary School with specialization in physics and mathematics, Almaty. |
| 2002 - 2003 | St. Petersburg State University, Russia, Department of Mathematics & Mechanics Mathematical Support and Administration of Information Systems. |
| 2003 - 2008 | Almaty Institute of Power Engineering and Technology, Department of Radio Engineering and Telecommunications.<br>Certified Engineer in Electronic Systems & Technologies. |

## My current work

The Zodiac Interactive company acts as a primary integrator between a cable TV companies and various vendors of consumer hardware. It is our responsibility to develop and seamlessly integrate the new services into existing hardware available to end-users.

Quite often, new services require more resources or direct hardware support that may not be available on legacy devices. In that case our engineers perform an R&D which result in a way to overcome the hardware limitations and achieve reasonable user experience nevertheless.

As one of the engineers, my duty is to analyze the new project requirements and limitations and design an architecture suitable for it.

Typical projects are related to the support of various video broadcasting standards such as MPEG2 for the cable, and IP streaming protocols such as Apple HLS and/or MPEG DASH. Most of it runs on Linux/MIPS devices.

My other duties include:

- Implement the systems part of the new architecture
- Supervise the technical documentation process
  (I write documents too, particularly sensitive ones)
- Perform code and design review
- Interview applicants for a new vacancies
- Conduct trainings on C++, git, best practices, etc.

## Professional skills

***Programming languages and development environments that I've dealt with***

Develop of systems and application software:

- KDevelop 2.x – 5 (C, C++ based on GNU C/C++)
- Rust 1.x, LLVM 3.x
- Borland Delphi 2 – 7.
- Ruby (no Rails)
- Dolphin Smalltalk 6X, GNU Smalltalk, Squeak
- J2SE, CDT, Android using Eclipse/IDEA
- Glasgow Haskell
- Perl 5 (shell scripting and automation)
- K++ based on Deeptown platform (custom project)
- Assemblers 8080, 8086, 286 and newer; MCS51 (PIC)
- Dissassemblers/debuggers: OllyDbg, played with SoftICE/IDAPro
- Parsers Bison/Flex and ANTLR

Mobile platforms:

- Windows CE 5.0, WinMobile 6.5, ppc2003
- Symbian 3ed, 5ed, ^3, Anna, Belle
- Android 2.2, 2.3, 3.x, 4.x (+JNI)
- Samsung Bada 1

Database development:

- PostgreSQL 7.3 — 8.0
- Interbase/Firebird 1.5.x — 2.x
- MySQL 4, 5
- Sqlite3

Hardware development:

- PCB design in Eagle
- IC design in Proteus & Microlab
- FPGA programming in ISE Webpack (VHDL, RTL)

Infrastructure and workflow:

- Version control systems: Mercurial, Subversion, git
- Scrum using Rally
- Gerrit, Jenkins, GitHub, Bitbucket, Trac, Bugzilla, Mantis, Fisheye

Other:

- MPEG2 Transport Stream
- IP streaming video: Apple HLS, MPEG DASH
- DigiCipher control panel
- Automated note engraving using Frescobaldi based on Lillypond (haven't dealt with Finale or Sibelius).

***My projects***

1. My current research project is to develop an optimizing JIT VM which is byte-code compatible with Timothy Budd's LittleSmalltalk. It is based on LLVM and uses custom byte-code decompilation and type inference logic.

My research goal is to create a VM for a dynamic language that will run as fast as the static typed one. This may be possible due to various techniques such as type harvesting, method monomorphization and type inference.

Smalltalk being dynamic language looks like a good model language due to it's simplicity and design. Moreover, it runs inside an image, which allows to persist typing information in a very convenient way.

Project repository is located here:

http://llst.org (http://github.com/0x7CFE/llst)

I wrote a couple of articles about the project on the Russian tech site:
https://habrahabr.ru/users/halt/topics/

2. I've also tried to design a processor core that is able to run Smalltalk byte-codes in the hardware. Some thoughts on it may be found here:

http://korvin.deeptown.org/step2.pdf (in Russian).

3. I with my friend developed a modular architecture for home automation systems. Several prototypes were designed and tested (1 and 2). System is built on top of Microchip controllers 16F628/688, 18LF2520, Ethernet controller ENC28J60 and 433MHz radio module. It uses custom protocol based on IP and allows seamless integration with Ethernet/WiFi networks.

4. Also I took part in the development of the Linux 2.6 driver for web cameras based on chip Sonix SN9C2xx.

5. Back in the days of Linux kernels 2.2.x I calculated the timing tables for CRT monitors and video adapters S3 Trio3D/2X based on S3 Virge driver.

6. I've invested a lot of time into the Deeptown project:

- System architecture
- Design and implementation of the network protocol and core services
- Design and implementation of the custom K++ language
- Library bindings for SDL, OGRE, ODE, OIS, etc.
- Technical documentation and RFC, K++ reference.

***Valuable business projects in which I took part***

1. Deep refactoring and porting to new platforms of the KVM-like remote control and administration software. Ports for Symbian and Android.

2. Upgrade and refactoring of the billing system for a satellite TV company. Firebird database migration from the Windows to FreeBSD, port of the UDF library. Develop of the accounting software integrated with billing database and 1C accounting software for convenient report generation.

3. Various projects related to the paging technology, such as remote access to the paging terminal Glenayre GL3000 (using SNPP, TAP).

4. Took part in frontend and backend develop of the remote backup system (www.virtualdatahouse.com).

## Foreign languages

- English — advanced, mostly technical & engineering
- Japanese — basic to intermediate, roughly corresponds to the N3 level of the JLPT (日本語能力試験)
- Kazakh — reading and writing with vocabulary
- French — very basic

## Interests and hobbies (in no particular order)

- Software and hardware development, programming and human languages, linguistics, science and technology.
- Electrical engineering, microprocessors
- Compiler development, type theory, virtual machines, etc.
- Open source, Linux kernel, Rust, Tox, Netsukuku, ReactOS, etc.
- Hieroglyphs, music, play and compose for guitar & piano, table tennis, skating, skateboard, mountain bike,
- Hustle dance (aim for E class).
- The Go game (my current level is approx. 10 kyu).