Artem Boldariev (Boldarev)

Kharkiv, Ukraine

+38 067 9387708

artem.boldarev@gmail.com

chaoticlab.io

github.com/arbv/

bitbucket.org/arbv/

Software Development Engineer, Researcher-Developer

SUMMARY

Qualified, motivated and reliable programmer with a deep interest in computer science, strong analytical and research skills. Able to develop and implement complex solutions both as a part of the team and alone. Commercial experience in: systems and networking programming, development of high availability networking services targeted at millions of users, multiprocessing, parallelism and concurrency. Non-commercial experience in: development of programming language runtime environments and programming tools.

QUALIFICATIONS

Programming languages: C , C ++, Common Lisp, Scheme, Emacs Lisp, Java, Lua, Assembly (x86, x64), Shell Scripting Languages (UNIX/Windows).

Operating systems: Linux (Debian, Ubuntu, Arch Linux), Windows (XP, Vista, 7, 8.1, 10), macOS (Sierra).

Tools: Visual Studio, NetBeans, GNU Emacs, Vim, Git, Mercurial, GNU Toolchain (gcc, g++, binutils, gdb), CLang, Wireshark, make, lex and yacc (bison), SBCL, Clozure CL, ASDF, Windows Installer XML (WiX), Google Test Framework.

Networking: TCP/IP protocol suite, H323, SIP, TLS (SSL), WebSocket, FTP, HTTP, SCGI.

Infrastructure: Development and implementation of virtual machines and runtime environments, compilers, parsers, design of networking protocols, memory managers, concurrent and parallel systems.

Additional skills: systems programming, object-oriented and functional programming, metaprogramming, debugging, teaching Fundamentals of Programming.

Personal skills: Able to prioritize tasks and deliver high quality solutions on time, work well under pressure and beyond the regular schedule.

Certificates: Preparation of the System Programming course for distance learning students at East Ukrainian National University on Computer Systems Security Department***.***

Languages: English (Upper Intermediate, oral and written), Ukrainian (native), Russian (native).

WORK EXPERIENCE

Commercial Experience

- *December 2014-now* – C/C++ developer, networking programmer at TrueConf LLC.
- *2013-2016* – Intern, teacher (programming). Post-graduate student at East Ukrainian National University, Computer Systems Security Department.
- *2012-2013* – Part time engineer/system administrator at East Ukrainian National University, Computer Systems Security Department.

As a developer at TrueConf LLC, I mostly worked on the tasks related to the development of the TrueConf Server product and company's internal cloud platform servers.

- Ported ZeroMQ based Inter-Process Communication framework to Linux for an ongoing cross-platform version of TrueConf Server. Making the TrueConf Server product portable ensures that it will cover the all major platforms and should make it acceptable to more clients as well as increase the sales considerably.
- Made significant parts of the TrueConf Server middleware portable.
- Supported encrypted connections via TLS in TrueConf Server on top of the OpenSSL library and added support of WebSocket connections on top of the TLS in TrueConf Server which allowed integration of secure WebRTC into the video conferencing server. It allowed to cover more use cases for video conferencing (e.g. distant education, webinars, etc.) and increased product sales.
- Made a lot of bugfixes to H323 and SIP protocols support in TrueConf Server product, including compatibility issues with video terminals and audio codec negotiation issues.
- Increased compatibility with “buggy” video conferencing terminals. Developed a special subsystem which dynamically altered the configuration of the ongoing calls for the buggy terminals. The data for buggy terminals is updated on a per-day basis for every running instance of the TrueConf Server.
- Made a lot of fixes and improvements to the PHP module used in TrueConf Server web-configurator, including new authorization routines and new character encoding conversion routines. New authorization scheme allowed fine-grained security control on the access to the configuration facilities of the TrueConf Server.
- Developed framework for sniff-based unit tests for H323 and SIP protocols. These tests are used to ensure compatibility with some 30+ well-known terminals that were used by the customers.
- Developed and integrated cross-platform support for Quality-of-Service (QoS) into TrueConf Server and related internal (in-house) servers.
- Integrated chat logging into TrueConf Server.
- Developed and implemented effective and secure specialised algorithm for removing unsafe HTML tags from chat-messages.

As a teacher at ENU Computer Systems Security Department, I created learning materials for the following courses:

- Programming technologies (including the programme for distant education) – for the 1st-2nd

year students.
- Systems Programming (including the programme for the distant education) – for the 2nd-3rd year students.
- Programming tools course for the 3rd year students.

Non-commercial Experience

I am a co-maintainer/developer of the Corman Lisp project https://github.com/sharplispers/cormanlisp – an implementation of the Common Lisp programming language. I helped to make this project run on modern 64-bit versions of Windows operating system as well as developed a new MSI-based installer.

The following section contains some of my personal projects. Most of them are research or educational ones.

- *Process Commander.* A task manager for Windows with remote control capabilities. It was developed as a part of my bachelor thesis.
- *Werkzeug.* A toy back-door which was developed as a part of the M.S. thesis. This program mimics simple screensaver but after registration in a system it allows hidden remote control using Telnet protocol for command line access and FTP protocol for file transfer.
- *libuftp.* A library with simple API which can be used to embed FTP server into a C/C++ application.
- *META II (C and Common Lisp versions).* META II is a compiler writing programming (meta)language originally described in detail in paper "META II a Syntax-oriented Compiler Writing Language" by D. V. Schorre.
- *Compiler for Extended Tiny BASIC programming language described using META II.* A simple compiler for a somewhat restricted dialect of the BASIC programming language.
- *SECD virtual machine.* An implementation of a highly influential virtual machine for programming languages based on the untyped lambda calculus (namely Lisp).
- *uslab (Userspace Slab).* Userspace version of SLAB memory allocator, originally used as a part of the operating systems kernels.
- *uCRT (micro C runtime).*Minimalistic C language runtime for Windows. It is a *very* small subset of standard C language library.
- *daemonize.* A simple library for writing daemons for Unix-like operating systems which follow System-V semantics.
- *rgpio.* A simple, easy to integrate library for working with GPIO registers on all released versions of Raspberry Pi microcomputer.

EDUCATION

- *2013-2016* – Post-graduate student at East Ukrainian National University on speciality 05.13.05 "Computers systems and its components".
- *2012-2013* – Master of Science at East Ukrainian National University on speciality "Computer Systems and Networks".
- *2008-2012* – Bachelor at East Ukrainian National University on speciality "Computer engineering".