

memory heap / cv

Artyom V. Poptsov

September 11, 2022

Contents

1	Introduction	3
1.1	Contacts	3
2	Current job	3
3	Technical Skills	3
3.1	Operating Systems	3
3.1.1	GNU/Linux	4
3.1.2	GNU Guix	4
3.1.3	Android	4
3.1.4	GNU Hurd (a microkernel-based OS)	5
3.1.5	Xenomai	5
3.1.6	RT GNU/Linux	5
3.1.7	Microsoft Windows (98, XP)	5
3.2	Programming Languages	5
3.2.1	C	5
3.2.2	C++	6
3.2.3	Scheme	6
3.2.4	Java	6
3.2.5	Unix shell scripts	7
3.2.6	JavaScript	7
3.2.7	Emacs Lisp	7
3.2.8	Ruby	7
3.2.9	Python	8
3.2.10	AVR Assembly	8
3.2.11	Lua	8
3.3	Frameworks	8

3.3.1	Qt	8
3.3.2	Ruby On Rails	9
3.4	Markup Languages	9
3.5	Software Testing	9
3.6	Administration	9
3.6.1	Docker	9
3.6.2	LVM	9
3.6.3	SELinux	9
3.6.4	Cron	10
3.6.5	Init Scripts (openrc, System V, upstart)	10
3.6.6	SystemD	10
3.7	Network Protocols	10
3.8	Server-Side Software	10
3.8.1	Web Servers	10
3.8.2	Wiki	10
3.8.3	Git Servers	10
3.8.4	"Cloud" Software	10
3.9	Telecommunication software	11
3.9.1	Jitsi	11
3.10	Learning Management Systems (LMS)	11
3.10.1	Moodle	11
3.11	Security	11
3.11.1	GNU Privacy Guard	11
3.11.2	Off-the-record (OTR) messaging	12
3.11.3	Let's Encrypt	12
3.12	Development and Build Tools	12
3.13	Embedded Development/MCU Firmware Development	12
3.13.1	Arduino (AVR Family)	12
3.13.2	STM32	12
3.13.3	ESP8266 / ESP32	12
3.13.4	Raspberry Pi	13
3.14	Parametric 3D modeling	13
3.15	3D-printing	13
3.16	Other	13
3.17	Licenses	13
4	Languages	14
4.1	Russian	14
4.2	English	14
4.3	German	14

[HTML][PDF]

1 Introduction

My name is Artyom V. Poptsov, I also known as "avp".

I'm creative, self-motivated and hard-working; atheist and skeptic, very interested in science. I enjoy learning of well-designed technologies and gaining deep knowledge in things I'm doing. Looking for jobs and opportunities that benefit society and make people's lives better.

Heavily involved in free/libre software development, working on my own free software projects in my spare time.

Main technical interests: programming, functional programming, Lisp, GNU/Linux, free/libre software, operating systems, microkernel-based operating systems, distributed/decentralized systems, text processing, parsers, finite-state machines, compilers.

Co-founder of CADR hackerspace: <https://cadrspace.ru>

1.1 Contacts

- Home page: <https://memory-heap.org/~avp/>
- GitHub account: <https://github.com/artiom-poptsov>
- GitLab account: https://gitlab.com/a_v_p
- Email: `(string-join (reverse '("gmail.com" "@" "artyom" "." "poptsov")))`
- Matrix: `@a_v_p:matrix.org`

2 Current job

- CTO @ AZ Company Group LLC
- Head of "MCU and microprocessor systems programming laboratory" and 3D-printing lab in Nizhniy Novgorod Technical Colledge.

3 Technical Skills

3.1 Operating Systems

3.1.1 GNU/Linux

knowledge-level: master
experience: more than 10 years
active-skill?: yes

Userspace programs and drivers development, administration, cron user, LVM user.

CLI tools: `sed`, `awk`, `grep`, `find`, ssh tunneling, `screen` etc.

- source-based: Gentoo (for several years was my main desktop/server and development system), Gentoo Hardened.
- deb-based: Ubuntu (regular use as desktop/development system), Debian.
- rpm-based: Fedora (also have an experience with preparing of RPM-packages), ALT Linux.

3.1.2 GNU Guix

experience: less than 1 year
knowledge-level: good
active-skill?: yes

<https://guix.gnu.org/>
User, contributor.

3.1.3 Android

experience: more than 1 year
knowledge-level: basic
active-skill?: yes

Application development, debugging with ADB. Took a part in RT Android project in Mera.

Taught classes on Android development for students in a college.

Projects:

- RecBot: Automatic remote-controlled multiple camera recorder for Android.

3.1.4 GNU Hurd (a microkernel-based OS)

experience: less than 1 year
knowledge-level: basic
active-skill?: no

Tinkered with it, tried to write a translator (server) for the system.

- deb-based: Debian GNU/Hurd

3.1.5 Xenomai

experience: less than 1 year
knowledge-level: basic
active-skill?: no

3.1.6 RT GNU/Linux

experience: less than 1 year
knowledge-level: basic
active-skill?: no

3.1.7 Microsoft Windows (98, XP)

3.2 Programming Languages

3.2.1 C

knowledge-level: master
experience: more than 10 years
active-skill?: yes

Client-server applications, libraries, Linux kernel drivers development.

Contributions to libssh library.

Project examples:

- Guile-SSH: GNU Guile libssh bindings.
- Guile-Udev: GNU Guile libudev bindings.

Also I started a free online course on system programming (in Russian):

https://www.youtube.com/playlist?list=PLoAJ3BxlddnopWsE_IQYkFYXUkmYA4-Ar

3.2.2 C++

knowledge-level: good
experience: more than 4 years
active-skill?: yes

Examples:

- MST: Multi-seat toolkit that allows to make multi-seat configurations.
- Azbook: Generic authentication and file synchronization system for WebDAV servers.

3.2.3 Scheme

knowledge-level: master
experience: more than 10 years
active-skill?: yes

Examples:

- Guile-SMC: GNU Guile State Machine Compiler.
- Guile-INI: GNU Guile INI Format parser.
- Guile-Deck: GNU Guile Matrix client.
- Guile-DSV: GNU Guile DSV/CSV format parser.
- Guile-SSH: GNU Guile libssh bindings.
- Metabash: Distributed pipes for GNU Guile.

3.2.4 Java

knowledge-level: good
experience: more than 6 years
active-skill?: yes

Overview:

- Android application development. JNI.
- Alfresco module development.

- Teaching object-oriented programming course in Java for students in NNTC.

Examples:

- <https://sourceforge.net/projects/clustergergen/>
- <https://gitlab.com/gkaz/recbot>

3.2.5 Unix shell scripts

experience: more than 10 years
knowledge-level: master
active-skill?: yes

Bash, CShell

I participated in a commercial Bash/system administration course development.

3.2.6 JavaScript

knowledge-level: good
experience: more than 2 years
active-skill?: yes

3.2.7 Emacs Lisp

knowledge-level: basic
experience: more than 10 years
active-skill?: yes

3.2.8 Ruby

experience: more than 10 years
knowledge-level: basic
active-skill?: no

System automatisaton, basic web application development.

3.2.9 Python

experience: more than 6 months
knowledge-level: basic
active-skill?: yes

Experience:

- Development of an extension for MoinMoin wiki engine.
- Teaching a beginner Python course for students in a college.

Examples:

- MoinMoin Abbreviation Parser

3.2.10 AVR Assembly

knowledge-level: basic
experience: less than 6 months
active-skill?: no

Examples:

- "Chasing lights" in AVR Assembly.
- "AVR assembly with AVP" series on YouTube.

3.2.11 Lua

knowledge-level: basic
experience: less than 1 year
active-skill?: no

3.3 Frameworks

3.3.1 Qt

knowledge-level: good
experience: more than 3 years
active-skill?: yes

Examples:

- MST: Multi-seat toolkit that allows to make multi-seat configurations.

3.3.2 Ruby On Rails

knowledge-level: basic
experience: less than 1 years
active-skill?: no

3.4 Markup Languages

Emacs org-mode, Texinfo, HTML, Wiki syntax, Markdown.

Texinfo examples:

- Guile-SSH documentation

3.5 Software Testing

- GitLab/GitHub CI
- JUnit
- SRFI-64 (a testing framework for Scheme.)

3.6 Administration

3.6.1 Docker

knowledge-level: good
experience: more than 2 years
active-skill?: yes

- Dockerfile
- Docker Hub
- Docker Compose

3.6.2 LVM

experience: more than 2 years
knowledge-level: basic
active-skill?: yes

3.6.3 SELinux

knowledge-level: basic
experience: less than 1 year
active-skill?: no

3.6.4 Cron

3.6.5 Init Scripts (openrc, System V, upstart)

3.6.6 SystemD

3.7 Network Protocols

SSH, TCP/IP family, ONC RPC, SCTP, CoAP, WebSocket.

3.8 Server-Side Software

3.8.1 Web Servers

lighttpd, apache

3.8.2 Wiki

- MediaWiki – administration, maintenance, usage (I used to write some articles for Wikipedia.)
- MoinMoin – administration, maintenance, usage.

3.8.3 Git Servers

- GitLab (deployment, maintenance, interaction with the API.)
- Gitolite

3.8.4 "Cloud" Software

1. ownCloud

experience: more than 1 year
knowledge-level: basic
active-skill?: no

Deployment, maintenance, interaction with the API.

2. NextCloud

knowledge-level: good
experience: more than 3 years
active-skill?: yes

Deployment, maintenance, interaction with the API.

3. FreedomBox

3.9 Telecommunication software

3.9.1 Jitsi

experience: more than 2 years

knowledge-level: good

active-skill?: yes

- Deployment in a production environment.
- Maintenance.
- Monitoring.
- Patching.

3.10 Learning Management Systems (LMS)

3.10.1 Moodle

knowledge-level: good

experience: more than 4 years

active-skill?: yes

- Maintenance.
- Integration with other services.
- Course/test development, daily usage.

3.11 Security

3.11.1 GNU Privacy Guard

experience: more than 5 years

knowledge-level: basic

active-skill?: yes

Use GPG for email communications and to sign software releases.

GPG Key: D0C2 EAC1 3310 822D 98DE B57C E9C5 A2D9 0898 A02F

3.11.2 Off-the-record (OTR) messaging

knowledge-level: basic
experience: more than 6 months
active-skill?: no

3.11.3 Let's Encrypt

experience: more than 1 year
knowledge-level: basic
active-skill?: yes

Home and production use.

3.12 Development and Build Tools

RCS/Git/SVN, GNU Make, GNU Autotools (Automake, Autoconf, Libtool),
scons, GDB/DDD, **strace**, GNU Emacs, NetBeans, Eclipse, distcc

Gave a talk in 2015 on version control systems for students of NNTC.
Slides: <https://github.com/artiom-poptsov/talks/tree/master/vcs>

3.13 Embedded Development/MCU Firmware Development

3.13.1 Arduino (AVR Family)

knowledge-level: master
experience: more than 4 years
active-skill?: yes

3.13.2 STM32

knowledge-level: basic
experience: less than 1 year
active-skill?: yes

3.13.3 ESP8266 / ESP32

knowledge-level: good
experience: more than 3 years
active-skill?: yes

3.13.4 Raspberry Pi

knowledge-level: good
experience: more than 2 years
active-skill?: no

Kernel compilation, GPIOs, etc.

3.14 Parametric 3D modeling

experience: more than 3 years
knowledge-level: good
active-skill?: yes

I'm mostly using FreeCAD nowadays. Some of my works can be found here:
https://www.thingiverse.com/a_v_p/designs

3.15 3D-printing

I have experience in:

- Building, maintaining and using 3D-printers (RepRap and alike.)
- Preparing 3D-models for printing.

3.16 Other

- Good knowledge of Linux kernel standards and GNU coding standards.
- Experience of interaction with free software community. Contributions to: GNU Guile-RPC, libssh.
- Backus-Naur Form (BNF), ABNF
- Gnuplot

3.17 Licenses

I have basic understanding of the following licenses:

- Creative Commons
- GNU GPLv3

4 Languages

4.1 Russian

Native speaker.

4.2 English

Good reading/writing skills (technical documentation as well as regular texts such as articles or books, communication through email and IM). Basic verbal skills (I have experience in verbal communication with non-native English speakers), very good understanding of spoken English.

Examples of technical documentation written by me:

- Guile-SSH documentation

4.3 German

Very basic reading/writing skills.

Copyright © 2021-2022 Artyom V. Poptsov

Verbatim copying and redistribution of this entire page are permitted provided this notice is preserved.