



## Dmitry Polishuk

### Senior Software Engineer / Teamlead

Dmitry is a product-oriented engineer. He has almost a dozen years of experience in embedded development in C/C++ and Java. He is very experienced Linux hacker and he loves developing beautiful Android apps using Android SDK and NDK.

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### Summary:

- 9 years of expertise in software development (using C/C++, Java, Android, Perl, Win32 API, and Linux)
- 9 years of expertise in building telecommunications & multimedia projects
- 5 years of expertise in Android development
- 3 years of expertise in development related to broadband wireless communications (WiMax, WiFi)
- Wide range of expertise in software and hardware systems, networks and electronics
  - C/C++
  - Java
  - Android development
  - Linux/UNIX, including standard Unix tools
  - Windows architecture and internal components
  - LAMP (Linux/Apache/MySQL/Perl or Python)

### Education:

MS Computer Security. Voronezh State Technical University, Voronezh, Russia

### Working Experience:

[Yandex](#) 2014 - present  
Android Developer

[NeoSpherePlus](#) 2014  
Lead Android Developer  
Designed & implemented taxi orders analyzer client for taxi-drivers  
Implemented chat messenger with rich multimedia stuff (photo/video sharing, stickers)  
Implemented Time-Based One-Password client for one of the biggest Internet company

[NeoSphere](#), [Undev](#) 2011 – 2014  
Lead Android Developer  
[Interactive TV Android client](#)  
Designed & implemented low-level multimedia framework for Android  
P2P share/broadcast multimedia solution  
[DigitalOctober Android client](#)  
[ChessTV Android client](#)  
[Mafon Android client](#)  
[Spief2013 Android client](#)

DataArt Solutions, Inc., <http://www.dataart.com> 2008 – 2011  
Software Developer  
B2B trading Android client,  
Calls Analyzer Android client,  
Intelligent Performance Tuning Engine,

## Previously Completed Projects:

### 2013 to 2014, Secure P2P share/broadcast multimedia engine

Currently, I'm working on this system. It's not a bittorrent or i2p, although it has some similarities. The main goal of this app is to help the user to manage its own multimedia data everywhere. Nowadays, we all have a lot of different gadgets (smartphone, tablet and NAS) and the main aim is to provide the ability to share all these things with each other where ever you are.

**Platform:** any embedded platform (include Android)

**Tools:** Eclipse, C++11, boost, Android NDK, JSDK 1.6, cmake, Google Protobuf

### 2013 ChessTV for Android ([Google Play Link](#))

Client for the new chess TV in Russia with chatting, match discussions, archives of the previous programs & matches and social features. This app is based on my multimedia framework for Android. All broadcasting based on http live streaming with a lot of different kind of customizations. And I adapted FFmpeg HLS implementation for this stream.

**Platform:** Android

**Tools:** Eclipse, IntelliJ Idea, Android SDK, Android NDK, Android Compatibility Library, JSDK 1.6, Gradle

### 2012, VLC plugin for Interactive TV

I was developing this plugin in debugging purposes only. Although, we already have desktop clients (based on gstreamer) for our Interactive TV platform, I was needed to verify the quality of displaying data on different devices (cubieboard, cubox, allwinner sticks & element14 freescale i.MX6, rockchip sticks)

**Platform:** Linux

**Tools:** C/C++, Eclipse, cmake, Sublime Text2

### 2012, Fixing Samsung HDMI driver for SoC Exynos

The main goal is to adapt Odroid BSP to provide 50Hz refresh rate & full HDMI-CEC features. I achieved this goal to redesign HDMI linux kernel driver and patch whole Android video output stack.

**Platform:** Linux Kernel

**Tools:** C, Eclipse, Sublime Text2

### 2012 to 2014, Interactive TV for Android ([Google Play Link](#))

I'm a team leader of this project. For now, in my team I have two developers. At the beginning this app was developed by me from the ground. The whole UI part is in the cloud and delivers by h264/AAC to the clients and the core feature of this client is to be very responsive on user's touch. Another target of this app is to be adjustable for TV screens and support different TV refresh rates (50Hz & 60Hz). And the third thing which we supported on the client side is adaptive bitrate to be ready for the real world issues (it works for Android devices 2.3 & higher).

This app uses the whole capacity of the Android multimedia subsystem (OpenMAX, OpenSLES).

**Platform:** Android

**Tools:** Eclipse, IntelliJ Idea, Android SDK, Android NDK, Android Compatibility Library, JSDK 1.6, Gradle, Google Protobuf

### 2013 DigitalOctober for Android ([Google Play Link](#))

It's Android native client for <http://digitaloctober.ru>. This app was developed for smartphones and tablets with a good looking UI.

**Platform:** Android

**Tools:** IntelliJ Idea, Android SDK, Android Compatibility Library, JSDK 1.6, Gradle

### 2013 Mafon for Android ([Google Play Link](#))

Dive to the 80's! Helped to implement multimedia stuff & visual effects.

**Platform:** Android

**Tools:** Android SDK, Android Compatibility Library, JSDK 1.6, Gradle

### 2012 Gipis for Android

Mobile app for tracking and planning sport activities, synchronization all data with server and analyzing achievements. The main goal is to give to the user possibility to control the weight and body parameters.

**Platform:** Android

**Tools:** IntelliJ Idea, Android SDK, Android Compatibility Library, JSDK 1.6, Maven

### 2012 Backend for Qlue.net

It's social feed aggregator. The user could add all social accounts (facebook, vk.com, twitter, digg.com, yammer) to qlue.net and track it's own feed in one place.

**Platform:** Java EE

**Role:** I was developing server side part, integration with mongodb and storing all multimedia data to the grids. Also all social integration things were on me and worked perfectly.

**Tools:** IntelliJ Idea, JavaEE, Spring, Spring Security, Scribe (oauth & oauth2 framework), JSDK 1.6, Maven

### 2011 B2B client

Client for managing orders of trading in the cloud. Google C2D messaging is used for notifications of new orders on the server. Voice recognition and full text search are used for searching and managing products in orders. And user has possibility to plot productivity charts of trading activity

**Platform:** Android

**Tools:** IntelliJ Idea, Android SDK, Android Compatibility Library, JSDK 1.6

### 2010 Calls Analyzer

Programmed and created a pilot call analyzer on Google Android and Google AppEngine through Java. Fully implemented the calls logger and geo-analyzer that gives information on location of user and financial data.

**Platform:** Android

**Tools:** IntelliJ Idea, Android SDK, JSDK 1.6

### 2010 Music Player for Popular Clouds

Fully implemented playing and storing songs locally and encrypting them to prevent piracy. Synchronization with [last.fm](#) and possibility to manage playlists on the clouds.

**Platform:** Unix, Linux, MacOSX, Windows

**Tools:** C++, Qt, QtCreator

### 2009 FOREX trading robot

Robot as a plugin for Metatrader appliance which was based on candlesticks analysis

**Platform:** Metatrader

**Tools:** C

### 2009 to 2010, Single Sign-On Enterprise Solution

I was in the L3 team and was involved in continuous product enhancement (fixing critical bugs, implementing important features for separate customers). It's a collection of applications that extend security model and bring new user experience for Windows enterprise networks. It was a big enterprise project with international team (about 30 members only in L3 team from US, Russia, India, Ukraine).

**Platform:** Windows

**Tools:** MSVC 2005, ATL, COM, WTL, boost, C++, JavaEE

## **2008 to 2012, Intelligent Performance Tuning Engine**

As Software Developer, I developed the system to test a network and monitor the engine that allowed exposing existing capacity of users' networks, applications, and hardware components. The main problems that could be solved by this engine are the unwanted disconnects, slow response times, and underutilized systems. The engine analyzes all aspects of users' environment, from edge to core, and then creates optimum configuration profiles for all of user systems. The developed engine supported a completely automated method of applying real-time optimization of the SharePoint, Exchange and VMware implementations.

**Platform:** Linux

**Role:** Implementation of the server core (network metrics analyzer and special patch for kernel that allows to collect data from MAC layer) in C/C++

Design and implementation of server API and reports in Perl

**Tools:** Perl5, C/C++, boost, HTML/CSS, JavaScript, SOAP, Shell, Vim, Apache2 (mod\_perl2/CGI), VMware vSphere SDK

## **2005 - 2008 Link Level Simulator**

**Customer:** Samsung

**Description:** Development of the physical layer of 802.16d and 802.11g standards. The project was aimed at the development of a simulator that would emulate all the physical features in 802.16d/e and 802.11g, such as the following: convolutional turbo coder, OFDMA, permutation schemas.

**Platform:** Windows

**Tools:** Visual Studio C++ 2003, Win32 API, boost

**Position:** Software Developer

**Role:** Development of the optimization features for Link Level Simulator

## **2006 - 2008 System Level Simulator**

**Customer:** Samsung

**Description:** That simulator allowed a user to emulate MAC and PHY levels for broadband wireless protocols (such as 802.16 d/e and 802.11g/n standards), to change channel model and number of antennas for base and mobile stations. The tool had the GUI to change the simulator settings and observing the simulation process.

**Platform:** Windows

**Tools:** Visual Studio C++ 2003, Win32 API, ATL, boost

**Position:** Software Developer

**Role:** Design and implementation of the user interface, radio engineering, development and optimization of the core. After implementation, I supported System Level Simulator for 3 years (optimization, debugging, implementation of new features)

## **2005 - 2008 SCM for WiMAX System Simulator**

**Customer:** Samsung

**Description:** Spatial Channel Model (3G channel) implementation for WiMax Simulators. The simulator allowed testing SISO and MIMO systems and comparing results in the GUI.

**Platform:** Windows

**Tools:** Visual Studio C++ 2003, wxWidgets

**Position:** Software Developer

**Role:** Design and implementation of the user interface, radio engineering, development and optimization of the core

## **2005 VoIP Chat Based on ACM Windows Subsystem**

**Customer:** SkyLink  
**Description:** Development of a messenger with VoIP function. The main goal was to allow a user to change codec and traffic settings.  
**Platform:** Windows  
**Tools:** Visual Studio C++ 2005, ACM, Qt  
**Position:** Software Developer  
**Role:** User interface development, implementation of the VoIP functionality.

## **2008 Handled MP Software Development for NVIDIA CUDA**

**Customer:** Samsung  
**Description:** Convolutional coder and Viterbi decoder for working on GPU. That module was developed for simulations (SLS, LLS and others) in which it was used to accelerate imitation processes. Also it was used in some other products for encoding/decoding large amounts of data.  
**Platform:** Linux  
**Tools:** C, Vim, NVIDIA CUDA  
**Position:** Software Developer  
**Role:** Implementation of convolutional coder and Viterbi decoder parts for NVIDIA GPU

## **Programming Languages:**

C, C++, Java, Perl, Python, Shell, Assembler (x86)

## **Databases:**

MySQL, PostgreSQL

## **Platforms and APIs:**

Boost, Linux, SunOS, Solaris, LAMP, STL, Boost, ATL, COM, WDM, Windows API, VMware vSphere, MATLAB, NVIDIA CUDA, Qt, wxWidgets, Android, Django, Mojolicious, WWW::Mechanize

## **Network Protocols:**

AODV, HTTP, DHCP, SNMP  
TCP, UDP, RTP  
ARP, ICMP, IGMP  
Ethernet, 802.11 WiFi, 802.16 WiMax  
OFDM/A

## **Development Environment:**

Microsoft Visual Studio 6.0, 2003, 2005, 2008, 2010  
Vim, Eclipse, NetBeans, IntelliJ Idea, PyCharm, Komodo

## **Version Control Systems:**

Subversion, CVS, git, Mercurial, Surround SCM