

Alexey Zorkaltsev

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SKILLS OVERVIEW

- Software Development, 10+ years
- Software Architecture Design, 6 years
- Project Management, 5 years
- Team Management, 5 years

SKILLS

Methodologies:

RUP (Rational Unified Process), **MSF** (Microsoft Solution Framework), **XP** (Extreme Programming)

Programming Languages and Technologies:

C++ (10+ years), **Java** (5 years), **C#** (6 months), **C** (10+ years), **Visual Basic** (4 years), **XML** (4 years),
UML (4 years), **HTML** (5 years), **JScript** and **VBScript** (3 years), **Python**,
Assemblers (IBM 360, PDP-11, Intel 80x86 – 3 years), **Fortran**

C++/Windows Technologies/SDKs:

ATL, **WTL**, **STL**, **MFC**, **COM / DCOM / ActiveX**, **MS DirectX** (Direct 3D, DirectDraw),
MS DirectShow, **ADO**, **RDO**, **ODBC**, **OLE DB**

Java Technologies/SDKs:

Servlets, **JSP**, **Java Beans** (JB), **JDBC**, Theorem **RADIUS** Server

Platforms:

Windows NT/95/98/2000/XP, **Linux**, **MS DOS**

Databases:

MS SQL, **Oracle**, **MS Jet** (OLE DB)

Tools:

Visual Studio, **Visual C++**, **Ration Rose**, **Ration Clear Case**, **Microsoft Source Safe**,
Forte for Java (JavaBeans), **Together**, **IntelliJ IDEA**

Protocols:

SOAP, **TCP/IP**, **RS-232**

EXPERIENCE

Apr '02 – Nov '02 **Megatel**, Moscow, Russia

www.megatel.ru

Product Manager / System Architect

Worked on few projects related to billing systems.

- Implemented a Java Radius server based on Theorem RADIUS Server.
- Implemented a GUI based on Java / Swing.
- Implemented a GUI based on C# / WinForms.
- Implemented prototypes of data processing algorithms with use of C# / DataSets.

March '02 –
Apr '02 **Egar Technology**, Moscow, Russia

www.egartech.com

Programmer

Took a part into a stock market profit and loss computation project ordered by a solid bank.

- Based on SRS implemented MS SQL stored procedures for different types of computations.
- Designed Crystal Reports forms.

The project was delivered to the customer in time.

Oct '00 – Dec '01 **Infotech Contract Services**, Waltham, MA

www.infotechcs.com

Contract Software Developer at Packard BioScience, Billerica, MA, USA

Oct '00 – Sept '01

www.packardbioscience.com

Worked as a software team member on Packard BioChip Technologies SpotArray Microarray Printing System. The goal of whole project was to develop a hardware-software system, which prints micro-arrays (Chips) of biological materials. Target OS was Windows 2000. The software was based on DCOM and XML technologies.

- Implemented connection layer between MFC based GUI and a COM based backend.
- Took a part in design and implemented client side of client-server logic.
- Designed and implemented SOAP-ready C++ XML read/write support based on MS XML 3.0 and STL.
- Developed DB access component based on MS Jet 4, which utilized transactions and index-based search.
- Developed an out-proc COM component, which reliably maintains a plain text log file with keeping the file size under a given limit. The component uses multiple threads to ensure a quick response and smooth load of the system.
- Developed an extension for STL library to provide easy-to-use way of sorting and searching a record by a particular field.

- Optimized and troubleshoot DCOM based network connection.

Version 1.0 of the product was successfully completed. Product was delivered to a customer.

Jan '00 – Sept '00 **Software Architect & Developer of eRate™** (A Web Hit-Counting System)

Leiden Studio, Irkutsk, Russia

Jan '00 – Sept '00

The goal was to design and build an Internet system, which accumulates statistical information about third party Web-sites and provides different reports based on the analysis of this information. The information is collected by embedding references to the hit-logging service in the pages of a third party web-site.

- Studied Java 2, Servlets, JSP, JB, EJB, XML, XSLT, and JDBC.
- Software architecture was documented on UML and Visio.
- Java 2, Servlets, JDBC were chosen as a framework for hit-logging service.
- JSP™ (Java Server Pages), Java Beans™ were chosen as a framework for the report generator.
- Oracle 8 was used as DBMS.

Prototype was successfully completed.

May '96 – Jan '00 **Lionhearth Technologies Inc.**, Los Gatos, CA, USA

www.lionhearth.com

Russian Subsidiary Office, Irkutsk, Russia

Project Manager of the Hybrid Motion Capture System

Dec '98 – Jan '00

The goal was to make a system for tracking the motion of a person in a 3D space by analyzing data from a stereo video camera.

- Managed a team of three developers and a scientist.
- Worked with SRI on using their stereovision module in this project.
- Used C++ as the primary language for coding.
- Used Intel Performance Library™ for utilizing Intel's MMX technology.

When I left the company, the project was on time and under budget. Phase I of the project was done. The client has a requested follow-on project and has recommended Lionhearth to other technical programs.

Software Architect of the Virtual Command Post™ 2.0 (VCP2)

July '98 – Jan '00

The goal was to design and develop the next version of VCP, which would fully utilize the latest 3D graphics hardware. The VCP2 should have a scalable architecture enable collaboration between multiple VCPs.

- Derived from VCP 1.0 (Worked on VCP 1.0 as the project manager. See below).
- Designed to better utilize Microsoft's COM/DCOM technology.
- Designed and developed code of finite state machine for multi-threaded environment. This part of code was added to every object in the design for system state consistency checking.
- Used Unified Modeling Language (UML) as the language for describing software architecture. Used Rational Rose as the UML editing tool.
- The prototype for the networking layer of the system was written in Java.

The software architecture achieved project goals and supported system scalability.

Project Manager of the Virtual Command Post™ 1.0 (VCP1)

June '96 – Nov '97

The goal was to create a system to enable real-time communication between people in a virtual environment by means of voice and gestures. Users would be able to exchange 2D and 3D graphical information. The requirement was to use Intel-based computers with WinNT 4.0, TCP/IP connection under 28.8Kbps, and Polhemus InsideTrak™ as motion capture solution.

- Designed software architecture and co-designed user-interface of the VCP.
- Coded approximately one-quarter of the C++ code for the project.
- Created Inverse Kinematics code to operate avatars within the VCP.
- Used Microsoft Direct 3D as the 3D Rendering Engine.

Project was successfully completed on time within budget and awarded the SBIR Innovative Technology of the Year award in 1997.

Software Developer of the TARDEC Phase I Option

Sep '99 – Jan '00

The goal was to build a testbed of a remotely controlled vehicle. The purpose of the test was to evaluate human ability to remotely control a vehicle, with a stereovision camera on top of it, through low-quality stereo video stream with significant delay in transmission. All equipment had to be placed on a standard ATV (All Terrain Vehicle). SRI Stereo Vision Module had to be used as a camera. IGlasses™ Head Mounted Display (HMD) had to be used for video output.

- Designed software architecture and user interface (UI) of the testbed.
- Used Intel® Image Processing Library™.
- Wrote around 3000 lines of C++ code.
- Assembled all parts of the testbed together.

The testbed was assembled and tests have been performed successfully.

Team Manager

May '96 – Jan '00

Assembled and managed a team of software developers to implement 3D graphics, networking and sensor technologies.

- Interviewed job candidates.
- Used MS Project Manager™ and MS Team Manager™ for work coordination.
- Adopted MS Exchange Server as the solution for internal/external information exchange.
- Developed internal website that helps share useful information such as events, network resources, documentation, and references.

Assembled a core software development team in Lionhearth that participates in several company projects.

March '95 –
Apr '96

OZero SDG, Irkutsk, Russia**Software Architect of the Smart Map™ 2.0**

Feb '96 – Apr '96

The goal was to develop next generation of Smart Map™ for Trimble Navigation® with improved user interface and better utilization of hand-held computer resources.

- Designed software architecture.
- Developed multi-threaded proprietary OS kernel for x86-based processors.

Trimble Navigation® has terminated the project.

Lead Programmer on the Smart Map™ 1.0

March '95 – Feb '96

The goal was to create a navigation system for small plane pilots for Trimble Navigation®. The system allowed pilots to view navigation information in text form and as a moving map. The map would show pilot's current location, destination and other useful data. Requirements were to use a Casio® Z7000 PDA (Personal Digital Assistant) as the target platform and Trimble Locator™ as GPS receiver.

- Joined the team in the middle of the project. Worked as the lead programmer during debugging and testing period.
 - Developed a hypertext help browser and a help compiler.
 - Developed automatic test utility for quality assurance purposes.
 - Created low-level interface to Trimble Locator™, which works through a serial port.
- Project was delivered to Trimble Navigation® and later released in the consumer market.*

AWARDS

1997

While being the project manager and software architect for Lionhearth Technologies, the company received SBIR Innovative Technology of the Year award.

EDUCATION

1998

Irkutsk State University, Irkutsk, Russiawww.isu.ru

Master's Degree in Mathematical Methods in Economics based on Computer Science.

USEFUL KNOWLEDGE

Math, Business & Marketing

LANGUAGES

- Russian
- Fluency in English

REFERENCES

Available upon request.