

SERGEJUS ZABINSKIS: CURRICULUM VITAE 2011**CAREER STATEMENT**

Building on a strong mathematical background, gained firstly at the Mathematics Faculty of Vilnius University and then applied in my early employment, I opted for computing as my career of choice. I have been a Software Engineer since 1989 and enjoy the stimulating environment that this brings. I have worked in problem-solving in various areas, from technical to business processes, undertaking tasks both as a team member or alone.

I have in-depth programming skills, employing several programming languages and application development systems. I am used to working on many projects at any one time and because I am able to apply my knowledge to the high speed understanding of existing source code I have several times been assigned to take over – and successfully complete - existing projects.

I like to believe that I am a responsible and stable person and because I take great satisfaction from my job and have an ability to learn quickly, I am constantly seeking to improve my knowledge of software technologies.

PERSONAL DETAILS

Name	Sergejus Zabinskis
Date of Birth	29-09-1963
Nationality	Lithuanian/EU
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Home Page	http://www.sergejusz.com
Qualifications	Vilnius University, Mathematics Faculty, Master of Science, 1980-1985
Languages	English (Excellent), Lithuanian (Fluent), Russian (Fluent)

TECHNICAL SKILLS SUMMARY

Operating Systems	Win3.x/Win95/98/NT/2K/Vista, Windows Mobile 5.0, OpenVMS, HP-UX, Tru64Unix
Programming Languages	C, C++, VB.NET, C#.NET, Pascal, PHP, Java, T-SQL, PL/SQL, Fortran, Matlab, Python, Clipper, PL/M-80, PL/I
Compilers and Application Development Tools	aCC, DEC C++, VC++, C#, VB.NET, Borland C++, C++-Builder, C for 8051, Delphi, Fujitsu Fortran 90, Fortran 77, Fortran IV, Matlab
Misc.Tools	SubVersion, GDB, Eclipse, make, gSOAP, QlikView, snacc, putty, PowerTerm, Oracle SQLDeveloper, Flex, InstallShield
Database Systems	MS SQL Server, Oracle, MySQL, PostgreSQL, xBase
Technologies	Multithreading, inter-process communication, client-server applications, web-services, CORBA, ASN.1, XML.

PERSONAL SKILLS SUMMARY

Easy learning, keen on software development technology, good communication skills, ability to produce software in time and on high quality level. Quick decision-making in stressful situations.

PUBLICATIONS

<i>“Optimisation of Parameters of Electronic Circuit with Tunnel Diode”</i>	Proceedings of A. Popov Society Conference 1986
“Specialized programming language for	Proceedings of Lithuanian Conference on

waveform generator”	Electronics 2002
“Survey of high-speed non-repetitive signals registration system software”	Proceedings of Lithuanian Conference on Electronics 2002

CAREER DETAILS

PPC

September 2008 – Present

Industry	IT
Occupation	Senior architect
Task	Moving document generation server to high availability solution.
Description	High-availability system contains two server applications that work on different HP-UX hosts. Load balancer distributes requests to different nodes using round-robin algorithm. Query processing algorithm was redesigned (parallelized) so that query processing is distributed among several threads. New algorithm dramatically increased server performance.
Software used	HP-UX, aCC, gSOAP, POSIX threads, Apache Xerces-C
Hardware	HP-UX servers
Task	Billing system gateway server updates
Description	New methods implementation. “Probabilistic” priority queues implemented to reduce waiting time for company portal users during high load time.
Software used	OpenVMS, DEC C++, POSIX threads, OpenVMS Parallel Programming Library, Inter-process communication, gSOAP, Apache Xerces-C, GEMBASE 4GL.
Hardware	Alpha server
Task	Projects cost evaluation and technical expertise
Description	Development cost evaluation for various projects.
Task	Call mediation application updates
Description	Mediation program is used to prepare calls from Nokia CDR-files (CDR means call details record) for import to company billing system. Program is used to process very large amounts of data ~ 20 mln. calls per day.
Software used	OpenVMS, DEC C
Hardware	Alpha server
Task	Program to send invoices by e-mail.
Description	Program is used for massive invoices delivery to company customers e-mailboxes.
Software used	OpenVMS, GEMBASE 4GL
Hardware	Alpha server
Task	XML parser for GEMBASE 4GL
Description	Developed XML parser library (based on expat) to use from GEMBASE 4GL. Since GEMBASE has no possibilities to get information from XML files, this tool brings much flexibility. Data is extracted using simple but powerful expression (like XPath).
Software used	OpenVMS, DEC C++, GEMBASE 4GL
Hardware	Alpha server
Task	Program to analyze GEMBASE 4GL code repository.
Description	GEMBASE 4GL (database programming language) is used for a very long time for billing system development. The huge amount of

	GEMBASE code is collected (about 3000 files and 40 MB of source code). I developed VB.NET program to analyze GEMBASE source files in order to get the full list of procedures, to find code duplication cases and links between procedures.
Software used	VB.NET
Hardware	PC
Task	User support
Description	Provided users support/consulting and everyday problem solving.
Software used	HP-UX, OpenVMS
Hardware	HP-UX servers, Alpha servers

Veritana

October 2007 – August 2008

Industry	IT
Occupation	Senior software developer
Task	Business intelligence projects development with QlikView (QlikTech)
Description	During my employment in Veritana I was developing large set of ETL procedures for big business analytics project for “Lukoil baltija” company. It included: ETL procedures to extract data from Navision database and cash registers detailed sales database and put it to staging database tables. (MS SQL Server 2005, T-SQL) Data load scripts for QlikView development - to load from SQL Server staging database and perform correct linkage of records inside QlikView application. QlikView publisher configuration to automate everyday data loading for QlikView applications.
Software used	SQL Server 2005, QlikView
Hardware	PC
Task	Application development tool for QlikView
Description	This tool was used to automatize routine operations when developing QlikView applications.
Software used	VB.NET, QlikView
Hardware	PC

Emydex Technology Ltd.

September 2006 – October 2007

Industry	IT
Occupation	Senior software engineer
Task	Emydex Technology Ltd. is Irish IT company that positions itself as leader in hi-tech data collection and management systems for food process and warehouse sectors. Being Emydex employee I was responsible for data collection applications for handheld scanners.
Description	Developed many data collection applications for to collect/register data in factories and T-SQL scripts.
Software used	VB.NET, Windows Mobile 5.0, SQL Server 2005
Hardware	Handheld devices (Symbol scanners)

Omnitel

December 2002 – August 2006

Industry	Telecommunications
Occupation	Software developer, software analyst later

Task	Billing system gateway server.
Description	<p>Main function: integrate various company software with billing system that is developed with GEMBASE 4GL.</p> <p>Billing system is roughly speaking - the collection of data files and GEMBASE 4GL scripts that perform preprocessing and billing of calls records. Many internal company systems need billing system information but GEMBASE 4GL. Server replaced old fashioned, not reliable file-oriented billing system interface. Billing system server maintains pool of GEMBASE processes that perform GEMBASE scripts. Server accepts XML queries and routes query data to the first free GEMBASE process. Query data contains filename of script to be executed and list of parameters. In return client receives response XML record(s).</p> <p>Server works in business critical 24/7 mode. Since server plays very important role in everyday company operations it works in high availability mode – simultaneously on several Alpha server nodes. External clients access servers through „round-robin“ load balancer.</p>
Software used	OpenVMS, DEC C++, multithreading - POSIX threads, OpenVMS Parallel Programming Library, Inter-process communication, gSOAP, Apache Xerces-C, GEMBASE 4GL.
Hardware	Alpha Server.
Task	System to store and generate customer documents
Description	Designed and developed system to store and generate customer documents (such as invoices, receipts, reports, etc. for many years). It includes software to import documents to Oracle database and document generation server that works in 24/7 mode and serves queries that come from customer service offices and Omnitel Internet Portal (www.omnitel.it). Generates PDF, TXT, XML files. May pack generated documents to zip archive.
Software used	Tru64Unix, HP-UX, Compaq C++, aCC, Oracle Call Interface Library, POSIX threads, gSOAP, zlib.
Hardware	Tru64Unix host. Later moved to HP-UX 11.
Task	Program to create designs for invoices.
Description	GUI program is used to maintain list of designs, create new designs for documents (invoices, receipts, etc.). Typical document has company logo, customer name, address and document specific information (list of calls with details, amount payable, etc.). To create design Delphi program calls List & Label ActiveX. Designs are used to generate PDFs.
Software used	Win32, Delphi 6, Oracle, List & Label ActiveX.
Hardware	PC
Task	TAP 3.10 files encoding/decoding shared library for use in GEMBASE 4GL programs.
Description	TAP 3.10 – is data format used in telecommunications industry to exchange CDR (call details record) files between GSM operators. It is based on ASN.1 encoding. Encoding library functions may create TAP3.10 file, add call records to the file and encode it. Decoding library functions are used to load TAP 3.10 files received from roaming partners, decode them, provide access to each call record and common information (such as totals, currency, timezone, etc.).
Software used	OpenVMS, DEC C, snacc tool.
Hardware	Alpha Server
Tasks	Web-services clients to call from GEMBASE 4GL scripts.

Description	Since GEMBASE script can't call web-service, we develop C shared library – wrapper that calls web-service and returns to calling GEMBASE program web-service response. Possibility to call web-service makes GEMBASE scripts more flexible.
Software used	OpenVMS, DEC C++, GEMBASE 4GL, gSOAP.
Tasks	Program to collect CDR (call detail record) from various network elements.
Description	Company has many network elements that generate custom format CDR's. All CDR's should be collected and converted into format that is accepted by billing system.
Software used	OpenVMS, DEC C, FTP
Hardware	Alpha Server
Task	User support
Description	Provided users support, consultations and everyday problem solving.
Software used	HP-UX, OpenVMS
Hardware	HP-UX servers, Alpha servers

Inmatsis

October 2001 – December 2002

Occupation	Software development manager
Industry	Electronics
Task	Team leadership for 3-4 software developers. Tasks distribution, planning, control and mentoring.
Description	Company standard of "virtual device" application architecture was designed. It was based on multithreaded MVC model. General guidelines for graphical layout of "virtual device" application were developed. Systematic development of company C++ framework (mainly for signal preprocessing and parameter estimation) started. All developers contributed to framework development. Team performance dramatically increased. Evaluation of other frameworks, platforms and application development systems to use in company.
Task	High frequency oscilloscope K2-76 „virtual device“ application.
Description	This application was developed using our „virtual device“ architecture. Communication with device, visual presentation and „core“ worked in separate threads communication with messages. Such approach brought big technological benefits, because development of application parts was parallelized. Main functions: live signal parameters computation, live FFT, time and voltage domain distortions correction, signals and device settings databases, signal export/import. Installation package (InstallShield Express).
Software used	Borland C++-Builder, Matlab.
Hardware	PC
Task	High speed signal registration system K2-74 software (enhanced version).
Description	This work was started in 1998 as research project. The first version of this system was implemented with Delphi 1.0, now I moved it to Delphi 6. New calibration algorithm was designed. Calibration grid was created translating constant voltage signal in vertical direction from the bottom of the screen to the top and moving step-like signal in horizontal direction. New calibration algorithm provided measurements accuracy within 0.5%

	<p>relative error range.</p> <p>In the first versions of this application very primitive technique was used to extract signal from the image. It was based on calculation of centroid (weighted average) of pixel value distribution to get signal point location on image. This approach produced noisy signal trajectory.</p> <p>I developed robust signal extraction technique based on approximation of pixel value distribution on the transversal section of the signal trace with Gauss like function. This technique of course made signal extraction from image slower but provided significant improvement of measurements accuracy. Since very accurate measurements aren't always necessary user is able to switch it off/on simply pushing checkbox.</p> <p>Also very useful new working mode was implemented - when signals are extracted not from the still image, but on the fly when the thread of captured images is continuously processed and user can see live signal (not image) on the screen and even perform marker measurements and parameter measurements. Earlier application version was able to extract signals only from still images.</p> <p>Program was delivered to users with setup program.</p>
Software used	Borland Delphi 6, InstallShield Express
Hardware	PC
Task	1D and 2D fast median filter implementation in C++.
Description	T. Huang algorithm was implemented. C++ implementation used binary trees as histograms.
Software used	Borland C++
Hardware	PC
Task	Numerical algorithms collection for company needs.
Description	Systematically collected and tried free numerical algorithm implementations from the Web (NETLIB repository and others). Subroutines that were considered as useful for company needs were put to Windows DLLs.
Software used	Fujitsu Fortran 90
Hardware	PC

Genesys Telecommunications

May 2000 to October 2001

Laboratories – Europe Limited

Industry	IT
Occupation	Software engineer
Task	Configuration Wizards for all Genesys applications developed in the UK division.
Description	Configuration Wizards are special DLLs that help users to set application options and create relationships with other Genesys applications. Software was developed using special Configuration Framework SDK.
Software used	MS Visual C++ 6.0, COM, ATL
Hardware	PC
Task	t-server for Tundo switch
Description	Genesys has invented it's own Call Model. t-server is an application that converts events generated by PABX switch (from CTI link) to Genesys Call Model events. I developed t-server for Tundo switch.
Software used	MS Visual C++ 6.0
Hardware	PC

October 1997 to May 2000

Inmatsis

Industry	Electronics
Occupation	Software engineer
Task	Measurement device RK2-01 programming.
Description	<p>This project was taken over by me in the middle of development and successfully completed.</p> <p>Measurement device RK2-01 was designed for high precision measurement of time intervals. It had keyboard, simple display and camera. I programmed measurement procedures according given specifications, made some enhancements for measurement algorithms, some bug fixes.</p> <p>For this device I developed PC application ("virtual device application") that communicated with RK2-01 through GPIB interface and provided remote device control, signal acquisition, marker measurements, main signal parameters calculation (amplitude, period, impulse duration, rise/fall times etc). Also this application let user to save/retrieve acquired signals to/from database (dBASE III file). Other useful feature was device settings database. Using this feature users are able to save current device settings in database and restore these settings in device at any time.</p>
Software used	AVOCET C compiler for 8051 processor (AVC51) MS-DOS, CA-Clipper compiler.
Hardware	Measurement device RK2-01, PC
Task	Arbitrary waveform generator software
Description	Specifically the design and implementation of a specialised Basic-style language to program waveforms, of a parser for the waveform generation language, of bytecode generation, of an interpreter of bytecode and of a visualisation and graphic editor for waveforms.
Software used	Borland C++ Builder
Hardware	PC
Task	High speed signal registration system software K2-74
Description	<p>High speed signal registration system software K2-74 involving signal acquisition with special camera to capture oscillogram from the screen of an analogue oscilloscope.</p> <p>Automatic camera calibration algorithm design and implementation.</p> <p>Algorithm used measurement grid markings (graticule) to create transformation from image pixel space to time-Voltage plane: $(x,y) \rightarrow (\text{time}, \text{Volt})$. No human action needed except putting glass with measurement grid on the screen of oscilloscope.</p> <p>Main functions included: extraction of signals from captured images, marker measurements, automatic measurements of main signal parameters (such as amplitude, impulse duration, rise/fall times, period, etc.) and signal and device settings database.</p>
Software used	Windows 3.1, Delphi 1.0
Hardware	PC
Task	High precision metrological signal generator embedded program
Description	Bug fixes in an existing device monitor program and enhancements, developed with PLM80 for an 8080 microprocessor.
Software used	PLM80 for 8080.
Hardware	Electronic measurement device

Contract Assignments**December 1995 to October 1997**

Industry	IT
Occupation	Consultant
Task	An PC and ECR system for restaurants.

Description	Main functions: uploading/downloading of menus file to/from ECRs, restaurant customers orders registration, order content routing to corresponding kitchen printers and orders closing via automatic sale registration on ECRs. The system was installed in three restaurants of the <i>Pizza-Jazz</i> .
Software used	MS-DOS, CA-Clipper compiler, Borland C++-Builder
Task	Specialised accounting software for restaurants.
Description	Main functions: maintain a recipes database (with recursive recipes), enable the import of sales data from ECRs, raw materials expenditure and prime costs of production calculation. This software was running as part of a general accounting program in 9 restaurants in Lithuania.
Software used:	MS-DOS, CA-Clipper compiler
Hardware:	PC

Civis

July 1995 – December 1995

Industry	IT
Occupation	Software engineer
Task	Sales data collection software for Casio CE/TK series (upgraded with SuperBoard card) electronic cash registers (ECR).
Description	Specifically an ECR management program that maintained a database of a retail outlet's ECRs and their PLU contents (name, price, VAT, group, department and other relevant information). Main functions: sales report downloads, new items upload to ECRs, ECR configuration tasks.
Software used	MS-DOS, CA-Clipper compiler
Hardware	PC

ALS

June 1994 – May 1995

Industry	IT
Occupation	Software engineer
Task	Driving theory test program, with an accompanying questionnaire of about 500 questions.
Description	In this project I designed special programming language for graphics primitives (lines, rectangles, polygons, circles, fonts etc.) manipulation to make creation of graphics illustrations (such as traffic regulation signs) easier and to give user opportunity to reuse already created complex graphics objects. Also I implemented language parser that transformed program to bytecode and engine-interpreter.
Software used	MS-DOS, Borland-C++ compiler
Hardware	PC

Contract Assignments

August 1993 – June 1994

Industry	IT
Occupation	Consultant
Task	A supermarket accounting system, for the Biznio Centras company of Vilnius, to integrate PCs and ECRs, using CA-Clipper.
Description	My task was to specify and implement software to manage ECR network, but I was also responsible for investigating the ECR market in Lithuania in order to determine the optimum ECR model to meet customer requirements.
Software used	MS-DOS, CA-Clipper compiler
Hardware	PC

RIC**January 1992 – July 1993**

Industry	IT
Occupation	Software engineer
Task	Software for customer database maintenance.
Description	Program to maintain company customers.
Software used	MS-DOS, Turbo-C compiler, CodeBase library (for access to dBase III files).
Hardware	PC

Contract Assignments**April 1990 to December 1991**

Industry	IT
Occupation	Consultant
Task	LanSmart networking system documentation translation from English to Lithuanian.
Description	For the Spectrum Lithuania company I translated LanSmart networking system documentation into Lithuanian. I also used WordStar to create PC Owner's and MS-DOS Commands manuals for Spectrum Lithuania customers.
Task	Numerical analysis of mathematical model of semiconductor p-n-p structures.
Description	As a contractor for the Zondas Ltd. I developed software to investigate transition processes in a mathematical model of p-n-p structures. Mathematical model was based on system of partial differential equations.
Software used	Fortran IV
Hardware	ES-1045 computer
Task	Image processing and analysis program.
Description	It involved image acquisition using frame grabber, pre-processing the images (median filtering, average filtering, equalization, binarization, edge extraction), extracting objects from the captured images and evaluating object geometrical parameters. Program was used to investigate the microstructure of ceramic materials. This project was developed for PerkinElmer Inc. Moscow branch.
Software used	MS-DOS, Turbo-C compiler
Hardware	PC

State Post Transportation Department**January 1989 to March 1990**

Industry	Government
Occupation	Software engineer
Task	Parcel transportation information system development.
Description	Main functions: Parcel registration and delivery control.
Software used	C
Hardware	SM-4, SM-1700 computers

Vilnius High Anti-Aircraft Defence**October 1986 to January 1989****Radioelectronics Military College**

Industry	Government
Occupation	Mathematics Department Assistant
Task	Teaching
Description	Calculus, probability theory, vector field theory and numerical methods.

Vilnius Scientific Research Institute of**February 1985 to October 1986**

Radio-Measurement Equipment	
Industry	Electronics
Occupation	Software engineer
Task	Approximation of Volt-Ampere characteristics of tunnel diode.
Description	Volt-Ampere characteristics of tunnel diode (represented as sequence of pairs (V_i, A_i)) was approximated by polynomial $a_0+a_1*x+a_2*x^2+...+a_{n-1}*x^{n-1}$ using linear least squares fitting techniques.
Software used	Fortran IV compiler.
Hardware	EC-1033 computer.
Task	Nonlinear electronic circuit optimisation.
Description	Electronic circuit with nonlinear element (tunnel diode) was represented with the system of ordinary differential equations (ODE) with few parameters. Circuit input was affected by step function shape signal, on the output we received transition process. The goal function value was the rise time of output signal. To get the goal function value we need to solve the system of ODE and calculate the rise time of output signal. Optimal parameters were used to make diodes with better rise time parameter values.
Software used	Fortran IV compiler, IMSL library.
Hardware	EC-1033 and EC-1045 computers.