

Szymon Stefanek

Curriculum Vitæ

STEFANEK

“Somewhere, something incredible is waiting to be known”
2007

Szymon Stefanek - Curriculum Vitæ

- Full name: **Szymon Tomasz Stefanek**
- Born in **Lublin (Polonia)** on **21.12.1975**
- Currently physical location: **Monteroni D'Arbia** (Siena), Italy
- **Italian** Nationality
- **Geometer** Diploma obtained from ITC S.Bandini, in Siena.
- Currently looking for a nice topic for the final thesis work at Università Degli Studi di Siena, faculty of **Informatic Engineering**.
- Owner of Italian VAT entry number **01040630525**
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Known languages

- Italian (native language)
- Polish (native language)
- English (correct reading and writing, for a fluent speaking just need few days of practice)

Programming languages

- C/C++
- VB(.NET), C#, Java
- Perl and Shell scripting
- Php, ASP(.NET), HTML and related markup languages, Javascript, VBScript, SQL...
- Generally, I can learn an additional language in a matter of hours.

Genral skills in the informatic field

- Software Engineering and any type of Programming
- Networking and System Administration, including but not limited to the Linux/UNIX platform.
- Web design

Brief working references

- Since 2007: Informatic consulting services and software development for **Videobyte srl**
- Since 2006: Informatic consulting services and software development for **Truelite srl**
- Since 2005: Informatic consulting services and software development for **Bassilichi spa**
- Since 2005: Informatic consulting services and software development for **Essentia srl**
- Since 2005: Informatic consulting services and software development for **ELSAG spa**
- Since 2005: Project collaborations with **Centrica srl**
- Since 2002: Project collaborations with **TDGroup spa**
- Since 2002: Project collaborations with **Tosco Dati Siena srl**
- Since 2001: Project collaborations with **DEMOS srl**
- Since 2001: Project collaborations with **Fabrizio Cibecchini**
- Since 2001: Freelance informatic consulting services and software development
- Since 1998: Free software development on Linux and Windows platforms

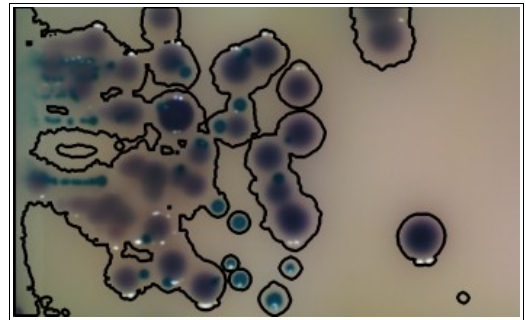
“Opportunity favors the prepared mind”

Remarkable Projects

BactHunter (2002-2004)

Software used for the identification of bacterial colonies by the analysis of post-incubation pictures.

The system, built as part of the larger project ROBOBACT developed for TDGroup SpA and DIESSE Diagnostica Senese, contains very advanced technologies in image processing and neural network based classification.



PragNet (2007)

Integrated network control system developed for Videobyte srl. The software runs on Linux, contains a high-performance PPPoE server and a sophisticated traffic shaping module that implements user bandwidth constraints, bandwidth granting and QoS. The system also provides network user authentication, access control, firewalling, routing, load balancing, logging and DNS services.

KVirc (dal 1998)

Multiplatform IRC client based on TrollTech's Qt. Among the various features it's interesting to remark the support for the IPv6 protocol, the interpreter of a scripting language with native support for object oriented programming and the high degree of customization. The project, in a mature stage, has gained worldwide usage, is included in major Linux distributions and can be classified as one of the most complete in its category. The development of the software brought the chance for international collaboration and gave birth to several derivate projects. KVirc is a free software, further information can be found at

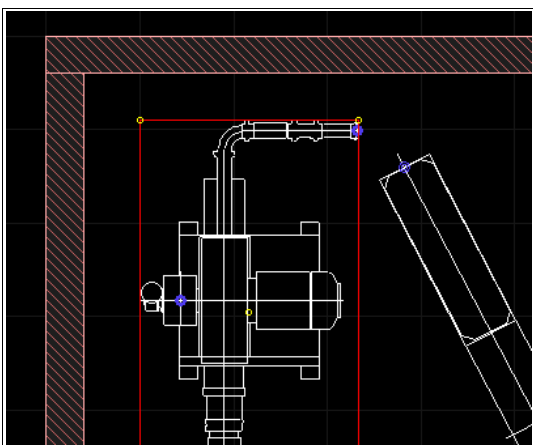
<http://www.kvirc.net/>

DAB: Distributed Architecture for Biomedical Data (2002-2004)

Distributed database used to sharing of medical data. The software contains a high performance database interface server and various forms of client components: web service, ActiveX control, standalone application,... The system, developed with the TDGroup Spa R&D team is actually being adopted by several groups of medical personnel.

Pragmux (2003-2004)

Minimal Linux system for embedded platforms and thin clients developed as part of the PICO project carried by Tosco Dati Siena. In 35 Mbytes there is a complete Linux system featuring networking, X11 based GUI and few remote desktop software modules. The target of the project is to create an electronic medical folder, but pragmux is a quite flexible system: it was thought for an easy adaptation for other purposes too.



EasyMill (2003)

CAD Software dedicated to production line design developed for AlfaLaval (Tavarnelle Val Di Pesa). The software allows visual design of a production chain directly inside the building that will host it. The created line can be analyzed under several points of view: technical, costs, productivity... The line project can be printed or exported in DXF format for further manipulation.

SSMicroGIS (2005)

Small, high-performance, portable dedicated GIS server. The system is written in C++ and features a GIS daemon and an Apache Web Server module that provides a programming interface to the PHP language. The daemon contains a particular implementation of the Dijkstra

algorithm for graph path computation. Guided by some artificial intelligence the algorithm computes minimal paths in remarkably short time intervals. SSMicroGIS was developed as part of the Winter project, in collaboration with TRGroup spa, Centrica srl and other companies.

Phone Call Relay (2002-2003)

Automatic answering machine and phone call routing system developed for CITIS srl. The software drives a Brooktrout hardware board and manages N digital voice channels. It handles incoming calls, leads the callers

through voice-based menu trees and routes the calls through an external switching device or internal channel connections.

PocketOrdini (2002-2005)

Support and order acquisition software for sellers operating on embedded platforms (palm/thin client) made for IdeaFood (Poggibonsi) and Razional (Poggibonsi). The software is written in C++ and runs on Windows Mobile platforms.



ODR - Optical Digit Recognition System (2003)

Several models of neural networks dedicated to the recognition of hand written digits. The software has been written as final project for the Artificial Intelligency course at the Universita' Degli Studi Di Siena and reached optimal results: 99,2% correctness on the well known MNIST test data set.

RAT - Robotic ARM Toolkit (2002)

Software library for computation of direct and inverse kinematics in robotic arms. Developed for Macchi Impianti (Poggibonsi), the library has been heavily tested on STAUBLI 4/5 axis robots and it is being successfully used in various robot control systems.

CamGeo (2002-2003)

algorithm library for 3D geometry implemented for the Lexa project (CAD/CAM software) owned by DEMOS Srl (Poggibonsi). Beside a large set of minor functionalities the library contains several variants of a 3D toolpath computation algorithm.

LangDetect (2004)

Software for the identification of language and text encoding. The main algorithm is based on the statistic data analysis coupled to some euristics that lead to an accurated identification of the language and a relatively reliable guess for the encoding used. LangDetect is a free software, more documentation can be found at <http://www.pragmaware.net/software/langdetect/>

Manutenzioni (2003-2004)

Gestional software made for Consorzio Eletttricisti ed Installatori Senesi. The software allows optimal scheduling and management of mantenance services to be executed at different sites by N working teams.

CancelloElettronico (2002)

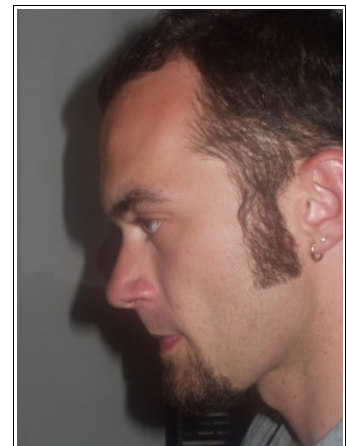
Access control supervisor for the Terme di Chianciano facility developed in collaboration with COMETA Srl. The software controls N automatic gates: it allows and tracks user entrance/exit by verifying data coming from each user's personal magnetic badge.

Serialmapper (2002)

Serial driver with data filtering and transformation features for Windows NT systems. The driver allows interfacing serial hardware with software that uses incompatible communication protocols.

IPN - Internet Point Network (2001-2002)

Internet Point Management system developed for Computer IN (Siena). The architecture includes a network server with administrative functions and a set of modules to be installed on the client machine. The client software authenticates the users by the means of a server generated code. Users have limited privileges on the client platform and are logged out automatically when their credit is exhausted. The main project goals were: easy remote management of a large number of clients and simple client installation and maintenance.



“Will design spacecraft for food :)”

Listing of other works

- 2007: Project “talking head” in collaboration with the Artificial Intelligence Research Group and with the supervision of *prof. Marco Gori* at *Universita' degli Studi di Siena*. The project aims to create an artificial intelligence represented by a 3d model that reacts to the surrounding events (including human audio-visual interaction). Currently work in progress.
- 2007: Integration of the *Postel spa* eProcurement system with the *Evolution Basilichi Services* logistic platform. Currently work in progress.
- 2007: *HuMoR* (Human Motion Recognition) project at *Universita' degli Studi di Siena*. The project, directed by Vincenzo Di Massa targets recognition of human movements by the means of computer vision. Currently work in progress.
- 2007: Collaboration to the *Cassandra* project developed for *Basilichi spa*. The system generates forecasts of cash withdrawal from the ATM machines belonging to a well known local bank. The forecasts are used to compute ATM recharge plans that minimize logistic and immobilization costs.
- 2007: Development of the graphical user interface for the *RotoJet* system for *Truelite srl* and *System spa*. The software targets an embedded system with a touchscreen and controls, via TCP, a complex printing machine. All of the above in C++ on a Linux platform.
- 2007: *Edox*: VB.NET scripting engine for the software modules used by the cash transport services at *Evolution Basilichi Services*.
- 2007: Development of a statistic and reporting module for the GEOS software for *Basilichi spa*.
- 2006-2007: Implementation of dynamic engines for various web portals in collaboration with *EMMEGP srl*.
- 2006: *VenariaSync*: data import module for the XLPphoto image management software developed by *Centrica srl*. The module imports images and metadata from a directory tree structure and is written in perl.
- 2006: 3D simulation of a manipulator robot (Motoman UP20) with 5-6 axes developed as extension to the *Robotic Arm Toolkit*. Uses the Direct3D engine on Windows.
- 2006: Web-based cash management module developed for a national level cash transport service owned by *Basilichi spa*.
- 2006: Integration of a bank check scanner inside the existing software framework used by *Monte Dei Paschi di Siena*. Work done for *Basilichi spa*.
- 2006: *GEOS: Gestione Economato Ordini e Spedizioni*. The software manipulates a MSSQL database with hundreths of thousands articles, thousands customers and dealers, processes hundreths of orders every day, schedules work of ten persons and is used concurrently by four operators for eight-ten hours per day. All of the above created for *Basilichi spa* with a combination of VB.NET, SQL Server 2005 and C++.
- 2006: Supervision of the project “Clam Wrapper” developed by Iacopo Palazzi for *Essentia srl*. The software is an antivirus for portable storage devices.
- 2006: Development of the eNavigator software as part of the eTraveller project: a multimedia guide for palmtops with a GPS receiver. In collaboration with *TDGroup Spa* and *Infomobility srl*.
- 2006: “*System (In)Security Foundations*”. Paper and related presentation at the Linux Day 2006 at *Universita' Degli Studi di Siena*. The paper focuses on the detailed assembly level explanation of the buffer overflow attack technique.

- 2006: *ProGIS*: palmtop management software for scientific informators (medical branch), developed for *Essentia srl*.
- 2006: Development of the *RDG (Rich Document Generator)* module for *Essentia srl*. The software provides a simple interface for programmatic template-based generation of MS Office documents.
- 2006: Development of the web portal <http://www.lacornucopiaitalia.com> for *LaCornucopia Srl*.
- 2005-2006: *BEX (Burt EX tractor)* for *Centrica srl*. The software transforms the editions of *Bollettino Ufficiale della Regione Toscana* from paper format to a digital format. Includes advanced algorithms for image processing, noise removal, optical text recognition, grammatical correction and page structure analysis. Everything in a hyper-optimized C++ in order to allow for processing of a very huge amount of data in reasonable time intervals.
- 2005: “*Linux files and filesystems*”. Paper and presentation at the *Linux Day 2005* at *Università Degli Studi di Siena*. The paper focuses on the linux Virtual File System structure and implementation and heavily references the linux kernel source code.
- 2005: Web portal <http://www.gardenservicesrl.it>, developed for *Garden Service Srl*
- 2005: Supervision of the renewal works on the web portal <http://www.sienanews.it> for *Freelance Srl*.
- 2005: System Administration services on Linux systems for *XSP Srl*. Management of high availability systems (ha).
- 2005: Renewal and reactivation of the web portal of the *ECOLAND project* for *Eurobic.srl*.
- 2004: Small web server written in C# developed for the *DAB project* for *TDGroup Spa*.
- 2004: Supervision of the “*Rassegna Stampa*” project (<http://elektra.tdsiena.it/rassegna/>) written by *Elisa Bianciardi* as master degree work.
- 2004: “*Booting Linux: A Trip in Kernel Land*”. Paper and presentation at *Linux Day 2004* at *Università Degli Studi di Siena*. The paper focuses on the linux kernel startup process and heavily references the kernel source code.
- 2004: *System Administration Services* on Linux systems in the *Tosco Dati Siena server farm*. Management of web sites, e-mail services, DNS services, traffic shaping, routing and firewalling.
- 2004: Consulting services for *Everex srl* related to the installation of a Linux system on the *EVX embedded development platform*. The hardware is based on an *ARM Intel XSCALE processor*.
- 2003: Development of a C++ software module used for “on-the-fly” generation of statistical plots related to production processes for *DEMOS srl*.
- 2003: *Mandrino*: real-time monitoring and control software for a mandrino motor developed for *Electronic Control System Spa*.
- 2003: “*Sviluppare Software (Libero) sotto Linux: una panoramica sugli strumenti e sulle tecnologie disponibili*”. Talk at *Webb.it 2003* in *Padova*. The talk focuses on the software development process on the Linux platform and describes the freely available technologies and tools.
- 2003: HTML and basic programming class for some *Tosco Dati Siena* customers.
- 2003: Web site for the *Euro Club Hotel* (<http://www.hoteleuroclub.it/>). Uses IIS and is written using *Frontpage*.

- 2003: Installation and management of the Concurrent Versioning System web interface at <http://cvs.kvirc.net>. Later replaced by the Subversion service at svn.kvirc.de and the related Trac module.
- 2003: “*Sviluppare Software (Libero) sotto Linux: una panoramica sugli strumenti e sulle tecnologie disponibili*” talk at Linux Day 2003 at Università Degli Studi di Siena.
- 2002: *perceptron*: an educational program that helps the comprehension of various types of single layer neural networks. Perceptron is based on Qt by TrollTech and is a free software. (<http://www.pragmaware.net/software/perceptron/>)
- 2002: *Rijndael cryptographic library*: C++ implementation of the Vincent Rijman's Rijndael encryption algorithm (<http://www.pragmaware.net/software/rijndael/>). The implementation has been made public domain and has been referenced for long time from the main Rijndael web page. A variant of the implementation can be also found in the KVirc IRC client sources.
- 2002: Web service “Gestione Fornitori” written in ASP for *Cooperativa CITIS*.
- 2002: “*Sviluppare Software Libero sotto Linux: KVirc, un esempio concreto*”. Talk at Linux Day 2002 at Istituto Tecnico Industriale T.Sarrocchi in Siena.
- 2001: Restructuring of the project and control software for milling machines for ECS (Firenze)
- 2001: SSEX: Szymon Stefanek's Editor for X. Multiplatform text editor oriented to application development featuring a very heavy syntax highlighting. SSEX is based on the Qt library from TrollTech and is a free software. (<http://www.pragmaware.net/software/sssex/>)
- 2001: bugtrack.kvirc.omnikron.net: minimal bugtracking system written in PHP and using a MySQL database.
- 2000: Client and catalogue management software made for the Einaudi bookshop in Siena.
- 2000: SPARC: Simple Pascal Rudimental Compiler. A compiler for a simple pascal-like language developed as an university project.
- 2000: Remote management system for a web radio palimpsest built for 4front Technologies and the XMMS project (<http://www.xmms.org>) (<http://www.xmms.org>)
- 2000: Build-up and maintenance <http://kvirc.firenze.linux.it/~pragma/> as a Perl CGI.
- Dal 1999: Build-up and maintenance of the KVirc web portal at <http://www.kvirc.net> . (PHP)
- Dal 1999: Build-up and maintenance of the FTP service at <ftp://ftp.kvirc.net> and setup of the automatic mirroring services.

Hobbies and Interests

- Informatics are my main interest and are the task that absorbs most of my free time.
- I'm a supporter of GNU/Linux and the free software movement.
- I play electric guitar and bass guitar since 1993 loving jazz and fusion-rock. I actually play in a couple of bands and exhibit publicly once in a while.
- I'm interested in painting, especially with particular techniques. In my free time I create large paintings on wooden boards.
- My readings are mainly Science and SciFi related.