Software engineer Java / C++

Years of experience: 25

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Software engineer, especialized in relational databases, Java, Spring, Hibernate, JDBC API, Visual C++, Windows API, ODBC, SQL Server, Oracle, MySQL, programming low level access to electronic devices. I have been working for Microsoft, TechData, Eichenberger Group (Switzerland, Netherlands, Germany), Universities (UAB and ESCI/UPF) and Redi[2] in Boston, MA (USA) among others, and as independent consultant in international companies. Passion for aviation and electronics.

I like documenting my work and one of my favorite sentences is "*well thought means half done*".

Academic background

1980-1983	**High School**
	Salesianos de Mataró (BCN)
	Languages and literacy branch (classic languages)
1984-1986	**Computer Equipment specialist**
	Politechnical Institute from Salesianos de Sarrià (BCN)
	Electronics and programming (hard & soft) from C & assembler to copper tracks.
1994	**Microsoft Certified Professional (MCP)**
	MCP on MS Visual Basic Application Development, verified by Drake Authorized Testing Center, reg# 6DEPAR0025, October, 28, 1994
2009-2010	**Master in Euroasian International Business (all in English)**
	Universidad Autónoma de Barcelona (UAB), in English language
	International trade specialized in Asia and European markets. Award to the best thesis and excellent (A+) as global degree of the whole master.

Profesional Experience

2014-…now **Redi[2] Technologies in Boston, MA**
Technologies: Java 2EE, JDBC, Spring, Hibernate, SVN, Maven, XSLT
The project: Web software for Asset Management sector.

Analyzing and converting an old project (Revenue Manager) made with a tool called Tenfold (a legacy tool that is mix between C++ and SQL connected into a Microsoft SQL Server database, and delivered under Windows/Citrix sessions to clients.

The goal is converting it into multi-tenant individual and private hostings with a JAVA EE connected to MySQL databases and delivering the connection via web sessions.

Technologies are JAVA, Spring and Hibernate, using connection pooling on top of JDBC. Dependencies are managed by Maven.

Profesional Experience (cont)

Team organization is Agile/SCRUM.

- My initial project was making a PDF invoice generator to allow the clients to download their fee invoices in Acrobat PDF files. Since the architecture is now Multi-Tenant, there is no one service per client any longer, but one service for all clients, optimized to deliver quick asynchronous PDF generation without collapsing the calculation engine. The former PDF generator was made in 2010 by an external company (Pragmatics) which charged $350,000 for it. My development was done in 15 days + 7 more days for documentation, performs three times faster and costed less than $6,000.
- Other projects were XSL template design for customers via two wizards, aimed to eliminate extra work for the customer support guys in San Francisco, wich were writing manually the templates' parts (header, sections, footer) and assembling the parts in real time before XSLT transforms, causing to slow down performance in the old generator.
- I wrote documentation, manuals and APIs to help other team members to put BLOBs in MySQL fields via JDBC direct calls to provide XML files and and XSL files without using File System, but using binary streams instead.
- I wrote an auxiliary tool to generate simple persitent objects in Java + JDBC for small projects requiring high speed. The tool is made in C++ with ODBC connections, generating JAVA code connecting business models directly to database via JDBC API calls. This tool also allows to display E/R models, drag and drop tables, print the graphic in multi page with MFC print preview, generate SQL DDL and code in Java on the fly.

2011-2014   **Autonomous University of Barcelona (UAB) professor and researcher**

Technologies: Visual C++, HTML, PHP, Wordpress, Moodle, MySQL, SQL Server, TCP/IP, MP3

After I completed my master on Euroasian International Business, the University school of Masters of Marketing, Commerce and distribution called me as a researcher and professor.

- I wrote a fully functional sample CRM.
- I taught CRM with it, I recorded small movies showing how the program works, and upload them into the Virtual Campus Multimedia Library to support the classes.
- I was responsible also for the Virtual Campus (Moodle), the school network, and the computing department, providing training on database programming to the internships.
- I wrote apps as complements for Moodle to send multimedia voice comments from the teacher to the virtual campus via MP3 and TCP/IP.
- I wrote a small company simulator for accounting.
- Other small applications such as matching students' profiles with internship jobs.

2003-2008   **Rectificadora del Vallès**

Technologies: Visual C++, MFC, TCP/IP, SCADA (WizCon), electronic protoboards, web services, DOM.

The project: Develop a complete manufacturing plant control system and a real-time reporting system for a steel factory (Rectificadora del Vallès) that produces metal bars for the automotive industry.

I developed programs that linked bascules with transmission lines. These weight machines were manufactured by an Italian company, and they left them installed without documentation. They used DDE to transmit the weight to their old program. I spied the DDE dialog with MS DDE Spy and then I replaced the Italian program with mine one. I designed a protoboard to capture the strobe signal from a machine who downloaded bars of metal. The only issue to take in account was that the line was lengthy and passed through an environment full of magnetic fields. I used transistors to adapt the signal level from a rélé via collector of a BC-548C, and a Schmitt trigger NAND door, signaling also with a pair of red / green LEDs. I sent the signal to a digital TTL I/O card. When weight was ready, we caught the number of Kilograms, printed a label with a codebar and sent the data to a TCP/IP multiplexor. The task of this multiplexor was centralising all bascules, mixing with corresponding SCADA info, storing data and send the production to the office in real time.

Profesional Experience (cont)

The multiplexor that I wrote for all the bascules, received data from WizCon SCADA systems for each production machine containing the quality of the bars produced. The interface was WizCon API.
I also wrote the desktop programs for the production office.

I wrote a link to Intentia's ERP sending same data to a new ERP (MOVEX), by sending web services' calls at low level programming (direct sockets against configurable IP: port) using SOAP format.
I used, depending on the package complexity, direct sprintf functions for easy packages, and DOM for more detailed packages, and then socketing on-the-fly.
I wrote another program to control work orders, production turns and work teams.
I also wrote a program to replace spare parts of the machines (Vidia nozzles) that produced the steel bars, based in the hours of work being used.
The central piece was the multiplexor app, which stored all the data in an SQL Server to provide data to the production office, and in the old ERP (IBM AS/400) via ODBC direct API calls (without Recordsets). Other applications who I also wrote were controls for cutting steel bars to manufacture dampers for automobiles.

2003-2008   AutomaticTrans / SoftLibrary

Title: Software engineer in Visual C++ for automatic tranlators
Technologies: Visual C++, MFC, Windows API, Sockets, TCP/ IP, databases, C# with framework 3.5.
Responsibilities: Develop and estabilize an automatic text translator made in C++, discuss with linguistic team, optimize and make robust drivers for text formats. Adding modules for maintaining morphosintactical rules and translation memory, build new workflow based apps. This software is installed in almost all medium size banking institutions in Spain (about 10 savings banks), in press agencies (EFE and Europa Press) and Justice Department of the Autonomous government of Catalonia (Generalitat) to translate court minutes and judicial settlements. 90% of my work was programming, 10% discussing with linguistic team.

1997-2002   Mavilor Motors (robotic motors manufacturer, Eichenberger Infranor Group)

Title: Software engineer in Mavilor and IT department manager
Responsibilities: Programming internal applications for managing the company (ERP), workflow apps for repairing circuits and also apps for the R&D department, such as flap control applications in aviation.
Technologies: Visual C++, MFC, ActiveX, TCP/IP
This company was really important in my career, since it was the inception of collaboration with the Eichenberger group in Switzerland.

1996-1997   Hispan Technologic

Title: Professor of programming languages for Windows
Responsibilities: Teaching leading edge Microsoft Technologies.
Technologies: Visual C++, MFC, WOSA (MAPI, TAPI, ODBC, Winsock), dBLib, SQL Server, DLL, ActiveX, TCP/IP

1992-1995   Microsoft

Title: Software support engineer for programming languages and development kits.
Technologies: Windows API, Visual C++, MFC, Quick C, Pascal, Assembler (MASM), DLLs, VBX, OCX, OLE 2.0, ActiveX, COM, COM+, TCP/IP via WinSock, ODBC, DAO/Jet, SQL Server, Access, MAPI, TAPI, drivers with DDK.
Funny detail: Due to my knowledge as a private pilot student, I was in charge of supporting also the Microsoft Flight Simulator v. 5.0, taking it from Microsoft Home support department.

1990-1992   Computer 2000 (now TechData)

Title: Software support technician for software products
Responsibilities: Supporting software products for the wholesaler clients (local distributors).
Technologies: Mix of old plain MS-DOS software and new Windows applications

My job consised in solving presales and post sales configuration questions referred to all software products in the company portfolio for the following manufacturers:
- **Microsoft**
- **Lotus**
- **WordPerfect**
- **Aldus**
- **SCO Xenix**
- **Precision Software (Superbase 4)**
- **Borland**
- **Ashton-Tate**
- **IBM**

Languages

English: High level
French: Almost native.
Italian: Conversation.
Chinese: Elementary level.
Spanish: Native.
Catalan: Native.

Hobbies

Aviation. Private pilot student. Tadair academy in Sabadell airport (LELL / SBD) flying Piper Archer PA-28 and American General AA05 Tiger. Avionics radio & ATC comms, ADF/NDB, VOR, VFR & IFR.
History of aviation's fan. I read and collect books on WWII warplanes and memorabilia.
Electronics: I make home sound systems and domotics circuitry.
Languages and international cultures.

Honors
6 books published, certificates and awards are attached to this CV in separate files.