

Curriculum Vitae
Dipl. Inf. Wolfgang Häfelinger

Aspired Position

Exiting job in design and/or development of software products, either as contractor or full-time employment. A location in southern Germany and Switzerland is preferred.

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ABOUT ME

| | |
|---------------|---|
| Surname, | Häfelinger, Wolfgang |
| First-name | |
| Address | Stabelstrasse 6, 76133 Karlsruhe, DE |
| Nationality | German |
| Year of birth | 1964 |
| Education | University degree Computer Science (Master) |
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COMPETENCIES

| | |
|--------|--|
| Themes | Software Architecture; JavaEE/J2EE;Build Management; Software Development; IT Security; Compiler Construction; Telecommunication. |
| Work | Independent; Teamwork; International; Flexible; Target oriented |
| Other | Working / Living within an international Environment |

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PORTFOLIO

| | |
|----------------|-------------------------------------|
| since Sep 2016 | PTV - Planung Transport Verkehr AG |
| 2015-2016 | United Internet AG |
| 2012-2015 | Energie Baden-Württemberg AG |
| 2011-2012 | European Patent Office |
| 2010 | T-Systems Multimedia Solutions GmbH |
| 2009 | häfelinger IT |
| 2005-2009 | European Patent Office |
| 2001-2005 | Borland |
| 2000-2001 | Dresdner Bank |
| 2000 | Karis AG |
| 1999 | IBM |
| 1998 | Robert Bosch GmbH |
| 1994-2000 | CompuTec GmbH Software |

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CASE-STUDY »MoSo«

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Karlsruhe (DE), 2015-2016, Contractor position at United Internet AG. Senior Software Expert in the backend of web based Shop-Systems. Member of Mobile Solution (MoSo) taskforce.

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United Internet AG is an international operating provider of Internet services. Known services are web.de and GMX. Brand "1 & 1" is especially well known in Germany for the distribution of broadband and mobile products.

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Implementation and realization of marketing concepts is done at Karlsruhe. Technological foundations are JavaEE and PHP as well as a large stack of proprietary software.

An optimized website will be displayed for shop visitors using a smartphone or tablet, the so called MoSo Frontend. For historical reasons, MoSo is not responsive, i.e. the adaptation is not a pure CSS solution. Instead, a dedicated HTML is served being locally connected to a likewise dedicated supermarket and shopping card, the MoSo Backend.

My assignment's long-term goal has been the elimination of MoSo Backend as a prerequisite for a responsive web design transition. To this end I conceptually analyzed the current solution, presented advantages and disadvantages and eventually implemented and presented a feasibility study.

Within the MoSo taskforce I was in general responsible for issues regarding the MoSo backend, i.e. whether and how marketing concepts could be feasible implementend.

A particular challenge in this work was certainly the incorporation into unknown and mostly sparsely documented eCommerce frameworks.

Technologies

Lang (**Java 1.7**), Java EE (**Tomcat, Pustefix, Servlet**), Build (Jenkins, **Subversion**, Artifactory, Maven), Projectmanagement (Jira), OS (Linux), IDE (**Eclipse**), Test (JUnit, Findbugs, Sonar), Frameworks(**Spring 4, Pustefix, other proprietary**); Other (**XML, XSLT, XPATH, HTML, CSS, AJAX, AppDynamics**).

CASE-STUDY »Mabex«

Curriculum
Vitae

Karlsruhe (DE), 2015, Contractor position as Senior Software Engineering Expert at EnBW Energie Baden-Württemberg AG. Corporate Design overhaul of a web based shop application in corporation with the companies web and design team.

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Mabex is a web based shop application for external companies. Companies order, specify deliver addresses and resell consumed hardware via this shop.

Amongst other extensions, an overhaul of the shop layout was necessary in order to be in sync with the company's new Corporate Design.

During the overhaul it became obvious, that many typical shop elements were missing in the new Corporate Design. Thus I also participated in the design and implementation of typical elements, like the inevitable shopping card, tables and the like.

The biggest challenge in this nice work was indubitable taming JSF 2 which offers a fertile ground of unexpected behavior. Additionally I introduced AJAX to make the site more responsive and user friendly. By doing so, a couple of previous shop elements could be eliminated and the site become simpler to use.

The result of this work is available at <https://www.netze-bw.de/mabex>.

Technologies

Lang (**Java** 1.7, Javascript), Java EE (**Tomcat**, **JSF 2.2**, **Richfaces**), DB (H2), Build (Jenkins, **Subversion**, Nexus, Maven, Ant), Projectmanagement (Jira), OS (Windows 7), IDE (**Eclipse**), Test (JUnit, Findbugs), Frameworks(**Spring**, **JSF**, **JQUERY**); Other (**SQL**, **HTML**, **CSS**, **AJAX**).

CASE-STUDY »VNK«

Curriculum
Vitae

Karlsruhe (DE), 2013-2015, Contractor position as Senior Software Engineering Expert at EnBW Energie Baden-Württemberg AG. Overhaul and refactoring of big data services calculating energy delivery contracts.

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VNK is an umbrella name for a set of services calculating energy contracts details based on current or estimated energy consumption. Contract details are imported from and exported to SAP-BW via SAP-JCo. SAP-JCo is server-driven in this context, i.e. Java callback functions are executed for SAP-BW side actions and events.

All VNK services suffered from serious problems: being notorious unstable, results were missing in the output due to insufficient exception handling and neither of the services scaled horizontally or vertically.

As I become responsible for all services I started immediately with overhauling and refactoring all services in order to stabilize the system. Action taken were:

Migration from CVS to Subversion; Transformation of build scripts from Ant/-Maven to Gradle. Introduction of CI/Jenkins, Artifactory and a well defined Release Procedure.

Architecture refactoring: split implementation in two independent services namely data transfer and calculation -- this measurement alone stabilized the system dramatically.

Refactoring internal jobmanagement by applying distributed queues (hazelcast.org) -- this measurement not only reduced the amount of code a lot, it also improved the performance by a factor of 20 (!). In addition, services now scaled vertically and due to the distributed queue nature also horizontally.

Implementing a fair job scheduler -- before great care had to be taken on SAP-BW side which data were fed at which time, mixing data channels had the effect of draining output tables causing SAP-BW to believe that something went wrong.

All measurements eventually paid off at last. VNK runs stable on a 24/7 basis as of October 2015 more than 12 months by now.

Technologies

Lang (**Java 1.7**), Java EE (**Tomcat, JSF 1.x**), DB (**Oracle 11g, H2**), Build (**Gradle, Jenkins, Subversion, Artifactory, CVS, Maven, Ant**), Projectmanagement (**Jira**), OS (Windows 7, GNU/Linux SLES, Sun Solaris), IDE (**Eclipse/Spring**)

STS), XML (XSLT, JAXB), Test (JUnit), Frameworks(**CXF**, **Spring**, **Hibernate/JPA**, Hazelcast), SAP (**JCo**), Other (**SQL**, PL/SQL).

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CASE-STUDY »ELCZ2«

Curriculum
Vitae

Karlsruhe (DE), 2012-2013, Contractor position as Senior Software Engineering Expert at EnBW Energie Baden-Württemberg AG. Participating in the design, implementation, test and release of a J2EE service, being an important part within a larger ERP chain.

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The released service's main duty was the merge of incoming orders -- matching against given although adjustable criteria -- into so called collective orders. Orders must then guaranteed to be delivered based on scheduled times and naturally within a given time limit. Any incoming information about any collective order ever delivered must be redistributed to the original order's authoring system.

The newly developed and released service, ELCZ2, was a complete re-implementation of an already existing but erratic service, dropping or duplicating orders under certain, mysterious conditions.

My work contribution focused on implementing business processes, design and implementation of web-gui, white- and blackbox testing. Additionally I took care about software infrastructure components like Continuous Integration and Artifact Repository.

This case study is an excellent example of my target-oriented work attitude:

Three days before Christmas and after having missed two release dates, a probably last and mysterious bug remained somewhere in the persistence layer. The last possible release date was scheduled for the next day. My working colleague, responsible for the persistence layer, was due to family reasons not available. Despite all this circumstances I eventually located and fixed the bug deep in the database, more specifically in stored procedures. With the blessing of my responsible manager I managed to ship the release just in time the same night.

ELCZ2 went live end of December 2012 on a 24/7 basis without issues.

Technologies

JavaEE (Java 6, Groovy, Spring3, JPA/**Hibernate**, **JPQL/HQL**, WSDL, CXF),
DB (**Oracle 11g**, H2), JMS (ActiveMQ, Tibco JMS), Test (JUnit, **Jbehave**), Environment (**Eclipse/STS**, **Gradle**, **Jenkins**, **Subversion**, **Artifactory**), Web (Tomcat, Jetty, Servlet, **JSF 2.0**, Primefaces, XHTML, CSS), OS (**GNU/Linux**, Windows7), Projectmanagement (JIRA, SCRUM), Other (Dozer, JMX, SQL/PLSQL, XML, JDBC, Quartz, Liquibase, Activiti/BPMN)

CASE-STUDY »OCR-Gateway«

Curriculum
Vitae

The Hague (NL), 2011-2012, Contractor position as Senior Software Engineering Expert at the European Patent Office. Responsible for design, implementation, documentation and getting operational of an OCR service.

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The assignment's goal was the creation of an interface, allowing any application to benefit of a simple and fair service that provides recognition of symbols (letters, formulas, et cetera). The service became timely and successfully operational early May 2012.

The service is based on a back-end cluster of text recognition nodes. Commercial software (ABBYY RS) has been installed on those nodes; the cluster's interface however did not provide all required properties (Fairness). Consequently, an asynchronous interface comprehending all desired features (including high availability), which uses the architecture of the Web (REST) and being vendor independent got designed by me.

After a successful prototype implementation (JavaScript / NodeJS) the service has been implemented and tested by me using Java / Java EE technologies, as well as accompanied through all test instances and last but not least documented.

Technologies

OCR (**ABBYY RS 3.0**, CVISION, Iris), Java EE (JBoss AS), **REST** (Jersey), DB (Berkeley DB SE), Distributed Caching (**JBoss Cache**), **Buildenvironment** (Maven, Jenkins/Hudson, Nexus, Subversion), Projectmanagement (Jira), Wiki (Confluence), OS (Windows Server 2008 R2, Windows 7, GNU/Linux SLES, MacOS X), Virtualisation (VMWare), IDE (**Eclipse**), **XML** (XSLT, STX, JAXB), Profiling (YourKit), Test (HP Loadrunner), **Documentation**(ASCIIDoc, DocBook, XeTeX, TkiZ), Other (**NodeJS**, **JSON**, IIS).

CASE-STUDY »Infrastructure Engineering«

Curriculum
Vitae

The Hague (NL), 2010-2011, Contractor position as Senior Software Engineering Expert at the European Patent Office.

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Migration to current and de-facto standard build-environment components (Subversion, Maven, Jenkins/Hudson, Nexus Pro, SonarJ, Fisheye and Crucible). Design, documentation, presentation and implementation of an appropriate release process. Decommission of obsolete components.

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Technologies

Build-environment (**Maven**, **Jenkins**/Hudson, **Nexus Pro**, **Subversion**), Projectmanagement (Jira), Wiki (Confluence), OS (Windows XP, **GNU/Linux SLES**, **MacOS X**), Virtualization (VMWare), IDE(**Eclipse**), Other (**Java**, **Groovy**, Ruby, GNU/Emacs, **XSLT**/XPATH, **REST**).

CASE-STUDY »Buildmanager«

Curriculum
Vitae

**Jena/Thuringia (DE), 2010, Contractor position, Build- and deploy-
manager within a J2EE environment at T-Systems Multimedia Solutions
GmbH (MMS).**

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The “Jena branch” of MMS creates web based, tailored shop systems for large and midsize customers as well for internal use. All shop systems tailored in Jena are based on IBM’s Websphere Commerce suite, an extendable J2EE framework for B2B and B2C business models.

I joined the team as Buildmanager. Responsibilities were the provision of complete shop instances (including Databases), build environments and deploy infrastructure. Furthermore, daily build and deployments, update and maintenance of database records.

A particular corner stone of my employment was to supervise and improve our processes besides participating in our daily routine work. A particular highlight was to craft a set of scripts **allowing a fully automate shop instance creation**. Before I joined, shop instances were created interactively, GUI based. One problem with this approach is surely the time it takes to complete such a complex installation. More important was the ability to recreate the same instance; essentially allowing anyone to carry it out.

Technologies

Build (Ant, Hudson, Anthill, Artifactory, Nexus, (Subversion, git), Project management (trac), Windows (XP, 7), Virtualization (VMWare), IBM Websphere (v6, v7), **IBM Websphere Commerce** (v6, v7), IBM DB2 (v8, v9), IDE(RAD), IBM Scripting Console (wsadmin), Other (J2EE, Emacs, vi, Cygwin, Jython, jacl, Tanuki Wrapper, XSLT/XPATH).

CASE-STUDY »FLAKA«

Curriculum
Vitae

Amsterdam (NL), 2009-2010, Open Source work at häfelinger IT

Flaka¹ extends Ant - a popular build tool – by providing control structures typically found in modern programming languages such as if-then-else branching, loops and exception handling. In addition, an embedded Expression Language (EL) has been added. EL provides variables, gives access to properties of low level data object and allows arbitrary complex expressions without violating XML's well-formedness. Special attention has been given on documenting Flaka by providing a decent manual².

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Flaka is based on experiences made in case study Darwin and used in a couple of projects and companies. Amongst them HUK-Coburg, a well known insurance company in Germany.

Technologies

Java, Ant, Java Unified Expression Language, Eclipse, Subversion, Git, Junit, TeX/LaTeX, Docbook, asciidoc, dblatex.

¹ See <http://flaka.haefelinger.it> and <http://code.google.com/p/flaka>

² See flaka.googlecode.com/files/flaka.pdf

CASE-STUDY »Darwin«

Curriculum
Vitae

The Hague (NL), 2005-2009, Contractor position as Software Architect and Developer within the Research and Architecture Division at the European Patent Office. Design and Development of build-system “Darwin” .

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A problem to tackle when building component based applications, is the use of proper versions. The usage of an outdated version is typically detected late in the deployment cycle and thus costly. The goal of my assignment was to provide a solution for this problem.

I solved this task by providing a fully automated build-system based on a Continuous Integration approach, internally branded as “Darwin”.

A fundamental aspect of Darwin’s design is that developers do no longer care about versions. **Version management was entirely taken over by Darwin** in a fully automated way.

CruiseControl had to be extended in order to archive this goal. A larger part of the complex version management got written in Python. Furthermore, a framework sitting on top of Ant had to be written to reduce build scripts to essentially dependency listings; assuring a homogeneous build process **of several hundred projects**.

Darwin became the **de-facto standard** for building software within the EPO.

Technologies

Java, CruiseControl, Ant, CVS, Maven, Tomcat, XML, XPATH, Linux, Windows, Eclipse, REST, Python, JSP, graphviz

CASE-STUDY »pyANTLR«

Curriculum
Vitae

Amsterdam (NL), 2004-2005, Open Source work at häfelinger IT.

ANTLR³ is a framework for writing **language recognizers**, translators and compilers with an excellent support for syntax tree construction, manipulation and tree walking. ANTLR is written in Java while having a plug-in system allowing to write and plug-in code generators for other target languages than Java.

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Before joining, ANTLR supported Java and C/C++ as target languages. I extended this list by writing pyANTLR, a code generator targeting Python.

pyANTLR became an integral part of ANTLR since release 2.7.5.

Technologies

ANTLR, Java, **Python**, Make, autoconf

³ Please find further details on ANTLR at <http://www.antlr.org>

CASE-STUDY »Software-Analyst«

Curriculum
Vitae

Amsterdam (NL), 2001-2005, Full-time employment as Software Analyst for middleware products (CORBA, J2EE) at Borland's EMEA headquarter.

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Responsible for post-sales support of mostly large, well known customers including Nokia, Ericsson, France Telecom, Deutsche Bank London, Euronext Amsterdam or Bundesagentur für Arbeit (Nuremberg, Germany).

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Main task to **analyze, test and debug** customer configurations related **Visibroker** and Borland's **J2EE Application Server**. Working either customer or Borland premises. Other tasks were to maintain a highest level of knowledge about the interaction of Borland products; to maintain contact with specialists at other sites – especially with R & D in Singapore and California; to create and distribute information about specific products; to give training and o support pre/after sales activities.

Highlights

Solved a **mysterious** problem occurring at Bundesagentur für Arbeit related to Visibroker in in a heavy multithreaded environment. That Visibroker deployment was the largest ever taken with approximately 90.000 connected clients. The problem could be explained with the help of **specialized performance testing tools** like silkperformer. Eventually I solved the problem by exchanging a Solaris specific thread library.

Lead architect in designing and providing a solution that allowed engineers to use Visibroker without installing them, regardless of platform (Windows, Solaris, Linux, HP-UX, AIX) or machine. **This solution got later implemented in other support centers as well.**

Technologies

AIX, Ant, Apache, Borland Enterprise Server, C++ Builder, **CORBA** (Naming Service, Notification Service, POA) DB2, Dbx, EJB, Ethereal, GIOP, GNU/Linux, Gatekeeper, Gdb, HP-UX, HTTP, IIOP, JNDI, JNI, IIS, HTML, IPC, Informix, **J2EE**, JAAS, JCE, JDBC, JDK 1.3, JDK 1.4, JMS, JSP, Jakarta Struts, Jbuilder, LDAP, Make, Montavista Linux, OpenLDAP, OpenSSL, Oracle, Osagent, RMI, Mod_iiop, NAT, SPY6, SSL, Servlet, Shell scripting, Silkperformer, Solaris, Squid, TCP/IP, Tcpdump, Telnet, Tomcat, UDP, UNIX, **Visibroker** (C++, Java), Windows, X.509, XML, Xdoclet

CASE-STUDY »ASN2XXX«

Curriculum
Vitae

Karlsruhe (DE), 1994-2000, Full-time employment as C/C++ Developer, Project-manager ; Head of research project ACCENT; Design and development of ASN.1 compiler and framework (C/C++, Java); Product development ASN2CXX and ASN2Java at Computec GmbH Software

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ACCENT was a collaborative research work of several European companies and organizations. It was partially founded and supported by the European Community as part of their ESPRIT program (EP 9169⁴).

The objective of ACCENT was to devise a coding system acting as hardware cell. This hardware cell had the ability to encode and decode X.209 binary data, the canonical binary representation of ASN.1 at that time.

I represented Computec GmbH Software in this consortium during the complete lifetime of ACCENT. Besides participating in the design of the overall concept of ACCENT, I provided an ASN.1 compiler and a software coding system for ASN.1 data structures. This provision allowed us to measure the performance improvement gained by using hardware instead of a pure software solution.

My software encoding engine was extremely fast and questioned the idea of implementing a (rather complex) hardware cell.

The collected experiences led to the commercial development of the ASN2XXX product family at Computec. The whole product family got designed by me and implemented in a small team led by me.

The ASN2XXX product family has been sold world wide, mainly within the telecommunication area. Well known customers have been Ericsson, Bell Atlantic, Marconi, Telefonica Spain, Storck Netherlands and Bosch Telecom Germany.

Technologies

ASN.1, C++, Java, Windows, Solaris, Sniff

⁴ <http://research.cs.ncl.ac.uk/cabernet/www.laas.research.ec.org/esp-syn/text/9169.html>

TECHNOLOGIES

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| Languages | AWK, Shell-scripting (Bash, Bourne), C#, C/C++, Lisp, Groovy, Guile, Java , JavaScript , M4 , PHP, Pascal, Perl, Prolog, Python , Ruby, Scheme, Tcl/TK, Jthon, Jacl |
| Markups | XML , HTML, ASN.1 , TeX/LaTeX , AsciiDoc, DocBook |
| Non-Turing Languages | SQL, Regular Expressions , XPath , CSS , EL , SpEL , JPQL , WSDL , IDL |
| Operating-systems | Cygwin, Unix (Digital, HP-UX, AIX, SGI, SunOS, Solaris), MKS, Windows (98, 2000, NT, XP, 7), MS-DOS, MSYS, MacOS/X , Novell Netware, GNU/Linux (RedHat, Suse, Ubuntu, Mandrake, Montavista) |
| Security | Kerberos , PKI, SSL/TLS |
| Database | Berkeley Db, IBM DB2, Informix, JDBC, MS Access, MySQL , ODBC, ObjectStore, Oracle 11, Hibernate, JPA |
| Communication | ASN.1 (BER, CER, DER, PER, X.68x, X.69x.) CIFS, CORBA , CUPS, DNS, GIOP, HTTP , HTTPS , ICMP, IIOP, IMAP, JAAC, JCA, JNDI, LDAP, NAT, NFS, NIS, NTP, OSI, PEM, POP3, RMI, RPC, S/MIME, SMTP, TCP/IP, UDP, X.509, GDMO, XDR |
| Web-development | CGI, J2EE , REST , Ajax, jQuery, JSF 2.0, Primefaces, XHTML, CSS |
| J2EE | Servlets, JSP , EJB, RMI, JINI, JNDI, JMS, Web-services, JPA, CXF, WSDL, REST, JAXB |
| Methods | Extreme Programming, OOP, CI, SCRUM |

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TOOLS

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| | |
|--------------------------------|--|
| IDEs, Editors | Eclipse/STS , Visual Studio, JBuilder, Sniff, Sun Workshop, Symantec, Visual Age, RAD, Emacs , vi, Notepad+ |
| Versionsmanagement | CVS , Subversion , git , mercurial, RCS, Perforce, GNU arch |
| Compilerconstruction | Antlr , lex/yacc, flex/bison , JavaCC |
| Webserver | Apache , Tomcat , lighttpd, winstone, IHS, IIS, Jetty |
| Application Server, Middletier | Jboss AS, Borland AS, IBM Websphere, IBM Websphere Commerce, Visibroker, Orbix |
| Buildenvironment | Make , Ant , Maven , autoconf , CruiseControl , Jenkins/Hudson , Anthill , Gradle , Artifactory |
| License-systems | FlexLM |
| ASN.1 | ASN2CXX , ISODE, snacc, OSS |
| Debugging | purify, gdb , dbx, nm, wireshark |
| Performance | Silkperformer, Yourkit Java Profiler, HP Loadrunner |
| Test | expect, JUNI IT , JBehave |
| Security | OpenSSL, mod_ssl |
| Scripting Consoles | IBM wsadmin |
| Connectivity | Samba , NFS, automounter, Humingbird Exceed, ssh |
| UML | Paradigm Plus |
| Graphics | Photoshop, GIMP, Inkscape, SVG, graphviz , TkiZ |
| Email | Qmail , Sendmail |
| Installbuilder | InstallAnywhere, InstallShield, MSI-Installer |
| Integration | Swig |
| CMS | Wordpress , Mediawiki, Confluence |
| Virtualization | VMWare, Parallels |

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EDUCATION

| | |
|-----------|---|
| 1987-1994 | University of Karlsruhe; Master degree in Computer Science |
| 1984-1987 | Grammar School (Technisches Gymnasium) Müllheim; Allgemeine Hochschulreife |
| 1981-1984 | Bahnbetriebswerk Haltingen; Degree as Metalworker (Maschinenschlosser) |
| 1976-1981 | Secondary School (Realschule) Kandern; Mittlere Reife |

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LANGUAGES

| | |
|----------------|---------------|
| German | mother-tongue |
| English | fluent |
| Dutch | advanced |

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