

Professional skills of Gerhard Schabel

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Profession: Computer scientist
Year of birth: 1958
Residence: 821xx Gauting., Germany
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DP-experience since: 1980

Membership: Gesellschaft für Informatik (GI), Germany
SchabelDoesIT GbR
Informatik Schabel UG
(haftungsbeschränkt)

Position: Architect (J2EE)
Project leader
Development OO
Quality Assurance

Nationality
Restriction(s)

German
preferred location is region Munich, Germany

Natural languages

German (native)
English (good)
French (basic knowledge)

Professional training

1978 - 1985

Master degree in computer science (German: Diplom-Informatiker)
(with subsidiary subject industrial economics) at the Technical
University of Munich

Focus: compiler construction

Diploma work: Derecursing of automatic generated compiler parts

1985 – 1991

Developer, team leader

Since 1992

Consultant

Industries

- Telecommunication
- Automobile industry
- Banking industry
- Insurance
- Health Care
- Aviation & Space
- Media

Software engineering
Methods and techniques

ebXML ISO 15000, BPMN
business analysis
OO-analysis / design (UML / OMT)
J2EE-Frameworks
Design Patterns
SA/SD

		<p>Entity-Relationship Model Flow charts Abstract data types Function point analysis RUP STEP Agile software development, SCRUM business process modelling, workflow driven processes Assessment, SPICE Reengineering/Refactoring data modelling, ERD DB optimization Test methods : functional test, blackbox/whitebox test, regression analysis, test metrics, performance test</p>
Experience	<p>Roles:</p> <ul style="list-style-type: none"> • Architect • Project leader • Developer • Quality assurance manager <p>Work:</p> <ul style="list-style-type: none"> • Offers • Studies • System architecture • OOA/D with UML, implementation, test, quality assurance • GUI development • Design & development of communication interfaces • Network management of telecom devices • Front office trading systems • Security: Encrypting software and role concepts • Internet/intranet Web technologies • Customer Relationship Management (CRM) • Content Management System (CMS) 	
Special knowledge		<ul style="list-style-type: none"> • Compiler construction, parser, state machines • Network management of telecom devices • Radio Network Controller (RNC), UMTS • SNMP agents, MIB • Information systems money market, foreign exchange • Risk Management (limit system) • Kerberos model, DES3 • CORBA 2.3, Firewall • Java Security (JAAS), SSL • Digital signal processing • Audiometry
Products:		<p>PRO3 freebXML, WebwellConnect STP (Software Through Pictures) Rose Analyzer, Rose 4.0,98i MID Innovator TogetherJ (Borland Together 2008) Adonis 3.53 MS Project Avantis Unisuite UMLBridge</p> <p>JBuilder 3.0,5.0,6.0 VisualAge f. Java 3.5.3 (IBM)</p>

WebSphere, WebSphere Studio, WSAD
Eclipse 3.1-3.5
CAVO 1.0C (CA Visual Objects)
Maestro II
DeveloperStudio MSVC++ 4.0/5.0
MFC
ATL
STL

Orbacus 4.04 (C++, Java), Mico / Jacorb
IAIK-JCE
IAIK-iSaSiLk
OpenSSL, FreeSSL
I*Net (J2EE-Framework IBM, ähnlich zu Struts),
Struts,
Apache, Tomcat
BeaWebLogic 8.1
.NET
RoboHelp
DOORS,
QFtest, Winrunner, Rational (RequisitePro, Robot, Testmanager)
JProbe (Profiler, Coverage, ThreadAnalyzer, MemoryDebugger)
OptimizeIT (Profiler, Coverage, ThreadDebugger)
Purify
VMware

Clearcase,
CVS, WinCVS,
SCCS,
KMSX (Siemens)
CM-Synergy 6.1,
Change-Synergy,
Continuus
Navision (Zeiterfassung)
GNU-Tools, Unix-Tools (shells, sed, lex, yacc, ...)
XMLBeans, XMLSPY
JUnit
Jindent
Checkstyle
Emma
EasyMock
Mockito
Cruisecontrol
Ant
Xcode
iPhone SDK (CoreLocatio, CoreAudio, UIKit, MapKit)
Interface Builder
Subversion SVN
Google Maps
Maven
Eclipse RCP
Eclipse plugin
Hudson/ Jenkins
Mercurial
CoreMedia Editor, Unified API (Java)

Databases

DB2
Oracle
Versant
(Turbo-) INFORMIX, INFORMIX-Star

	<p>Allbase (HP) Sybase SICAD-DB MS-Access PostgreSQL MySql HSQL</p>
<p>Communication software, Net protocols, standards</p>	<p>WebService MQSeries, CORBA 2.3 (MICO/Jacorb, Orbacus); used via firewalls SSL (iSaSiLk, OpenSSL, FreeSSL) HTML, XML, JSP, JavaScript, CSS LDAP, X.500 JDBC JMS (OpenJMS, MQ-Series) RPC SNMP (BRASS/EMANATE v. SNMP-Research), ATM-MIBs, ASN.1 LU6.2, Oracle-Gateway RDF (Reuters), TDPF (Telerate) NFS TCP/IP, Socket API uucp, File-Transfer FT-Sinix, ASDIS, FAUN, slip, ppp ISO/OSI-CMIP/CMIS; TRANSVIEW-NMC; TMN DME (OSF) QD2 Q3, CMIP SSH ebXML JPA, openJPA Hibernate openEjb JCA NITF XPDL</p>
<p>Internet</p>	<p>J2EE, EJB 3.0, Java-APIs, JMS, JCE, Serial Communication HTML, XML, XSLT, JSP, Struts, I*Net (J2EE-Framework IBM), WebSphere, BeaWebLogic, SunOne Apache, Tomcat</p>
<p>Software development tools</p>	<p>Eclipse NetBeans Visual Age for Java (IBM), WebSphere Studio JBuilder MSVC++ 4.0/5.0 Rational Rose 4.0 / 98, Rose Analyser CAVO 1.0C (CA Visual Objects) Maestro II</p>
<p>Graphical User Interfaces, Standards</p>	<p>Swing, Awt MFC TCL/TK OSF-Motif 2.0 SUN-View (SUN-Window, SUN-Tools)</p>

		<p>X-Windows (X11 R6), Open Desktop ODL (Object Description Language) Rich Client (RCP), SWT, Jfaces JSF, Facelets Spring 2.0, Web Flow EMF, Ecore EPF (Eclipse Process Framework)</p>
Software tools		<p>Reengineering: Analyser (Rational) Network management: AccessIntegrator 4.1 Project management: MS Project Development: Purify Unix-Shells: Bourne-, C-, Korn-Shell Unix-Tools: awk, sed Compiler tools: yacc, lex, MUG Version management: Clearcase, CVS, SCCS, KMSX (Siemens)</p>
Programming languages		<p>UML 2.0 Java 1.3, 1.4, 1.5, 1.6, 1.7, 1.8 Java Webstart, AspectJ JavaScript C++, C Objective C HTML, XML, XSLT JSP, CSS PHP, Jython, Perl, Pascal, Visual Basic, SQL, PL/SQL, Rosi-SQL, Fortran 77, DSL(XText) Groovy Swift</p>
Computer hardware		<p>SUN (3/50, 3/60, 3/110, SparcStation 5, UltraSparc) HP 9000/891/700 Siemens 7.865, MXxxx, C30 Unisys 6060, 6075 IBM R600 Digital Equipment VAX, MicroVax Cyber 175 Prime Mac Mini iPod, iPhone, iPad</p>
Operating systems		<p>MS Windows NT4.0, Win2000, Windows 7 Unix (Solaris, HP-UX, Sinix, AIX, Linux (Suse, Redhat, MontaVista) MAC OS Snow Leopard / Yosemite iOS 8.1 Android</p>
Projects	Since 17/01	<p>Planning of demand Branch: Automotive - JEE Development, Optimization, Test of RCP-Modules with focus</p>

on incoming interfaces.

SW/HW: JEE, openJPA, RCP, MDB, JMS, EJB 3.1, SWT, Java 1.7, Eclipse, Websphere 8.1, DB2, ERD, Jenkins, Sonar, Subversion SVN, Git, JUnit, Mockito/PowerMock, Rest

16/10 – 16/12 Support & Quality Management System
Branch: Automotive
- Third Level Support
- Design and realisation of change requests concerning the business components Sampling and Rejection / Complaint with focus on interfaces
- Ongoing business improvements of the software components Sampling and Rejection / Complaint and Requalification

SW/HW: JEE, openJPA, MDB, JMS, EJB 2.1/3.1, JSF 2.0/PCF, Primefaces, Java 1.7, Eclipse, Websphere 8.1, DB2, ERD, Jenkins, Sonar, Subversion SVN, JUnit, EasyMock, CodeBeamer, Rest

15/07 - 16/09 CPCM Configuration Management
Branch: Telekom
- Integration platform for Configuration of Network Elements (GSM, UMTS, LTE / Huawei, Ericsson)
- Requirements Engineering. Definition of the Parameters according to Unit Suppliers,
- Design / Implementation

SW/HW: JEE, JBoss / Oracle 11g, RCP, Eclipse, ERD, Jenkins, Sonar, Subversion SVN, JUnit, EasyMock, PowerMock, ECore

13/06 - 15/06 Support & Quality Management System
Branch: Automotive
- IT-Concept for decomposition of assemblies and part lists
- Design and realisation of change requests concerning the business components Sampling and Rejection / Complaint
- Migration backend from EJB 2.1 to EJB 3.1 (JEEarchitecture with numerous interfaces to partner systems)
- Ongoing business improvements of the software components Sampling and Rejection / Complaint and Requalification

SW/HW: JEE, openJPA, MDB, JMS, EJB 2.1/3.1, JSF 2.0/PCF, Primefaces, Java 1.7, Eclipse, Websphere 8.1, DB2, ERD, Jenkins, Sonar, Subversion SVN, Git/Gerrit, JUnit, EasyMock, CodeBeamer

13/02 - 13/05 Software Logistic System
Branch :Automotive
Ongoing development of a product for the management and coordination of the car control unit life cycle
- Improvements of the cockpit unit based on an JEE-Architecture with numerous interfaces to partner systems according to given change requests
- Refactoring / Reengineering

SW/HW: UML2, JEE, MDB, JMS, Swing, CUF (Swing-XML Binding), Eclipse, BeaWebLogic Server, Oracle, Eclipse, Maven, Hudson, Sonar, Subversion SVN, JUnit, Mockito, Hibernate, JPA, HP Quality Center, SAFE, XML, Spring

since 12/12 Rating Information System
Branch: Assurance
Extention of a risk management system

- external data feed Moody/Fitch
- JEE architecture with ULC/IVY

SW/HW: JEE, SWT, XpertIvy-JEE-Framework, Eclipse, Mysql/MsSQL, Subversion SVN, JUnit, Hibernate, JPA

02/12 - 12/12 ACM, Agile Change Management (msg, Daimler)
 Branch: Software Manufacturer, Automotive
 Development of a product for the internal change management process of the Daimler AG, mostly server side components.
 Main aspects:
 - RCP based client with CEC framework
 - model driven development
 - generic data layer with CRUD-Engine for performance improvement
 - Usage of EMF and Ecore-Metamodels for generation of client, DTOs and persistence layer
 - SCRUM

SW/HW: UML2, JEE, MDB, JMS, SWT, Eclipse Modeling Framework EMF, Websphere 6.1, DB2 UDB 9.5, OpenEJB, Maven, Jenkins, Sonar, Subversion SVN, JUnit, Hibernate, JPA, XText, Groovy, OpenArchitectureWare

11/08 - 12/04 Automatic transformation of process models
 Branch: Software Industry

Development of matching- and mapping algorithm for process models of several manufacturers.

- Draft design
 The XML Process Definition Language XPDL of the WMFC gains in importance with version 2.1 because of its new graphical and semantic elements in its role as an universal exchange format between different process models. XPDL is recognised as an important step to a standardisation of business processes and their models and optimisations, and many tool manufacturers are going to use it. So XPDL has been chosen as the common platform.
- Proof of Concept and development
 - Pkit (Stages, Method Park) --> XPDL
 - XPDL --> Pkit
 - XPDL --> EPF
 - EPF --> XPDL

SW/HW: XPDL(1.0, 2.0, 2.1), XMI, XML XSLT, UML2, BPMN, BPEL,xalan, jaxb, Eclipse Modeling Framework EMF, EcoreATL-Plugin, Aris, Stages, Apache Commons Library, Log4J, Maven

11/07 - 11/08 IMEX (GEMA)
 Branch: Media

Redesign of an accounting system for usage messages of digital media to improve performance

- Review system architecture
- Weak point analysis / optimisation
- Development of several proposals for a new system architecture with a migration strategy (f.or example with JCA).

SW/HW: J2EE-Architektur (Spring 2.5.6, Hibernate 3.2.6 GA, Apache Struts 1.3.9, Apache Commons Bibliotheken, commons-

fileupload 1.0, commons-net 2.0, Log4J Logging-Framework 1.2.9, OC4J 10.1.3.4, Maven 2.0.4, JCA, UC4

- 11/01 - 11/06 Phoenix
Branch: public body
- Realisation of workflow business processes for system parts membership and social security fee in one of the greatest Java projects in Germany.
- Maintenance of delivered modules. First and second level support
- In a framework layers of the multi-tier J2EE-architecture were mostly generated from a business and technical model (workflow, persistence layer incl. O/R-mapping, communication layer) following MDA. The process model was RUP (PRO3).
- Review of functional descriptions
 - Proof of concept, time/cost estimations, design and programming (client and server) according to the functional requirements.
 - Code assessments, code reviews and refactorings,
 - Maintenance, second/third level support
 - Responsible manager for performance
 - Design Patterns
- SW/HW: J2EE-Architektur (Fat Client), UML, MDA, RUP, 3-Tier, Java 1.5, Swing; Spring, Jindent, Checkstyle, Emma, EasyMock, AspectJ; DB: DB2; MID-Innovator 7.0, MQ-Workflow 3.2, JUnit, Eclipse, Jboss, Borland AppServer 4.5.5, Adonis 3.53, CM-Synergy 6.2, Change-Synergy, Ant, Maven, Windows 2000; PC
- 10/07- 11/01 Data Migration for Handelsblatt
Branch : Media
For the data migration of online data of the newspaper into CoreMedia-CMS, I have developed an importer module. Interface used was NITF (XML) files and the CoreMedia Unified API.
My tasks:
- Functional design in cooperation with the editorial office
 - SW development
 - Data migration
- SW/HW : CMS Core-Media, Core-Media API, NITF, Java, Hibernate, Eclipse, Sax-Parser, Dom-Parser, Xpath, Mercurial, Hudson, MSEXcel, JSP, Ajax, JSON, Tomcat
- 09/10 - 10/04 iPhone App 'Hörtest für alle'
Branch : Health Care
I developed the iPhone App 'Hörtest für alle'. The user can test his hearing and can measure the surrounding loudness. The app has a sinus frequency generator for frequency and volume dependent test sequences. The app has been made online available on 09/04/2010 in the App store of Apple.
My tasks:
- Project leadership together with the assistance of ear, nose and throat doctors
 - Software development
- SW/HW : MVC-Architektur, IDE: XCode, Objective C, Cocoa, CoreLocation, CoreAudio,, MapKit, UIKit, iPhone-SDK, iPhone Simulator,
Mac mini, MAC OS Snow Leopard

- 03/07 – 05/10 (25) Phoenix
 Branch: public body
 - Realisation of workflow business processes part II in one of the greatest Java projects in Germany.
 - Maintenance of delivered processes part I. First and second level support
 - Member of the performance team.
 In a framework layers of the multi-tier J2EE-architecture were mostly generated from a business and technical model (workflow, persistence layer incl. O/R-mapping, communication layer) following MDA.
 SW/HW : J2EE-Architektur, MDA, RUP, 3-Tier, Java, Swing, UML; DB: DB2, Oracle; MID-Innovator 7.0, MQ-Workflow 3.2, JUnit, JBuilder X, Borland AppServer 4.5.5, Adonis 3.53, CM-Synergy 6.2, Change-Synergy, Windows 2000; PC
- 06/07 – 09/09 (28) ebXML – Prototype
 Internal project
 Realisation of a communication prototype based on Webswell ebXML with a rich web client GUI
 SW/HW: Eclipse RCP, Eclipse plugin, SWT, JFaces, Tomcat, Webswell ebXML; Linux, WindowsXP, PostgreSQL
- 01/05 – 02/07 (27) Q3 Agent for Radio Network Controller
 Branch: Telecommunication
 • Development of a Q3/CMIP agent for the radio network controller NextGeneration-RNC for the administration of the NodeB UMTS basic stations
 • Generation of the mediation code that maps the Q3 info model and object model and vice versa by means of a code generator
 • Design and programming of the C++ code generator with Java.
 SW/HW: C++, Java, Eclipse, Clearcase, Linux (Montavista), W2K, XMLBean, XSD, XML, X-Win32, VMware, VNC, ASN1, Gdmo-Dset-Toolkit
- 10/04 – 12/04 (26) CarMen
 Branch: Automobile Manufacturer
 Realisation of a CRM integration platform as an extension of the Siebel system. In order to optimise the business cases in Siebel, several time consuming parts were extracted. The extension was created completely new und communicates with the Siebel system via WebServices and JMS queues and encapsulates the complete communication from Siebel to the channels. A prototype for a organisation unit was developed.
 Architecture: J2EE (BeaWebLogic, SessionBeans, MessageDrivenBeans, MQ-Series, Oracle). All interfaces in XML. My task was design and realisation of several business cases with mainly WebServices. agile SW-development with OpenSource-Tools. Realisation according to specification and own planning.
 SW/HW: J2EE-Architecture (SessionBeans, MDB), Eclipse, Ant, XMLBeans, XMLSPY, XML, XSLT, Java, JUnit, EasyMock, , CruiseControl, UML, TogetherJ, JMS, BeaWebLogic 8.1, WebService, CM-Synergy 6.2; Oracle; Windows 2000; PC
- 09/03 – 09/04 (25) Phoenix
 Branch: public body
 Realisation of workflow processes with Swing in one of the greatest Java projects in Germany in a big team. In a framework layers of the

multi-tier J2EE-architecture were mostly generated from a business and technical model (workflow, persistence layer incl. O/R-mapping, communication layer). My role was the realisation (Client+Server) according to the design specification.

SW/HW : J2EE-Architektur, MDA, RUP, 3-Tier, Java, Swing, UML; DB: DB2, Oracle; MID-Innovator 7.0, MQ-Workflow 3.2, JUnit, JBuilder 6.0, Borland AppServer 4.5.5, Adonis 3.53, CM-Synergy 6.2, Change-Synergy, Windows 2000; PC

- 10/02 – 08/03 (24) Version Management for Car Control Units
Branch: Automobile Manufacturer
- Test of 'Steuergeräte und Software' Information system being a J2EE architecture (Swing Rich Client -WebSphere-Oracle). I was responsible for the entire QA (test concept, test environment, tool selection and testing). For the functional test scenarios were recorded according to use cases. Under the control of diverse tools for performance measurement, memory consumption, the test coverage was determined. Releases were tested also by regression tests.
 - Online-Help (help index und context sensitive help) was done with RoboHelp.
- SW/HW : J2EE-Architektur, 3-Tier, EJB, Swing, DB: MSAccess, Oracle, Toad, QFTest, JUnit, WebSphere, (Sitrika-Tools, Rational Test Suite, Mercury-Products), RoboHelp, CM-Synergy 6.1, Change-Synergy, Windows NT, 2000; PC
- 07/02 – 09/02 (23) Surveillance of fish plants including external alarm units
Branch: public body
- Project leader
 - Analysis, Design, Implementation
- SW/HW: JBuilder, DB: MSAccess, JDBC, HSQL
Windows NT; PC, Regulators (Modbus, RS485/RS232) with different sensors
- 02/02 – 06/02 (24) Campaign Management
Branch: Insurance
- Functional design
 - Study for selection of a workflow system (MQSeries Workflow)
- SW/HW: I*Net, Web browser, WebServer/ApplikationServer: WebSphere (IBM), Java VisualAge (IBM), WebSphere Studio, XML, HTML, EJB, JSP, Java, JavaScript, JNDI, DB: Oracle, MSAccess, JDBC, MSWord; Windows NT, OS390; PC
- 11/01 – 01/02 (23) Surveillance of fish plants including external alarm units
Branch: public body
- Project leader
 - Analysis, Design, Implementation
- SW/HW: JBuilder, DB: MSAccess, JDBC
Windows NT; PC, Regulators (Modbus, RS485/RS232) with different sensors
- 07/01 – 11/01 (22) CMS: Providing internal information's in intra/extranet
Branch: Insurance
- OO-Analysis, OO-Design,
 - Implementation with the help of a J2EE-framework; the information selection is user bound
- SW/HW: I*Net, Web browser, WebServer/ApplikationServer: WebSphere (IBM), Java VisualAge (IBM), WebSphere Studio, XML, HTML, EJB, JSP, Java, JavaScript, JNDI, DB: Oracle, MSAccess, JDBC, MSWord; Windows NT; PC

- 04/01 – 06/01 (21) CRM: Global analysis of customer contacts
Branch: Insurance
- Interview of departments
 - Review of documents
 - comparative study for integrating different solutions
 - Project leadership
- SW/HW: Windows NT, MSWord, MSEXcel, MSPowerPoint; PC
- 10/00 – 03/01 (20) Program package for the safeguard of web resources through authentication und authorisation of users with a fine scalable right model
Branch: Software industry
- System architecture
 - Design of a SSL-based client/server communication with UML;
 - Studies for selection of the basic interprocess communication
 - Development of the communication layer with use of C++/Java-ORBs and client/server certificates
- SW/HW: Windows NT, LDAP, X.500, Solaris, Java, JBuilder 3.0, Apache, Tomcat, BeaWebLogic, JDK1.3, STP, CORBA (Orbacus), JAAS, JMS, Joram, IAIK-iSaSiLk, IAIK-JCE, OpenSSL, FreeSSL; PC, Sun
- 12/99 – 09/00 (19) Integration of the RACF user management into a role based security product
Branch: Bank
- Design with UML and implementation of the RACF interface with C++
- SW/HW: LDAP, X.500, Windows NT, MS VC++ 5.0, Purify, Rose 98, Rose Analyser; PC
- 04/99 – 11/99 (18) Development of a roll based security software for banks
Branch: Bank
- Design and implementation of a prototype for demonstration of the Kerberos DES3 encryption for a web based client/server application in Java (proof of concept)
 - Works on the GUI for administration of the role model
 - Code review, review of the documents
 - OOA/OOD and redesign with UML and Rose tools
- SW/HW: LDAP, X.500, Windows NT, Solaris, MS VC++ 5.0, Java, JBuilder 3.0, Purify, Rose 98, Rose Analyser; PC, Sun
- 09/98 – 03/99 (17) Assessment of a V5 subsystem of a network management application Branch: Software/hardware industry: telecommunication
- Code review, review of the documents
 - OOA/OOD and redesign with UML and Rose Tools, preparing code generation
- SW/HW: Windows NT, MS VC++ 4.0, Purify, MS Project, .NET ClearCase, Rose 98, Rose-Analyser, TCL/TK, SNMP, MIBs, ASN.1; PC
- 06/97 – 08/98 (16) SNMP-based network management applications
Company: Siemens AG, Munich, as a consultant
Functions: project manager, SW-developer,
Tasks:
- project planning
 - SW-development: design, programming, test, documentation
 - Reengineering
- (Windows NT, MSVC++ 4.0, Purify, MS Project, .NET, ClearCase, Rational Rose, Analyser (Rational), TCL/TK, SNMP, MIB, ASN.1)

- 06/96 – 05/97 (15) Introduction of the front office trading system ‘Global Trader’
Company: Hypobank AG, Munich, as a consultant
Functions: software engineer, quality inspector
Tasks:
 - Technical co-ordination
 - Design and programming of a communication interface
 - quality assurance (testing concepts)
(OSF-Motif, Oracle, Solaris 2.4, SparcStation 5, UltraSparc, C, C++, SQL, LU6.2, Oracle-Gateway)
- 02/95 – 05/96 (14) RABBI-V, requirement planning for German TELEKOM
Company: Softlab GmbH, Munich, as a consultant
Functions: software engineer
Tasks:
 - Redesign and programming of a module of the distributed database
 - programming according to specification
 - error analysis and corrections, hotline
(MaestroII, PC, Hp-UX, HP 9000/891/700, Unisys 6060, 6075, Informix, -Star, Rosi-Sql, C, Shells)
- 11/94 – 01/95 (13) Time registration system
Company: R&H GmbH, Munich, as a consultant
Functions: software engineer
Tasks:
 - Design and programming of a time registration system for a smaller company
(HP-PC, Allbase, C)
- 05/93 – 10/94 (14) RABBI-V, requirement planning for German TELEKOM
Company: Softlab GmbH, Munich, as a consultant
Functions: software engineer, hotline
Tasks:
 - programming according to specification
 - error analysis and corrections, hotline
(MaestroII, PC, Hp-UX, HP 9000/891/700, Unisys 6060, 6075, Informix, -Star, Rosi-Sql, C, Awk, Shells)
- 10/91 – 03/93 (11)(12) Network management systems GKMS and Transview-NMC
Company: Siemens Nixdorf Informationssysteme AG, Munich, as a consultant
Functions: software engineer, pre sales manager
Tasks:
 - design, specification and programming of a version system
 - creation of an offer for a customer
 - creation of requirement list of GKMS V2.0 - The integration into Transview-NMC
(Siemens MX500, MX300, MX2-10, MX2-20, MX2-30, C3, PDN, BS2000, Sinix (5.21, 5.22, 5.23, 5.24, 5.40, 5.41), C, Sicad DB, ODL, KMSX, NFS, CMX, REMOS2, TCP/IP, Socket API, uucp, File-Transfor FT-Sinix, ASDIS, FAUN, ISO/OSI-CMIP/CMIS; TRANSVIEW-NMC; TMN, CORBA(OMG), DME(OSF))
- 03/91 – 09/91 (10) A.M.S: Limit system for a trading system for money market and foreign exchange for banks
Company: Infosoft GmbH, Munich, as a consultant
Functions: software engineer
Tasks:
 - detailed specification and programming of a limit system for A.M.S

- according to requirements
(IBM R600, PC486/586, Tandon, Toshiba 110 Plus, Siemens PC, Sco Unix, Interactive Unix, AIX, C, Pascal, Sybase, Open Desktop)
- 01/89 – 02/91 (9)(8)(7)(6)(5)(4) A.M.S: Trading system for money market and foreign exchange for banks
Company: Infsoft GmbH, Munich, as employee
Functions: project manager, software engineer
Tasks:
 - project management: porting of A.M.S from Pascal/Dos to C/Unix
 - Introduction of Unix in the company, introduction of relational database, training
 - product redesign: client server architecture
 - concept and programming of a database driven mask generator, coordination of the development with branch office
 - concept and programming of a consistency check of distributed data, database tuning
 - design of development tools and a version management system
 - program ports to several Unix derivatives
(IBM R600, PC486/586, Tandon, Toshiba 110 Plus, Siemens PC, Sco Unix, Interactive Unix, AIX, C, Pascal, Sybase, Open Desktop)
- 07/87 – 12/88 (3) Network management for the printing office supplier Berthold
Company: Epsilon, Berlin, as employee
Functions: Software Design
Tasks:
 - design of a graphical user interface for a flat bed scanner
 - study and concept for configuration of customer networks
 - development of a graphical user interface for network administration
(SUN 3/50, 3/60, 3/110, SUN-View (SUN-Window, SUN-Tools) X-Windows (X11 R6), C, CDL2)
- 01/87 – 06/87 (2) Redesign of the user interface of the antenna system of the German space centre
Institution: Deutsche Forschungsanstalt for Luft and Raumfahrt, Oberpfaffenhofen, as a consultant from Infsoft
Functions: software engineer
Tasks:
 - Redesign of the graphical user interface (Digital Equipment VAX, MicroVax, Fortran)
- 05/85 – 12/86 (1) A.M.S: Trading system for money market and foreign exchange for banks
Company: Infsoft GmbH, Munich, as employee
Functions: software engineer
Tasks:
 - design and programming of development tools
 - design and programming, installation and service for communication interfaces (Reuters, Telerate, IBM, Video-Switching-System)
(PC486, Tandon, Toshiba 110 Plus, Siemens PC, Pascal)
- 1982 - 1983 CAD project: auto router
Functions: software developer (short term job while still at university)
(Prime, Pascal)
- 1981 - 1982 Software solution for a printing office: offer management
Company: Schneider GmbH, Munich, as a student

		Functions: software developer (Qantel, Quick Basic)
	1980	Syllabication program COSY Company: Siemens AG, Munich, as a student Functions: quality inspector
Professional Trainings	2015	GIT/Gerrit
	2014	iSAQB® Certified Professional for Software Architecture
	2007	ebXML self-studies
	2000	UML - course, Munich
	2000	STP - course, Munich
	1996	C++ - course, Munich
	1995	Introduction in object orientated software design, Munich
	1995	EDI (Electronic Data Interchange), Munich
	1994	Software Tools Integration, Munich
	1993	The Internet Protocol Family (TCP/IP), Munich