

# Software Engineer

*Java Technology Stack, Databases, Software Architecture and Design*

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## Overview

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- More than sixteen years experience as software engineer for media agencies, web designers, software manufacturers and industry
- Very strong focus on developing with Java (Java SE, Java EE, Servlets, JSP, JSF, SWT, Swing, JavaFX)
- Extensive knowledge of Java security, JCA/JCE and the Bouncycastle provider
- Proficient in design and development of databases (product independent)
- Demonstrated knowledge of software architecture and design patterns (GoF, Java EE, EIP)
- Requirements analysis and object oriented modelling and design using UML
- Exceptional troubleshooting and problem solving abilities
- Solid experience programming network applications in Java
- Solid experience in GUI design and programming
- Proficient use of Windows, Unix and Linux operating systems
- Experience working in small and large teams as well as on my own

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## **Technical Skills**

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### **IT-Knowledge Software**

- Java 1.0, 1.1, 1.4, 5, 6, 7, 8
- Java Web Start
- Bouncycastle JCE/JCA provider
- Eclipse 2.x, 3.x, 4.x
- SQL Explorer
- Junit / TestNG / Mockito
- FindBugs
- PMD
- Enterprise Architect, Sparxsystems, Version 6.x, 7.x, 8.x, 9.x, 10.x
- Apache Ant
- PostgreSQL, pgAdmin III
- Gantt Project
- Poseidon UML
- MS Office
- Open Office
- Macromedia Studio MX2004 prof.
- Flash Communication Server 1 and 1.5.
- Flash Media Server 2.0
- Adobe Flash CS3
- Apache Tomcat 4 to 8
- Apache HTTP Server
- Glassfish 3.x, 4.x
- Apache Axis2
- Sun Wireless Toolkit
- MS SQL Server
- Symbol Pocket Browser
- MathType 5
- CamStudio
- Apache Batik
- Hibernate
- SVN
- Apache ServiceMix
- Netty 4.1.0
- AspectJ
- Google Protocol Buffers

### **IT-Knowledge Programming**

- Java, Java SE, Java EE, Java ME
- JCA/JCE
- Servlets, JSP, JDBC, ODBC
- OSGi
- Swing, SWT, JavaFX
- SQL, DDL, PL/PG SQL
- Actionscript AS2, AS3
- XML, DTD, XML Schema, XSLT, XPath
- SVG, Batik
- XHTML, Javascript, CSS
- Web services, REST, SOAP
- Java RMI, sockets, HTTP, SSL
- mBeans

### **IT-Knowledge Administration**

- IIS 5, IIS 6
- Apache Tomcat 4.x, 5.x, 6.x, 7.x, 8.x
- Apache HTTP Server
- Glassfish 3.x, 4.x
- Flash Communication Server 1.5
- Flash Media Server 2.0
- Win 7, Windows 2000 professional, XP
- Windows Server 2003 Web Edition
- DynFX Mailserver
- Unix, FreeBSD
- Linux, Xubuntu, Ubuntu, Debian Mint

### **IT-Knowledge Databases**

- PostgreSQL
- My SQL
- Microsoft SQL Server
- Oracle XE
- DB2

### **IT-Knowledge Modelling**

- UML 2.0 , 2.1
- MDA, SOA
- Prototyping
- ERM, ERD, SQL
- GoF Patterns
- J2EE Patterns

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## Education

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**Master of Science in IT (Software Engineering) University of Liverpool, UK - 2008 to 2011**

**Dipl. Informatiker - Degree in Computer Science (Studies Direction: Information and Communication Management) University of Applied Science, Darmstadt – 2002 to 2006**

## Publications

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**Komplexitätsbewältigung durch Softwarearchitektur**, Andreas Junius, VDM Verlag Dr. Müller, ISBN 978-3-8364-0481-5

## Professional Experience

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### Senior Software Engineer

Ebor Computing Pty Ltd

[<https://www.ebor.com/>]

Aug 2015 – now

Project Nullarbor - a complex system for radio frequency analysis and direction finding. The system will be installed in various locations in Australia and consists of components written in C++11 and Java 8. My contribution consists of the following components:

- **Syslog component.** A small system that uses the Kiwi Syslog Server to store log messages in a PostgreSQL database. Build-in scripting facilities have been used to match certain parts of the syslog-message to individual columns in the database. The project contains also a persistence layer for the database written in Java using JDBC.
- **ART (Asynchronous Remote Testing).** A small framework that allows to orchestrate any number of local and remote components using a local JUnit test framework. The system uses Java mBean technology to do the messaging and makes heavy use of Java Reflection to execute remote code.
- **Audio Manager Component.** The Audio Manager is a middleware component that monitors a number of UDP ports for incoming audio that gets de-multiplexed and forwarded to subscribers for particular audio streams. This component consists of three sub-components that allow to manage monitors, to manage subscriptions and one for de-multiplexing and forwarding the UDP datagrams. This component is multi-threaded and optimised for maximum throughput (5.6 MB/sec).
- **Node Data Management.** This component controls node servers with respects to audio recording. It orchestrates incoming requests for audio recordings, sets up the recording directories and meta data files and forwards those commands to the actual audio recording facility on the network. It monitors the mass storage device for disk space consumption and all other events triggered by the Signal Processor.
- **TLS configuration.** Securing the plain socket connections using TLS 1.2 with client certificates. Set-up of a local certificate authority, CRL host and all necessary keystores and truststores for testing and development.
- **Server Monitoring.** Implementation of a number of mBeans for the System Manager server, that allow real-time monitoring and diagnostics of the running server using Javas JVirtualVM.

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- **JavaFX Charts.** I implemented a number of JavaFX charts that show time domain data, frequency plots, signal strengths, direction finding results and identified tracks. All those components show very large amounts of real-time data and are based on a plain Canvas component.

### *Technologies used:*

- Java SE 8
- JavaFX
- Swing
- JPA
- UML 2.1, Enterprise Architect
- Eclipse 4.6
- Netty 4.1.0
- TestNG
- Mockito
- AspectJ
- Google Protocol Buffers
- PostgreSQL
- MySQL

### *Environment:*

- Windows
- Linux
- Git
- Gradle
- Jira
- Jenkins
- Confluence
- Stash

## **Java Software Engineer**

NCVER

[<http://www.ncver.edu.au>]

Nov 2014 – Apr 2015

Implementation and testing of the Collections Data Replacement (CDR) project. CDR provides a web-based interface to a data warehouse based on DB2. The application is based on Spring and uses a wide range of third party libraries, most of them open source.

### *Technologies used:*

- Java SE 7
- Spring 3 / Spring MVC
- Hibernate
- JMS
- REST/AJAX/JSON
- jsp
- javascript, JQuery
- Jasper Reports
- UML 2.1, Enterprise Architect
- Eclipse
- SQL Explorer
- Linux, Windows

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## Senior Software Engineer

Internode [http://www.internode.on.net] Mar 2014 – August 2014

CastIron retirement project consisting of a large number of sub-projects, here about Sensis (aka Whitepages).

### *Technologies used:*

- Java SE 7
- Spring-Boot
- REST
- UML 2.1, Enterprise Architect
- Eclipse 4.4
- GIT
- CastIron Studio
- Jenkins
- Ubuntu Server 10.04 LTS

## Senior Software Engineer

Internode [http://www.internode.on.net/] Feb 2014 – Mar 2014

NetSuite data export project. The problem: NetSuite, a SAAS offering for CRM (customer relationship management) doesn't provide a facility to do a comprehensive data export. The company even charges their customers for handing back their own data. There are specialised companies that made it a business model to export NetSuite data. Unfortunately the amount of data collected by Internode (about 310 GB) made it too expensive to use any of these offerings, so we decided to do a selective export using their web interface. My tasks: thorough analysis which data types are to be exported and their relationship to each other; doing the actual export of types and relationship tables; writing a Java export tool that is able to download print views and files from the NetSuite interface based on the exported CSV lists and doing the actual download incl. Verification of contents and data integrity.

### *Technologies used:*

- Java SE 7
- UML 2.1, Enterprise Architect
- Eclipse 4.3

## Senior Software Engineer

Internode [http://www.internode.on.net/] Jul 2012 – Jan 2014

Worked on the Smartlife project - a large software system for home automation, monitoring and energy management in a team of solely highly skilled senior developers. Main tasks: design of the persistence layer and the application architecture, working on the security concept; implementation and testing. Design and implementation of the authentication and authorization layer. Design and implementation of complex aggregation algorithms. Design and Implementation of the complete datamodel targeting the SQL Server database.

### *Technologies used:*

- Java EE6
- Glassfish 3.1.2 web application server
- UML 2.1, Enterprise Architect

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- Java 6, Java 7, Eclipse 3.7
- XML, Json
- Windows/Linux (Server 2008/Ubuntu)
- MS SQL Server
- Maven
- JIRA
- Crucible
- FishEye
- Bamboo

### Senior Software Engineer

Internode

[<http://www.internode.on.net/>]

Oct 2011 - Jun 2012

Planning, design and implementation of a stripped down ServiceMix environment and a range of services to monitor and amend a particular installation.

**The problem:** Internode uses ServiceMix as a server environment for its applications, which are connected to other systems via an enterprise service bus. Maintenance and monitoring was quite difficult and some tasks were even impossible. The new environment adds a wide range of console commands (bulk installation of bundles, analysis tools to get bundle dependencies, service usage and so on), a range of REST web services for monitoring purposes, a bundle diagnosis API and an automated installer and verifier to ServiceMix. These means integrate well with the outside environment used by Internode, e.g. the Unix operating system and a range of Atlassian products (Bamboo, Jira, Crucible, FishEye, etc.). The result is an environment, which can be monitored (and fixed) in an automated way and which integrates well with all other systems.

#### *Technologies used:*

- Apache ServiceMix 4.3
- Apache CXF
- Apache Karaf
- Apache Felix
- OSGi Service API 4.2
- UML 2.1, Enterprise Architect
- Java 6, Eclipse 3.7
- XML
- Unix/Linux (FreeBSD/Ubuntu)
- Maven
- JIRA
- Crucible
- FishEye
- Bamboo

### Java Engineer

Sydac/Adelaide

[[www.sydac.com.au](http://www.sydac.com.au)]

Feb 2010 – Sep 2011

Sydac is an Adelaide based company producing train driver simulators and similar solutions for other fields. These simulators consist of several components, written in C++ and Java. I designed and implemented a so called driver machine interface using Java Swing, Apache Batik, SVG, a proprietary communication framework (JNI) and Hibernate for Rail Corporation NSW. Further tasks concerned the development of

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a wrapper around the communication framework to simplify its use and the development of a management console (Swing, Batik, Hibernate) for the DMI.

*Technologies used:*

- Enterprise Architect, UML
- Java 1.5
- Apache Batik and SVG
- Apache Ant
- SVN
- XML
- Hibernate
- Comms

**Mobile Developer, Software Design**

GPS-Dating GBR/Munich [www.friendsinapocket.com.au] Oct 2009 – Nov 2009

**Lead Developer, Software Architect**

TourManager [www.acomm.cc] Jun 2009 – Sep 2009

**Lead Developer, Software Architect**

GPS-Dating GBR/Munich [www.friendsinapocket.com.au] Nov 2008 – May 2009

**Senior Developer**

IBM/Virtual-Solution, Munich [www.ibm.com/ch] Oct 2007 – Oct 2008

**Lead Developer/Software Architect**

Proximic, Munich [www.proximic.com] Aug 2007 – Oct 2007

**Database Designer**

BMW, Munich [www.meinmini.de] Jul 2007

**Software Engineer**

SKTS, Munich [www.skts.de] Jun 2007

**Software Engineer**

Intervet, Munich [www.intervet.com] May 2007

**Software Architect**

CAM GmbH, Munich [www.cam-comp.de] Jan 2007 – Apr 2007

**Software Developer**

IPS, Munich [www.ips.de] Nov 2006 – Dec 2006

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## **Software Architect and Developer**

Dr. Carl, Stuttgart

[[www.dr-carl.com](http://www.dr-carl.com)]

May 2006 – Nov 2006

## **Software Architect/Developer**

Thesis, Munich

[[www.chess-freak.com](http://www.chess-freak.com)]

Feb 2006 – Oct 2006

## **Software Developer**

IsarDesign Geretsried/Munich

[[www.isar-design.com](http://www.isar-design.com)]

2004 - 2006

## **Software Developer**

AD\Focus, Munich

[[www.ad-focus.com](http://www.ad-focus.com)]

Feb 2002 – Dec 2003

## **Software Developer**

IsarDesign Geretsried/Munich

[[www.isar-design.com](http://www.isar-design.com)]

1999 – 2002

## ***Professional Development***

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Certified ScrumMaster® - 2012

Certified Macromedia Flash MX Developer - 2003

Certified Macromedia Flash 5 Developer - 2002

## ***Languages***

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- German - Native speaker
- English - Competent User