Project Summary

Muhammad Abduh, Dipl.-Ing.
https://abduh.de

2010 – present, Digital Ratio

Development of data warehouse applications (e.g. data marts for marketing, campaign management). Development of software for commissioning, system integration. Development of Qlik Sense and QlikView applications. Development of software for billing and reporting of products for house automation. Development of software for data quality management, sales support, workflow system.

- **Languages:** Ab Initio DML, PL/SQL, Perl, KSH, Java, Groovy, C#, JavaScript
- **Products:** Ab Initio Co>Operating System, Ab Initio EME, Pentaho, Qlik Sense, QlikView
- **Frameworks:** Spring, .NET
- **Development Tools:** Oracle SQL Developer, Gradle, Subversion, Jenkins, IntelliJ, Visual Studio
- **Databases:** Oracle 18c, MySQL, Teradata
- **Operating Systems:** HP-UX, SUN Solaris, Windows Server

2004 – 2010, COLT Telecom

Development and continuous improvement of the web application NTQR (Network Traffic & Quality Report). NTQR is a key tool for network planning and traffic analysis of pan-European COLT Voice Networks (Siemens EWSD, Nortel DMS). The application consists of several modules, among other things Trunkgroup Traffic Reports, C7 Link Monitoring, ASR/NER/PDD Monitoring, Transit Traffic Analysis.

- **Languages:** Java, Groovy
- **Standards:** JPA, JDBC, JMX, XHTML
- **Frameworks:** Spring, Hibernate, Grails, jQuery, JFreeChart
- **Application Server:** Glassfish
- **Databases:** Oracle 11g
- **Operating Systems:** SUN Solaris

2008 – 2009, COLT Telecom

Development of SIP-based application prototypes on the IMS architecture. SIP Servlets have been developed for the Blended Services such as Contact List Management, Instant Messaging, Presence-based Call Forwarding.

- **Languages:** Java
- **Standards:** SIP Servlet (JSR 289), XCAP, SOAP
- **Frameworks:** Axis2, Parlay-X
- **Application Server:** WebLogic, OC4J
- **Databases:** Oracle 11g
- **Operating Systems:** RHEL

2007 – 2008, COLT Telecom

Development of a web application for real-time monitoring of Cisco VoIP network elements (PGW, AS5400, gatekeeper, HSI), and Sonus' IMS network elements (PSX, GSX, NBS, ASX, DSI, EMS). The main features include statistics on system utilization, monitoring of system alarms (with email notification service), traffic analysis.

- **Languages:** JRuby
- **Standards:** ActiveRecord, DBI, XHTML
- **Frameworks:** Ruby on Rails, Prototype, RRDTool
- **Application Server:** Glassfish
- **Databases:** Oracle 11g
- **Operating Systems:** SUN Solaris

2006 – 2007, COLT Telecom

Development of the web application NPT (Number Portability Tool). NPT performs an automated update of the routing for the ported numbers in the switching systems. This will avoid the high costs for the transit traffic. NPT is used in the COLT countries Germany, France and Italy for LNP (Local Number Portability) and MNP (Mobile Number Portability).

- **Languages:** Java
- **Standards:** JPA, JDBC, JMX, XHTML
- **Frameworks:** Spring, Hibernate, Spring MVC, Prototype
- **Web Container:** Tomcat
- **Databases:** Oracle 10g
- **Operating Systems:** RHEL

2005, COLT Telecom

Development of the web application PROCEN. It is a service provisioning tool for the Siemens SURPASS NGN platform. PROCEN provides the feature of an automated bulk-provisioning that can significantly accelerate the service commissioning. Configuration data is automatically synchronized between the PROCEN database and the network elements HiE9200, HiG50, HiQ30, PCU, TFTP server to achieve the data consistency.

- **Languages:** Java
- **Standards:** J2EE, EJB 2.1
- **Frameworks:** Struts
- **Application Server:** JBoss AS 4.0
- **Databases:** Oracle 9i
- **Operating Systems:** SUSE Linux

2004, COLT Telecom

Development of the web application VM*Admin for voice mailbox provisioning of COLT's customers on Nortel FMM (Flexible Message Manager). VM*Admin can be easily used to administer the user profiles, the DDI and the system configuration. Furthermore it is a very useful tool for monitoring the capacity of the database for storing the voice mails (audio data).

- **Languages:** Java
- **Standards:** J2EE, EJB 2.1
- **Frameworks:** Struts
- **Application Server:** JBoss AS 4.0
- **Databases:** Oracle 9i
- **Operating Systems:** SUSE Linux

2003, COLT Telecom

Development of the MS-Access based tools ProviDSL for provisioning COLT DSL customers. A web application for capacity management and planning of DSL networks was developed. The tool is used in COLT Germany and COLT Austria. The main functions of the tool include:

- Workflow management from service ordering to service commissioning.
- Management of DSL resources i.e. MDF, DSLAM ports, IP addresses, V5.2/S2M ports, IAT, AMGW.
- Web-based reports on the utilization of DSL resources.
- Generation of configuration files for the network elements, number porting, ATM parameters (VPI / VCI).
- Graphical representation of the connectivity from the customer CPE to Voice switch and IP router.

- **Languages:** Visual Basic, PHP
- **Standards:** ODBC
- **Databases:** MS Access, Oracle 9i, MySQL
- **Operating Systems:** Windows, HP-UX

2001 – 2003, COLT Telecom

Design, planned and optimized the Interconnection with Deutsche Telekom. Monitored the Interconnection capacity with other operators including BT Ignite, Arcor, Versatel, NetCologne. Performed various traffic analysis based on Call Detail Record (CDR). Calculated data that is used to dimension the access and the backbone networks.

- **Languages:** Java, Perl, VBA
- **Databases:** MS Access, Oracle 9i
- **Operating Systems:** Windows, SUSE Linux

Aug 1999 – Dec 2000, MCI Worldcom

Performed the capacity planning of the metro networks, POI, co-location, cross-connect systems (DXC). Performed Building Access Planning i.e. planned the customer access to the MCI Worldcom fiber network. Developed a web-based application for monitoring the cross-connect systems (DXC).

- **Languages:** Perl
- **Standards:** CGI
- **Databases:** Oracle 8i
- **Operating Systems:** UNIX

Apr 1997 – Jul 1999, o.tel.o Communications

Developed the concept, the specification and the implementation of a network planning platform for the switching network. Developed tool for the design and optimization of Interconnection with Deutsche Telekom. Designed the topology and the routing of the switching network. Performed network cost analysis.

- **Languages:** C++, Java, Perl, Visual Basic, MapBasic
- **Frameworks:** Windows MFC, Swing
- **Databases:** Oracle 7
- **Operating Systems:** Windows, AIX

Sep 1996 – Mar 1997, Institute of Laser Technology, Aachen University

Developed GUI applications on Microsoft Windows. Developed interface modules for CAN bus. Software documentation.

- **Languages:** C/C++, Visual Basic
- **Frameworks:** Windows MFC
- **Databases:** MS Access
- **Operating Systems:** Windows

Jul 1995 – Jun 1996, Institute of Communication Networks, Aachen University

Developed the network design tools TND (Topological Network Design). Research on the optimization of GSM networks using the stochastic and deterministic algorithms e.g. Genetic Algorithm, Simulated Annealing, Threshold Accepting, Greedy.

- **Languages:** C/C++
- **Frameworks:** X-Windows API, OSF Motif
- **Operating Systems:** SUN Solaris

Oct 1992 – May 1994, Institute of Product Engineering, Aachen University

Development of document management system DOCMAN. Integration of various applications from different engineering departments e.g. CAD, CAP and NC systems. Development of the gateway module TCP/IP <-> DECnet for the communication between the subsystems.

- **Languages:** C
- **Frameworks:** OSF Motif
- **Operating Systems:** Ultrix, VAX/VMS

Jun 1990 – Sep 1992, Institute of Process Engineering, Aachen University

Developed software that integrates various sub-programs for vapor plant modeling and simulation.

- **Languages:** Turbo Pascal
- **Standards:** System Application Architecture / Common User Access (SAA/CUA)
- **Frameworks:** Turbo Vision
- **Operating Systems:** MS DOS