Dirk Lemmermann

⊠ dlemmermann@gmail.com

EMPLOYMENT

2004 - now Dirk Lemmermann Software & Consulting (DLSC), Zurich, Switzerland Independent Consultant

As a consultant I worked on various projects: the architecture and the implementation of the user interface and security model for a large-scale Eclipse-based (RCP) railroad scheduling application; the standardization of project structures (build server, logging, tracing, exception handling) at Netcetera; the development of "FlexGantt", a successor product for DJT (see 1998–2006). My last assignent as a consultant / freelancer was at Credit Suisse in Zurich from June 2009 until December 2010 (porting a 3rd party J2EE application to the CS Java Application Platform (JAP)).

2003 - 2004 Credit Suisse Financial Services (CSFS), Zurich, Switzerland

Assistant Vice President

Java/XML Lead Engineer, Senior Systems Engineer

I was the deputy manager of the department responsible for defining and implementing standards for the proper usage of Java development environments (IDEs), tools (CVS, Ant, JUnit, Clover), and application servers (BEA, Tomcat) at Credit Suisse Financial Services (CSFS). As a manager I was responsible for a dozen employees. I was also an architect and a project team leader and in charge of the design and implementation of the central build and deployment tool for the Java Application Platform (JSP) at CSFS. This tool is now being used by hundreds of Java developers at Credit Suisse as part of the Java Application Platform (JAP).

1999 - 2003 SKYVA International, Boston, Massachusetts, USA

Senior Developer

At SKYVA I was an architect, programmer and team leader and trusted to take over tasks critical for the company's success. I was in charge of the design and implementation of several development tools, which were part of the company's product, an IDE called "skyva solution environment." The tools I wrote covered a wide range of issues related to business process modeling, web page control flow, backend connectivity, and visualization of scheduling agents via Gantt charts.

1998 - 2001 DLSC, Pittsburgh, Pennsylvania, USA, http://www.dlsc.com

Owner

The result of my work at CMU was a Java/Swing library called "Dirk's 'J' Toolkit (DJT)." CMU transferred all rights to this product to me and I started marketing DJT under my name. I licensed DJT to approximately 200 companies and developers worldwide.

1996 - 1999 Robotics Institute, Pittsburgh, Pennsylvania, USA Senior Research Programmer

Primary focus of my work in the Robotics Institute at Carnegie Mellon University was the design and implementation of a user interface library for the visualization of results produced by the planning and scheduling framework OZONE. This framework supports mixedinitiative scheduling applications with a strong emphasis on events triggered by a human scheduler. Hence, the interface had to be highly interactive allowing the user to specify and enter various types of events.

1994 - 1996 OFFIS, Oldenburg, Germany

Assistant Research Scientist

I was employed part-time at the Oldenburger Forschungs- und Entwicklungsinstitut für Informatikwerkzeuge und Systeme (OFFIS). My responsibilities included the design and implementation of a graphical user interface for the cancer registry of Lower Saxony.

EDUCATION

1993–1996 Carl von Ossietzky University, Oldenburg, Germany Diplom-Informatiker / Master Computer Science

Thesis title: "Globaler Leitstand." The goal of my research was to realize a system capable of making global (enterprise wide) scheduling decisions in cooperation with local (on site) scheduling applications. The thesis was implemented using AI concepts and AI programming languages. The resulting GLORIA software system (Global Reaktives Ablaufplanungssystem) became part of the multi-site planning and scheduling research effort at OFFIS.

1992–1993 Towson State University, Baltimore, Maryland, USA Exchange student

At Towson I focused on lectures in mathematics and databases. I was also employed part-time on campus at the physical plant where I helped to set up an inventory database.

- 1989–1992 Carl von Ossietzky University, Oldenburg, Germany Bachelor in Computer Science
- 1981–1988 Hümmling Gymnasium, Sögel, Germany Abitur

SKILLS

Programming La	nguages (the us	sual suspects)	
Java	Javascript	C++	FORTRAN
Pascal	COBOL	Modula2	Prolog
Assembler	BASIC	Lisp	
Software Develop	oment		
XML	XSL	XSLT	HTML
UML	Visual Age	Eclipse RCP	JMS
EJB3.1	JSP		
Open Source Proj	jects		
GWT	MacWidgets	Glassfish	Jasper
(and many many	more)		
Operating Systen	15		
Windows	MacOS X	Unix	

LANGUAGES

German (native), English (fluent)

INTERESTS Eclipse open source project and plug-in development User interface technologies and visualization problems Competitive Table Tennis (US Rating Score: ~1975, Switzerland: C9), Movies, Traveling

AWARDS

ComponentSource Top 100 Product 2008 ComponentSource Top 100 Publisher 2008 ComponentSource Top 100 Product 2009–2010 ComponentSource Top 100 Publisher 2009–2010



Credit Suisse CFO Award 2010

COMMUNITY

Presented at JavaOne 2010 in San Francisco: "Attractive and Portable MacOS X Swing Clients for J2E Applications"



Founded / contributed the SVG Eclipse Plugin Project http://sourceforge.net/projects/svgplugin/ in 2004

Contributor for the MacWidgets project (<u>http://code.google.com/p/</u><u>macwidgets</u>)

REFERENCES

Dipl.-Ing. Andreas Zink

Boston, ⊠ <u>azink@mailuz.com</u> Mr. Zink was my manager from 1999 until 2002 at SKYVA.

Prof. Dr. Stephen Smith

Carnegie Mellon University, 🖂 sfs@cs.cmu.edu

Prof. Smith was my supervisor during my stay at CMU in Pittsburgh. He is an internationally acclaimed expert in the area of genetic algorithms and planning and scheduling applications.

Prof. Dr. Ralf Bruns

FH Hannover, 🖂 ralf.bruns@inform.fh-hannover.de

Prof. Bruns guided me through the ups and downs of writing a master thesis. He is currently teaching at the Fachhochschule Hannover (University of Applied Sciences and Arts).

LINKS

Credit Suisse CMU Robotics Institute OFFIS University Oldenburg Towson State University

www.credit-suisse.com www.ri.cmu.edu www.offis.de www.uni-oldenburg.de www.towson.edu

APPENDIX: PROJECTS

2008 - now Collapp

Collaborative Project Planning Software

For my own company I currently develop a software in Java that can be used for collaborative project planning. The tool makes it possible to plan several projects using the same set of resources.



Figure 1: Project Gantt Chart

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ToDo Liste 11	azirik	Andi	Zink	AZ	azink@disc.com	user	
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MEINE PROJEKTE	kgoldman	Ken	Goldman	KG	kgoldman@dlsc.com	user	
► 😪 Default Project	prescuso	Peter	Vescuso	PV	pvescuso@disc.com	user	
► 🙀 Swisscom Project	podence	Phil	Odence	PO	podence@dlsc.com	user	
T 😪 Deutsche Bahn Project	tpirri	Tammi	Picri	TP	tpirri@dlsc.com	user	
Resources	tyeaton	Tim	Yeaton	TY	tyeaton@disc.com	user	
Taska	dlemmermann	Dirk	Lemmermann	DL.	john.doe@localhost.com	user	
Documents	tmaeder	Thomas	Mider	TM	john.doe@localhost.com	user	
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Figure 2: User Administration

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Figure 3: Team Member Calendar

2005 - 2008 RailOpt

Railroad Optimization Software

At Qnamic I developed the user interface for RailOpt, which is software for railroad vehicle and personnel optimization. I was responsible for the selection of the technology and the implementation of the actual application. The UI was done via the Eclipse "Rich Client Platform" (RCP). I am also in charge of the newly designed security model, which is based on the JAAS standard (Java Authentication and Authorization Specification).

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Figure 4: RailOpt Start Page



Figure 5: RailOpt User Administration

2003 - 2004 QMBridge Scripts for project lifecycle management

At Credit Suisse I was assigned with the task to develop a collection of Ant build scripts, which would support the project lifecycle as defined by Credit Suisse's own Java Application Platform (JAP). The scripts defined targets to create a project, to add components (e.g. a web application, EJBs, libraries, etc...), to compile, to check into and out of the central CVS server, to tag releases, to generate Javadocs, etc...

2000 – 2002 SKYVA Solution Environment (SSE) IDE for creating model-based enterprise applications

After finishing the web integrator project in 2000 I joined the SSE development team. The SSE is an application, which enables the user to model business processes and to generate / compose enterprise applications based on this model. Development on the SSE began in 1997. In 2000 the shortcomings of the product became clear and a re-implementation, based on SKYVA's own **UML virtual machine**, was necessary. My responsibilities included:

- Domain Model Design and Implementation
- Tool Development (Mapping tools, Web tools)
- Look & Feel Design
- Various Frameworks (Commands, Actions, LAF)
- Deployment (*.war, *.ear files)

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Figure 6: SKYVA Solution Environment

Figure 7: Example Workbench (State Modeling)

2000 Web Integrator Tool for modeling web applications

The vision of my employer was that "the business process is the application," meaning that solutions can be derived or generated from the company's processes.

Based on this vision the requirement arose that web applications, too, should be modeled. I was assigned with the task to implement a tool that would fulfill this requirement. The result is a tool called the "Web Integrator."

Web Integrator creates (or imports) special HTML pages that feature a *.sky suffix. These pages contain SKYVA proprietary tags for embedded widgets.

```
<skyvawidget name="MyTable" type="table">
```

A partial page logic model gets created for each page that is parsed. The user can now use the tool to complete the model with input parameters, page and form beans, conditional statements, and jumps to the next page. At runtime specialized servlets return the *.sky pages to web browsers and trigger the appropriate server-side functionality when the end user makes a selection or clicks on a button. These servlets use the model of each page to determine its dynamic content and its behavior.

The Web Integrator deploys applications via the WAR file standard, which allows them to be run on any web server that is compatible with the Java Servlet API. Initially the tool was written as a standalone application. Later on it was integrated into the SSE.

The Apache open source project "Struts" is a comparable technology, although it focuses more on the logic that gets executed when the user submits a form, while the Web Integrator also allows to model how dynamic page content gets created.



Figure 8: Web Integrator running inside the SSE

1999 - 2000 Sonopress / Bertelsmann AG Manufacturing planning and execution system

Sonopress is a major CD manufacturer in North Carolina and belongs to the German Bertelsmann AG. SKYVA developed a planning and execution system for their CD manufacturing sites in the US and in Europe. For this project I worked closely with our scheduling team in order to implement a sophisticated Gantt chart user interface.

1999 Gantt Chart Customizer **Tool for customizing user interfaces for scheduling agents**

Various projects at SKYVA required the use of a Gantt chart user interface. Each project, however, had its own special way of displaying information about orders and resources. In order to save time and development resources, I developed the Gantt Chart Customizer. The Customizer not only enabled its user to specify a large number of visualization features (colors, diagram types, timeline attributes) but also to define queries to the backend.

1996 – 2004 Dirk's 'J' Toolkit (DJT)

Code library for visualizing time-critical data in a Gantt chart

DJT was the result of my work done inside the ICLL (Intelligent Coordination and Logistics Laboratory), which is a part of the Robotics Institute at Carnegie Mellon University in Pittsburgh. It is a Swingbased Java library and provides a framework for quickly implementing user interfaces for scheduling applications.

I licensed DJT to over 200 customers worldwide before I sold the exclusive rights to SKYVA International. During my employment at SKYVA I continued to work on DJT and provided my existing customer base with updates and bug fixes. DJT consists of roughly 160 classes and 50 thousand lines of pure Java code. When I left SKYVA in 2003 I reacquired the licensing rights and continued selling it via my website.



Figure 9: Tasks visualized by DJT

1996 - 1999 OZONE / AMC Barrel Allocator Mission planning software for the US Air Force (DARPA)

By the end of my university studies I had focused on primarily two aspects of software development: scheduling software and user interface design and implementation. Fittingly my first job at CMU was to implement a user interface for the OZONE scheduling framework and (more precisely) the AMC Barrel Allocator.

The Barrel Allocator was a project for the United States Air Force and was financed by DARPA. The problem to solve was the mission planning done by the Air Mobility Command (AMC) in St. Louis. The user interface demands ranged from simple reports in text format, to table views, to Gantt charts and all the way to maps that were interactive.

I was solely responsible for the design, the implementation, and the backend integration of the UI. This task was especially difficult since the UI had to be done in Java, which was fairly new and immature at that time (1996). The biggest problem of Java 1.0 was the Abstract Windowing Toolkit (AWT) as it was technically far behind its time. Another problematic area was the inter-process communication between Java UI and Lisp scheduling engine.



Figure 10: OZONE Splash Frame

1995 Global Reaktives Ablaufplanungssystem (GLORIA) Control center for enterprise-wide global reactive scheduling

GLORIA is the implementation part of my master thesis. The application can be used to schedule external customer orders on an enterprise level (globally). Each of these external orders is divided into one or more internal orders of which each one gets assigned to a different manufacturing site. On site (locally) the internal orders get split up into operations and assigned to resources (e.g. machines, personnel). GLORIA uses algorithms and heuristics implemented in Prolog. Most concepts used in GLORIA are also found in artificial intelligence (AI) software.

1994 - 1996 Cancer Registry of Lower Saxony (CARLOS) Tool for statistical analysis of cancer cases

During my studies in Oldenburg I was employed part-time at OFFIS, which is a research institute that is affiliated with the local Carl von Ossietzky University. One of the many projects at OFFIS was CARLOS. My assignment in this project was to implement a user interface, which enabled the user to run a series of statistical evaluations on cancer relevant data gathered from all hospitals and physicians in Lower Saxony. The challenge for me was to make the UI intuitive, easy to use, and still capable of producing detailed information.

The project was realized in C++ with the UI initially being built on top of the XFantasy framework (developed by students) and later re-implemented with ILog Views (commercial product).



Figure 11: Statistical analysis in CARLOS

1993 - 1994 Planner's Workbench (PWB)

Assembly tool for scheduling systems

Part of the studies of a computer science major at the university in Oldenburg is a one-year project. The PWB project team consisted of 10 students putting together an application that would allow for the easy assembly of planning and scheduling applications.

For this project I implemented various tools including an entity relationship modeler and also the overall user interface of the workbench. The entire application was implemented in Prolog within 8 months.