Profile: Simon Richter

Software developer Embedded/Linux/C++

Basic information

Address	Isareckstr. 41 81673 München
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GULP-ID	94879

Rates	70 – 90 EUR, depending on project requirements and duration

Education	1999 – 2005	Technische Universität München Informatics / Computer Science
	1993 – 1997	Obermenzinger Gymnasium, Munich Accounting (“kaufmännischer Assistent”)
	1989 – 1998	Obermenzinger Gymnasium, Munich Abitur

Preferred Location	Germany, Austria, Switzerland Berlin area preferred Remote work possible (VPN oder Citrix) Homeoffice possible

Languages	German	native
	English	fluently
	Japanese	basics

Skills & Expertise

Architectures	Intel x86, AMD x86-64, Intel Itanium	
	ARM (v4, Thumb, Thumb2 / Cortex)	
	DEC Alpha	
	Motorola 680x0	
	SPARC	
	TI MSP430	
Concepts	Real Time Operating Systems (RTOS)	
	Embedded Systemes	
	Emulators	
	FPGA	
	Digital Signal Processing	
	Component Architecture	
Platforms	PC	Windows, Linux, BSD, DOS
	eCos	
	Contiki	
	Macintosh	
	Solaris / SunOS	
Programming Languages	Assembler	
	C	
	C++	
	Make	
	CORBA IDL	
	Microsoft IDL (MIDL)	
	Java	
	JavaScript	
	Shell	
	TeX, LaTeX	
	yacc/lex	
	VHDL	
Databases	SQL	PostgreSQL, MySQL, SQLite, MS SQL Server
	MS Access	
	ODBC	
	dBase 4	
Protocols	HTTP	
	SMTP	
	SNMP	
	UUCP	
	DPWS	
	UPnP	
	RPC/RMI	Sun-RPC, SOAP, CORBA/GIOP, COM, Java RMI

	IP/TCP/UDP	v4, v6, Routing (BGP)
	Novell IPX	
	Ethernet	
	Wireless LAN	
	802.15.4	ZigBee, 6LowPAN
	seriell	PPP, SLIP
	parallel	PLIP
	Telefonie	
	ISDN	
	Fax	Hayes Command Set
	SMS	
Software	ClearCase	
	KiCAD	
Integration	Debian-Paketerstellung	
	Microsoft-Installer-Paketerstellung	

Projects

Test and Measurement Software: Spectrum analysis

October 2011 – December 2015 C++, COM, Visual Studio, Matlab

- Development and maintenance of measurement control software
- Integration of new hardware components
- Implementation of DSP algorithms
- Optimization of numerical accuracy, speed and memory consumption

Portability extension: Communication Stack IP/IPv6/RPC

October 2010 – June 2011 C, C++, IAR Workbench

- Design of abstract interfaces
- Piecewise refactoring of existing codebase, continuous integration with ongoing development
- Reduction of code size
- Target Platforms: Contiki, POSIX

Framework: Web UI for Embedded Devices

November 2007 – August 2010 C, C++, Lex, Yacc, in-house abstraction layer

- Domain specific languages for configuration and event subsystems
- Compiler toolchain leading to complete binaries (CGI, background services)
- Component library for standard configuration parameters (date/time, network settings, ...)
- Interface to SNMP
- Porting to x86, ARM, MIPS, PowerPC, SPARC and others

Hardware and OS abstraction layer

November 2007 – August 2010 C++

- Framework for asynchronous I/O with callbacks
- Implementations of common protocols (HTTP, SMTP, SNMP)
- Wrappers for operating system functions
- Porting to x86, ARM, MIPS, PowerPC, SPARC and others

Software Build Tool

June 2007 – November 2007 C++, Boost

- Tracking of project and file dependencies
- Backend drivers for common tools
- Automatic deduction of build order

High Speed JTAG Adapter

June 2005 – June 2007 C++

- Asynchronous stack for JTAG data
- Implementation of JTAG debug drivers for ARM7TDMI and ARM9
- Integration into Microsoft Windows CE Platform Builder (eXdi2)
- Integration into gdb (gdb-remote)
- USB abstraction layer for portability to Windows and Linux
- Licence management

SDK/BSP for Embedded Linux Board

March 2005 – June 2005 C, C++, Linux, make, Shell

- Creation of distribution package with compiler toolchain, standard libraries, base embedded Linux system and example code for an ARM7 (MMUless) board

VoIP/ISDN Primary Branch Exchange

June 2004 – March 2005 C, Linux, Asterisk

- Asterisk customization
- Porting of Linux ISDN drivers (mISDN) to support ARM and 64 bit systems
- Debugging of Linux kernel drivers
- Development of Asterisk plugins