

Working profile (English version) - Peter Seiderer

(English version - last updated Dezember 2025)

Name:	Peter Seiderer
Born:	1969
Education:	Diplom-Informatiker Univ.
Foreign Languages:	English
Hardware:	PC (x86, x86_64), Siemens-RM, Sun Sparc, TI DM6467 (ARM), Freescale/NXP i.MX 6 (ARM)
Operating Systems:	Linux, Siemens-Reliant UNIX, Sun Solaris, MS-DOS, Windows
Programming Languages:	C, C++, Java, Perl, Python, Shell
Databases:	Oracle, Postgres, mSQL, Access
Products/Standards/Interfaces:	ClearCase, CVS, Subversion, Git, GNU Compiler Toolchain, CDS++, Sun WorkshopPro, Message Passing Interface (MPI), ASN.1, Corba, Java Card 2.2 Platform Specification, Java Card Kit 2.1.2
Network:	TCP/IP (IPv4, IPv6, ICMP), ISDN, SS7, ISUP, INAP, MAP, OpenSSL (SSL, TLS, DTLS), CAN bus/CAN FD
Experience:	system development, application development, software design, administration
Trade/Industry:	Telecommunication, Financial Services, Internet Service Provider, Consumer Imaging, Medical
Open Source contributions:	ImageMagick, Valgrind, Linux-Kernel, Qt, Shotwell, SQLbrowser, GStreamer, Buildroot, vpopmail, v4l-utils

Projects

- Juli 2025 -

Cloud service für home appliances.

Testing framework for Bluetooth/WiFi for pairing/operation of embedded devices, cloud backend und smart phone application. Protocol review and enhancement.

(Python3, C++, OpenSSL, Mbed TLS, wolfSSL, OCSP, Espressif ESP32/ESP-SDK,

Bluetooth 5.x, pybleno, Bleak, WebSocket, REST API, JSON, DHCP, DNS, NTP, IPv4, IPv6, TLS 1.2/1.3, nRF52840-Sniffer, Git/GitHub)

- July 2021 - May 2024

Embedded software for high-end Neurosurgery Surgical Microscope.
Enhancement of an UDP/DTLSv2 based encrypted networking protocol
controlling/driving the microscope over an external Navigation Interface.
(C++, Qt, OpenSSL)

- March 2020 - July 2023

Mobile-Ad-Hoc-Network (MANET) solution for public authorities and organizations
with security tasks (Behörde und Organisationen mit Sicherheitsaufgaben/BOS).
(C, C++, CMake, OpenSSL, WLAN, LAN, LTE/UMTS, OLSR, OpenVPN, IPsec, xmlrpc-
c,
Java, Python3, Python3-Flask, nginx, Git/GitLab, Embedded-Linux, Linux-Wifi-Driver)

Develop a Buildroot based embedded system (i.MX8) using Software-defined-radio
(SDR) for signal detection (with Web-GUI for configuration and cryptographic secured
a/b-root partition software update using MMC boot partitions).
(C, C++, CMake, Buildroot, librtlsdr, Python3, Python3-Flask, nginx,
libubox/libubus, Git/GitLab)

- September 2017 - December 2019

Embedded video solution for HNO/Neurosurgery Surgical Microscope on a
NXP i.MX6 based Linux system. Linux CAN-Socket connection.
Development of a Buildroot based Linux system including an update mechanism.
(C++, Qt, Linux-ARM, GStreamer, Buildroot, Barebox, Git, Bitbucket, CMake, Conan)

- February 2014 - August 2016

Embedded software for high-end Neurosurgery Surgical Microscope
including an integrated video solution.
Development of an UDP/DTLSv2 based encrypted networking protocol
controlling/driving the microscope over an external Navigation Interface.
(C++, Qt, Windows, GStreamer, OpenSSL)

- December 2011 - January 2014

Embedded video solution for Neurosurgery/Dentistry Surgical Microscopes
using V4l2/GStreamer on TI DM6467/Linux based board.
Development of an DualBoot based Update-Mechanism embedded Linux system.
Qt Display-Driver for a custom TI DM6467 based video GUI-Overlay solution.
Qt Display-Driver/Linux-Kernel-Driver for a video GUI-Overlay using
a FPGA component.
Prototype for a Java-/Linux-CAN-Socket driver (JNI).
(C++, V4l2, Linux-ARM, GStreamer, Qt, Dbus, U-Boot, Java-JNI)

- March 2010 - November 2011

Embedded Software for mid-range Surgical Microscopes used for
Ophthalmology/Neurosurgery (Java, WindowsCE).

Tracer/Decoder for a custom CAN-Protokoll (Java, x86).
(C++, Java, Realtime-Java/JamaicaVM, Subversion)

- September 2008 - August 2009

Enhancement of a SmartCard/PKI middleware.

(PKCS11, ISO/IEC 24727-3, ISO/IEC 7816, Microsoft CryptoAPI/CSP)

(VisualStudio, Perforce, GNU Compiler/Automake/Autoconf, Subversion, CppUnit, OSS Nokalva ASN.1)

Design and implementation of a eCard-WebService (eCard-API-Framework/BSI TR-03112).

Enhancement of the gSOAP framework with a PAOS implementation.

(C++/gSOAP, Java/Jax-WS)} Design and implementation of a prototype web application for the eCard-API-Framework.

(Tomcat, JSP, Servlet, Java/Jax-WS)

- November 2007 - April 2008

eCard-WebService prototyp implementation (eCard-API-Framework/BSI TR-03112).

(C++/gSOAP, Java/Jax-WS)

Design and implementation of a SmartCard/PKI middleware, modultests and refactoring.

(PKCS11, ISO/IEC 24727-3, PKCS15, ISO/IEC 7816, Microsoft CryptoAPI/CSP)

(VisualStudio, Perforce, GNU Compiler/Automake/Autoconf, Subversion, CppUnit, Doxygen,

OSS Nokalva ASN.1, Purify, Valgrind)

- October 2006 - September 2007

Technical and functional enhancement of a high-availability and high performance business server (64 bit, multithreaded) for a order management system using a XML based protocol. Performance tuning and refactoring of various components.

(Solaris, C++, Oracle, Rational Rose, CVS)

- January - April 2006

Design, implementation and test of a Voice over IP emergency call telephone system. (H.323, SIP, Swyx-PBX)

Design and implementation of a monitor server for emergency call telephone devices.

(C#, .NET, UML)

Design and implementation of a server transposing a proprietary emergency call telephone device protocol from S0-Bus (ISDN) to IP (UDP).

(mISDN, Linux, C, C++)

- September 2002 - November 2005

Design and implementation of a multithreaded workload scheduling framework for the digital image processing of a minilab (using various OO technologies).

Design and realization of a remote boot/install Linux PC (including a bootp/dhcp and tftp server for Windows 2000).

Code review and redesign of various software modules.

(C++, UML, Linux, Windows, PVCS, Subversion, GCC/G++, Intel Compiler, Visual Studio)

- July 2001 - July 2002

Design and implementation of a e-Learning Solution (Server, Client)
in Java using the XML-Publishing framework Cocoon.
(Java, Apache, Tomcat, Cocoon, Postgres, Linux)

- October 2000 - June 2001

Design and implementation of a high-availability and high performance business server
(64 bit, multithreaded) for a order management system using a
XML based protocol.
(Solaris, Sun Workshop 6.0, C++, RogueWave, SOAP, Expat, Xerces, Oracle, Rational
Rose, CVS)

- January - August 2000

Internet applications for a local Internet Service Provider:

- e-commerce shop (Perl, Postgres, credit card accounting (WireCard))
- Voting via Internet (Perl)
- NetCommunity
- WAP application (Perl, Postgres, SecureSocketLayer (OpenSSL))
- Crypto-Keyserver (C, OpenSSL)
- Performance critical CGI programming (FastCGI)
- e-commerce shop (Cocoon, XML, XSLT, Java, Oracle)
- e-cards via e-mail (Perl, Sendmail)
- newspaper advertisements with several search functions (php, MySql)

- July 2000

Design and implementation of a web based polling system
(multilingual, multidomains) distributed on different servers
for a e-mail provider.
(C, Oracle, Linux)

- November - December 1999

Documentation of a C library for Internet applications.
(c2man)

- September - October 1999

Adding the MAP (GSM) protocol to the load and protocol tester.
Introducing members of the team into functionality
and programming of the load and protocol tester.
(C, C++, Unix)

- May - August 1999

Adding the ITU-ISUP and ANSI-ISUP protocol to the load and protocol
tester.
(C, C++, Unix)

- March - April 1999

Porting of the load and protocol testers from Reliant-Unix to
Intel- and Sparc-Solaris.
(C, C++, Unix)

- October 1998 - February 1999
 Design and implementation of a load and protocol tester for telecommunication protocols (ITU-INAP).
 (C, C++, Unix)
- April - September 1998:
 Implementation of a data inserting tool for a proprietary database used in the telecommunication environment (Intelligent Networks, IN).
 (C, C++, Unix)
- June - August 1998:
 Installation of a Internet server and net clients for the computer science room of Hauptschule Giesing.
 (Linux and NT)
- September 1997 - February 1998
 Implementation of different parallel algorithm for a transputer with MPI (Message Passing Interface) in a UNIX environment (Diplomarbeit).
 (C, C++, Unix, MPI)
- February - August 1997:
 Java GUI for database access over Internet to Oracle and Access.
 (Java, Oracle, Unix)