

CONSULTANT PROFILE

Work experience

#531

Project Manager. Year of birth 1971.
Speciality: Embedded software development

2001 - FM data ApS
Freelance Consultant

1999 – 2001 Nokia Mobile Phones A/S
Senior Software Development Engineer

1996 – 1999 Nokia Mobile Phones A/S
Software Development Engineer

Competencies

Tools

- Visual Studio 2005-2012/Platform builder
- Eclipse, Delphi, C++ Builder, Code Composer Studio, AVR Studio, IAR Workbench, Hudson, ARM ADS, Together, Enterprise Architect, Netbeans.
- CVS, Subversion, Synergy, ClearCase
- GCC, Source Navigator, Paradigm, Prolint/FlexLint/Splint, Purify, CodeCoverage, ReSharper, Lauterbach Trace32, Bash, Perl.

Programming languages

- Java, C#, C, C++, Assembler, Pascal, Perl, bash scripts.

Technologies

- Java2 SE, J2ME.
- .NET / .NET Compact Framework.
- Embedded User Interfaces.
- Realtime parallel programming.
- RS232, USB, TCP/IP, FTP, TFTP.
- RF4CE (802.15.4 based).
- FPGA interface software.

Processors

- ARM 7/9, AVR, 8051.

System development

- Windows/Windows CE, Linux/Embedded Linux, Nucleus.
- Analysis, design and specification.
- Trouble shooting hardware and software.
- Feasibility studies and prototyping.

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Education

1991 – 1996 Danmarks Tekniske Universitet - IAE
Bachelor of Science, Electrical Engineering (BScEE)

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Project references

Confidential customer for Prevas

October 2012 – Jan 2013 Software Developer.
Development of multithreaded Windows CE on Prevas HM20 platform. C# .NETCF application to control TETRA radio and GSM modem using AT commands, user input via buttons (interrupt based) and touch display. Development includes splash screen, simple graphics, XML import and export, software update, CSV file parsing and C# to C call layer. Performance profiling using Eqatec profiler.

Bombardier

May 2012 – Aug 2012 Software Developer.
Implementation of a stack to handle train routes, integration into existing C++ framework. Implementation of C# application to present the stack to a user, static analysis using ReSharper.

Orbotech Medical Denmark

Oct 2011 – Mar 2012 Software Developer.
Integration of CANOpen stack into UML state machine framework, implementation of software update application. Unit tested using Rational Test Real-time. Static analysis using MISRA.

Producer of mobile phones

Apr 2011 – Sep 2011 Software Developer.
Development of Java (J2ME) application that downloads (which countries/regions to download is user selectable) geomap data from a remote server and unzips the data using native implementation. Specification and implementation of Java to native unzip interface. Implementation of native code that calls unzip library via a spawned thread. Unit test (junit) and static analysis (Code Coverage).

Orbotech Medical Denmark

Nov 2010 – Mar 2011 Software Developer.
Development of a new product with 5 embedded boards. Inter board communication using FireWire IEEE1394b and CAN using CANOpen protocol.
- Responsible for specification of communication protocol and development of BSP packages including hardware drivers. Building protocol using the QP framework. Code checking using MISRA 2004.

Bridge4People

Apr 2010 – Aug 2010 Software Developer.
Development of a bridge device consisting of a Windows CE based game controller and a card deck distribution device.
- Responsible for specification of communication protocol between Windows CE tablet and card dealing device. Transport medias are RS232 and 802.15.4 based chip using ZigBee RF4CE stack. Configuration and compilation of RF4CE stack with extensions, BER test of radio communication, creation of EMC test software, implemented communication handling in C#.

KK Data Danmark

Mar 2010 – Mar 2010 Software Developer.

Debugging of Windows CE platform problems.

Producer of mobile phones

Apr 2009 – Dec 2009 Software Tester.

Development of navigation API to be delivered in development kit for S40 phones.

- Responsible for specification and development of test cases to test navigation API. Execution and reporting of regression test, memory leak test, and release test, adding support for automated test execution. Tests conducted on several hardware platforms. Test of application that uses the navigation API.

Producer of mobile phones

Jan 2009 – Mar 2009 Software Developer.

Improve quality on native navigation application running on S40.

- Responsible for error correction of application and software quality improvement by using static code analysis.

KK Data Danmark

Oct 2008 – Nov 2008 Software Developer.

Solve problem with product that occasionally has communication problems. Add software update functionality.

- Responsible for refactoring of serial communication protocol on ATmega128 (AVR Studio), corrected problem with communication, optimised existing code for redundancy. Added bootloader to old and new hardware platforms, implemented Windows CE application (C#) for updating the firmware. Optimised existing communication layer in Windows CE application.

Sagem Denmark

Sep 2008 – Oct 2008 Software Developer

Integration and test of failsafe software update functionality for unsupervised petrol payment systems. Dual kernel and root file system solution that can be updated remote. Based on NAND flash and capable of handling bad sectors.

- Responsible for implementing the Java layer that handles a stream from the update server and calls a native program to write into the NAND flash. The Java layer is capable of handling 'holes' due to bad pages in the NAND flash.

B-K Medical

May 2008 – Aug 2008 Software Developer

Development of PCI board to plug into PC. The PCI board is used to process ultrasound images.

- Responsible for waking up hardware: dual 1.2GHz TI DSP based PCI module. Setting up infrastructure: DDR2 memory interface, DMA channels, I2C interface, PCI interface and DSP to DSP interface. Configuration and deployment of DSP/BIOS operating system. TI Code Composer Studio development environment.

Sagem Denmark

Feb 2008 – Jul 2009 Software Developer

Development of display driver used in safety keyboards for ATMs. Atmel ARM based product, display controlled by I2C, ARM ADS development environment.

Danish Diagnostic Development

Oct 2007 – Jan 2008 Software Developer

Hardware components on a board that collects data from a nuclear camera has end-of-life, a new board is produced with new components.

- Responsible for porting the application that processes the collected data from the nuclear camera. Development of new CAN bus driver and reconfiguring the CANOpen library. Development environment is makefiles and Eclipse.

Port of motor control software to position the nuclear camera.

Ericsson Mobile Platforms

Aug 2006 – Aug 2007 Software Developer

Design and development of remote file system on mobile phone platform based upon two ARM946 processors. The remote file system is located on a customer provided file system i.e. via a third processor. Documentation created.

- Responsible for

Sagem Denmark

May 2006 – Jul 2006 Software Developer

Java based embedded Linux payment system must be able to support a PSAM SmartCard.

- Responsible for development of SmartCard ISO7816 (T=1) linux driver driven by an Atmel AT91RM9200 processor, SmartCard library (C) ported to linux and a Java class encapsulating the library integration into the Java Open Card Framework using JNI.

Dec 2005 – April 2006 Software Developer

Configuration and modification of Linux to an ARM920T based board with support for USB (host and device), Ethernet, SDRAM and NAND flash.

Aug 2005 – Nov 2005 Software Developer

Nucleus based embedded system is to be able to execute payment solution written in Java. This involves adding a Java interpreter/VM and a Java library to the platform.

- Responsible for adding POSIX layer to Nucleus operating system, modification of standard C library, compiling and adding a open source Java interpreter/VM and library (Classpath) to the platform.

2004 – 2005 Software Developer

Establish embedded Linux development environment and prove that the hardware platform can be used for future product range.

- Responsible for configuration and modification of Linux to suit Java based payment system, building a development environment from scratch for building the Linux kernel and all the libraries/utilities required by the application including the Java interpreter/VM. Includes debugging environment using Eclipse and remote GDB.

Feasibility study: development of synchronous serial Linux device driver.

2004 Software Developer

Development of Java based payment solution with support of the EVM2000 standard.

- Responsible for designing and developing the magnetic card application in Java, JBuilder and Together (UML) tools used.

Ascom Denmark

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2003 Software Developer
Feasibility study: Adaptation of uCLinux on ARM7 based payment terminal.

Nokia Mobile Phones

2002 – 2003 Software Developer
Optimise cost by reducing the memory footprint of a mobile phone product and hence be able to fit the code into a smaller NOR flash device.
- Responsible for reducing the memory footprint by analysing the code usage and memory consumption.

Ascom Denmark

2002 Software Developer
A payment solution written in Java2 SE must be rewritten to be able to run on an embedded product.
- Responsible for investigating if the port is possible using either Java2 ME MIDP/CLDC or Esmertec/Jbed RTOS 3.0 Java 1.1.8 platform.

- Responsible for porting the Java 2 SE application from Java 1.1.8. Development of servlet that handles the configuration of the device.

KK Data Danmark

2002 Software Developer
Integration of a web-server in an embedded RDS system.

2001 – 2002 Software Developer
Porting application written in Pascal to C (Paradigm) on 80186 platform, adding PDREMOTE debugging facility.

Nokia Mobile Phones

2000 – 2001 Team Leader
Development of non-volatile embedded memory management software to be used in mobile phones.
- Responsible for leading of team of 8 persons, deliverables to mobile phone products.

2000 – 2001 Senior Software Developer
Development of non-volatile embedded memory management software to be used in mobile phones.
- Responsible for the deployment of the software as a component to be used in mobile phone platform.

1997 – 2000 Production Support
- Responsible for maintaining security equipment for IMEI programming for R&D and production support. Starting up a production line in Korea and educating technical staff; how to identify and solve problems on the assembly line.

1997 – 2000 Software Developer
Development of what became the world first WAP phone.
- Responsible for development of device drivers to ARM7 based product, responsible for configuration and maintenance of several subsystems including the operating system. Debugging using TI JTAG debugger and DDD/GDB.

1997 – 1999 Software Developer

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Competencies (continued)

Education (continued)

Cost optimisation: To optimise cost the serial EEPROM component is replaced by using an existing NOR flash together with emulation software.

- Partly responsible for specifying and developing the emulation software, responsible for developing workstation simulation environment.

1996 – 1997 Software Developer

A new ASIC is developed for a new mobile phone platform.

- Responsible for developing test bench software to be used for verifying the ASIC design. Added support for the new platform in official platform release package.

1996 Software Developer

An investigation of battery packages returned by end users led to the wish of logging the way a battery is used.

- Responsible for developing a compact battery powered datalogger, Hitachi H8 based, focus on low power consumption. Developing an application in Delphi that retrieves and presents the data logged, development of asynchronous VCL (Delphi).

QA and Process Improvement

- Profiling and memory leak investigation.
- Static code analysis.
- Automated build systems, continuous integration.
- Software configuration management.

Languages

- Danish (mother tongue)
- English

2006 Lauterbach, part #2, TRACE32
2005 Real-Time & Embedded Computing Conference
2004 Lauterbach, TRACE32
2001 Resource planning (Citrix based)
2001 Continuous version control system
2000 Data communication platform
2000 Data over GSM
2000 Review technique
1999 Embedded Systems Conference – TCP/IP, UML, OOP
1998 C++ programming
1998 Lotus Notes, requirement process
1997 Software Development Process
1997 Operating systems
1997 ARM
1996 PCMS version control system