

Project Leader / Project Engineer

SECTORS

- IT
- Telecom
- Embedded and Real Time Systems

SKILLS

Personal characteristics

- Sensitive team worker, but equally able to be proactive and independent
- Open and positive minded, broadly opened to the new information technologies
- At ease in multicultural environment, adaptable to different types of responsibilities

Technical skills

- *Operating Systems:*
Linux, RTLinux, Windows NT/2000/9x/XP, Solaris, uCLinux, DOS
- *Architectures:*
x86 (Intel, AMD, VIA), sparc, arm (Samsung4510), m68k
- *Hardware:*
Workstations, servers, terminals, embedded systems, real time systems
- *Languages:*
C, C++, Java, Python, Assembly (m68k, PIC), Tcl, Pascal, VB, MatLab, VHDL, Prolog, Bash, Lua
- *Databases:*
Relational Databases, PostgreSQL, MySQL, Oracle
- *Mark-up languages:*
HTML, XHTML, XML, XSL, CSS
- *Libraries:*
Gui : AWT, Swing, GTK+, Tk ; OpenGL
- *Development tools:*
CVS, ClearCase

PROJECTS

Alcatel – Namur

2006–2004 GSM Prepaid and Postpaid Systems for O2, Germany and Ireland.

Objectives

- Set up of a new Prepaid and Postpaid IN platform

Approach

- Specification and design of new projects in Germany with the customer (2006)
- Project Leader of a 3 developers team (2006)
- Software implementation, emulation and tests (2004-2005)
Real time processing of the incoming messages on the SCP

Duration

- 2 years

2004 Virtual Private Network (VPN) and VPABX for PTC, Poland.

Objectives

- Management of phone calls, rights and routing

Duration

- 2 months

2003 – 2004 GSM Prepaid System for Mobicom, Mongolia

Objectives

- Management of users, credit and phone calls

Approach

- Copy of the live system (DB, software, config, ...) in order to make a test environment in Belgium
- Debug of the system and release of patches
- Development of new softwares :
XML Gateway, USSD Gateway and Home-Zone Billing System
 - Functional analysis
 - Design and implementation
 - Emulation and tests
- Integration in Mongolia for 2 month
- Pre-Sales : commercial propositions for future developments :
 - Meetings with the client and client's partners
 - Definition of the specifications for the future softwares

Technical Environment

- Language: C++, Java, VB
- Platform: Sun Solaris, Windows XP
- Database: Oracle
- Other technologies: XML, XSL, HTTP

Duration

- 8 months

Level of Intervention

- Total, from beginning to end

UCL – Louvain-La-Neuve

2003 Thesis: Study of Embedded and Real Time Open-Source Linux Operating Systems

Approach

- Comparison of embedded Linux systems distributions
- Requirements study of soft and hard real time systems
- Identification and analysis of Linux problems in order to respect the requirements
- Study and comparison of available solutions : a separated real time kernel (RTLinux, RTAI), a new scheduler (KURT, RED) or the improvement of the latency (kernel pre-emption patch, low-latency patch)
- Realization of a hard real time system : A GPS interfaced in real time with RTLinux
- Pointing out Linux problems resolved by RTLinux in the project
- Writing a book
- Presentation

Technical Environment

- Language: C
- Platform: Linux, RTLinux

Duration

- 1 year

Level of Intervention

- Total, from beginning to end

Own project

2003 Development of a specialized access point for a wireless network in Brussels

Objectives

- Port of uClinux on an Samsung 4510 (ARM) based access points
- Set up of a cheap embedded computer with new functionalities

Approach

- Feasibility study
- Determination of the possibilities of the embedded computer
- Cross compilation of a distribution on a Linux Debian x86
- Transfer via the JTAG interface of the access points

Technical Environment

- Language: C (uClibc)
- Platform: uClinux, Linux

Duration

- 1 week

Level of Intervention

- Collaboration with Peter De Schrijver (Mind, Leuven) and Benjamin Henrion (BubbleNet, LLN)
- Cross compilation

UCL – Louvain-La-Neuve

2003 Realisation of an address book and photo gallery

Approach

- Functional analysis
- Determination of possible cases
- Design and implementation
- Tests
- Detailed report
- Presentation and demonstration

Technical Environment

- Language: Java
- Database: MySQL

Duration

- 1 year

Level of Intervention

- Total, from beginning to end
- Team work

2002 Realisation of a multi-channel network card to allow parallel communications on one wire

Objectives

- On common coaxial networks, only one device can transmit data. With the use of several frequencies, it is possible to have parallel communications on one wire
- Use of a FPGA and active filters for the analogue part and use of a PIC for the digital part

Approach

- Functional analysis
- Design and implementation (Hardware and Software)
- Tests
- Detailed report
- Presentation and demonstration

Technical Environment

- Language: Assembly, AHDL, VHDL
- Platform: PIC, Windows

Duration

- 1 year

Level of Intervention

- Total, from beginning to end
- Team work

2002 Remote attack

Objectives

- Intrude on a remote computer and obtain a shell
- Detect such an attack for possible prevention

Approach

- Attack the ftp service (wu-ftpd server) a remote computer
- Use a format string attack
- Design and implementation
- Tests
- Set up a method that detects the intrusion (not only this particular intrusion, but also for the detection of similar attacks and prevention of false alerts)
- Detailed report
- Presentation and demonstration

Technical Environment

- Language: C, Assembly
- Platform: Linux
- Other technologies: IP, Snort

Duration

- 2 months

Level of Intervention

- Use of known security bug, detailed analysis and implementation
- Team work

2002 Perfect draw of a tree (like running processes, directories, ...)

Approach

- Use of C++ to calculate the positions of the nodes
- Use of Tcl/Tk to draw the tree
- Functional analysis
- Design and implementation
- Tests

Technical Environment

- Language: C++, Tcl
- Platform: Linux, Solaris
- Other technologies: Tk, automake, autoconf

Duration

- 3 months

Level of Intervention

- Total, from beginning to end

Own project

2002 Elaborate diagrams such as clearly representing the electrical cabling system of a house. Process text descriptions of components and represent the diagrams smoothly

Approach

- Functional analysis
- Design and implementation
- Tests

Technical Environment

- Language: Python
- Platform: Linux
- Other technologies: XML, GTK+

Duration

- 1 month

Level of Intervention

- Total, from beginning to end

UCL – Louvain-La-Neuve

2001 Realization of a database for a media library

Approach

- Analysis of the client requirements
- Functional analysis
- Conception of a relational database
- Design and implementation
- Tests
- Detailed report

Technical Environment

- Language: Java
- Database: : PostgreSQL

Duration

- 2 months

Level of Intervention

- Total, from beginning to end
- Team work

2000 Realization of a portable distributed files manager

Approach

- Client-server JAVA program
- Use of ftp protocol
- Functional analysis
- Design and implementation
- Tests
- Presentation and demonstration

Technical Environment

- Language: Java
- Other technologies: AWT

Duration

- 4 month

Level of Intervention

- Total, from beginning to end
- Team work

EDUCATION

1998–2003 *Computer Science Civil Engineer*

Faculty of Applied Sciences, UCL, Louvain-La-Neuve

Complementary training throughout the *Electronics Civil Engineer* program

Trainings: Operating systems, embedded and real time systems, networks, distributed and parallel systems, analogue and digital circuits, telecommunication, database, knowledge management, project management, computer security, ...

2003 *Multilingual Business Communication*

Faculty of Applied Sciences, UCL, Louvain-La-Neuve

3 month training

LANGUAGES

French : native speaker

English : fluent

Dutch : fluent

Spanish : basic

German : basic