

## Grosjean Nicolas

- Software Architect

## Key Competencies

- Software Development, Integration, test & validation

## Languages

French(native), English (fluent), German(B2)

## Education & Employment

Since 1999	Altran , Consultant (France, Belgium, UK, Germany...)
1994 - 1999	SDI, (Paris) Consultant
1993 - 1994	DCN Paris, Nuclear Safety
1991 - 1993	Graduated (Diplôme d'Ingénieur, the French <u>Master's degree in Engineering</u> ) from ENSTA ParisTech, École Nationale Supérieure de Techniques Avancées

## Qualification

As a software architect working in the field of embedded systems (medical equipment, car, train, plane, satellite, ...) for more than 20 years, I am enthusiastic about designing, developing, testing and maintaining high quality complex systems. With new requirements

- Languages:** C++, Qt, Ada, Python, bash script
- Tools :** Doxygen, docker, Virtual Machine, QAC, cppcheck, Valgrid, gdb, MS Project, ...
- Coding Standards:** Object Oriented Development, MISRA-C...
- Configuration Management:** cmake, git subversion, Jira
- Requirement Management:** DOORS
- Design:** Real Time System, MBSE, UML, Argo UML, Enterprise Architect, coding / decoding mdf4 files, CAN, LIN...
- Operating system:** Linux (native or virtual machine), low level interface (usb, wifi)

## Experience (1/4)

**Role:** Data Analyst

**Industry:** Automotive

**Project:** Updating MagicDraw Diagrams with new requirements

**Tools:** Virtual Machine, MagicDraw.

**Responsibility:** check and draw the connection between components

**Role:** Requirement Analyst

**Industry:** Automotive

**Project:** Carrying out checks of the requirements and their interconnection in the V-cycle

**Tools:** MATLAB, Simulink, Codebeamer

**Responsibility:** Detection of several logical or syntactic errors. Analyse and Documentation of a un-documented library (part of ICV-L Software)

**Role:** Risk Manager

**Industry:** Trucks

**Project:** Risk Analysis

**Tools:** FMEA.

**Responsibility:** A complete analyses was delivered.

**Role:** Software Architect / Lead Software Developer

**Industry:** Automotive suppliers

**Project:** Creation of MDF4 reader and interpreter software.

**Tools:** C++, CAN, LIN, binaries analysis, Object Oriented, Linux, Valgrind, mdf4 files.

**Responsibility:**

- \* Software Architecture : multiple executable with a common library
- \* Quality Management
- \* Performance Improvement (Memory leaks, optimisation)
- \* Software development

## Experience (2/4)



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**Role:** Lead Software Engineer, Software Management

**Industry:** Automotive

**Project:** Updating driving simulation software

**Tools:** CMake, bash script, Gvim, Linux, Makefile

**Responsibility:**

- \* Design and complete update of the build and software dependency management tool (>400 Makefile converted to cmake),
- \* Development of new functionality related to the synchronization of sound, image and vibration

**Role:** Software Engineer

**Industry:** Automotive

**Project:** Automotive suppliers - Infotainment Software

**Tools:** libusb, c++, wifi, coding and decoding

**Responsibility:**

- \* Module Requirement, coding and testing (usb / wifi),
- \* Create USB bus simulator (libusb, UDisk2),
- \* Manage BMW CommAPI Interface,
- \* Teaching to the team the art of testing,
- \* Test Implementation,
- \* Coding and Decoding Wifi messages (apple, miramax...)

**Role:** Software Architect

**Industry:** Automotive

**Project:** Camera system to replace mirrors

**Tools:** Enterprise Architect, c++, cmake, gdb.

**Responsibility:**

- \* Define the software architecture,
- \* Define the milestones,
- \* Manage the requirement in a R&D environment,
- \* Check the software quality (5 people),
- \* Coding and Testing the module,
- \* Bug Management,
- \* Documentation.

**Role:** Software Tester

**Industry:** Automotive

**Project:** A Software with poor quality should be tested

**Tools:** c++, cmake, gdb.

**Responsibility:**

- \* Make drastic choice about the tools,
- \* Test implementation,
- \* Test Coverage management,
- \* Bug Management,
- \* Bug, test and requirement Documentation,

**Role:** Software Tester

**Industry:** Automotive

**Project:** From objects positions, this software compute the objects trajectories. It should be tested.

**Tools:** DOORS, gdb

**Responsibility:**

- \* Check of requirements (incomplete or contradictory)
- \* Test plan
- \* Test report

**Role:** Software Integrator

**Industry:** Automotive

**Project:** Integration of incompatible libraries

**Tools:** C++, QAC, gvim.

**Responsibility:**

- \* integration of BMW library with Bosh Software. The Interface were incompatible.
- \* very short delay (deadline has already passed!)
- \* Report error and bug,
- \* Interface adaptation,
- \* Unit and Integration Test,
- \* Interface with supplier.

## Experience (3/4)

**Role:** Software Architect  
**Industry:** Automotive  
**Project:** 3d Top View System Software manage the vehicle surroundings : a virtual camera displays the car itself and the surroundings, helping the drivers to avoid obstacle (Driving Assistance System).

**Tools:** Enterprise Architect, C++, CAN, Linux, Windows.

**Responsibility:**

- \* Software architect for the embedded software (model view architectural pattern),
- \* CAN (Controller Area Network) library,
- \* Development Multi Platform software,
- \* Improving software quality,
- \* Team support,
- \* Improving team communication (web site),
- \* Maintenance of Linux system,
- \* Test-oriented development.

**Role:** Software Engineer

**Industry:** Railroad UK

**Project:** Long term support for this embedded software (>10 years)

**Tools:** C++, Embedded Windows CE.

**Responsibility:**

- \* Update and Support on location

**Role:** Software Architect

**Industry:** Medical devices

**Project:** New generation of high tech medical instrument

**Tools:** C++, Qt, QtEmu.

**Responsibility:**

- \* Software architect for the embedded software (model view architectural pattern),
- \* State machine conception and development,
- \* Conception and development of several functionalities,
- \* Code documentation with doxygen,
- \* Participation of wiki,
- \* Maintenance of linux system.

**Role:** Software Architect

**Industry:** Railroad

**Project:** IP Train NAT (Nouvelle Automotrice Transilien/Spacium 3.06)

**Tools:** Embedded Linux, C++, Qt..

**Responsibility:**

- \* Team coordinator for the development of the NAT HMI software embedded in trains,
- \* Software design, coordination of several software,
- \* Integrator for IHM Version,
- \* Maintenance of linux,
- \* PPC hardware validation,
- \* Creation of a cooperative wiki on a server, in order to centralize the team knowledge.

**Role:** Software Engineer

**Industry:** Railroad UK

**Project:** "Virgin Train" class consists in a new generation of trains in United Kingdom, and will be quite a big step for the embedded software in general.

**Tools:** Embedded Windows CE, C++, MFC.

**Responsibility:**

- \* Design, development and tests of a HMI software embedded in trains.
- \* HMI software development and integration.
- \* Supplier technical interface (PEP / Kontron Belgium).

**Role:** Software Developer

**Industry:** Aircraft

**Project:** In the realm of air control, Thomson upgraded its software

**Tools:** C++, QAC, gvim, ASTERIX.

**Responsibility:**

- \* Design, development and tests of software.
- \* Programming of the coding / decoding layer within flexible software.

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## Experience (4/4)

**Role:** Software Developer**Industry:** Aircraft**Project:** Development of a macro-generated software for the management of air traffic (Management of several parallel businesses), in order to cope with denser aircraft traffic.**Tools:** C++, Linux.**Responsibility:**

\* Development and tests of software.

**Role:** Software Engineer**Industry:** Space**Project:** Correction of a embedded software**Tools:** Ada, Assembleur.**Responsibility:**

\* Software workaround of a bugged hardware embedded on satellite.

**Role:** Project manager associate**Industry:** Pharmaceuticals**Project:** Hoechst starts out-sourcing its internal IT support**Tools:** Windows, Visual Basic.**Responsibility:**

\* Test of new Software.

\* Drafting of procedures for software installations, as well as setting environments Windows (NT3.51, NT4.0, 95, 3.xx...) on PCs connected in network.

\* Installation of the network LOTUS Notes for the whole company.

\* Creation of quality indicators for the hot line.

**Role:** Financial data processing**Industry:** Banking**Project:** Software upgrade**Tools:** MS Excel, Visual Basic.**Responsibility:**

\* Development of financial software.

**Role:** Project manager associate**Industry:** Public Sector**Project:** Moving an headquarters, bringing 600 new PCs at the new headquarters.**Tools:** MS Project, Windows**Responsibility:**

\* Management of the project under MS Project (50 people, 300 tasks).

\* Safeguard, then migration of the data,

\* Software standardization.

**Role:** Analyst and Software Engineer**Industry:** Defense - Aircraft**Project:** Embedded software development for a French fighter, within a team of 50 engineers.**Tools:** Ada, Unix.**Responsibility:**

\* Management of various data-processing tools according to an object-oriented software development. The program exceeded one million lines.

**Role:** Software Developer**Industry:** Nuclear Safety**Project:** Safety studies for the carrier the "Charles of Gaulle". Updating the file of the safety options concerning the services ensured by the ship to the two nuclear boilers.**Role:** Scientific Engineer**Industry:** Research**Project:** Analysis and comparison of *in situ* data regarding the Tropical Atlantic's long waves, in accordance with a digital model of general oceanographic flowing, providing therefore a scientific expedition with fundamental source documents.

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