

Mathieu Lacage
Born on July the 12th 1978
Network Engineer, Ph.D
Software Architect

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Architecture and Management of Complex Software Development Projects

Skills

Architecture and management of the development of complex software systems. Strong focus on successfully dealing with the human, political, and financial aspects of these projects, most notably through the use of *agile*-inspired methods.

Solid experience of geographically-distributed international work environments where cultural diversity must be taken into account systematically.

Serious practitioner of many functional and object-oriented programming languages such as C (10 years) and C++ (9 years). Great familiarity with Python, Perl, Bash, and Java.

Excellent understanding of the implementation of numerous technologies:

- Networking: UDP/IP, Wi-Fi, WiMAX
- Video: MPEG2 transport, DVD-Video
- Distributed systems: COM/DCOM, CORBA
- Unix/Linux: Profiler, Debugger, Loader, C library, Operating System Kernel

Experience summary

2010 – today	INRIA (FR): <i>Local Manager</i> EIT ICT Labs.
2005 – today	INRIA (FR): <i>Software Architect & Community Manager</i>
2008 (10 months)	University of Washington (USA): <i>Visiting Scholar</i>
2003 – 2005	INRIA (FR): <i>Software Development Engineer</i>
2001 – 2003	Sigma-Designs (FR/USA): <i>Software Development Engineer</i>
2000 (6 months)	Eazel (USA): <i>Intern</i>

Experience

- 2010 – today INRIA: *Local Manager* EIT ICT Labs (<http://eit.ictlabs.eu/>). Coordinate research, education, and innovation projects between INRIA, University of Nice, and Eurecom: define projects with research teams, prepare project proposals, manage european-level reporting.
- 2005 – today INRIA: *Software Architect and Community Manager*.
Software architect of the open-source ns-3 library (<http://www.nsnam.org>), a network simulator which is becoming the reference simulator used by network researchs everywhere in the world both within academia and within the industry (Alcatel, Boeing, AT&T, US Navy Research Labs, Orange, Huawei, etc.):
- Creation and management of the user and developer community,
 - Simulation core, object model,
 - Simulation models for UDP/IP/ICMP, MAC/PHY Wi-Fi,
 - ELF Loader and POSIX C library to *simulate* socket-based applications,
 - Multithreaded parallelisation for multicore systems
- 2008 (10 months) University of Washington: *Visiting Scholar*.
Overseas assignment for the INRIA to establish a technical and scientific collaboration between the INRIA and University of Washington in the field of network simulation using ns-3: development and project management for the first version of ns-3, user evangelization through seminars on the use of ns-3 at University of Berkeley, UCSC and through demonstrations at scientific conferences.
- 2003 – 2005 INRIA: *Software Development Engineer*:
- Yans, a prototype for ns-3,
 - NEPI, a tool used to describe, deploy, and control networking experiments,
 - Bozo profiler: a tool to extract call graphs dynamically for architectural analysis,
 - MAC/PHY Wi-Fi simulation models for ns-2,
 - Automatic tunneling of RMI over ssh for the ProActive middleware,
 - Linux Wi-Fi drivers,
- Management and technical mentoring for other projects:
- Bio-reactor chemical reaction control,
 - Medical image analysis,
 - COQ formal proof tool,

Experience

- 2001 – 2003 Sigma-Designs: *Software Development Engineer*.
Implement the control software and debug the microcode of the video decompression chips that were developed by sigma-designs and sold to OEMs to build DVD players, Set-top boxes and Digital TV receivers:
- Cross-platform (Win32, Linux, eCos) development of a multi-threaded streaming framework.
 - Implementation of the DVD-Video specification for consumer DVD players (Kiss Technology DP 450 players, Momitsu 880 players).
 - Architectural design of an implementation of the DVD-Audio specification for next generation DVD players.
 - Monitoring of technological development of DVD specifications: DVD-HD, DVD-ENAV, DVD-VR, DVD+VR.
- 2000 (6 months) Eazel: *Intern*.
Contribute to the development of the first version of Nautilus, the graphical desktop and file manager of GNOME before Eazel disappeared in early 2001, when the dot com bubble burst:
- Drag & Drop for the *Tree View*
 - Asynchronous activation of components through CORBA
 - Bugfixing

Education

- 2010 Ph.D at University of Nice under supervision of Walid Dabbous: *Experimentation Tools for Networking Research*
- 2001 Engineer at the ENST (TélécomParisTech): Distributed systems, Digital microelectronics, Telecommunication protocols

Conference organizer

WNS3 2009	Co-organizer of WNS3, the first conference focused solely on ns-3: define the scientific program. WNS3 happens once every year and is collocated with SIMUTOOLS.
NSTOOLS 2007	Co-organizer of NSTOOLS, a conference focused on network simulators: technical program committee selection, management of paper reviews, selection of submitted papers.
GUADEC 2000	Create the first GUADEC (Gnome Users And Developers European Conference): handle the logistical, financial, and marketing aspects of the event. GUADEC takes places in a different european city every year since then.

Technical Program Committee

Read and review submitted papers.

2010, 2011	WNS3
2008, 2009	Simutools

Scientific Papers

2009	<i>NEPI: Using Independent Simulators, Emulators, and Testbeds for Easy Experimentation</i> , Mathieu Lacage, Martin Ferrari, Mads Hansen and Thierry Turetletti, SIGOPS Operating Systems Review.
2008	<i>Efficient Collision Detection for Auto Rate Fallback Algorithm</i> , Federico Maguolo, Mathieu Lacage and Thierry Turetletti, Proceedings of Third Workshop on multiMedia Applications over Wireless Networks.
2006	<i>Yet Another Network Simulator</i> , Mathieu Lacage and Thomas Henderson, Proceedings of the 2006 workshop on ns-2
2004	<i>IEEE 802.11 Rate Adaptation : A Practical Approach</i> , Mathieu Lacage, Hossein Manshaei, Thierry Turetletti, Proceedings of the 7th ACM international symposium on Modeling, analysis and simulation of wireless and mobile systems.

Languages

French	native language
English	fluent (read, write, speak)

Referees

On demand.