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Date of Birth: December 11, 1957
Pawtucket, Rhode Island (USA)

Education

1979–1985	Graduate Study, Ph.D in Computer Science (completed August 1985) Thesis: *A Study of the Worst-Case of Shellsort* (supervised by R. Sedgewick) Brown University, Providence, RI, USA.
1975–1979	Undergraduate Study, B.A. in Mathematics (completed May 1979) Stonehill College, North Easton, MA, USA.

Academic and Professional Positions

Oct 2003– *Ingénieur de Recherche*, INRIA, Sophia Antipolis, France.
Head of the Development and Experimentation Dept. (Le service Dream).
I head a team of 5 engineers that work with the research groups developing software, working on experimental hardware platforms (PC cluster, virtual reality workbench), tutoring young engineers, organising seminars on software development tools and methods, etc.

2002–2003 *Ingénieur de Recherche*, INRIA, Sophia Antipolis, France.
Member of the Development and Experimentation Group (l'équipe Dream).
Since April 2003, I assure the team management aspects with D. Terrer.

The development and experimentation group is involved in a number of community missions; these include the tutoring of young engineers, seminars on software development tools, recommendations on tools and techniques for software development, etc. In addition, the members of this group actually develop software for the research projects. Since July 2002, I work in the Lemme research project extending the functionalities offered by their theorem-prover front-end, *PCoq*.

I participate in the INRIA's R&D group on development, named *reseau-dev*. In particular, activities related to documenting the development process at INRIA.

My additional tasks include: tutorage for three engineers, maintaining the development group's web site, visiting the research projects to assess their needs, redaction of the group's activity report and future directions report, etc.

1997–2002 *Ingénieur de Recherche*, INRIA, Sophia Antipolis, France.
Permanent staff member working with the computing services department and the Epidaure research project.

For the computing services, my work consisted in installation, maintenance, updgrading machines (DEC unix, PC's linux and windows), working also on the printing facilities, organising the tests on graphics cards for linux, and all-around sysadmin hotline.

For Epidaure my work revolves around supporting development. Reorganizing the environment of the group, organizing the project's software and its distribution. Setting up simple guidelines for sharing programs and coding. Extraction and conversion of the medical image data used by the group. Aiding the students, the summer trainees, and our external medical consultants in their battles with computers and computer programs in general. Setting up mailing lists, Web pages, installation of software, debugging software, writing scripts, and so it goes.

1997 *Ingénieur Expert*, INRIA, Sophia Antipolis, France.
Joined INRIA's team in the World Wide Web Consortium (*W3C*), as well as working

for INRIA's computing services.

I worked with the systems adminstration team at INRIA (responsable for the DEC architecture), the Epidaure research project (development support and software distribution) and the Web consortium using tools to observe the status of various servers (mail, ftp, http, etc.).

1995–1996 *Ingénieur Expert*, INRIA, Sophia Antipolis, France.
Joint INRIA & Dassault Aviation Project on *Concurrent Engineering*, (*Projet Génie*).

Within the context of this project we developed a new complete version of a theorem proving environment, called *CtCoq*, distributed to around 30 sites. This environment uses the Coq proof assistant v5.10. My technical contribution is on the user interface, in particular, on the coherency maintenance and its visualisation between the Centaur and Coq systems. The CtCoq system runs in three separate processes: a parser for Coq's command language, the Coq proof assistant, and the Centaur system.
Depot APP: principal co-author at 45%, with Y. Bertot (45%) and H.Goguen (15%).

1994 *Ingénieur Expert*, INRIA, Sophia Antipolis, France.
European Basic Research Action (BRA), Types for Proofs and Programs

Technical contribution revolves around using *Centaur* as a front-end to the *Coq Proof Assistant*, which allows one to have an interactive interface to a pre-existing theorem prover developed by the Coq group at INRIA Rocquencourt. Within the Croap group we developed a prototype.

1989–1993 *Ingénieur Expert*, INRIA, Sophia Antipolis, France.
Esprit Project 2177, Generation of Interactive Programming Environments II (Gipe II).
The last two and a half years, worked as *Project Manager* for this 80 man-year/9.6Mecu project, which included nine European partners from research and industry.

My technical contribution included experiences with Centaur communicating with a user-interface running in a separate process, and generating an interface based on UIL specifications. This experience lead to work on inter-object and inter-process communication. The *Sophtalk* system is a library that allows for this style of communication via a broadcast message based protocol. Here objects are encapsulated, sending and receiving messages from other objects. These techniques lead to a distributed version of *Centaur* with many tools in separate processes and allowed for the introduction of external tools (developed elsewhere) into the generated environments.
Centaur's academic and industrial distribution: ˜100 licenses.

1987–1989 *Ingénieur Expert*, INRIA, Sophia Antipolis, France.
Esprit Project 348, Generation of Interactive Programming Environments (Gipe).
The equivalent of 45 man-years, this project was consisted of two research institutes and two software houses.

Work surrounding this project included the implementation of a generic programming environment generator, *Centaur*, which using a formal specification of a programming language, produces an interactive programming environment. (Personal) Technical contribution was in the area of introducing a multi-window, mouse-driven graphical user interface. Multiple versions both pre- and post-*X* Consortium. Also developed a graphical object system used within *Centaur*, with the behavior of these objects specified in the *Esterel* programming language. Esterel is a specialized language for reactive systems. Also co-developed with F. Montagnac a (pre-CVS) versioning tool permitting the dozen developers to work concurrently on Centaur.
Centaur distribution (Academic-European): ˜25 licenses.

1985–1987 *Professeur Invité*, INRIA, Sophia Antipolis, France.
As part the *Croap* Group (*Conception et Réalisation d'Outils d'Aide à la Programmation*), which works on "Design and Implementation of Programming Tools".

1984, 1985 *Teaching Assistant*, Brown University.

1983–1985	*Research Assistant*, Brown University.
1981–1983	*Technical Editor* (book “Algorithms” by R. Sedgewick).
1979–1982	Title IX Fellowship, Brown University.
1975–1979	Academic Scholarship, Stonehill College.

Publications

Conferences and Journals

“The CtCoq Experience” (with Y. Bertot), *Proceedings of the Fifth International Conference on Algebraic Methodology and Software Technology (AMAST'96)*, Munich, July 1–6, 1996.

“CtCoq: a system presentation” (with Y. Bertot), *Proceedings of the Thirteenth International Conference on Automated Deduction (CADE-13)*, New Brunswick (NJ, USA), July 30 – August 2, 1996.

“Sophtalk in the Centaur System”, appears in *Gipe II Fifth Review Report*, Esprit Project 2177, J. Bertot , *ed.*, INRIA, February 1993.

“Centaur: Towards a “software tool box” for Programming Environments” (with D. Clément and G. Kahn), *Proceedings from the International Workshop on Environments*, LNCS 467, Springer-Verlag, Chinon, France, September 1989.

“Specifying Behavior of Graphic Objects Using Esterel” (with D. Clément), *Proceedings of TAPSOFT'89 Colloquim on Current Issues in Programming Languages*, LNCS 352, Springer-Verlag, Barcelona, March 1989. (Also appears as INRIA Rapport de Recherche no. 836.)

“A Guide to Graphical Objects within Centaur” (with D. Clément), *Fourth Annual Report*, Esprit Project 348, January 1989. Revised version appears as part of the Centaur v2.0 documentation, August 1994.

“Centaur: The system” (with P.Borras, D.Clément, T.Despeyroux, G.Kahn, B.Lang, V.Pascual), *Proceedings of the ACM SIGSOFT'88: Third Symposium on Software Development Environments*, Boston, MA., November 1988. (Also appears as INRIA Rapport de Recherche no.777.)

“Graphical Objects: Geometry, Graphics, and Behavior” (with D. Clément), *Third Annual Report*, Esprit Project 348, January 1988.

“Practical Variations of Shellsort” (with R. Sedgewick), *Information Processing Letters*, April 1986.

“Triangulation and Shape-Complexity” (with B. Chazelle), *ACM Transactions on Graphics*, Special Issue on Computational Geometry, April 1984.

“Computing Connected Components of D-Ranges” (with B. Chazelle), *Bulletin of EATCS*, February 1984.

“Improved Bounds for Shellsort” (with R. Sedgewick), *Journal of Computer and System Sciences*, **31** (2), Oct. 1985, p.210. Preliminary version appeared in *Proceedings of 24th Annual IEEE Symposium on Foundations of Computer Science*, November 1983, Tucson, AZ, pp. 48–55.

“Triangulating a Polygon by Divide-and-Conquer” (with B. Chazelle), *Proceedings of 21st Annual Allerton Conference on Communication, Control, and Computing*, October 1983, Monticello, IL, pp. 447–456.

Technical Reports

“The User Guide to the CtCoq Proof Environment”, (with Y. Bertot, Y. Coscoy, H. Goguen, F. Montagnac), INRIA Centre Sophia Antipolis, February 1996.

"The Gipe II Fifth Review Report", Esprit Project 2177, Janet Bertot, *editor*, INRIA, February 1993.

"Sophtalk Tutorials" (with I. Jacobs), INRIA Centre Sophia Antipolis, Rapports Techniques No. 149, February 1993. (Also appears in Gipe II Fifth Review Report, Inria, 1993.)

"The Sophtalk Reference Manual" (with I. Jacobs, F. Montagnac, D. Clément, V. Prunet), INRIA Centre Sophia Antipolis, Rapports Techniques No. 150, February 1993.

"The Gipe II Fourth Review Report", Esprit Project 2177, Janet Bertot *editor*, INRIA, February 1992.

"The Centaur 1.0 Documentation" (with G. Kahn et al), January 1990.

"The Centaur 0.9 Documentation" (with G. Kahn et al), June 1989.

"Getting Faster TeX Output" (with F. Montagnac), INRIA Centre Sophia Antipolis, Rapports Techniques No. 71, July 1986.

"A Study of the Worst-Case of Shellsort", Brown University, Computer Science Technical Report No. CS–85–15, August 1985 (Ph.D Thesis).

"Unraveling the Segment Tree" (with B. Chazelle), Brown University, Computer Science Technical Report No. CS–83–15, June 1983.

System Presentations

"Presentation of CtCoq", (proposition written with Y. Bertot), at *Workshop for User Interfaces for Theorem Provers*, University of York, York, July 1996.

Service

2003–	Member of the "Commission de Dveloppement Logiciel", INRIA, Sophia Antipolis Overseeing and counseling the software development and experimentation efforts.
2002–2003	Member of INRIA's R&D group *reseau-dev*, Coordination of development activity between INRIA's research centers
2001–2003	Member of the local "Comission de Postes d'Accueil", INRIA, Sophia Antipolis, selection committee for young engineers and visiting industrial engineers.
1997–2001	Responsible for Epidaure Group's software distribution.
1994–1996	Responsible for the Croap Group's WWW pages on its software and publications.
1994–1996	Co-Responsible for the Croap Group's software distribution. Centaur (Generic Programming Environment Generator), CtCoq (Graphical Interface to the Coq Theorem Proving Assistant).
1993	Organized *Centaur Users' Club Meeting*, Inria Sophia Antipolis, April 1993.
1991–1993	Project manager for Esprit Project No. 2177, Gipe II. Generation of Interactive Programming Environments. Overall management, responsable for annual meetings and review reports.
1990–1996	Seminar organizer for the Croap Group, Inria Sophia Antipolis.
1989,1990	Program Committee Member for "Second Colloque sur L'Ingenierie des Interfaces Hommes-Machines", Biarritz (France), September 1990.
1989	CIMPA L'Ecole D'Ete, Guest Lecturer, User Interfaces.
1988, 1989	Program Committee Member for "Colloque sur L'Ingenierie des Interfaces Hommes-Machines", Sophia Antipolis (France), May 1989.
1987	PACE (Program for Advanced Continuing Education) Guest lecturer, Graphical Interfaces with Le Lisp.
1987–1989	CERICS, Professeur Associé, Unix tools.
1983–1985	Departmental library committee.
1982–1985	Comprehensive examination committee.
1983, 1984	Guest lecturer, CS257 Computational Geometry.
1981–1983	Faculty-graduate student liaison.

1981	Guest lecturer, CS21 Algorithms and Data Structures.

Technical Interests

- Design and Analysis of Algorithms
- Design and Specification of User Interfaces
- Interactive Programming Environments (particularly user interface aspects)
- Working Environments for Proof systems
- Intertool Communication (connecting programming environments and external tools)
- Software Engineering (project design, collaborative work, life cycle)

Within INRIA's Croap group, my work regarding software engineering has often involved user interfaces. What information and how to present it to the end user. This becomes even more important when the user interacts with a front-end that hides several communicating processes. One must have a coherent view of the current state of the system to present to the user.

The systems we developed are open and extensible, where components can be easily removed, to tailor to a user's specific needs, or changed, to replace an outdated component. This requires having an eye on the software's organization both in terms of project management, reusability and modularity, and in the configuration management and version control of the actual code.

My work on the generic interactive environment generator, Centaur, involved the graphical user interface and developing a message passing system which allowed us to move from a monolith system to a distributed version of our environment. Along the way, I was involved in creating a versioning system for this multi-developer project (pre-CVS). Working on the proof-environment, CtCoq, my work centered on the user interface once more, using our message passing techniques between the various processes and within the interface itself. Here managing the screen real-estate and presenting a coherent state of the multiple proofs under development (with smart undoing) was important. Once again the collaborative aspect of this team development lead to experiece with bug tracking, unit testing, and exporting of this software.

Within INRIA's Epidaure group, my work revolved around the support for development rather than development itself. How to reorganise diverging libraries, how to handle multple hardware plateforms, defining a common environment and simple guidelines within the group, and how to export our tools outside the group. I also was responsible for the distribution of the group's software.

Computing Languages, Systems, and Techniques: Experience

Languages:	Java, Lisp (object oreinted programming), C, Esterel (reactive programming), and academic encounters with several languages including: C++, CAML, Pascal, Ada, PL/1, Fortran, and Basic.
Systems:	Sun and Dec workstations, PC linux boxes .
Graphical Interfaces:	X11, UIL (Osf/Motif), Aida (ILOG), and a locally co-developed system.
Inter-Tool Communication:	SophTalk (a Lisp-C ORB) co-developed locally at INRIA, based on an encapsulation message-broadcast technique.
Revision Control:	RCS and a distributed multiple-user extension co-developed locally, RRCS, which allows one to maintain several distributed versions, and CVS the concurrent versioning system.
Miscellaneous:	bash, Perl, and other scripting languages.

Electronic Coordinates.

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References – furnished upon request.