Jean-Baptiste Arnaud

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Compiler, Virtual Machines, Cross compilations, Low-level language, Language design, Security, Dynamically-typed language, Continuous integration

Education

2008–2013 **PhD's degree in Computer Science**, *university Lille 1*, Lille - France .

2007–2008 **Master's degree in Computer Science**, *university Joseph Fourier*, Grenoble - France.

2005–2006 **degree (equivalent to BA) in Technology and Management**, *IMUS-IAE Savoie Mont-Blanc*, Annecy - France.

2003–2005 **DUT (equivalent to BTEC Higher National Diploma) in Computer Science**, *IUT* , Valence - France.

Others Diploma

IPMA **Certified Project Management Associate**.IPMA is a world leading non-profit making project management organisation. IPMA represents more than 50 project management associations from all continents of the world. IPMA® actively promotes project management to businesses and organisations around the world. In order to increase the recognition of the profession, we certify project managers, award successful project teams and research projects, and provide a number of project management publications.

Experience

Vocational

2009-2012 **Post-doc**, *Team RmoD*, Lille.

Research Project, SafePython: The goal is to develop code analysis tools, which can be use on a subset of Python, in order to offer different security properties of the code analyzed.

2009-2012 **PhD student**, *Team RmoD*, Lille.

More and more applications require dynamic behavior, often based on the possibility to modify the execution itself. Such changes of behavior are often based on reflective features. Dynamic scripting-like languages get more and more presence: Languages like Lua gets embedded in Adobe Photoshop, F-Script can be embedded in any Cocoa Mac OS X applications and take control of the applications without any control, Javascript applications share the same execution environment in a web-browser, so malicious ads could easily access private data. In languages such as Ruby, Python, Smalltalk, it is possible to nearly change any aspect of an applications: load untrusted code, change objects... which is clearly a total lack of security. There are some approaches to control code execution but this is often based on a closed world assumption, limited to resources control or a minimal subset of Java bytecode. The goal of this PhD is to study how it is possible to reconcile dynamic and reflective languages with secure applications. The idea is not to validate bytecodes as this is often done but to evaluate how by construction and control of reflective features it is possible to control and create sandbox for programs execution.

2009 **Research student & Software Developer(Java)**, *Team ADELE*, Grenoble.
6 months:"Selecting automated service"
Proposed a service selection strategy for the ChiSpace project.

2008 **Software Developer(C/C++)**, *M1i*, Seynods.
6 months on contactless card.

2007 **Software Developer(Java JEE)**, *Akasys*, Annecy.
Creating a module in a process management tool: Agilium (4 months).

2005 **Software Developer(Web)**, *Espace Informatique*, Aubenas.
Creating a search engine and an online payment module for Ardeche.com (3 months)

Miscellaneous

PCChair **Dyla2011**, Malaga.

Staff Organizer **ESUG2013**, Annecy.

Student Volonteer **ESUG 09,10,11,12**.

2006 and 2005 **Employee**, *Marze Bank*, Aubenas.
Bank employees

Languages

French **Native language**

English **Regular/Work use**

Computer skills

Languages Smalltalk, C, Assembly, Python, Ruby, Java, etc.

Project Management AFITEP certification

Virtual Machine Interpreter Loop, FFI, etc.

Application design Design pattern, reflection usage, etc.

Methodology UML, Scrum, Continuous integration, Test-driven development etc.

Low level Hacking C/C++, Assembly, etc.

Projects

NBOpenGL I maintain (now in collaboration with Chile) NBOpenGL for most of the fix, configuration and implementation.

Pharo on ARM I maintain and develop for the ARM pharo virtual machine. All the work is done using the Continuous integration plaform of Inria.

OpalCompiler The OpalCompiler is a Smalltalk-to-Bytecode compiler for Pharo.

Storm Storm is a small game engine using Chipmunk library (as FFI). Chipmunk is 2D physic engine develop in C, link. The idea is come to bind this physic engine using nativeBoost(a FFI API of Pharo) and do some stupid but terrebly fun thing.

MoosePython This project project has been done for the SafePython consortium. Research Project. The goal is to develop code analysis tools, which can be use on a subset of Python, in order to offer differents securities properties of the code analyzed.

MooseCobol This project project has been done for a company Synectique. The goal is to create a coherent Moose model for IBM* ILE* COBOL/400* language. This Moose model should be used to make quality visualization for legacies softwares.

Teaching

Audience	Label	Location	Content / Hours
2011-2012			
IT university degree, computer science, 32 students	Advance Network	IUT Lille1	practical work 64
2010-2011			
IT university degree, computer science, 22 students	Network	IUT Lille1	practical work 16
IT university degree, physic measurement, 10 students	Oriented Object Programming	IUT Lille1	teach/practical work 48
2009-2010			
IT university degree, computer science, 22 students	Network	IUT Lille1	practical work 48
IT university degree, computer science, 28 students	Programming project	IUT Lille1	student project 16

Supervise

Internship 3 years diploma, Adrien Barreau: FS integration generation de scripts d'examples pour coral

Internship 2 years diploma, Erwan Douaille: Source City

Connections

Github https://github.com/JeanBaptisteArnaud

LinkedIn http://www.linkedin.com/pub/jean-baptiste-arnaud/72/889/515

SmalltalkHub http://smalltalkhub.com/#!/~jeanbaptistearnaud

Interests

Music Jazz, Rock, Metal, etc.

Movie All kind, but I love "Genre movie"

Comics All kind, but especially serious one

Game Usually board game