

# LICENCIÉ EN INFORMATIQUE

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## *Studies*

### *From 1985 until 1990*

Graduated as Licencié en INFORMATIQUE (computer scientist), Faculté des Sciences, Université Libre de Bruxelles.

### *1984*

One year at Sciences Appliquées, Université Libre de Bruxelles.

## *Thesis*

Title : “Conception d’un interpréteur PostScript.” (Design of a PostScript Interpreter)

- PostScript language study and analysis,
- Implementation of a functional kernel in C (on SUN / UNIX BSD 4.2),
- Ported on VAX in October 1991 (for another student’s thesis).

www.  
alef<sup>1</sup>  
.org

## *Professional Experience*

### *June 2006 until today*

Employee at Experteam (Software engineering consultancy company).

- analysis and development of a phone callback requests broker. The broker is reading request from a message queue (MQ Series), XML formatted with schema validation, and from an Oracle database. It then forwards the request to the callback management system (Genesys). It fully integrates with the Tivoli monitoring system and displays a activity console, accessed from a Web browser. Developed in Java.
- parameter editor for Fortis Pacific, legacy system, .startup parameters. Including a parser for the *pacpar* scripting language used to define the parameters (Java/Swing).
- maintenance of the ECA application, a Java SWT/Eclipse based application. Embedding of the Jetty Web server for realtime interaction with any ECA running in Fortis branches.
- managed one developer's work for broker's enhancement and parameter editor (Java)

### *January 2004 until June 2006:*

Employee at Steel 24/7 (B2B portal development company for the Steel industry).

- technical input for the new framework creation for the web applications development. The new framework uses current standards **EJB/J2EE**, **Hibernate** and run on a **Weblogic** application server
- project leader for the new resource management (versioning, translations, ...)
- APIs to send e-mails (**XML**, **JUnit**, **Dumbster**)
- development of a framework to easily create the basic persistence tests for **Hibernate**, integrated with **JUnit**
- setup of the automated builds (using the **cruisecontrol** system) and the use of **ant**
- development of C++ application, using Interpel to send and receive invoices, that dispatches the incoming and outgoing invoices
- Java coaching

### *September 2002 until December 2004*

Employee at Puilaetco Bankers.

- development for the new IT project for all the business management. The project is based on the **J2EE/EJB** technology running with **BEA/Weblogic** as an application server,
- project leader for the automated tests architecture using **JUnit**, integration with the chosen Acceptance Tests Runner (for GUI testing), and several parts of the project,

- development of the clients portfolio valuations, using the **Java-JDBC/XML/XSLT/PDF** cycle
- development for the persistence framework (developed by a consultant) implementing the JDO interfaces mapping to a relational database (**IBM/DB2**),
- development of tools (1) that initializes the database data using the persistence framework and XML data files, (2) that builds **JAR** files after extracting source code from the **PVCS** source control system using **Ant**,
- study of Log4J and development of some extensions (asynchronous appender with timeouts for automatic buffer flushing and appender for the **Weblogic** logging system),
- analysis and development of a daemon to start up and record statistics about tests based on **JUnit** (EJB called by client applications),
- Java coaching and co-writer of exercises for the persistence framework

### *November 2001 until August 2002*

Employee at MUMM (Management Unit of the North Sea Mathematical Models).

- development of server side scripts in **Perl** and **PHP** for the new Web site.
- design and development of a web application using **Java** and **Servlets**. This application gives access to scientific data stored in an **Oracle** Database. The web server is an Apache server calling the Tomcat Servlet container. The user can login to the system and enter search criteria to retrieve data. They can preview the results or download them, they also can edit the request parameters and view the request's summary. The HTML pages generated by the servlets also contains **Javascript** scripts.

### *December 1999 until November 2001*

Researcher at Faculté Polytechnique de Mons (Polytechnic University of Mons). Sent during 6 months to Luxemburg in 3S (Streamlined Solutions and Services) a software company which collaborates with the university. I worked as a consultant on an intranet/extranet project. The application was a new on-line service, managing international funds, intended for Euroclear's clients (Brussels). The project was developed with **Visual Basic. COM** objects were instantiated from **ASP** pages in the visual part or from asynchronous daemons.

- programming advices to the developers,
- development, program test and technical design document, of two **COM** modules. The first searched various information about users, accessing SiteServer (using LDAP protocol). The second was intended to get information about open and closed days using holiday database tables,
- development of several tools,
- setup and use of the code rebuild tools before code delivery.

Following the client's build procedure.

After the six-months period in Luxembourg, I started working on the practical exercises for the *multimedia course* (XML/DTD/XSLT and Java) and the *real-time computing and operating system course* (C under Linux).

*See appendix B for more information.*

### *January 1997 until November 1999*

Employee at Endless Interactive S.A. a multimedia software company (CD-ROM and Internet). Supervision of the programming team (three persons). Endless Interactive developed applications where graphical design was very important. The projects were about three months long therefore a lot of projects were produced. CD-ROM productions were designed for **Windows** and **Apple**.

Development tools : **Java**, **AMT** (Apple Media Tool, including a programming language called "key", an object oriented language based on **Eiffel**), **Director**, **JavaScript**, **C/C++** and **Perl**. Main tasks :

- AMT source code analyze and modification (part of the source code is written in key and part is written in C - with different implementations for the two target platforms),
- AMT extensions development (read access to dBase III files for Windows and Macintosh, special effects for images display, sound mixing, etc.),
- Applet(s) (**Java**) development for Internet projects,
- native C code implemented for Java (JNI) for Windows and Macintosh,
- development with Director, multimedia production tools,
- developments in Visual Basic for database accesses,
- OLE automation to read and write Word documents,
- small multimedia framework development in C++ for Windows 95 and Windows NT.

*Appendix A contains a detailed presentation of the projects.*

### *January 1995 until December 1996*

Employee at PGP (a software company developing medical lab workstations software) in the R&D team. Worked on the development of Windows version of the lab workstation called Visual Lab (in C++ under Windows with Borland OWL class hierarchy, Rogue Wave library and **ODBC**):

- Improvement of the Borland **OLE 2.0** classes to turn the application OLE automation aware,
- Specialisation in developing and working with the Windows UI particularity (VBXs and widgets - custom controls - development),
- Study of the **OCX** (ActiveX) technology to later rewrite **VBXs** as **OCXs**.
- Writing of technical documents, for internal use, about OLE 2 and Windows programming,
- Working on a Document/View class hierarchy started by a colleague for the Visual Lab environment.

### *May 1993 until December 1994*

Employee as a computer scientist in a software company developing custom programs (Bureau Informatique d'Analyse et de Conseil - BIAC):

- Development for a software managing a metallurgical factory in Luxembourg (Galvalange - metallurgical industry) production line, in C with **Informix SQL**,
- Evaluation of development platforms,
- Development of a MFC-like (or OWL-like) class hierarchy in C++ for future development (port a DOS Cobol application to **Windows** in C++) including classes to access the Cobol file system,
- Writing of documents describing the OO basis and the class hierarchy,
- Lessons preparation and presentation about X/SDE (UNIX Software Development Environment from Siemens-Nixdorf), a 5-day course at Siemens-Nixdorf Education Centre.

### *February 1992 until May 1993*

Civil service at the Brugmann University Hospital in the Cardiac Surgery department:

- A new software design for managing all the data needed for research and teaching, with the surgeon staff,
- The software was targeted for **Windows** (Microsoft) in C++, using a relational database (Borland Paradox),
- Technical assistance for software usage (word processors, etc.),
- Consultancy for hardware and software purchase.

### *May 1990 until February 1992*

Employee as a computer scientist in BIAC:

- Engineering and development of programming tools (resource file generators, partial translator from **Modula-2** to C, automatic insert of import statements, etc.). Development under **UNIX** (system V/R4) in **Modula-2** and C, using a relational data base (**Informix SQL**),
- Development for a software managing the production line of a metallurgical factory in Luxembourg (Galvalange - metallurgical industry).

## *IT knowledge:*

### *Programming and modeling languages*

- UML,
- C++, Java, Eiffel, Smalltalk, C#, Ruby,
- C, Ada, Pascal, Modula-2, Fortran,
- Python, Tcl/Tk, Perl, Beanshell,
- Javascript, ASP, JSP, PHP,
- Visual Basic, MS Access,
- YACC & LEX, JavaCC,
- PostScript,
- PL1, Cobol, SQL,
- Basic,
- COMPASS, 680xx (assembler).

### *Frameworks*

- Ruby on Rails.

### *Document description languages*

- XML/DTD/XSL,
- HTML.

### *Operating systems*

- UNIX (X-Window), Linux,
- Windows (Microsoft),
- MacOS (Apple)

### *Computers*

- CDC Cyber 750/170 and Cyber 855/180 mainframe (NOS 2),
- SUN 3/50 and 3/260 workstations (SUNOS 3.2, 3.5 - UNIX BSD 4.2),
- Siemens Nixdorf Targon 31 departmental computer (TOS 4.1 - UNIX System V/R4),
- IBM compatible machines.
- Apple machines

## *Other*

### *September 1999 until now*

Presentation of the Ruby On Rails Web framework at the public library “Les Comtes de Hainaut ” and at Experteam office.

Maintenance for the project developed at MUMM (**Java/Servlet**)

Development, for the World Bank, of two CD-Rom. The multimedia application is a teaching material that introduces financial modeling of regulatory policy. Five models were developed by the World Bank and implemented in Excel. The application is a theoretical and practical quiz in three languages.

- Developed with Macromedia/Director (with the Lingo programming language)
- Includes an ActiveX bridge (**Visual Basic**) that the Director application uses to access the Excel models
- A code generator, written in **Visual Basic**, creates the Lingo classes, for each model, used by the quiz engine
- Uses XML file to read the multiple choice questions

Development of a on-line presentation viewer using Flash (Macromedia) movies. The viewer is intended as a learning tool for medical students.

- The tool generator is written in **Java** accessing a **SQL Server** (Microsoft) database (production) and **MS Access** (development) with **JDBC**. The generator is using a free framework (jGenerator) that generates Flash movies.
- Several **ASP** scripts handle the user login, the quiz management, the slides sequencing and the search engine .

Follow-up of an “end of studies job” made by a student at the “Faculté Polytechnique de Mons” (between September 2001 and June 2002). The title is : « Compression et gestion de logfiles sur sites web à haut trafic » (Management and compression of logfiles of high traffic web sites).

- Search of the existing compression algorithms, with the student.
- Development of a logfiles parser in **Java**
- Help during the development (application written in **Java**, using **JDBC** and the **Servlet** technology)
- Review of the final report and the presentation

Screen saver for the public library “Les Comtes de Hainaut”:

- Slide show presenting digital pictures, during the “Fureur de Lire” (17 to 21 October 2001). The screen saver is written in **C++** using **MFC**.

Developments for Winsome Benelux S.A.:

- Update of a CD-Rom containing the product line of Screen (July 2001).

Developments for Endless Interactive S.A. :

- On-line ordering module for Accor Belgium (order of restaurant tickets one of the product provided by the Accor group). Project analysis and development. The code was written in **Visual Basic** to create a **COM** object used by a single ASP page, connected to a **SQL Server** database. HTML pages are used as templates to generate dynamic pages. An http local server was developed to develop without a IIS server (between September et December 2000).
- Build of the central template HTML page and a tool building the Accor site (see [www.trb.be](http://www.trb.be)). The site builder tool was written in **Visual Basic** and includes a page preview to be able to set parameters to each page that will be built, parameters are saved in a XML file (between September et December 2000).

Developments for the restaurant “La petite fourchette” (Brussels) :

- Application that handles the caterer service orders, written in **Visual Basic** using an **MS Access** database (between September 2000 and June 2001).
- Includes a Web module that generates the on-line order pages (**ASP**), using **XML/XSL**, and a Java application that automatically reads the order, sent via e-mail, and integrates them in the catering system

*May 1993 until September 1999*

Consulting at the Brugmann University Hospital:

- Surgeons staff assistance for their scientific works,
- External Database Manager in the Cardiac Surgery Department (using **Access**).

Consulting at Endless Interactive S.A. Multimedia Publishing and Development Studio:

- Help and development support for different problems. Working with Windows and Macintosh.

Consulting at Kuhn Partners, company working in the financial and stock exchange world:

- External dynamic libraries (DLL) for **SQL Windows** (written in C),
- One application creating custom Access databases for the clients and another one for the clients to handle their data. Both applications are written with **Visual Basic**,
- One custom application written with **MS Access 97**, application for the clients to access their data, extracted from the central database, containing features like :

- easy QBE searches,
- export to Excel files,
- rename and use of free fields,
- etc.

#### *1979 until 1984*

- Musical theory studies.

#### *1983 until 1990*

- Private Mathematics and computer programming lessons.

#### *Open-source Projects:*

*JPF (Java Plugin Framework - <http://jpf.sourceforge.net/>):* A Java plug in framework to add plug in support to extend an application:

- wrote a tutorial explaining how to embed the framework without requiring to make the application be a plug in (<http://www.alef1.org/jean/jpf/> - <http://jpf.sourceforge.net/references.html#articles>)

*Swiby (<http://www.alef1.org/jean/swiby/>):* Experimental declarative UI language inspired from the F3 language (<http://blogs.sun.com/chrisoliver/resource/swing.html>) developed in Ruby, running on JRuby using Java Swing .

*Marathon (Acceptance Test Runner - <http://marathonman.sourceforge.net>):* Acceptance tests tool that helps in writing tests for **Java/Swing** applications. The tests scenarios are stored as **Python** scripts:

- added support for drop down lists (JCheckBox) (with unit tests)
- added merge of the application contextual menu and Marathon contextual menu (that include the assertions the user can add while recording a test script) (with unit tests)
- added recording of popup menu opening actions (with unit tests)
- added deep table renderer search to give a better textual value to insert an assertion about some row of tables (JTable)
- several improvements of the Marathon IDE Swing application
- writing of tutorial for the new users

*jFTP (<http://www.geocities.com/beapetrovicova/>):* FTP protocol connections and files exchange framework :

- bugs correction

*Dumbster (<http://sourceforge.net/projects/dumbster/>)* is a recording system behaving like a SMTP server used to write **JUnit** tests that validate mails sending :

- extended the API to retrieve the raw mail content to be able to test mail attachments and multi-part mails (using the Sun **JavaMail** APIs)

*Cruisecontrol* (<http://cruisecontrol.sourceforge.net/>) is framework for a continuous build process:

- improved support for the **CM-Synergy** source control system

*Zwing* (<http://zwing.tigris.org/>) a high level Swing framework for GUI developments inspired from Thinlet (automatic link between objects and forms, tree view of object hierarchies, ...):

- developed using the **TDD** (test driven development) with **JUnit**
- written in **Java** and **Java/Swing**

*JDBCUnit* (<http://jdbcunit.sourceforge.net>) : A tool that can be used to write user acceptance tests. It records all the SQL statements sent to the relational database through **JDBC**. The recorded data can be used later, while playing back, to replace the actual database. The aim is to be able to produce test data easier. An application using several databases records all the database activity in one test repository.

- developed using **TDD** (test driven development) with **JUnit**
- all the code was written in **Java**, the recorded results are stored anywhere (user code provides its own implementation). Default file formats are CSV and zipped CSV files.

*OMap* (<http://omap.sourceforge.net/>) : A set of APIs that help in mapping an object to another object of the same class or another class, or to XML document, CSV file, Swing forms... To be able to apply those mappings one must define object mappers. The mappers can either be defined as plain Java classes or using the mapping definition language.

- developed using **TDD** (test driven development) with **JUnit**
- all the code was written in **Java**.

*Document Publishing Framework* (<http://doshing.sourceforge.net>) : Framework that can be used to publish documents. The documents are presented in categories and subcategories. Users may only access the categories they subscribed to.

- the web presentation layer is developed using ASP
- all the tests of the web application were developed in Java using the **HTTPUnit** and **JUnit** testing frameworks
- site maintenance is handled with a **Java/Swing** client application that uploads the site via FTP

### *Spoken and written languages:*

- French and Greek mother languages,
- Good knowledge of English,
- Average knowledge of Dutch.

### *Personal Data :*

- Born on the 15th of April 1965 at Saint-Josse-Ten-Noode (Brussels), married (one little girl), Belgian. Having a driving license.

### *Hobbies:*

- Organisation of music concerts,
- Use of computers in a so called *home-studio* (digital recording and mixing on PC),
- Working with a band (Aleph 1) as a composer, a musician and a manager.
- Production of an audio CD in February 1999.

# APPENDIX A

Here is a detailed list of the projects developed at Endless Interactive (between January 1997 and November 1999).

## CD-Rom projects

Project	Description
Belgacom Corporate Presentation	Corporate presentation of the Belgian phone company.
Belgacom Corporate	Presentation of the Belgacom services and products (containing a virtual phone shop).
Belgacom Games for Lisboa '98	Three games developed with Director for the 1998 World Fair at Lisbon.
CartExpress	Software handling visit card creation and ordering for a printer (Visual Basic and de Director), with an installation program.
Denia	User can create its visit cards based on basic templates (English, French, German, Italian and Spanish), the application was developed before I joined Endless with AMT, I had to analyze the code to add new features (print preview developed in VB and logos resize).
Histoire de la Shoah	French version of a CD-ROM presenting a dark side of the history : the holocaust. Developed in AMT.
Games for "Le parc d'aventures scientifiques"	Games (English, French, German and Dutch) for an itinerant exhibition in Belgium about sport. Developed with Director 7 and designed with UML. A tool was developed to generate the 320 questions parameters files with MS-Access (a medias database).
Screen Catalog	Products catalog (industrial printing systems) of the Japanese company (English, French, German, Italian, Spanish). A special version was developed for China (English and Chinese).
Screen Sales Support	Add-on to the "Screen Catalog" for marketing purpose (select and download corporate movies, pictures and logos).
Sony Monitor Line' Up	Sony monitors catalog (English, German and French). A catalog update was made.
Sony VAIO Presentation	Application installed on the VAIO portable computers sold in Europe presenting all the VAIO features. One version was intended for dealers and one for a CD-ROM distribution (English, French and German).

## Internet projects

Project	Description
Picto Internet Image Service	Java Applet (JDK 1.0), accessing an image database by calling ASP pages, on-line ordering with e-mail sent to the user and to Picto, on-line picture centering tool .
Ticket Restaurant (FR/NL)	Java Applet (JDK 1.0) simulating and comparing a luncheon voucher rise with normal salary rise.
Print-IT	Java Applet (JDK 1.0) displaying a calendar and events (stored on a file generated with a Java application (JDK 1.1) using JDBC for database accesses).
Endless Site	DHTML pages and Java Applet (JDK 1.0) showing all the projects developed by Endless Interactive (an optimized framework to display images, feedbacks as a scene was developed).
Hitext	Java Applets (JDK 1.0) for the version 3 browsers, so that they behave as the version 4 ones. A Java 1.1 tool generating HTML pages from templates (with dynamic filters and HTML parser to easier extract, modify or remove parts of the HTML document) - used on different projects.
Club TR	e-commerce site developed with Intershop. A VB application importing data from the clients Access database into the Intershop Sybase database (ODBC) was developed. Help to other programmer developing the Intershop side (Perl). An offline (CD-ROM) version of the products catalog was produced with Visual Basic, dynamic HTML pages using COM objects.

Other projects were developed, my role was only supervision, design collaboration, and programming help.

## APPENDIX B

### *Activity at 3S*

The project was based on Microsoft products : Windows NT as servers, SQL Server as relational database manager, IIS as internet server, Transaction Server as database transaction manager and SiteServer for security management; the development tools were Visual Studio and Visual Source Safe. A small part was developed in C++ using MQSeries (a message queue manager from IBM) for load balancing purpose with multiple daemons instances.

- a Visual SourceSafe report parser to export all file names into a text file (to be pasted in the setup checklist provided to the client),
- a Visual Basic project files modification tool that either update the DLL references used by each project with the DLLs registered on the current machine, either changes the project files to match the format required by the client (version number, remove prefixes from all the names, remove paths from references, etc.),
- testing framework used by test programs that can be run at anytime to check if some component is still working,
- a database HTML documentation generator that parses tables and indexes SQL creation scripts, optionally adding fields and tables descriptions found in an external Excel file,
- an index creation SQL script generator from an MS-Access database, the Access database contains forms used to specify which index to create,
- an insert SQL script generator that exports all the data from a database, the scripts are usually run when creating a new database (features include choosing which table and which fields to export, setting the filters to apply),
- a registry clean up tool removing invalid entries, user can specify which entries to remove after a first analyze pass, the user can optionally force to search for all class names and DLLs containing some string,
- a DLL register and un-register tool that can be set as DLL contextual menu (in Explorer) that avoid to register small DOS names instead of long names,
- an application creating statistics about database table usage (based on the SQL commands) to define the indexes that can improve database response time.

## *Academic activity*

- Presentation of a seminar about Java Servlets at “L’institut d’informatique des Facultés Universitaires Notre-Dame de la Paix de Namur”, during the « 2<sup>ème</sup> journées Multimédia » between 11<sup>th</sup> and 12<sup>th</sup> of September 2000 (a multimedia colloquium).
- Presentation of a lesson for the multimedia course, an introduction to the servlet technology.
- Practical exercise sessions, XML files creation with DTDs, use and creation of XSL-T files to transform XML files into new XML structures or into HTML output, build of a servlet using and XML file as a bookstore database using DOM and XML parser classes. All the exercises were changed to replace the DTD with the XML schemas, in 2001.
- Practical exercise sessions, use of process forks, pipes, signals, semaphores and message queues in C under Linux.
- Development of demo for a round table at “La Chambre de Commerce de Mons” (contacts between university and companies) on the 15<sup>th</sup> of November 2000. Demo based the centering tool developed at Endless Interactive. All the ASP code was rewritten using Java servlets.
- (March-April 2001) C++/STL project : develop an HTML-pages index engine using STL facilities.
- (March-April 2001) Java project : develop a flowchart drawing application (for algorithms description only), being able to save and reload using serialization or XML and being able to export to JPEG or PNG image files.
- Presentation of a seminar introducing to Internet for « la Fête de l’Internet en Belgique » 2001, on 10<sup>th</sup> et 17<sup>th</sup> of March 2001.
- Presentation of two introductory lessons on Java, with interactive exercise on writing a simple Web crawler application, for the « Stages FPMs jeunes 2001 » (on 4<sup>th</sup> of April 2001).
- Internet Java service development for students to pass tests. Teachers create the tests. The data can either be stored in a relational database (MySQL) or a database based on XML technology (an open source project developed by dbXML Group L.L.C). Server-side application is based on Java servlet technology. A swing Java application handles users and questions management.

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