Curriculum Vitæ

Miguel Liébana

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1 Personal Data

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Marital Status:	Single

2 Education

- *Master of Software Engineering, Software Process specialization track* (12 month program) at Carnegie Mellon University and at the Software Engineering Institute in Pittsburgh, PA, USA. Graduation expected in August 1997.

  While following the *Master of Software Engineering* I am sponsored by La Caixa *Fellowship Program*. This program awards, in a competitive

fashion, about 40 fellowships each year to Spanish nationals with the goal to extend studies in the USA.

- *Computer Science Engineering* (6 year program), Technical University of Madrid, from September of 1988 to September 1994.

    - Grade Average: 8,71[1]
    - End of Degree Project consisted in the design and implementation of the real-time services described in the standard *POSIX 1003.4 Draft 14* on the commercial operating system OSF/1. This project obtained an **A With Honors** grade, and it was developed sponsored by the FASST project (see section 7 *Projects...*).

3   Courses and Seminars

- CERN School of Computing attended during two weeks in August 1995. Although it does not provide any degree, this school has a worldwide reputation for both, the quality of the lecturers coming from industry, and the selected assistants coming from a wide variety of countries. Key subjects in the school were: Collaborative Software Engineering, Human-Computer Interfaces and Information Highways.

4   Computer Skills

I have acquired a wide experience as a C and C++ programmer and other important technical skills that I summarize:

- Knowledge of Unix-like operating system internals, micro-kernel architectures (Mach 3.0), and POSIX 1003.4 and 1003.4a.

- Software Engineering background: Knowledge of the ESA (European Space Agency) and IEEE software engineering standards, SEI's CMM (Capacity Maturity Model) and PSP (Personal Software Process).

- Object oriented design and programming using OMT (C++ & `[incr Tcl]`).

- Experience with multi-threaded and multi-processor application development, and experience with distributed environments (RPC & client/server application development).

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[1] Within a scale from 0 to 10

- Knowledge of WWW technology: Server configuration, HTML writing, CGI programming.

In addition, I am familiar with a wide range of Unix operating systems (OSF/1, SunOS, Solaris, HP-UX, IRIX, Ultrix, Linux), with MS-DOS and Windows, and with the particularities of the AFS and NFS distributed file systems.

5　Publications

[1] M. Martínez, S. Rodríguez, L. Muñoz, A. García, M. Liébana
"*ARGOS: Using X for Real-Time Representation of Driving Session Data*"
Fifth Annual conference of the European X User Group.
Pages 93-108.　　　　　　　　　　　　　　　　　September 1993.

[2] P.Gómez, A. Díaz, J.M. Gallardo, V. Rodellar, V. Nieto, L. Alonso, M. Liébana, O. Pérez
"*Design of a Reduced Machine for Didactic Applications Using a Standard Cell Tool*"
First Congress of Electronic Training Applied Technologies.
Pages: 121-130.　　　　　　　　　　　　　　　　　　　　　July 1994.

[3] M. Liébana, M. Marquina, R. Ramos
"*ADAM: An Affordable Desktop Application Manager*"
CHEP'95: Computer in High Energy Physics. Held in Rio de Janeiro from September 18 to September 22, 1995
Proceedings not yet published.　　　　　　　　　　　September 1995.

6　Professional Experience

- In September 1991 I was awarded an undergraduate fellowship at the *Computer Architecture Department* (from now on DATSI) in the Technical University of Madrid. During my part-time collaboration with the DATSI as an assitant to research, I worked in two projects: ARGOS, starting on September 1991, and FASST, starting on April 1993 (those projects are described below, see section 7 *Projects...*).

- In September 1994 I started working at CERN, (European Laboratory for Particle Physics) in Geneva (Switzerland), as a Technical Student (full-time position). During one year I conceived, designed and developed ADAM (described below, see section 7 *Projects...*).

- In September 1995 I was awarded a CERN Fellowship (full-time position) for one more year to further develop ADAM.

7 Projects and Other Works Description

- I would like to emphasize three practical works done as part of my Computer Science studies. Those works were made in groups of two/three students, and in them we built:

    1. A complete Object Pascal Compiler targeted for an educational machine. The compiler was written in C++.

    2. A fully functional AI frame-based tool. Also written in C++, this tool was able to handle multiple inheritance to make inferences about a set of facts established in the knowledge base. The interface was a Lisp-like language.

    3. The logical and electrical simulation of a 4 bit educational microprocessor using the standard cell tool SOLO-1400. This work led to publication of [2] (see section 5 *Publications*).

- Also during my academic period I have been teacher in a 40 hours C++ course for professionals at UNISYS Spain.

- **ARGOS Project**: Argos is a data acquisition computer-based tool developed for the Spanish Traffic Agency (DGT). Data is gathered from a car equipped with an embedded computer and multiple sensors, and recorded in a streamer.

    Later, in the laboratory, an X-Window application allows the user to obtain statistics about these data and represent the signals and remarked events in a graphical way.

    As a member of the Argos team I have written the C code to retrieve the data from the streamer to allow easy access during the graphical representation. Paper [1] was one of the results of this work (see section 5 *Publications*).

    All tasks related to the Argos project were performed at DATSI.

- **FASST Project**: FASST (*Fault-Tolerant Architecture with Stable Storage Technology*) is a Esprit project funded by the European Community whose main goal is to build a fault-tolerant multiprocessor with stable storage devices. DATSI's participation was to build a fault-tolerant real-time executive.

    As a member of the FASST team my work was to carry out the design and implementation of POSIX 1003.4 Draft 14 on the OSF/1 MK 4.1 operating system. More specifically, I have implemented the new system calls related with Timers and Asynchronous Input/Output on the OSF/1 server running on top of MACH 3.0 micro-kernel.

- **ADAM Project**: ADAM (*Affordable Desktop Application Manager*) is an X-window application developed to make Unix easier to new users. This application is mainly aimed at the migration of users from VM to Unix at CERN. Full information of ADAM and its current status can be obtained through WWW in "`http://wwwcn.cern.ch/umtf/adam/`".

  ADAM has been conceived, designed and developed by a two person team at Computing & Networks Division at CERN.

  ADAM was implemented in `[incr Tcl]`, an object oriented extension to the popular Tcl/Tk scripting language. After one year of work paper [3] have been presented in CHEP'95 (see section 5 *Publications*).

8   Languages

- **Spanish**: Native Language.

- **English**: TOEFL Scores: 620. I have studied English abroad during one month in Allentown PA (USA). I have used English as work language in the *Computing & Networks* Division at CERN during the two years and I was working there, and nowadays while following the Master of Software Engineering program at CMU.

- **French**: I am fluent in French. Apart from being living during two years in Geneva (one of the French speaking cantons in Switzerland), I have attended a one year course of French at the CERN Educative Services.

9   Extra Academic Activities

- **Spare Time Education**: Since I was ten years old I have been involved in what we call a spare-time education association. This associations in León (my home town) grouped about 200 members starting at six years and with no age limit. Members older than 18 years become supervisors of a group of younger boys and girls grouped by age.

  The aim of the association is to educate children during their spare-time. The groups meet every week to carry out different activities, such as games, discussions, festivals and ecological projects, to name a few. Once a month members go hiking to the surrounding mountains, and once a year each group organizes a two-week camp.

  I have been active member of the association for 9 years, and I became supervisor the year before going to university. Since my university is 350 km away from my home town it was nearly impossible to follow the activities of the association. So I decided to resign as a supervisor. Currently I

am still a member of this association and I meet all the people every year during Christmas.

- **Sports**: I currently practice several sports depending on the season on the year. In winter I try to do skiing, soccer, squash and volleyball. I am currently enrolled in the MSE volley and soccer teams for the intramural championship at CMU. In summer I use to do hiking and cycling.

- **Traveling**: Appart for Spain where I was born, and USA, where I am actually living, I have had the opportunity to visit about ten different European countries. I really love to discover new places, new people, and know different cultures, because although they are all European they are really different. Switzerland, because of its location in the center of Europe, was an excellent starting point for visiting other European countries.

Miguel Liébana