

Massimiliano Pagani

Software Engineer

Address: Castellanza (VA) – Italy
e-mail: max@maxpagani.org
web: <http://www.maxpagani.org/>

Personal details Date of Birth: August, 29th 1968
Nationality: Italian
State: Married.

Education Electronic Engineering Higher Degree (Laurea Degree) at Milan Polytechnic (1996)

- Final mark 88/100.
- Thesis in formal languages and compilers: “Attribute Grammars for Extended BNF syntaxes”.

Languages ■ Italian (native language)
 ■ English (very good).

Knowledge ■ Outstanding **C**, **C++** and Z80 assembly; Good knowledge of **Java**, SQL, bash and **PHP**. Fair knowledge of C# and ARM assembly.

- Very good knowledge of **UML** and ER diagrams.
- GameBoy Color, **GameBoy Advance**, **GameBoy DS**, **XBox**, ZX Spectrum (Timex/Sinclair), Amstrad cpc, Amiga, **PC**, **ARM**.
- Windows programming.
- Game Engine architecture and programming; AI programming.
- Linux programming, system and network administration.
- Linux kernel porting and device drivers.
- Wavecom OpenAT programming on WMP100.
- DB2, Oracle, PostgreSql, SQLite.
- CVS, subversion and VSS version management systems.
- Multimedia Internet Protocols: RTSP, SDP, RTP and the payload issues with G.711, G.728, AMR, H.263 and Mpeg2/TS.

Skills and attitudes ■ Strong algorithm and math programming.
 ■ Strong problem solving attitudes.
 ■ Attitude to a pragmatic, analytical, yet open approach
 ■ Attitude to teamwork.
 ■ Attitude for software quality and for using software engineering techniques.
 ■ Attitude to learn.

Employments

2006/4 - today

MR&D Institute s.r.l.

As a senior programmer I designed and developed:

- an application for a WIFI/IP-based Video Entry System running on Linux on Freescale MX21.
- An automotive application for smart insurance running on GSM Wavecom platform.

The hardware for both projects has been designed and manufactured in MR&D during the project development.

Beside I managed consultants for the development of the application and system software for a home automation controlling device running on an embedded PC with a touch screen. Also I developed a manufacturing QA test application for this device.

2004/12-2006/3

Dylogic s.r.l.

As a senior programmer I developed an application for real time and batch transcoding of multimedia streams.

On June 2005 I came into charge of the development and maintenance of one of the company top products.

I developed an application for stress testing and jitter measurement that will be used by FastWeb to check their platform for video on demand.

1999-2004

Ubi Studios Milan s.r.l.

As a lead programmer I worked on six projects (ranging from 3 to 12 months and from 3 to 10 programmers) taking care of analysis, planning, design, progress tracking, development and teamer appraisals. These projects targeted GameBoy Color, GameBoy Advance and XBox. All games have been published.

1996 – 1998

ABB Elettrocondutture S. p. A.

- Plant production orders dispatching and progress control system. Developed in Java and Oracle.
- Internet connectivity and security administrator.

Personal interests

- Sci-fi.
- Comics.
- Mountain trekking.
- Miniature painting.
- Computers and videogames.

In depth.

Knowledge

- I'm programming since 1983
- I've been using C since 1988, and C++ since 1991.
- I've been using Linux since 1992.

Pre-employment main accomplishments

- A side scrolling shoot 'em up written in Z80 assembly for Amstrad cpc 6128 along with editors in BASIC.
- Ray tracing and animation program for Amiga (over 100k LoC in C). This program has been presented to the European Amiga DevCon in Paris (1990).
- Floppy disk protection scheme for Amiga used in a national Commodore contest.
- A compilers compiler (in C++) developed to demonstrate the practical feasibility of my master thesis content.
- Contract work with Milan Polytechnic to continue the thesis work by rewriting a set of language laboratory tools.

MR&D Institute employment

- ***Wi Fi Video Entry Phone System.*** I contributed to this research project by writing some linux kernel modules and porting part of the system software to a custom board developed by MR&D for this purpose. Also I designed and wrote an IP based Video Entry Phone System application (based on RTP, G711, Mpeg4/H263 and a custom signaling protocol). I have devised and implemented a suite of tests for assessing the real-time characteristics of a WiFi communication.
- ***Touch Screen Wall Panel for home automation.*** I managed the company that wrote the web application that allows the user to control the home automation system via an EIB bus. Also I managed a consultant that trimmed down a standard linux distribution in order to fit in the embedded PC footprint and provided the system software to enable the application to run.
- I worked together with hardware designers to define system requirements for home automation devices.

Dylogic employment

- ***Transcoder.*** I defined the architecture, designed and developed an application for converting between multimedia streams both in real time and batch modes. Supported formats are G.711, G.728, AMR, G.723.1, Windows Media Framework, H.261, H.263, H.264 and Bitmap.
- ***MediaServer.*** For Media Server application, whose I'm in charge, I added G.728 support, implemented a system to improve video stream quality over bandwidth constrained channels and added the support for RTSP connection toward remote servers. Also I managed the addition of H.264 protocol, the development of logs for billing and user interface improvements.

Ubi Studios employment

- ***GBC Rayman.*** During this project I was the engine architect and the engine team lead programmer. Following an Object Oriented approach and providing the right tools I was able to produce a powerful, flexible yet high performance engine. Entirely written in Z80 assembly it was about 80kbytes of banked code. Using advanced macro programming I was able to create a solid and easy environment where AI programmers could develop behaviours in a straightforward way with no need of previous assembly knowledge. The Rayman engine had been reused for F1 Racing championship, Donald Duck Going Quakers, Jungle Book, and has been converted in C for PDA Rayman.
- ***GBC Donald Duck goin' quackers*** (also known as 'Quack Attack'). As a lead

programmer I coordinated the efforts of three programmers on both engine extension and AI development.

- **GBA RogueSpear.** The first challenge of this project was to develop a new engine for the GBA platform while retaining the maximum compatibility with the GBC editors. The engine was written in C with a strong Object Oriented approach. While presenting an isometric view, RogueSpear world is 3D to give the maximum degree of realism. 3D technique such a raycasting have been used to compute line of sights and line of fire. The game featured a pathfinding algorithm and the multiplayer feature, too. The team was composed by up to six programmers. The engine has been reused for The Mummy GBA, Tomb Raider the prophecy, Sum of All fears GBA, and with minor modification for 2D platform genre for Batman Vengeance GBA, Sabrina GBA, The hidden tiger and crouching dragon GBA, Donald Duck GBA.
- **The Mummy GBA and Tomb Raider GBA.** These projects were developed at the same time and I led both teams. Both projects completed in the allowed time frame that for Tomb Raider was of only 4 months.
- **Beyond Good & Evil** porting to Xbox. The reference version on the PS2 was developed in Montpellier (France) and was an ongoing project very active up to the end. As a lead of the team composed by 3 programmers, I worked on engine adaptation and optimization. Some improvements (like shadow buffer and water refraction) have not been included for editorial decisions although they were fully developed.

ABB employment

- I was the architect and lead programmer of a Java client-server application to handle manufacturing orders of two plants (composed by 7 pipelines each). The Oracle based server was accessed through JDBC from the clients and interacted with IBM mainframe and Sap. I led a team of two programmers, reporting directly to the IT manager.
- I designed and administered the firewall and the Internet connection providing Internet access for several ABB subsidiaries connected through a private WAN. Also I was in charge of the security and the web site created and updated by external consultants.