Game review: Sturmtruppen (Amiga)

Back to the past with Windows 2000

Game review: Cyborg Z (MSX)

Game review: Moon Cresta (Arcade)

Game review: Wonderboy The Dragon's Trap (1989 & remake)

Game & Watch: interview with Luca Antignano "MADrigal's simulators"

Preview of Ellenica (Megadrive)

Game review: Raging Beast (C64)

Japan News
Game & Watch Vs MADrigal

by Michele Ugolini

Dear readers, please welcome Luca Antignano, also known as MADrigal. (see Figure 1)

We all knew this was the time.
We are experiencing a particularly dire year: 2020 is both a leap year and a lustre year.
In Italy we have now almost completely emerged from the planetary drama caused by COVID-19.

Moreover, we are experiencing an overcrowded period of mini consoles, remakes and more or less successful projects and, given the recent arrival of the "CoreGrafx mini PC Engine", I begin to think I am lost in the middle of Dante's 'path'.

In recent episodes I have talked about the conception of Game & Watch, the main personalities operating in the design room and, above all, the magical Japanese ingredients that have turned madness into objects that have now became sacred to us collectors. I have always defined Game & Watch as an electronic prodigy with a stylized immortal soul. It feels incredible to think of how many Japanese designers we should thank for their ideas that have become eternal. It is equally incredible to think about an equally talented genius in Italy, on the opposite side of the world, shares creative and brilliant ideals!

My infinite love for Japan is also motivated by this asynchronous spatiality, animated by a personality worthy of comparison, similar to the universe: generated by a slight and asynchronous fluctuation between opposite stages of matter.

Well, let's start the interview, today the honours go to the brilliant Luca Antignano.

RMW: "Luca, welcome, a warm virtual hug, tell us something about yourself and your nickname, your passion for G&W that I, like so many readers, share with you!"

LA: "Of course, thank you, I'm happy to share some background of my projects with your readers. I'm not exactly a youngster. I was born in 1974 and my first video game experience probably dates back to 1981, when I first saw a Pacman arcade cabinet in my town, Sassari. Since then, video games have become first an obsession, then a passion and finally a profession (albeit temporary). Now that I have stopped playing, due to the many commitments and the vicissitudes of my life, I still cultivate interest in video games, mainly retro. It's just one way to stay tied to a past lived with so many emotions. I've lived in Sydney for five years, where I work as an engineer. My nickname is a pretty random choice. Madrigal was the name of the elf character I used when I

Figure 1

played RPGs during my university years. It was simply a name that sounded good to me, had no particular meaning. When I started my programming project, I chose the nickname MADrigal, with capital 'MAD' almost reinforcing the 'madness' that I felt permeate my project. Read MADrigal as 'mad madrigal'.

The passion for G&W has deep roots for me. As a child I had never had any electronic games, however I desired them so much. I played with my friends' electronic games until 1984 when I received the C64 as a Christmas present from my parents. Since then, I have no longer been interested in those simple, trivial pocket games... Then, in 1999, I spotted a few handheld games for sale for cheap in a thrift store. I bought them and then wondered why there were no emulators available for these games. And I said to myself, well, I can try something, that would be fun. And so out of challenge and passion for the world of emulation (that in those years lived its most prolific phase) I decided to undertake my first project: '_MADrigal_'s Handhelds Simulators' (now changed more simply to 'MADrigal's Simulators'). (see figure 2)

Over the years I have actively collaborated to many projects such as MAME, Emuita.it, N! Zone (Nintendo Zone, which I founded and managed for several years), Zzap!Raine, Game & Watch Mania (my Italian website on G&W), Retroedicola Videoludica for which I created the Zzap! 2015 Special magazine and other publications."

RMW: "Let's get to the heart of the action, please tell us about the most important problems you have faced in your many projects."

LA: "I always start my projects by playing the games that I get from time to time. If the game is not fun, I put it away or trade it with others, hoping to find one (cheap) that is fun to play, and stimulating for me to programme.

Then I try the game for a long, long time, to try to fully understand its gameplay and see what happens in the various events (getting bonus lives or points, end of game, intermissions, etc.) and this is quite long, sometimes tedious, and complicated especially if the game is difficult. Once this has been done, I move on to acquire the game graphics, usually via a scanner.

Here we add another complexity. Sometimes games don't reveal all the graphics at the same time, so you have to scan it many times, and every time you hope to 'catch' a few more sprites. This is due to the fact that games with liquid crystal screens have the various segments on or off depending on the

Figure 2

occasion. At best, when the game is turned on, all the segments are switched on (test mode or 'ACL'), in other cases this does not happen and you have to turn the segments on a few at a time by playing with them. Or in the case of LED screens, you have to open the game, pull out the screen and scan it separately, which is laborious. (see figure 3)

After that, the scans need to be cleaned up and you need to edit the images to make them look real. These are all slow, laborious, and sometimes complicated procedures that go on for days. All this before you even start programming, so you can imagine how much effort is behind it.

A particularly difficult thing to replicate is the artificial intelligence of certain games. Apart from those where the game plays more or less randomly, there are others where for example ghosts chase Pacman, or your computer opponent defends or attacks you based on how you move. I programmed 3 games where I had to replicate AI, and it's always pretty complicated because you can't really 'invent' the AI, you have to programme it like the original game, so you have so many stakes and rules to follow. But it's good fun anyway!"

RMW: "Simulation, emulation, cloning: they are not synonyms! Would you like to describe these aspects better?"

LA: "You're right, they're actually so different, we could almost call them opposites! An interesting definition is given by the genius Nicola Salmoria in his thesis dedicated to MAME, in which he cites my project as an example of 'simulation' as opposite to 'emulation'.

Simulation, in this area, means not worrying about the hardware of games, but only about gameplay. It means playing the original game over and over until you know all its features, and then programming (for example with Visual Basic or Java) all the routines by recreating a game that resembles the original as much as possible. And that obviously also means using graphics as close as possible to the original. In this case I do not use the 'ROMs' of the original game, but I create the routines of the game, programming them and inserting them into the simulator itself.

The difference is this: with simulators you download a single file, ready for use. With emulators, you need the ROMs to play.

Emulation means creating a program that reproduces the hardware (CPUs and other processors and devices) of the original video game. Once this 'virtual environment' is emulated, you run the program (the so-called 'ROM') that was typically created for that particular computer or game console. This is the case with MAME: you need ROMs because MAME is a collection of hardware emulators – but no software included. Without ROMs, it's like having a lot of computers, but no software to run them.

Broadly speaking, you can call a clone a simulator if you like. But you don't 'clone' anything, you program something that resembles it, whereas clone would mean 'identical', while the simulator will never be identical to the original. And neither will the emulator ever be 100%, no matter how close it gets."

RMW: "Can you explain to us the model by which you manage the interactions between the various

Figure 3

components involved? By what method do you manage to deal abstractly with each project and with what mechanisms do you manage the various interactions and/or user actions? Is the system replicable and, if so, how and with what possible limits from the point of view of both platforms and the user interface?"

LA: "Programming an electronic game simulator is no different from programming any other video game, at least at the concept level. Then of course there are specific features for the type of game. An electronic game has less components than traditional games: graphics is made of pre-shaped liquid crystal segments, for example a row of running men, each in a very precise position on the screen. You light one segment at a time, in its relative position, and it looks like a running man.

In the program, you simply worry about 'deciding' which segment to turn on and which to turn off, repeat this several times and combine it with keystrokes/joysticks so that it becomes interactive. Add the 'beep beeps' and the game is ready. To do this, you prepare in advance the routines and 'matrixes' in which you locate the various segments, this makes it possible to connect the sprites (the segments) to a mathematical model usually simple enough to manage with a coordinate system.

The characteristic of electronic games is that there are no 'collisions' between elements. When you make a mistake playing, it's usually because you haven't moved your character to a safe position within a set time. Time is marked by 'beeps', so you more or less know how much time you have to make your move and if you don't, a miss is marked. It seems complicated to explain, but very easy once you see it running or in a

video.

The system is certainly replicable, the chosen programming language or environment (mobile phone, computer or console) do not matter: there are simulators that you can play by pressing the buttons of the game on a touch screen (to replicate the feeling of plastic games with buttons) or on the keyboard or joystick. This depends on how the simulator was programmed."

RMW: "Code preparation, image preparation, audio preparation, randomization management, optimization, every project remains an impressive amount of work on the table. Without a rigid, indeed, I would venture to say 'Japanese' organizational style, it would seem impossible to merge the many Japanese figures who gave birth to a single G&W. Yet in the MADrigal project you managed, almost alone, to give birth to dozens of wonderful works (see Figures 4 and 5). Please tell us about your style!"

LA: "You're right, today we're used to large programming teams, graphic designers, musicians, directors and producers. But for an electronic game, you don't need all this. Having not only programmed classic electronic game simulators but also created new electronic games (for an American video game company), I was able to experience, as an insider, the production technique that led Nintendo to produce the first pocket LCD games. The process needs software engineers, graphics, 3D modellers and one or more game designers.

In the case of simulators, I had to learn things by myself, combining programming (in my case Borland Delphi) with graphic editing (with Paint Shop Pro usually) and audio (Audiowave or similar). I follow

Figure 4

Figure 5

more or less the same process most times: I try the game, scan the graphics, prepare the images and place them on the design window, and then programme the input routines – that is how the buttons work. Then I play over and over, record the audio and insert the various sound effects into the programming environment. Lastly, I program the game routines and test the final product until I realise that I have inserted all the possible combinations and procedures present in the original game.

My style is that of absolute realism. I create the graphics so that they are identical to the original game, with shadow effects on the LCD screen, animated buttons, and so on. Sound effects are always samples recorded from the original game. I really like the idea of having not just the playable LCD screen, but also the plastic casing around, with animated buttons."

RMW: "We were born and raised with the (at the time) all-powerful C64, power was in our hands. We are in 2020, a period of video games animated by impressive graphic levels, do you think that today there are products with dubious souls?"
LA: "Well, I think the video game market has evolved just like every other market in the past centuries. Everything begins with a niche market, with such a pioneering spirit, and then gradually becomes a large market in which it is difficult to invent completely new products, but a new product 'enhances' an existing one. The first period of video game history is full of ideas, but also failures. The best ideas have survived and today are the basis of

Figure 6

the new video games. We find a little bit of Pacman, Donkey Kong, Tetris and Space Invaders in every video game, albeit in different forms.

It is difficult today to criticise the video game industry, because in the end the really good products sell, those with poor quality eventually succumb and we will not remember them anymore. I welcome the various 'C64 mini' or 'NES mini', in the end they are a bit the result of nostalgic operation, a way to keep our past alive and make it known to the new generations. Of course, these are commercial transactions, but let's not forget that the video games industry moves billions every year, not unlike the twenty Marvel or Disney movies. Yes, in the end we can get tired, but we can also ignore the new products and take refuge in the previous ones, such as movies or video games from a few years ago, always fun."

RMW: "How many different G&W and electronic handheld game projects have you completed, how many are you working on, and how many would you still like to work on?"
LA: "I've programmed 60 electronic game simulators, actually 59 plus one that is a special version of Donkey Kong, based on the original game logic, but sporting 4 different sets of graphics and sound, each customizable by the user. An authentic homage and act of love for what I think is the most emblematic pocket game ever.

I am not working on any projects, I have stopped for a few years, following my move to Australia, the new job, the new life and the many challenges that I face every day – not least the COVID situation, the impossibility of returning to Italy to

see my family, the work that changes shape and other personal things. I mean, as you can see, this is not the time for me to programme video games. I do not deny that I would like to be in a more serene condition that gives me incentives to plan new game designs. In that case, my first choice would be 'Mario's Cement Factory' from Nintendo – an electronic game that I love and that would be a challenge to programme."

RMW: "I imagine that you own many G&W and handheld games of many colours, brands, clones, etc. Are you looking for any particular game to buy? Maybe some readers can help you with your hunt!"
LA: "Until a few years ago I had a lot of games, but I never called myself a collector. I bought or traded games mainly for the purpose of programming simulators, rarely bought them just for fun. I gave away or sold almost everything, once the games were programmed, or decided that I would never programme them (for various reasons), I had no problem giving them away.
I'm not looking for any games right now. Sometimes I'm offered free games under the condition to programme its simulator – but I always refuse. My time right now is worth more than getting a game for free."

RMW: "There are so many nice G&W-themed memes on the web. Can you tell us a funny anecdote that amazed you about your past work?"
LA: "The most peculiar anecdote is when I was contacted by one of the largest American game producers, and I was asked to work for them to design and produce electronic game demos – which were then actually produced and sold in USA. I have programmed 4 games including 2 under Namco

Figure 7

license. Of these, 2 were produced. It happened around 2007 (if I'm not mistaken). It was interesting and stimulating."

RMW: "CreatiVision, IntelliVision, ColecoVision, just some of the brilliant consoles of the 80s. How does your commitment arise, especially with CreatiVision?" (see Figure 7).

LA: "I was a greedy reader of the Italian classic videogame magazine, 'Video Giochi' before becoming the lucky owner of a C64. So I knew the many classic consoles of those years well, except the CreatiVision, which I had never been able to try but it seemed really cool.

When I realised in 1999 that there were emulators available for basically every classic console, except CreatiVision, I talked to a couple of friends about it. One had an original CreatiVision, and the other was a very skilled programmer of emulators. We joined forces and soon the CreatiVEmu project was born. First as an attempt to emulate the console, and then as a conservation project that collects scans, ROMs, games, books. Then in 2007 I produced, with a friend, the first multi-cartridge for CreatiVision. And in 2009, we produced a diagnostic cartridge. Since then, I have kept the project active, adding the information I find on the internet from time to time. The project is enormous and is the world reference point for that console."

RMW: "So much passion, so much love for these fantastic projects, in addition to the donations that you can make through your site: http://www.madrigaldesign.it/sim/ have you ever thought about working with large companies such as Sony or Microsoft or something to market your genius?"

LA: "Well, I never really wanted to think about it seriously. I like the idea that mine is a free project, a hobby. I have worked in the IT, engineering, education, graphic and advertising sectors for many years. I have concluded that programming must just be a hobby for me. I have made my professional choice in favour of building engineering. Carrying out projects in the field of video games requires time, concentration, study and continuous evolution, I think that at my age and after the various changes in my life, it is better to stay anchored to my current career.

But I don't deny that I'm glad to see that several programmers have taken an interest in my work and

dedicated heart and soul to projects that made it possible to 'transplant' my games on modern platforms such as Andriod, iPhone, Sony, Microsoft, Raspberry, Switch, NES Mini and so on. Now all my games are playable on virtually every platform on the market. That makes me really happy."

RMW: "What could be the future evolution of this project? Do you have any future plans?"

LA: "At the moment I have no other plans, except to keep alive what I have already done so far and support new programmers who contact me for support or to expand what I have already done. Same with the CreatiVEmu project. In the future you never know..."

Well dear readers, we thank you for your attention and above all we thank MADrigal for answering the questions of the interview.

If you want to deepen the discussion you will find a lot of amazing stuff at:
http://www.madrigaldesign.it/

In addition, the site contains three large projects. N! Zone: archive of the website, closed in 2006 but now available, all in Italian (see figure 6). Game & Watch Mania: dedicated to G&W, also entirely in Italian. CreatiVEmu: active project, in English, with huge databases, emulators, ROMs, forums and everything CreatiVision-related.

Lastly, I recommend that you keep your interest on G&W alive, in fact if things go back to normal and global production starts again, there will soon be great surprises that I would like to talk about in the next issue or the following one.
See you soon!