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THE SHADOW OF SERGOTH

Dungeon Crawler on the Amiga

INSIDE THE ATARI 8BIT

And finally we made it... Fifty issues!

Fifty issues is a lot... It seems like yesterday that, on a rainy weekend in October, I was alone in my little apartment in Amsterdam writing the first issue of RetroMagazine. It started as a bit of fun, but it was fueled by a great passion and the love I immediately received from so many people who quickly became friends. I said it seems like yesterday, but eight years have already passed! During this time, our magazine has undergone several changes, leading to what it is today and blowing out the candles on the cake for issue 50!

Fifty issues that demonstrate the quality of the project and the work of all those who, with each issue, dedicate some of their time, free of charge, to writing the articles that make up the magazine. I would like to personally highlight the commitment that each of RetroMagazine World's contributors puts into this work. When you download this issue, consisting of more than 135 pages, take a moment to think about all the work that goes into its creation. There are people, like you, who devote time to writing an article, taking care to ensure that it is as error-free as possible so that the person responsible for its layout does not have to waste time rereading every line. There is someone who looks at all the articles and seeks inspiration to design an image to send to the graphic designer to create the cover. And this is just the tip of the iceberg of all the work that goes on behind the scenes... These people receive no compensation for their work; they are simply driven by passion and a love of sharing knowledge.

Now that we have reached issue 50, our Eugenio, the "old man of the group" as he describes himself, rightly pointed out that we have never really introduced ourselves. We have therefore decided to start doing so in this symbolic issue. Turn to pages 53 and 54 to find out more about some of the members of the editorial team.

Fifty issues are a lot... But they are only a fraction of what we want to achieve. Enthusiasm is greater than ever in the editorial office, and there is certainly no shortage of topics, given that retrocomputing, fueled by what marketing experts call the nostalgia effect, is at the height of its success.

Fifty issues is a lot... And we are proud to have reached this milestone!

Francesco Fiorentini

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8-bit Atari computers

by Leonardo Miliani

In 1979, during the Winter CES, Atari presented a line of electronic computers called "Home Computer System," consisting of models 400 and 800 (fig. 1). These computers, which went on sale towards the end of that year, were direct descendants of the 2600/VCS: at the beginning of their development, the plan was to create what was to become the successor to that console, but things took a different turn and, from 1979 onwards, Atari's 8-bit computers remained in production until 1992.

History

It is September 1977, and Atari has just launched a new video game console, the Video Computer System (VCS), surprising everyone. The hardware was not particularly impressive, but thanks to commercial policies that led Atari to secure several exclusive conversions of famous arcade games and widespread distribution, the VCS became a sales champion over time. However, at the beginning of its commercialization, things were not so rosy, both because of the high number of game systems cloning the old Pong and because of the obvious technical limitations of the VCS. In fact, in order to contain production costs and thus offer a product with an attractive retail price, Atari made several technical choices aimed at reducing production costs. As a CPU, it chose a reduced version of the already inexpensive 6502 and developed a graphics chip, the TIA, capable of rendering only one line at a time. This was due to the high cost of RAM at the time: in this way, it was not necessary to install enough memory to contain the data for the entire video image, but instead the data was calculated line by line and saved in the few bytes available on the console, from which the video chip then retrieved it to generate the line to be drawn. Aware of the machine's hardware limitations, the engineers got back to work to design its successor as soon as the development of the VCS was completed: they knew that the commercial life of that product was about three years. There is a 'but': it was the end of 1975, not 1977! This was because, in the meantime, there had been a problem between Atari and Magnavox, the manufacturer of the Odyssey console, which delayed the launch of the VCS. This problem was called 'Pong'. To understand Magnavox's reasons, however, we need to go back a few years: in 1972, Magnavox introduced the Odyssey, the first home console capable of playing electronic games on a standard home TV. Among the games included was a sort of tennis game with two opposing rackets hitting a ball back and forth. Nolan Bushnell, founder of Atari, attended the console's preview presentation and was impressed by the game. Back at the company, he decided to produce an arcade version clone, which was released the following year. Within a short time, Pong became a success and thousands of units were sold. Magnavox decided to take Atari to court: as often happens, the case dragged on, and Atari, in order to settle the dispute, reached an agreement with Magnavox, purchasing the rights to the game and then signing an agreement that obliged it, for one year, to inform its competitor of all the products it intended to market. This agreement obviously blocked the release of the VCS: Atari's management did not want to inform Magnavox, which had also developed a programmable game console, and therefore decided to postpone the presentation until after the agreement expired in July 1977. In September, free from any ties, Atari announced the VCS and thus put on sale a product



Fig. 1 - Atari 800
(image by Evan-Amos/ Wikimedia Commons/ PD)

that was already halfway through its commercial life as estimated by its designers.

Development

As mentioned, development began in 1975 and the first goal was to improve on every aspect of the previous console. The choice of CPU was easy: it was decided early on to opt for the 6502 and abandon the reduced 6507 version used in the VCS. The video component underwent the most revolutionary changes. The TIA was a very limited graphics chip: it could only draw one line of the image at a time and the sprites were one-dimensional, i.e. only 1 pixel high and a maximum of 8 pixels wide. Drawing an image on the screen meant that, for each line of the image, the CPU had to pass on the data relating to the background image and the sprites that made up any objects present. Jay Miner, the same project manager who created the TIA, supervised the project, which was entrusted to George McLeod who, with technical assistance from Steve Smith, improved on the previous chip by creating the CTIA, which stands for Color Television Interface Adaptor.

The CTIA was able to manage four "player" sprites and four "missile" sprites, so called because, in Atari terminology, they represented the characters in a game and their projectiles, respectively. Each sprite was 8 pixels wide but up to 256 pixels high. In terms of image, the CTIA is much more versatile than the TIA, allowing the generation of a multicolored image with a horizontal resolution of 40 to 320 pixels and a vertical resolution of 24 to 192 pixels, with a palette of 128 colors and different shades reproducible on the screen depending on the resolution set. Development continued until 1976, when Atari decided to postpone the release of the VCS console to avoid having to inform Magnavox of its plans. During that waiting period, a real revolution took place in the world of computing with the presentation, in 1977, of three computers that would later be renamed 'the trinity': the Commodore PET, the Tandy RadioShack TRS-80 and the Apple II. These computers marked a real step forward compared to before: finally, computing became accessible to everyone, with computers already assembled and complete with everything needed to make them work, at a cost and size affordable to ordinary people. Gone were the mainframes of the 1960s that took up entire rooms, and gone too were the "cabinets" weighing dozens and dozens of kilograms; No more computers just for hobbyists, to be assembled with a soldering iron and electrical diagrams in hand, like the Altair 8800. Finally, it was possible to buy a computer, take it home, take it out of the box, plug it in, and start using it right away. Atari's top management was impressed and decided to enter the new business of "home computers" for domestic use. They therefore summoned the developers of the new console and gave them instructions to ensure

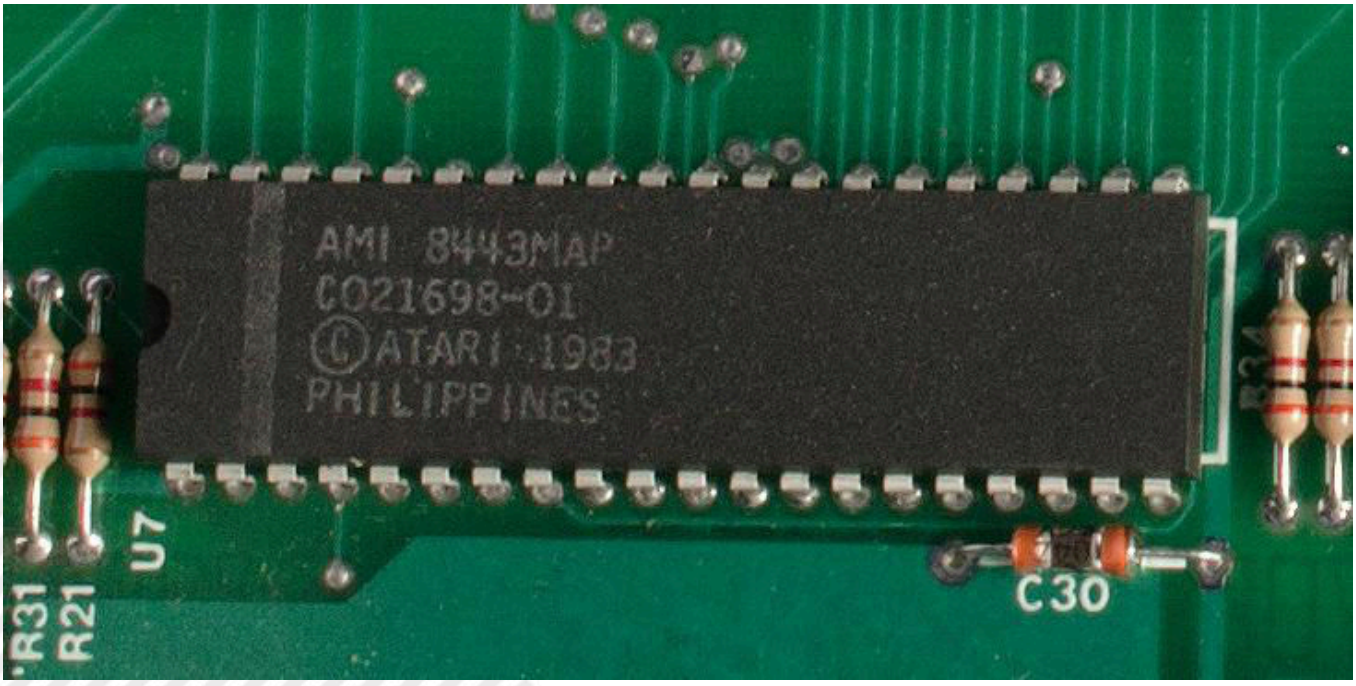


Fig. 2 - Atari ANTIC PAL version (image by Multicherry/ Wikimedia Commons/ CC-SA-BY 4.0)

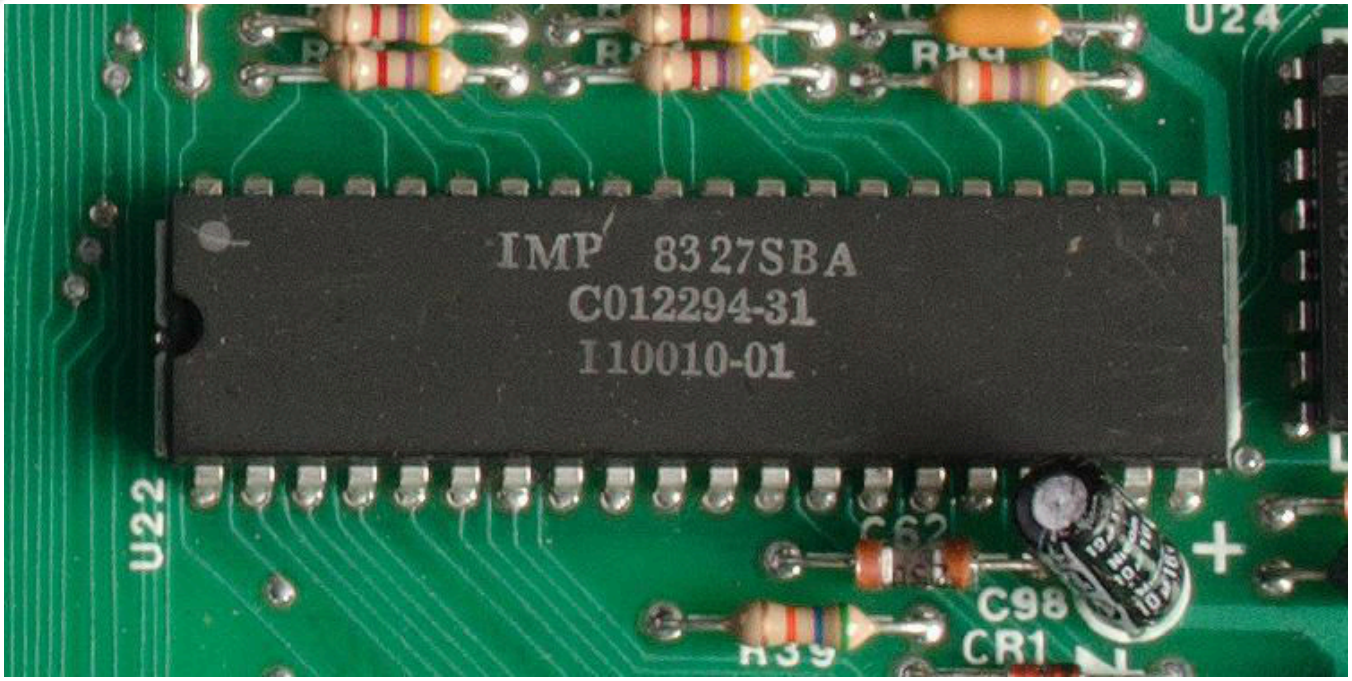


Fig. 3 - Atari POKEY (image by Multicherry/ Wikimedia Commons/ CC-SA-BY 4.0)

that both a console and a computer could be derived from the new project they were working on. The CTIA is already ready but is not suitable for use as a computer: in fact, it is unable to manage a video buffer or generate characters such as letters and numbers in a simple manner.

However, Jay Miner has the solution: to create a new coprocessor to work alongside the CTIA and take care of these tasks. He entrusted the project to Joe Decuir, Francois Michel, and Steve Smith, who created the ANTIC, or "Alpha-Numeric Television Interface Circuit," a chip capable of managing a frame buffer and offering 14 different graphics modes, including 6 text and 8 graphics modes (fig. 2). Not only that, but the ANTIC was a true programmable video processor with mini programs called "display lists" that could instruct the chip line by line, so that it could, for example, manage the screen with multiple graphics modes simultaneously, switching from one to another when the video brush reached a certain line on the screen, or scroll vertically and horizontally.

The CTIA+ANTIC combination thus becomes the most complex image generation system on an 8-bit system, and to produce an image, a programmer must instruct two different coprocessors, which work together: the ANTIC retrieves the data necessary for image generation from the computer's memory and then passes it to the CTIA, which applies the colors and sprites, manages any collisions between them, and finally generates the video signal to be sent to the home television or dedicated monitor. Since the system Atari was working on was originally designed as a game console, particular importance was also given to the management of control systems and sound. Compared to the TIA, which integrated not only video management but also sound generation and game controller reading, on the new system these latter tasks were delegated to a third coprocessor developed by Dougla "Doug" Neubauer and called POKEY, from POt KEYboard Integrated Circuit (fig. 3). The POKEY is capable of generating audio with four semi-independent channels, configurable as four 8-bit channels, or as one 16-bit channel and two 8-bit channels, or as two 16-bit channels. Finally, it can also read a keyboard with up to 64 keys and has a series of analog inputs to read up to eight potentiometers. A potentiometer is a variable resistor that generates a signal whose voltage value varies according to its position: a single potentiometer is used, for example, on paddles to provide movement in one direction, such as up/down, while in an analog joystick, 2 potentiometers are used for up/down and right/left movements.

Development continued with two parallel projects, renamed "Candy" and "Colleen" after two Atari employees, respectively the one intended to create the game console and the one that was to be a real computer. Candy was initially planned without a keyboard, with the option of

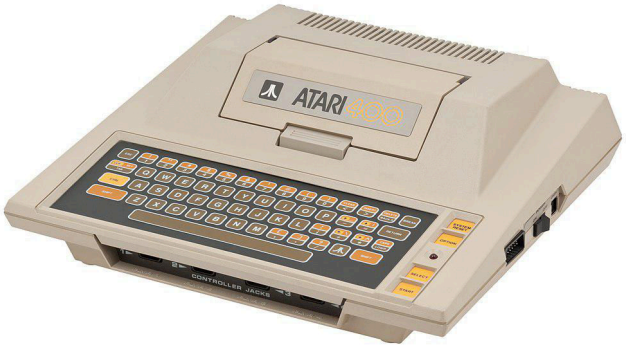


Fig. 4 - Atari 400
(image by Evan-Amos/ Wikimedia Commons/ PD)

offering one later as a kit consisting of a cartridge also containing BASIC, while Colleen was designed to be a higher-level system, with expansion ports for RAM and ROM, RF and video output, joystick ports, and several I/O ports for connecting external peripherals. During the development of the projects, Atari's management realized that the computer revolution was much more profound than it initially appeared and that many computers were being used as educational tools, even for children. It was therefore decided to transform Candy into a computer complete with a keyboard but designed for children, so it was equipped with a rubber keyboard to withstand spills of liquids, such as drinks, and food.

One problem that arose during development concerned the FCC, the Federal Communications Commission, the US federal commission responsible for regulating radio, television, satellite, and other transmissions. After the spread of home computers began with the introduction of the Trinity in 1977, several radio and TV owners began complaining to the authorities about electromagnetic interference caused by the RF modulators used in computers to generate the video signal to be transmitted to the home television to which they were connected. The interference not only affected the devices in the homes where they were installed, but could also disturb those of neighbors. To combat this interference, the FCC increased the controls and insulation requirements for computer manufacturers. While this did not affect the computer much, and it was quite successful, especially systems with integrated monitors, such as the PET and the TRS-80, manufacturers of computers without monitors, such as Apple and Atari, solved the problem in different ways. Apple decided to remove the RF modulator from its computer and outsource its production to a third party, while Atari decided to shield the motherboard with an aluminum casing to create a "Faraday cage" and contain the interference produced.

In April 1978, the shape of the computers was decided, which would follow that of the Apple II, i.e., a single enclosure for the keyboard and electronics: the design was established by Kevin McKinsey and Hugh Lee. In June, the motherboards were completed, and it was time to think about the operating system. Initially, Microsoft BASIC was considered, but due to the space occupied by the interpreter, a version of the language developed by Shepardson Microsystems was ultimately chosen. At the end of the year, the final names were chosen: Candy would be called 400 and Colleen would be called 800. The names were derived from the standard memory expected for the computers, 4 KB for the former and 8 KB for the latter.

Models

Both computers were previewed under the name "Home Computer System" on December 14, 1978, in New York, but the official presentation took place at the 1979 Winter CES in Las Vegas, where some dedicated peripherals were also shown: a cassette recorder, a floppy disk drive, and a printer. Initially, the names were supposed to reflect the available RAM, but with the gradual decline in memory prices, the 400 was equipped with 8 KB of RAM (fig. 4) and the 800 with 16 KB. At the beginning of the summer, the prices were made official: $549 for the former and $999 for the latter.

In August, the machines received FCC approval for marketing and actual production began, entrusted by Atari to its Sunnyvale plant. However, due to a general



Fig. 5 - Atary SALLY, a CPU derived from the MOS 6502B (image by Multicherry/ Wikimedia Commons/ CC-SA-BY 4.0)



Fig. 6 - Atari 1200XL (image by Daniel Schwen/ Wikimedia Commons/ CC-SA-BY-3.0)

shortage of components affecting the electronics sector in early autumn, production was delayed, so the machines were not actually released until November 1979, with sales entrusted to the Sears department store chain in New York. The computers were sold at the announced price, which also included a cassette recorder, a BASIC cartridge, and an Educational System Master cartridge, necessary for playing certain courses for students sold separately.

In June 1980, the prices of the computers rose to $630 and $1079 for the 400 and 800 models, respectively, and the accessories previously offered with the computer were now sold separately. The standard RAM for both models was increased to 16 KB. Despite the advertising campaign, the computers failed to catch on because competition from Commodore, Atari, and Tandy was very strong: in the first half of the year, only 50,000 units were sold. Starting in August 1981, the computers were also marketed internationally: in France, however, they did not arrive until 1982 due to the hardware modifications necessary to adapt them to the SECAM signal used in that country. At the end of 1981, Atari regained ground and recorded sales of 300,000 units, making it the leading international manufacturer of home computers. Alongside this, Atari promoted a campaign to replace the CTIA of the early models with the new GTIA, enhanced its customer service, and expanded its service centers. As a result of all these efforts, the computers gained popularity and were now also sold in many other retail chains. This led to a doubling of the previous year's sales figures, reaching 600,000 units, two-thirds of which were 400 models.

In 1982, a price war broke out between Texas Instruments and Commodore, with a race to the bottom on their respective 99/4-A and VIC-20 models. Sinclair also joined the fray with its low-cost ZX81 computer. In order to remain competitive, Atari reduced the cost of the 800 model by 16% in January and, from March, offered software instead of a discount, while from October, the computer was delivered with 48 KB of RAM. At the same time, it began developing the successors to its computers, which



Fig. 7 - Atari 800XL (image by Evan-Amos/ Wikimedia Commons/ PD)



Fig. 8 - Atari 130XE, with a case derived directly from that of the Atari 520ST (image by Multicherry/ Wikimedia Commons/ CC-SA-BY 2.5)

had to be cheaper to produce than the current models and offer improved performance to make them more attractive to customers. Development began on a new computer, codenamed Liz NY, because it was developed by Steve Mayer at the New York research laboratory.

The computer is based on an evolution of the 6502, internally called SALLY (fig. 5): in practice, it is a 6502B CPU with a modified pin called HALT, which activates new internal circuitry capable of stopping the clock signal, useful for blocking the CPU when one of the computer's coprocessors accesses the RAM via DMA. It should be noted that Atari also identifies this CPU with the code 6502C, but SALLY derives from a 6502B (which supports clocks up to 2 MHz) and not from a "true" MOS 6502C, which is a version of the chip capable of supporting clocks up to 4 MHz. SALLY was then used by Atari on all subsequent 8-bit computer models and on its 5600 and 7800 consoles.

During development, the computer was renamed Sweet-16: the case was redesigned, and was now lower and with a black keyboard area, giving the computers a more professional look. During 1982, Atari chose the new identification number: 1000. During development, towards the middle of the year, it was decided to offer two machines with two different memory configurations: a model with 16 KB called the 1200, and one with 64 KB called the 1200X. In the end, it was decided to present only one version of the machine: on December 13, 1982, it was announced in New York that the new computer would be called the 1200XL and would have 64 KB of RAM. The machine made its official debut at CES the following month with a price tag of $1,000.

In March 1983, Atari withdrew the 800 model from the North American market and simultaneously launched the new 1200XL at a reduced price of $899 (fig. 6). The price of the computer was immediately seen as too high: it cost much more than the almost equivalent 800, which was now being sold off by retailers to clear their stocks, and many people bought this model. The price war was indeed ruthless: at the beginning of 1983, the 400 cost $150 (compared to $300 the previous year), while the 800 model, when it was withdrawn, cost around $165. Sales of the 1200XL did not take off, people were hunting for the last 800s in circulation, and Atari was forced to withdraw it from the market in June 1983, with the

unenviable record of having been on sale for only one quarter. To remedy the situation, Atari presented two new computers at the summer CES in Chicago, which were in fact the true successors to the 400 and 800. These were the 600XL, a new low-end model, and the 800XL, the true successor to the 800 (fig. 7). Both echoed the shape and style of the 1200XL but were slightly smaller (the 600XL was even smaller than the 800XL). The XL series introduced the PBI (Parallel Bus Interface), a 50-pin connector that connects to all computer buses (data, address, and control) for connecting external peripherals. Expectations were high, but soon Atari would have to deal with its... accounts. The company was in serious trouble due to the video game crisis affecting North America, and sales of its VCS console, like all the others, were not going well. Added to this were problems arising from the release of games for the latter that turned out to be real flops, such as "E.T. The Extra-Terrestrial" and, above all, "Pac-Man." Atari's warehouses are full of the latter: many dissatisfied customers have returned the cartridges and asked for a refund. In an attempt to limit losses, Atari has moved the production of its machines to Hong Kong, where costs are lower. However, the lack of cash flow made it difficult to pay for materials, causing delays in the assembly of new computers and very few shipments to the US. At the end of the year, during what is normally the most profitable period of the Christmas holidays, there were no computers on the shelves. By the end of the year, the 600XL had still not been seen, while very few units of the 800XL had arrived in the US, the UK, and France. Atari ended 1983 with a budget deficit of $536 million, a monstrous figure for what had been the true lord of video games until the previous year.

Things improved slightly in early 1984, but Atari's management, burned by the losses, reversed the trend and raised the prices of its computers. Soon after, rumors of divestitures began to circulate, which materialized on July 3, 1984, when Warner, of which Atari was a subsidiary, announced the sale of its console and computer manufacturing and marketing division to Jack Tramiel, who had left Commodore in January of that year due to differences of opinion with his financier. Despite the events related to the change of ownership, the computers began to sell reasonably well, bolstered by the fact that their build quality and technical specifications were more than adequate when compared to those of their competitors.

In the middle of the year, the 800XL received the FREDDIE chip, a chip used to address memory and replace several integrated circuits on the original motherboard: the new computer was referred to as the 800XLF during development, but when it went on sale, the 800XL designation was retained. There were also other models derived from the 1200XL that were announced or designed but never released. The 1400XL and 1450XL were presented together with the 600XL and 800XL: they were supposed to be equipped with an integrated modem and a voice synthesizer, and the latter was also supposed to have a disk drive, but neither ever made it to market. Two prototypes were developed but never produced: the 1600XL, a dual-processor system with a 6502 and an 80186, and the 1650XLD, similar to the previous model but in the 1450XLD case, and finally the 1850XLD, based on the chipset that later powered the Amiga. All these projects were canceled after Tramiel arrived and restructured the company with a view to reducing expenses and investments considered unprofitable.

In mid-1985, Atari introduced the 520ST, a new 16-bit computer based on the Motorola 68000. Along with it, it also introduced a revamped line of 8-bit machines: the 65XE and 130XE models (fig. 8), both of which echoed the design of their big brother. The former offered 64 KB of RAM and identical functionality to the previous 800XL,

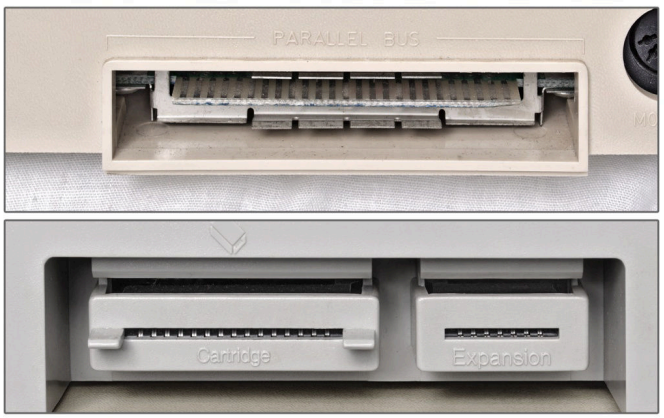


Fig. 9 -The PBI port (top) of an XL computer and the compartment containing the cartridge ports and ECI connector (bottom) on an XE computer (image by Multicherry/ Wikimedia Commons/ PD)



Fig. 10 - Atari XEGS (image by Bilby/ Wikimedia Commons/ CC-BY 3.0)

while the latter differed in that its memory had been increased to 128 KB.

Unlike the XL series, the XE series replaced the PBI port with a new interface. Since some lines were repeated on both the PBI port and the cartridge port, Atari redesigned the PBI interface, removing these duplicate lines and creating the ECI (Enhanced Cartridge Interface), which had only 14 lines (fig. 9). Not only that, but it moved both the cartridge port and the ECI port to the back of the computer in a single compartment so that an ECI peripheral could be connected with a single dual-comb connector. In Central and Eastern European markets, the 65XE was marketed as the 800XE, to make it clear that this computer was an evolution of the previous 800XL: the remaining stock of the latter was put back on sale to clear it, and the computer was quite successful in the former Warsaw Pact countries.

The swan song of Atari's 8-bit systems was the XEGS console (GS stands for "Game System"), which was essentially a 65XE without a keyboard but fully compatible with the computer from which it was derived, so much so that it was equipped with a port to which all Atari 8-bit computer peripherals could be connected. A keyboard was also available as a separate accessory, transforming it into a fully-fledged 65XE (fig. 10). The console made its debut in 1987 in two versions: the standard version, with only the central unit and one joystick, and a more advanced version, also equipped with a keyboard and an optical gun, as well as an extra game. The console offered "Missile Command" integrated into the ROM, which started automatically when the console was turned on without cartridges inserted into the appropriate port and without the keyboard connected: if the latter was present, the console started up like the 65XE.

The XEGS sold approximately 250,000 units in total, 100,000 of which were sold during the 1987 Christmas season alone, while it is estimated that approximately 3 million 8-bit computers were sold in total. Atari's entire 8-bit series, computers and consoles, was discontinued at the end of 1992.

Technical specifications

The 400 and 800 computers are both based on the MOS 6502 processor operating at 1.79 MHz for NTSC systems and 1.77 MHz for PAL systems (the CPU would be the feature that would unite all models until the end of their production). The first 400 and 800 models were equipped with a 6502B, capable of clock speeds of up to 2 MHz: at a certain point, the CPU was replaced by the SALLY, a 6502B revised by Atari with some modified pins. Graphically, we have the CTIA+ANTIC combination, which allows for different video modes, both text and graphics, with resolutions from 40x25 to 320x192 pixels. The colors that can be reproduced simultaneously on the screen vary from 2 to 16 per line: as mentioned, the ANTIC is a true processor that can be programmed using mini-

programs called "display lists" and, therefore, can be set to change not only the graphics mode for different sections of the screen (offering multiple parts in different modes) but also for other graphics effects such as changing the border color.

The CTIA allows for 8 shades for each of the 16 colors it is capable of, for a total palette of 128 colors, while its successor, the GTIA, offers 16 shades for each color, for a total of 256 different colors. There are differences between the colors obtainable on NTSC systems and those on PAL systems. This is caused by the diversity of the video signal and how it is generated, so the same game appears with slight differences between the NTSC and PAL versions. Both the CTIA and GTIA support sprites: 4 "players" and 2 "missiles," respectively 8 and 2 bits wide, while the height is the same as the video image for both. The 4 "missiles" can be grouped together to form a fifth "player."

The POKEY manages the machine's input as well as serial communication and audio generation, capable of handling 4 sound channels with square wave signals or white noise. The POKEY has inputs for analog game peripherals and can generate 8 interrupts from events such as the pressing of specific keys or signals on the SIO bus, or generated directly by some of its internal timers. The 400 and 800 computers are based on a particular architecture consisting of two electronic boards, the main motherboard and a secondary board (fig. 11). The main motherboard features the POKEY, 4 joystick ports, and a 6520 integrated circuit (PIA, Peripheral Interface Adapter) for their management. In addition to the power supply unit, the secondary board contains the SIO serial port for connecting external peripherals and the video modulation circuit with TV output and, on the 800 model, the port for a dedicated monitor.

In addition to this, the computers offer a series of expansion ports, which vary depending on the model. These are: the port for the processor card; the expansion ports for memory cards; the ports for ROM cartridges. The processor card mounts the CPU, the ANTIC, the CTIA, and a chip

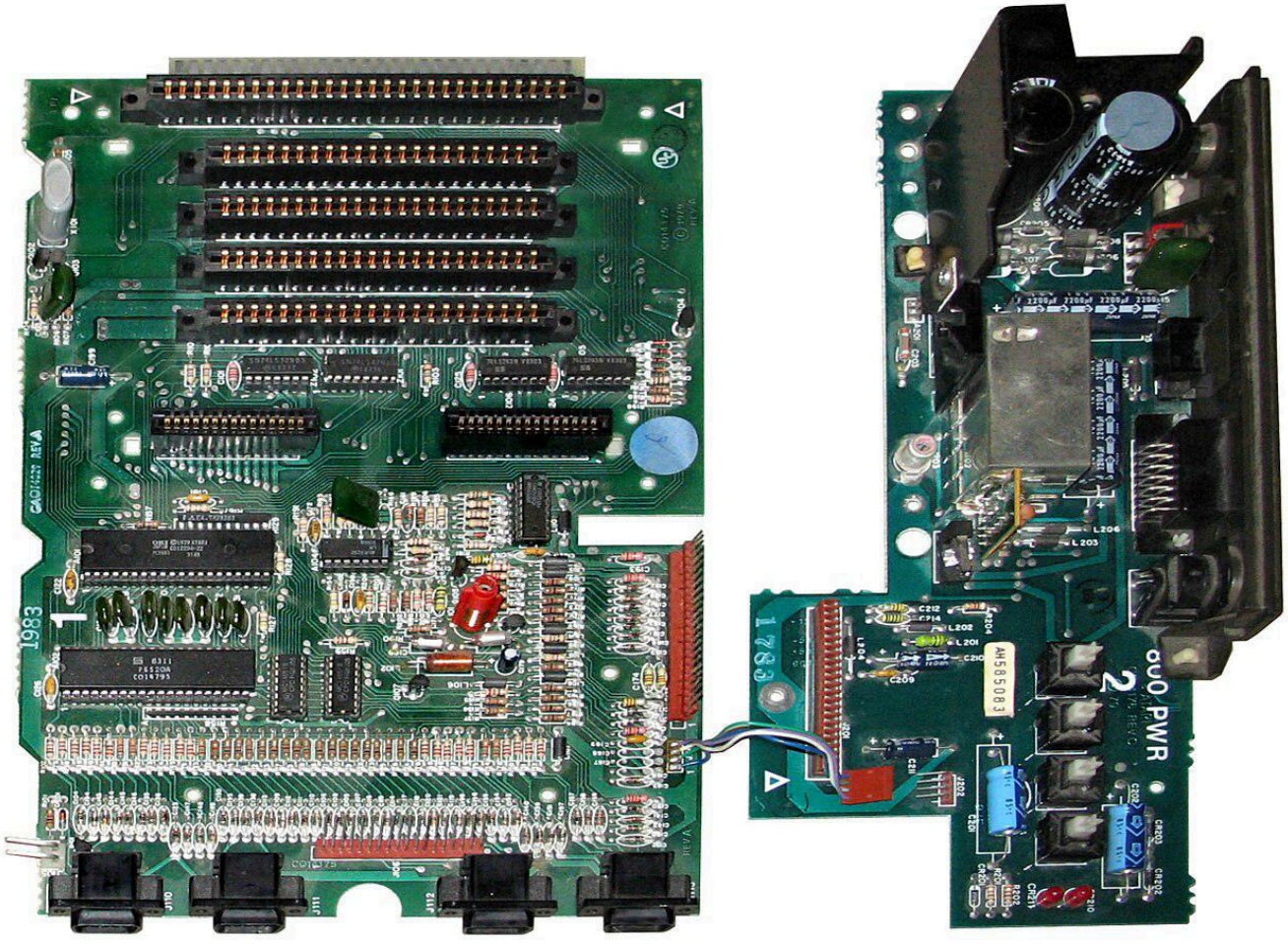


Fig. 11 - The motherboard of the 800 model. At the top, the 5 expansion ports (the first, wider one is for the CPU); in the center, the ports for the ROM cartridges; on the left, the POKEY, above, and the 6520, below. On the right, the secondary board (image by Dale Mahalko/ Wikimedia Commons/ CC-SA-BY-3.0)

for memory management: this must be connected to a special port, which cannot be used for anything else. The 800 model has 4 expansion ports: the first port is used exclusively for the 10 KB ROM cartridge containing the machine's operating system in the first 8 KB and the Atari BASIC floating point routines in the remaining 2 KB; up to three 16 KB memory cards can be installed on the other ports, for a total of 48 KB of RAM, even though the computer is initially offered with 16 KB of RAM (on one memory card). All ports are protected by a convenient, easy-to-open flap mounted on the top of the computer. The 400 is slightly different: the system ROM is mounted on the motherboard, and a memory card can be installed on the single expansion port. There is one port for ROM cartridges on the 400 and two on the 800: the single port on the 400 or the left port on the 800 can be used to mount the BASIC cartridge (8 KB) or a game cartridge. On the 800, the right port can only accommodate cartridges designed for it, but for compatibility with the 400, almost no game manufacturers ever used it, so much so that in the latest 800 models, this port was eventually removed. To comply with strict FCC regulations on electromagnetic interference, the designers initially planned to move the audio/video modulation circuit that creates the output signal from the TV socket outside the computer, similar to what Apple had done with its Apple II, which cannot be connected to a television without purchasing an external TV modulator. In the end, however, they opted for a metal shield for the modulator and an aluminum shell that completely enveloped the main motherboard, except for the compartment containing the expansion card and cartridge ports.

The keyboard is different between the two models. In the 400, created as a low-end computer designed as an educational tool and intended mainly for children and teenagers, a membrane keyboard was chosen, resistant to accidental spills of liquids and food. The result was a keyboard that was difficult to use, both because of problems with key pressure and because of the proximity and small size of the keys. The keyboard of the 800 is different, a true 64-key typewriter-style keyboard.

CTIA and GTIA

There is an interesting fact about the graphics chip that accompanies the ANTIC: on models produced from around the end of 1981 onwards, as well as on the Atari 5200 console, there is no CTIA but a chip with a similar name, the GTIA (from 'Graphic Television Interface Adaptor'). It is essentially the same graphics coprocessor with one difference: the GTIA supports three additional color management modes in the graphics environment compared to the CTIA, resulting in three new graphics modes that can be managed by BASIC. This replacement was dictated by the fact that there were coordination problems between different work groups: during the development of the computer, the group that was developing the graphics chip made changes to the design, but these changes were not passed on to the production department in time. The latter sent a perfectly functioning integrated circuit into production, but one from an earlier stage of development, leaving out the latest changes. Since about 100,000 of these integrated circuits had been produced, Atari management decided that tens, if not hundreds, of thousands of dollars worth of components could not be thrown away and approved its use, naming it CTIA. When stocks ran out, it was replaced with the GTIA. To accommodate those who had a system based on the previous video chip, it launched a campaign to replace the CTIA, subject to a small fee, by taking the machine to an authorized Atari center.

Atari SIO

A distinctive feature is the SIO (Serial Input/Output) serial interface used to connect the computer to its peripherals



Fig. 12 - An SIO connector (image by Multicherry/ Wikimedia Commons/ CC-SA-BY 4.0)

(fig. 12). Developed by Joe Decuir, this serial communication system is based on an asynchronous bus driven by the Atari POKEY, more precisely by a pair of its internal timers that are used to transmit and receive, via shift registers, single bytes to and from external peripherals such as modems, printers, disk drives, and cassette recorders. Data output from the computer travels on one line, while data input travels on another, and the default speed is 19,200 bps. Each peripheral compatible with the SIO interface is equipped with two ports, one input and one output, so that more than one device can be connected in cascade. The only peripheral device with a single port is the cassette recorder: this must be positioned as the last element in the chain. Each peripheral device on the bus has its own identification number, which can normally be set manually using DIP switches: a signal called "COMMAND" alerts the connected peripheral devices, which listen for a series of bytes that identify the peripheral device to which the command is addressed, the operation to be performed, and any additional data. The indicated peripheral must then respond to the computer and execute the requested command, such as printing the received data or transmitting the bytes read from a sector of the disk. The tape recorder is a special case. The data to be recorded on the tape is encoded using tones at specific frequencies generated directly by the POKEY chip and sent on two separate channels, one for the value representing 0 and one for the value representing 1. During reading, the tones read by the head must be transformed into binary sequences of 0 and 1: since the computer itself does not contain an analog/digital converter, this operation is performed directly by the recorder's electronics. The motor is also driven by a signal transmitted via the SIO bus. The player records on two audio channels, using the right one for data and normally leaving the left one free, which is, however, connected to a bus line that carries the audio from the recorder to the POKEY's audio input pin. Thanks to this, some software recorded audio on that channel, which could be played back while the program itself was loading: often these were instructions related to the game explained by a recorded human voice or entertainment music. However, software was also produced that combined motor control with this audio playback system to create interactive learning systems.

Atari BASIC

Atari also wanted to offer Microsoft's BASIC 8K on cartridge as a programming language for both systems, because Bill Gates' company's language dialect was the most widely used BASIC at the time. The problem was that this took up almost the entire space of an 8 KB ROM (hence the name), and the cost of a ROM chip with a higher capacity of 16 KB would have greatly increased the final cost. Several meetings were held and various 'restricted' versions of the language were evaluated, but Microsoft's proposals did not leave enough room for the extensions that Atari wanted to introduce into the language in order to take advantage of the machine's graphics and sound



Fig. 13 - The Atari BASIC cartridge inserted into an 800 with, in the right slot, the cartridge for "The Monkey Wrench II," software that introduces new commands in addition to those of standard BASIC (image by Knurrikowski/ Wikimedia Commons / CC-SA-BY-4.0)

features: the management's idea was to provide a machine that could be easily programmed even by those with little knowledge of computer science. Atari therefore turned to Shepardson Microsystems (yes, the developers of Apple DOS), which had recently created a BASIC interpreter for Cromemco, a manufacturer of CP/M-compatible computers based on the Z80 and S-100 bus. For these machines, Shepardson wrote a BASIC interpreter that supports integers and an extension that supports floating point numbers. Shepardson suggested a similar solution to Atari: an interpreter that fits, with the required language extensions, into the 8 KB of ROM of a cartridge, and routines for floating point numbers, which take up about 2 KB, to be inserted into the ROM that will make up their operating system (fig. 13). Atari accepted the proposal, and Sherpardson created an interpreter that offered new commands to change the graphics mode (although not all modes offered by the ANTIC+CTIA/GTIA combination were supported by BASIC), to draw lines and dots, to change colors, and to open and manage files. As for sound management, Atari BASIC offered minimal support, and there was also no support for sprites, screen scrolling, or other advanced functions: for more advanced management of the machine, programmers had to resort to using PEEK and POKE or machine language routines.

Atari BASIC is stored in a "tokenized" form, meaning that each command is transformed into a numerical code that takes up much less memory than the extended form: this system is also used on Commodore computers, for example, and saves RAM and speeds up program analysis during execution because far fewer bytes of memory need to be read to retrieve a command. Despite this compressed and already encoded form, Atari BASIC is one of the slowest interpreters available for 8-bit computers of the time. This slowness is largely due to the lack of optimization of routines for floating point numbers: tests conducted on BASICs of the time highlight the Achilles' heel of the interpreter developed by Shepardson in the handling of decimal numbers, placing Atari BASIC among the slowest of all. Another problem stemmed from the format used to store numbers, BCD (Binary-Coded-Decimal): Atari BASIC uses a fixed number of 6 bits to represent each digit of a number. This means that every time the interpreter encounters a number in the BASIC listing, it must convert it from BCD to an integer, with serious repercussions on the overall performance of the language.

Performance problems also arise from the particular internal handling of jumps and loops. If the language encounters a GOTO or a GOSUB, for example, it searches for the line to jump to starting from the beginning of the program, while BASICs derived from Microsoft BASIC search from the line where the forward jump is located: this allows, if the program is well written, to concentrate all the routines called at the bottom of the program so as to perform the search in less time. The same problem occurs with FOR/NEXT loops: Microsoft BASIC and its derivatives store the line where the word FOR is present and recall it at each NEXT, while Atari BASIC searches for it each time from the beginning of the program, greatly slowing down program execution if the loop is in a very advanced part of the listing.

Atari BASIC debuted alongside computers in 1979 (this version would later be referred to as "revision A"). The distributed version contained a major bug that crashed the machine if a line exactly 256 bytes long was deleted, a crash that even the computer's RESET button could not resolve. The system had to be shut down, obviously losing the program in memory. This bug remained in the code because the version put on the cartridge was not the final one but still a development version by Shepardson, distributed by Atari without warning the language developers.

Despite this bug, the cartridge remained on the market until 1983, when revision B of BASIC was integrated into the ROMs of the new XL series models. This version corrected the aforementioned bug but, absurdly, introduced a similar one in the routine that inserts BASIC lines into the memory listing. The programmer who corrected the bug noticed that the same portion of code is also used to store the lines for which the correction is applied but, instead of fixing a potential bug, introduced it into a routine that was working correctly. Another bug affecting this version concerns the program storage routines: every time a program is saved, 16 useless bytes are added. If

the operation is performed on the same file many times, such as during program development, you could quickly run out of memory even with small listings. If you are not affected by this problem, you may encounter another one concerning the sizing of variables in files saved with revision B, which leads to an unsized string error when the interpreter encounters a DIM statement. To correct these problems, it is recommended that you purchase the new cartridge with the ROM containing BASIC. The new cartridge version is revision C, which fixes the bugs in the previous release. It is also integrated into all models in the XG series, but the XL series continues to be equipped with revision B until early 1985, probably because Atari management does not want to lose money and the ROMs with the buggy version already purchased continue to be used until they are exhausted.

Games

The production of titles is very varied: as these systems were primarily designed for home entertainment, video games dominate production for these systems, with several thousand games in total. In fact, in the first half of the 1980s, Atari 8-bit computers had the largest game catalog of any home computer or game console of the period. At the time of the computer's launch, Atari released Star Riders (fig. 14), a space combat game that showcased the machine's graphics capabilities. The game was such a critical success that for years it was considered the true "killer app" of Atari 8-bit computers, much like Visicalc was for the Apple II. Inspired by films and TV series of the time such as Star Wars and Battlestar Galactica, the game was written by Doug Neubauer, the same designer of the POKEY chip, in his spare time and then shown to Atari management, who authorized its release: The game was acclaimed for its smoothness and fluidity, as well as for its 3D combat against enemy ships. There were also conversions of arcade games such as Pac-Man (fig. 15), Donkey Kong (fig. 16) and Centipede (fig. 17), but also conversions of titles originally released for other systems which, thanks to the excellent graphics and sound capabilities of Atari's 8-bit systems, gave rise to excellent conversions, such as Ultima IV: Quest of the Avatar (fig. 18), "Rescue on Fractalus" (fig. 19), a 3D game where you fly over an alien planet to rescue crashed allied pilots, and "The Dreadnaught Factor" (fig. 20), a game in which a spaceship flies over giant spaceships similar to the imperial cruisers in Star Wars.

There are also productions specifically for these machines that were later ported to other systems, such as "Alley Cat" (fig. 21), where the player controls a cat named Felix who must navigate various mini-challenges inside different homes before he can meet his beloved cat Felicia.

Revival

In 2024, Atari, in collaboration with a third-party company, released a smaller replica of the first computer model called the Atari 400 Mini. It is a mini-console with 25 preloaded games that can be connected directly to a modern television. It comes with a joystick that is also a replica of the classic Atari CX40. The console replicates all 8-bit systems, from the early 400 and 800, to all XL and XE models, including the 5200 console. In addition to the internal games, you can connect a USB stick with the ROMs of other titles. A real external keyboard can also be connected to the USB ports (the built-in one does not work). According to data released by Atari itself, sales have been very good, a sign that enthusiasts' interest in 8-bit computers is still alive, decades after their debut. After all, computers were technological gems at the time, far ahead of all competing systems on the market. What limited their spread, especially compared to what later proved to be the undisputed leader of the 8-bit market (the C64), was the price. Commodore, embroiled in a long-standing feud between Tramiel and its direct competitor Texas Instruments, engaged in a veritable price war at the time, and at one point the machine was sold at a price close to the cost of manufacturing, with a slim profit margin, in order to crush the competition. Had this not happened, these systems would probably have enjoyed more lasting success. In fact, at least in the early years of marketing, they had established themselves well, representing the benchmark computers for home video games: no other computer could boast a catalog as rich as theirs. Then things went the way they went.



Fig. 14- Star Riders

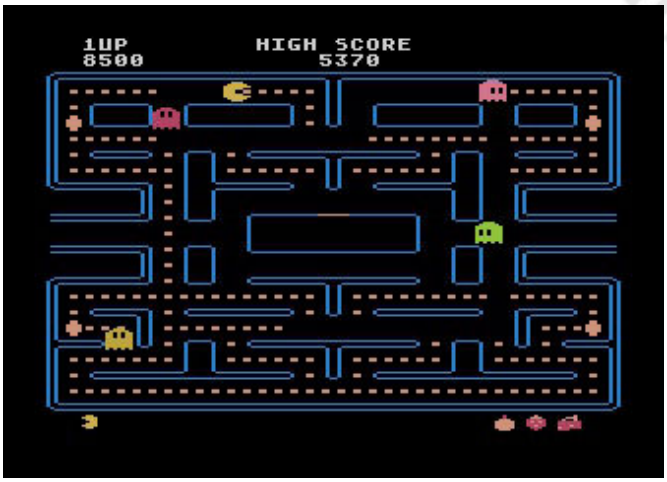


Fig. 15 - Pac-Man



Fig. 16 - Donkey Kong

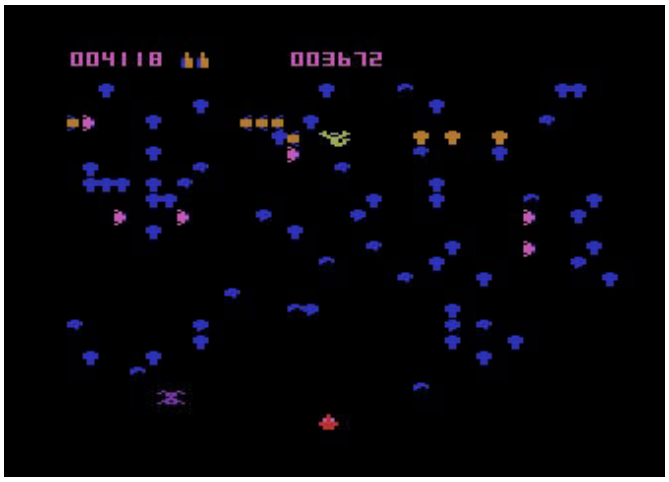


Fig. 17 - Centipede



Fig. 18 - Ultima IV



Fig.19 - Rescue on Fractalus

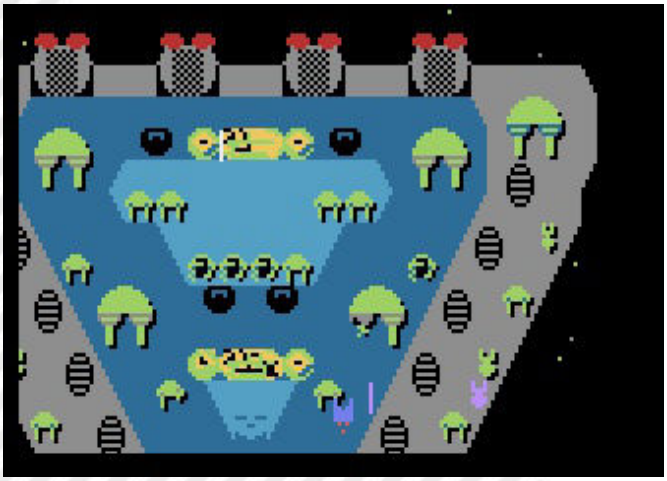


Fig. 20 - The Dreadnaught Factor



Fig.21 - Alley Cat

THE SPECTRUM: la recensione

Un viaggio tattile negli anni ’80

di Carlo Nithaiah Del Mar Pirazzini

We would like to thank Plaion Italia and Retro Games Ltd for providing us with the material for this review.

The first time I played on a ZX Spectrum was in 1989 at the home of a dear friend of mine (hello Filo!). We would all gather at his house and bring our home computers or consoles of the moment (with backpacks full of cables, tape recorders, cassettes, cartridges, and joysticks). I brought my C64. We spent hours and hours playing, typing Basic programs that didn't always work and... arguing! We argued about who had the best "computer." Despite the colors of the C64 and other machines, the ZX fascinated me. Speccy games seemed absolutely unique thanks to the machine's idiosyncratic way of limiting 8Ã—8 sprite maps to two colors, which meant that moving objects on the screen were usually collections of patchwork colored pixels, leading to an effect known as Color Clash. Somehow, it was both ugly and beautiful, and it still is.

Unpacking The Spectrum, Retro Games Ltd's latest piece of modern vintage hardware, is an incredibly nostalgic experience. It looks exactly as I remember the original machine: a black slab with rubber keys, each displaying not only a number or letter, but also a basic programming command. "Rem," "Rand," "Gosub"â€”the mystical words of the home programming era. There's a USB cable to connect it (although it requires a power supply not included in the box) and an HDMI cable, but no joystick. The machine is compatible with most USB gamepads: you just have to configure the buttons, which takes a little time but is worth it if you don't feel like using those rubber buttons to control your games.



Fig. 1 - The interior with the cards and the nostalgic setting

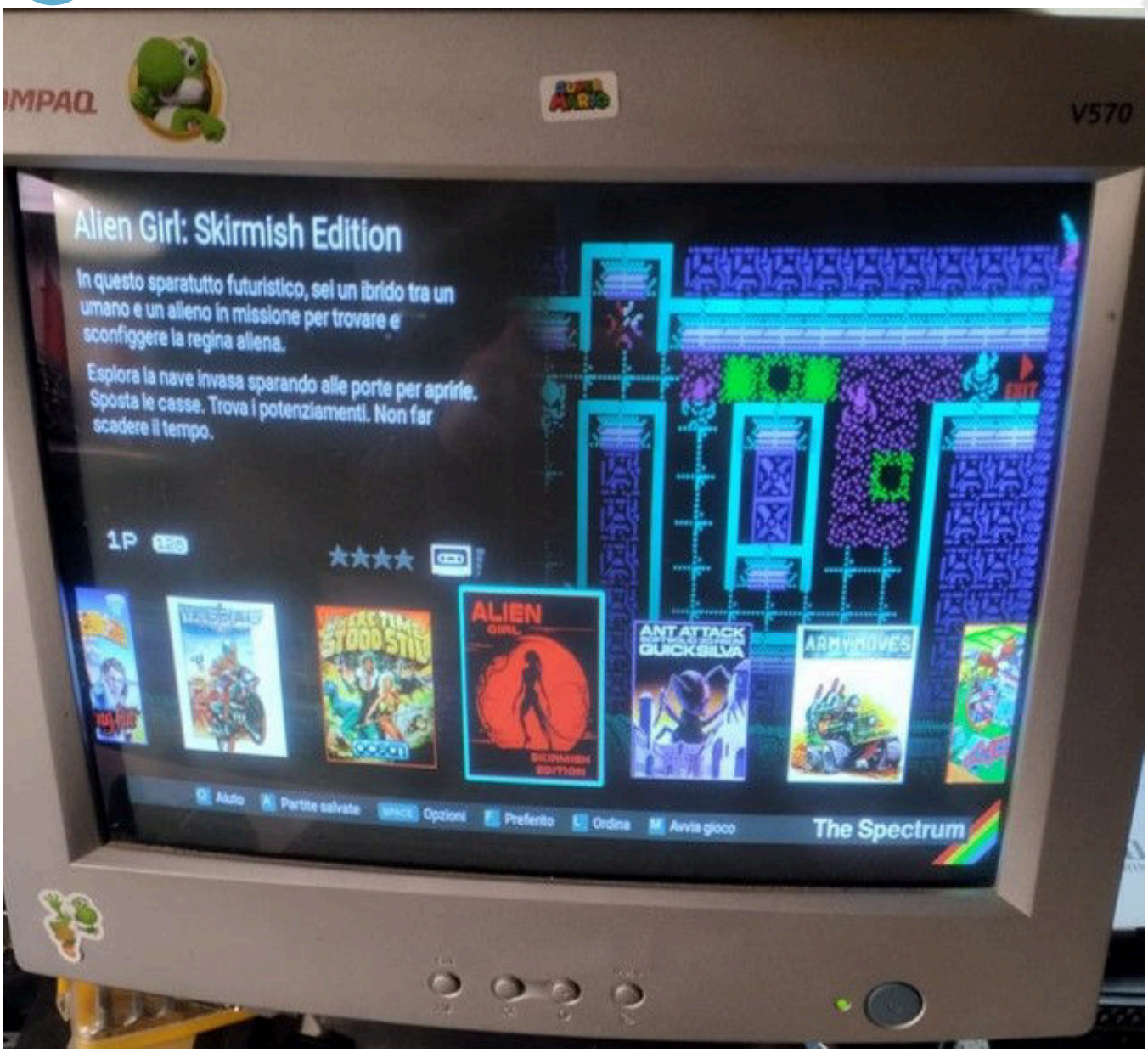


Fig. 2 - The initial selection screen

What's inside

When you load it up, you get a modern home screen showing the built-in game carousel. There are 48 to choose from, ranging from classics such as The Lords of Midnight, Head Over Heels, Manic Miner, and The Hobbit, to modern titles produced by contemporary programmers in the Speccy fan scene. These are interesting projects including Alien Girl: Skirmish Edition and the tomb raiding game Shovel Adventure. If you run out of the built-in supply, you can also download Spectrum game ROMs from a PC onto a USB stick, plug it in, and run the titles. Modern ZX titles also work perfectly.

You can also load Artonapilos' new Donkey Kong onto The Spectrum.

As with most other retro consoles, there are modern additions to the games such as save points (which do the job) and a rewind feature that takes you back a few seconds before you inevitably get hit by a car in Trashman. But I also love the fact that every time you select a game, the original illustrated loading screen is displayed for a few seconds; these pictorial delights were a fundamental part of the initial experience, because you would stare at them for five minutes (but also much longer) while waiting for your tape to finally load: it's important that they have been preserved.

The original computing capabilities of the ZX Spectrum have also been preserved. If you select classic mode, the console switches to the old-world startup screen and you

can actually program it. It's a feature I've taken full advantage of.

Who is it for? Obviously, the target audience is people like me who were there at the beginning and remember playing many of these games 40 years ago. Sure, there are free Spectrum emulators available online if you know where to look, but part of the nostalgic gaming experience is seeing a reproduction of the machine you remember seeing sitting in front of your TV; and with The Spectrum, you also get those legendary rubber buttons, feeling them squeak under your fingers as you press the leg sweep button in The Way of the Exploding Fist.

In the digital age, we sometimes forget how much memory is about feeling. Many of these games were designed with keyboard controls in mind, as joysticks were an optional extra and beyond the reach of many families in the early 1980s. The Spectrum revels in the tactile appeal of this seminal computer and its rubbery buttons. It reminds us how strange Speccy games were and how they made their way beyond Japanese arcades and flashy American home computers to straight into our hearts. The days of hanging out at our childhood friends' houses are long gone, but the games and the way we played them are back. And we can go back whenever we want.

Conclusion

Long-time fans can rest easy. The Spectrum is a great tribute to Sir Clive's little home computer. Of course, we can't deny that some ZX titles have aged rather badly, but

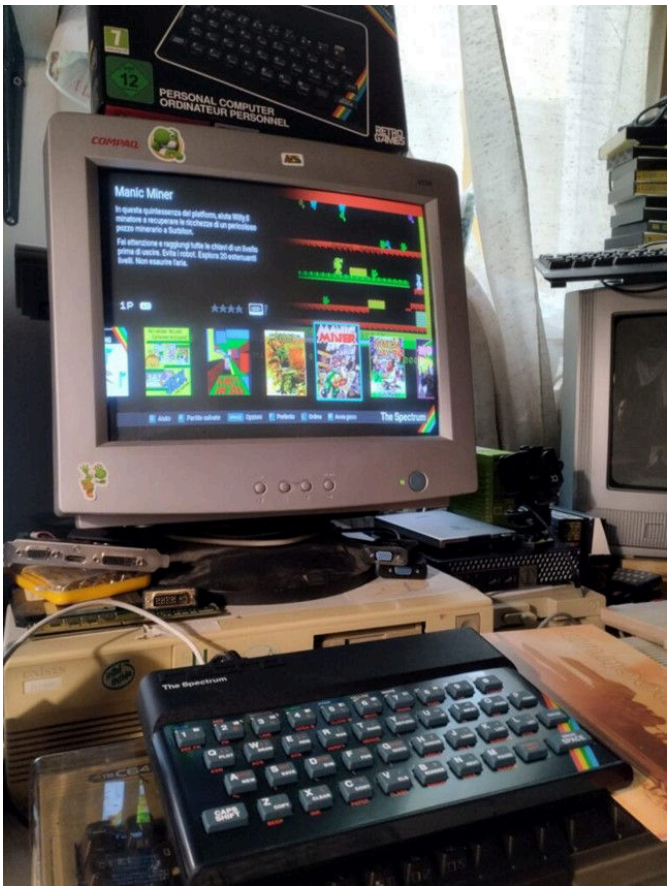


Fig. 3 - Rubber keys: you either love them or hate them!

for true enthusiasts, they are a trip down memory lane and a way to make their hearts beat faster like when they were kids. It also allows you to load the many new high-quality productions that continue to be released (weekly) for this series of computers.

If you want to try your hand at Basic, The Spectrum is ready to use with just one click in the options settings. Personally, I am grateful to be able to try this product. Those who did not have anything to do with the Spectrum at the height of its popularity may be immune to its charm, but I would say that this device is the ideal way to learn.



RGB10 series portable consoles

by Lino aka Bimbomillo

For years, many portable consoles of Chinese origin have been released, some with proprietary software, others where it is possible to install Emuelec or Batocera. Many are similar to each other in terms of emulation capabilities and differ in build quality, screen, battery life, Wi-Fi, and Bluetooth. Powerkiddy has launched the RGB10 (series), which started from the basic RGB10X model, a clone of the Odroid Go.
The base model featured a 1.5GHz RK3326 CPU with a 3.5-inch screen and a base resolution of 480x320, as well as a 2800mAh battery that allowed you to play almost all minor consoles up to PSX1 perfectly. On consoles such as Dreamcast or PSP, the limitations of the CPU were noticeable. However, by changing the OS and installing Emuelec or Batocera, performance increased slightly. The battery lasted for about 4 hours of gameplay.
Subsequently, other versions were released with various modifications and optimizations.

The MAX version had the same CPU and features as the previous version, but had a larger screen and dual analog sticks. In terms of potential, they were perfectly identical. The screen was 5 inches with an IPS Full HD resolution of 854 Ã— 480 pixels.

The next version was the RGB10 MAX2, also identical to the previous one, but with a more rounded design and a brighter screen. It featured a 1.5 GHz RK3226 Cortex-A35 quad-core chip, 1 GB of DDR3L RAM, and a Mali-G31 MP2 GPU with Emuelec OS.
Up to this version, there were not many changes in emulation quality. There were minor improvements in Dreamcast, N64, and PSP emulation, but it did not go beyond that, emulating various platforms such as PSP, N64, NDS, NES, SMD, SFC, CPS, MD, GBA, GBC, GB, FBA, PS, PSX, FC, GGMS, and NEOGEO.

The real change came with version 3, the RGB10 MAX3 Pro, which features a 5-inch 854x480 screen and an A311D CPU with 2GB of RAM and a 4000mAh battery, smaller than the previous model but capable of providing a maximum battery life of 8 hours with a charging time of 3 hours. This model does not have WiFi but is able to run some GC, PS2, and CP3 games more or less decently. Obviously, N64, PSP, and Dreamcast, which struggled in previous versions, work decently here. The A311D CPU



Fig. 1 - RGB10 MAX3



Fig. 2 - RGB10X



Fig. 3 - RGB10 MAX

is compatible with the famous S905D2 and S922X CPUs and was equipped with a MALI G52 GPU.

The new MAX 4 version is now almost ready, which improves on the previous version and uses Linux and 4GB of RAM with a 1280x720 screen, WiFi, and an RK3588D CPU. In this case, the emulation of consoles such as PS2, Saturn, and GC is optimized.
The main difference between the various versions is the cost, which ranges from â‚¬50 to â‚¬250. If you are looking for something simple, the basic MAX is fine, although with some operating systems it has minor bugs in the button configuration that can be inconvenient, and the volume has to be adjusted from the menu.

As for the controls, I can say that the only problem can be found in fighting games such as Street Fighter, where you have to perform the famous combos and the directional pad is not very precise. The versions with dual analog sticks work quite well, but those who are used to the directional pad will have to suffer a little. The only consolation is that this minor inconvenience is common to most Chinese consoles. However, a minimum amount of modding is possible.

Personally, on the two basic versions, I had to improve the (absent) heat dissipation on the CPUs by adding small metal plates and inserting a battery charge regulator for a firmware bug that makes the battery appear to be 100% charged when in fact it is less than that. This problem is present on the basic version and on some MAX models only with Batocera-type OS.

Network source and personal optimization.



Fig. 4 - RGB10 MAX2

Atari 7800+ - The review

A retro console remake for kids of the '80s

by Roberto Del Mar Pirazzini

As a preservation enthusiast, I can safely say that the Atari 7800+ is my kind of retro console remake. Not only does it perfectly replicate the aesthetics and functionality of the 1980s system, but its physical support for cartridges keeps an almost unknown but very interesting era of gaming alive. That said, I am a little disappointed... the 7800+ feels a bit like a skin swap for the 2600+.

Does the new 7800+ have what it takes to enter the ring of the best retro consoles? Maybe, but it rivals its own "little brother" released last year, the 2600+. Both are essentially the same device, offering a way to play original and new cartridges using built-in emulators. Sure, the 7800+ wears a different "vest" with sexy '80s vibes, something that gamers who grew up in that decade will greatly appreciate.

Yes, I'm a bit of a cheesy nerd when it comes to hardware, and I have a specific fixation on the feel of consoles, plus I absolutely love the 7800. By that I mean that even just the texture of the plastic or the specific click of a button can instantly transport me back in time, evoking memories from many moons ago. I like to think that's exactly why the Atari 7800+ exists, although I have a long list of features I should have included.

Before we get to the Atari 7800+ and its bag of tricks, let's talk about its flashy look. Out with the worn woodgrain panels of its 1970s ancestor, and in with black corners and a chrome strip. Just like the 2600+, the new Atari 7800+ is identical to the original console in almost every way. It's smaller, but unlike the Atari 400 mini, it avoids mini plug-and-play status thanks to its cartridge slot. That doesn't mean it doesn't take full advantage of modern technological luxuries, as we'll find an HDMI output port and a USB-C for power on the back, where the old ports used to be. That said, the whole process of connecting it to your TV, plugging controllers into its front DB9 ports, and grabbing a cartridge to play is effectively the same as it was 38 years ago, which is largely an intentional design choice.

The build quality is "tricky" because while the 7800+ feels rather light and hollow, so did the original. It doesn't feel cheap thanks to its high-quality plastic shell and tactile front buttons, but it's fair to say there's not much inside. Not that there needs to be, as the system simply dumps the cartridge's ROM into memory to be emulated via a single chip.



Fig. 1 - The cartridge slot on the 7800+



Fig. 2 - What's inside the box



Fig. 3 - The advertisement

Fortunately, the weight of the 7800+ isn't a big issue during normal use, especially since the rubber feet on the bottom save it from slipping during possible accidental drops. Of course, this serves as a natural link to the fact that Atari's latest reissue comes with wireless gamepads based on the CX78 design.

Those damn controllers! They were supposed to be the company's answer to the iconic NES pad, and while I sincerely believe the CX78 was one of the worst gamepads of all time, the new wireless version is actually usable. The buttons and D-pad are much more tactile than my original version, which I initially attributed to aged membranes and contacts. However, the internal design is at least partly responsible for the improved feel, as the pad now uses a single PCB for better rigidity and membranes that rest on the board rather than in depressions. Both of these original aspects led to a mushy feel over time, so hopefully the wireless pads can shake off the wheel of time for longer.

I don't want to be mean, but the Atari 7800+ disappointed me a little in terms of functionality. Yes, its main achievement is to provide exactly the same functionality as the original console, while also boasting HDMI. I think this could have been achieved by including excellent visual settings and perhaps even luxuries such as save states? Absolutely, and I'm not sure why the company continues to sidestep what seem like reasonable requests.

As I mentioned, the 7800+ uses emulation under the hood to run physical cartridges, namely Stella and Prosystem. Both applications have been around for a



Fig. 4 - Aesthetically, it's a blast from the '80s



Fig. 5 - Here it is... the CX78 pad



Fig. 6 - Atari 7800+

while and provide an incredible number of settings to tinker with, but the Atari console keeps the visual settings fairly tidy.

I understand that keeping things simple is part of the charm, but I think every enthusiast wants access to modern features to make the gaming experience more customizable.

To access the Atari 7800+ settings menu, you have to press the select and reset buttons on the front without a cartridge inserted. Doing so will present you with a 50Hz mode for compatibility with European TVs, a bilinear filter, and a very interesting "phosphor" filter that emulates the look of an old CRT. The latter option is only for 2600 games. Just like the 2600+, the 7800+ immediately launches any compatible cartridge you insert into its slot. I say immediately, but first a crossed-out screen appears for a few seconds while it downloads the ROM into memory. Once in the game, all the same rules from the 1980s apply, which means you'll have to use the front pause, select, and reset buttons to do anything to the system. All part of the charm? Perhaps, although it fuels Atari's allergy to software-based features.

CONCLUSION

I can say with certainty that the Atari 7800+ is a retro console remake for us kids of the '80s. It stays fairly true to the physical formula of the 2600+, but its specific aesthetics, excellent details, and new wireless controllers make it a good alternative to the first restyling. Ultimately, you get a system that performs all the same tricks as the earlier cartridges, so if you're looking for more features or the ability to play 5200 adventures, you'll want to expand your search. However, if you want to add something new to your console collection, this newcomer deserves a place on your shelf.

Website: https://atari.com/products/atari-7800



Joseph Weizenbaum, inventor of the first chatbot

by Carlo Nithaiah Del Mar Pirazzini

After creating Eliza and being one of the pioneers of artificial intelligence, he spent his entire life warning about the risks associated with technology.



Born in Berlin in 1923 into a Jewish family, Weizenbaum fled Nazi Germany with his parents in the mid-1930s, arriving in the United States. After completing his studies, he immediately began to devote himself to computer science: in the early 1950s, he worked on analog computers, then contributed to the design and construction of the digital computer installed at Wayne University in Detroit.

During those same years, he moved to General Electric, where he designed the first computer system dedicated to banking operations called ERMA, and began his career as a researcher at MIT in Boston. He published a short article in Datamation in 1962 entitled "How to Make a Computer Appear Intelligent," which described the strategy used in a Gomoku program that could beat novice players.From every point of view, therefore, Joseph Weizenbaum was an engineer who actively contributed to the technological development of the 20th century. However, it was an invention created almost as a joke that changed his life forever.

ELIZA

In 1966, Weizenbaum created Eliza: a piece of software capableâ€”despite consisting of less than 200 lines of code and having very little computing power compared to today's standardsâ€”of communicating with people via text, conversing with them in a manner that was at least partially coherent. ELIZA was written in the SLIP programming language created by Weizenbaum himself. The program applied pattern matching rules to statements in order to understand its responses. (Programs like this are now called chatbots). Guided by a script called DOCTOR, it was able to engage humans in a conversation that bore a striking resemblance to that with an empathetic psychologist. Weizenbaum modeled his conversational style on Carl Rogers, who introduced the use of open-ended questions to encourage patients to communicate more effectively with therapists. It was named in honor of Eliza Doolittle, a character in George Bernard Shaw's Pygmalion who wants to learn to express herself eloquently.

Weizenbaum was shocked that his program was taken seriously by many users, who opened their hearts to it. People's reactions to interacting with Eliza surprised him so much that he decided to abandon that type of research completely and, as a professor, begin a profound reflection on the relationship between humans and computers, several years before the discipline of Human-Computer Interaction was born. Weizenbaum summarized his years of reflection in the book Computer Power and Human Reason, published in the United States in 1976 and translated into Italian in 1987 by Gruppo Abele under the title Il potere del Computer e la Ragione Umana (The Power of Computers and Human Reason) (unfortunately, the Italian version is now out of print).

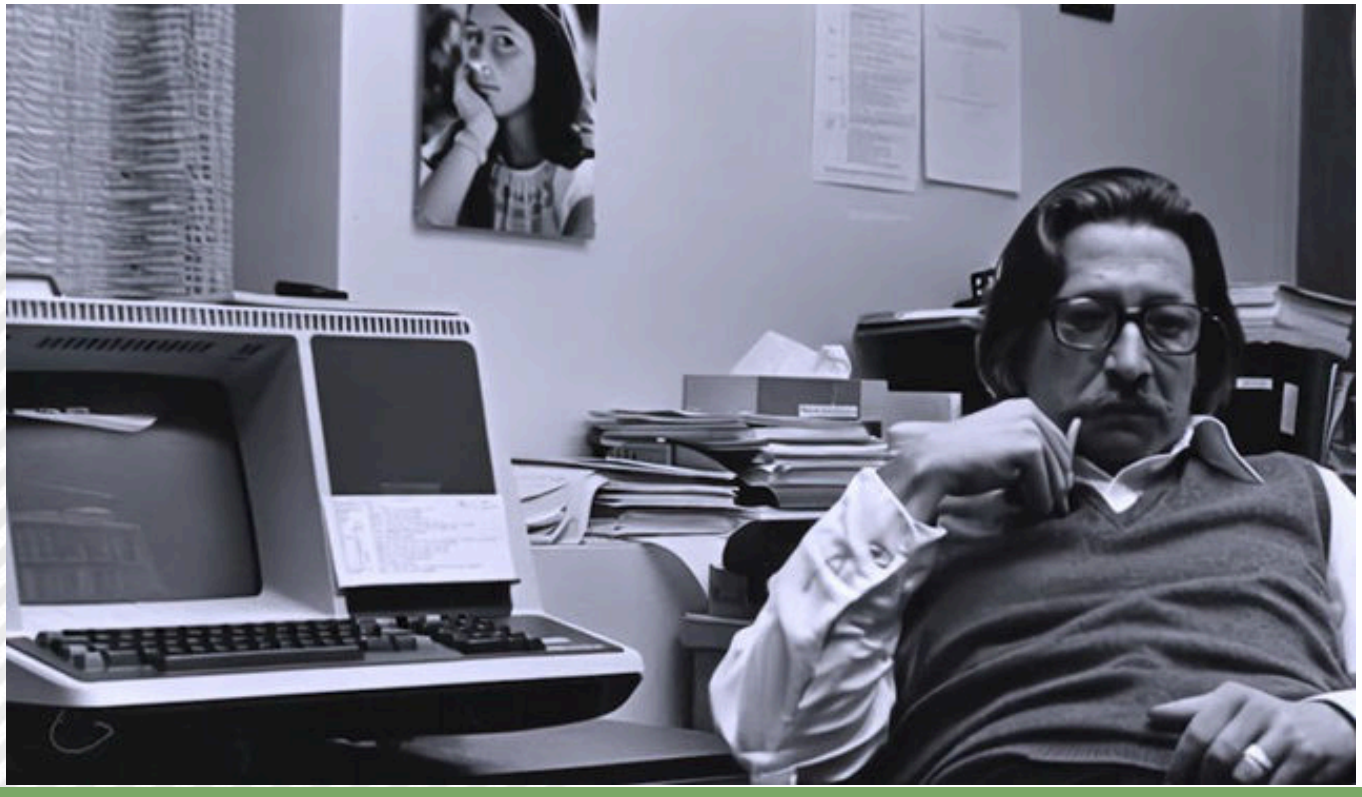
He began to think philosophically about the implications of artificial intelligence and later became one of its leading critics. In an interview with MIT's The Tech, Weizenbaum elaborated on his fears, expanding them beyond the realm

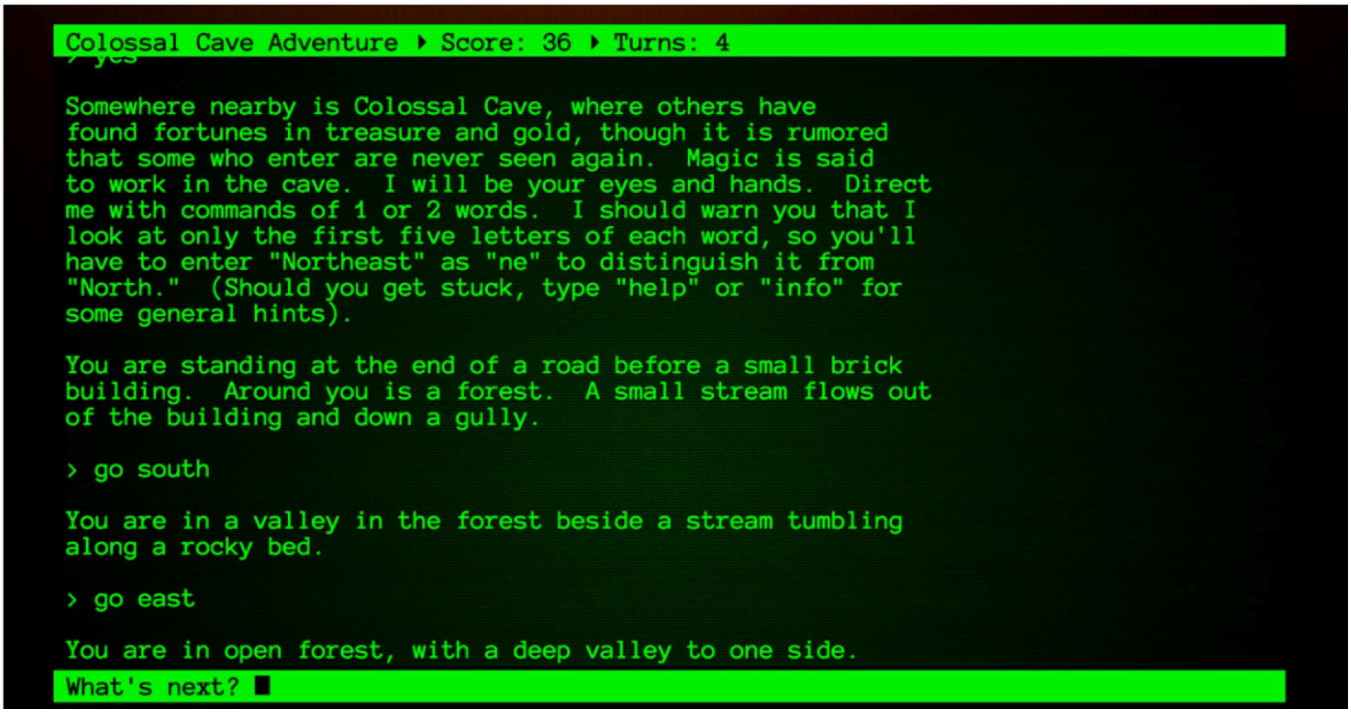
```
Welcome to
                EEEEEE  LL      IIII   ZZZZZZ   AAAAA
                EE      LL       II       ZZ   AA   AA
                EEEEE   LL       II     ZZZ    AAAAAAA
                EE      LL       II    ZZ      AA   AA
                EEEEEE  LLLLLL  IIII ZZZZZZ    AA   AA

  Eliza is a mock Rogerian psychotherapist.
  The original program was described by Joseph Weizenbaum in 1966.
  This implementation by Norbert Landsteiner 2005.


ELIZA: Is something troubling you ?
YOU:   Men are all alike.
ELIZA: What is the connection, do you suppose ?
YOU:   They're always bugging us about something or other.
ELIZA: Can you think of a specific example ?
YOU:   Well, my boyfriend made me come here.
ELIZA: Is it important to you that your boyfriend made you come here ?
YOU:   He says I'm depressed much of the time.
ELIZA: I am sorry to hear that you are depressed.
YOU:   It's true. I am unhappy.
ELIZA: Can you explain what made you unhappy ?
YOU:
```

of mere artificial intelligence, explaining that his fears for society and the future of society were largely due to the computer itself. His belief was that the computer, at its most basic level, is a fundamentally conservative force and that despite being a technological innovation, it would ultimately hinder social progress. Weizenbaum used his experience working with the Bank of America as justification for his reasoning, saying that computers allowed banks to handle an ever-increasing number of checks in play that would otherwise have forced drastic changes in banking organization, such as decentralization. As such, although computers allowed the industry to become more efficient, they prevented a fundamental overhaul of the system.





Weizenbaum was also concerned about the negative effects computers could have in the military, calling the computer "a child of the military."

In an era of technological enthusiasm probably similar to ours (the personal computer revolution had just begun), Weizenbaum quickly became an outcast of the computer community. This was a role he did not mind. In fact, he was perfectly comfortable in it, proudly describing himself as a "technology heretic." A technically very competent voice, but one that stood out from the crowd. And one that we probably need more than ever today.

ELIZA was included in a number of early computer games, with different types of graphical interfaces. Don Daglow wrote a more developed version of the program called Ecala on a PDP-10 mainframe at Pomona College in 1973 before writing the first computer RPG, Dungeon (1975). It is likely that ELIZA was also on the system where Will Crowther created Colossal Cave Adventure, the 1976 adventure game that gave rise to the interactive fiction genre. But both of these games appeared about nine years after the original ELIZA.

In the following years, many programs based on ELIZA were created in languages other than Ecala. For example, in 1980, a company called "Don't Ask Software," founded by Randy Simon, created a version for Apple II, Atari, and Commodore that used words entered by the user. In Spain, Jordi Perez developed the famous Zebal in 1993, written in Clipper for MS-DOS.

Sources

Weizenbaum, Joseph (1962). "How to Make a Computer Appear Intelligent"

"ELIZA - A Computer Program for the Study of Natural Language Communication between Man and Machine," Communications of the Association for Computing Machinery 9 (1966)

morasha.iT

Commodore 64 Basic extension: BBC Basic II

by Francesco Fiorentini

Language: Basic (extension)
Manufacturer: Aztec Software (Julian Gardner)
Version: 0.23
Media: PRG
Category: Programming language
Paradigm: Imperative language
Execution: Interpreted
Generation: 3GL

Program: Repeat_Colori

```
5 n=0
10 repeat
15 color n
20 print "test";n
30 n=n+1
40 until n>16
```



Fig. 1 - BBC Basic II - presentation screen

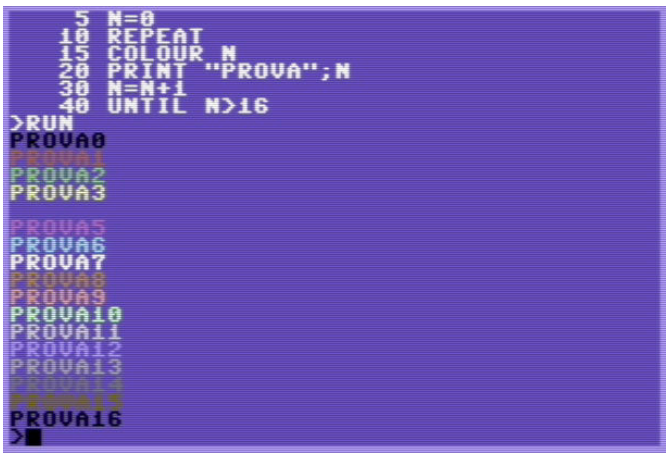


Fig. 2 - Output of the Repeat_Colori program

BBC Basic II is the porting of some BBC Basic commands to the Commodore 64.

Instructions for use

Start the program using the loader:
LOAD "BBCBASIC",8,1

Once loading is complete, a header will appear informing us of the version of this software (0.23), its compilation date (Sunday, March 17, 2013, at 1:04 p.m.), and, most importantly, that we have 41,982 bytes available for our Basic programs. If confirmed, we would be looking at good code optimization, because by adding commands we would expect to see the available RAM decrease instead of increase. This implementation was achieved using a slightly modified version of the standard HiBASIC version of BBC BASIC II with an interface for the Commodore 64 Kernal. This version of Basic is probably optimized compared to the C64's Basic V2 (not that it takes much...).

The new commands

Unfortunately, nowhere are the commands supported or transposed by BBC Basic listed, probably because the software was never completely finished, being at version 0.23.
However, we took a look at the BBC Basic commands and tried to use some of them.
Here are our findings:

COLOUR n - changes the text color using the 16 colors of the C64 (from 0 to 15): see the Repeat_Colori program. By adding 128 to the n parameter, we will change the background color.
Example: COLOUR 128+n

IF...THEN...ELSE - If you are one of those who miss the ELSE construct in the IF...THEN command of Basic V2, you will be happy to know that it is implemented in BBC Basic II.

REPEAT...UNTIL - As you may have already guessed from the example in the Repeat_Colori program, the REPEAT...UNTIL loop is also supported.

LOAD "[u:]filename" - Loads a Basic program from disk. With the [u:] option, you can specify the drive from which to load the file. The default drive is obviously 8.
Example: LOAD "9:PROVA" - will load the prova file from drive 9.

LISTO n - Like LIST but with the possibility of indentation.
n - is an integer between 0 and 31 and treated as a 5-bit number.

Meaning of the bits
0 - Adds a space after the line number
1 - Structures are indented
2 - Lines are broken at ":"
3 - Does not display the line number
4 - Basic commands are listed in lowercase

```
>LISTO 31
>5 N=0
>10 REPEAT
>15 COLOUR N
>20 PRINT "PROVA";N
>30 N=N+1
>40 UNTIL N>16
>LIST
    5   N=0
   10   REPEAT
   15     COLOUR N
   20     PRINT "PROVA";N
   30     N=N+1
   40     UNTIL N>16
>
```

Fig. 3 - Example of the LISTO command

LOMEM[=n] - Starting address of Basic variables.
HIMEM[=n] - Address of the position above the end of user memory. Subtracting LOMEM from HIMEM gives the free memory available to the user.
print "available memory = ";himem - lomem

PAGE[=n] - Address of the start of the Basic program.
TOP[=n] - Address of the first byte after the Basic program. The length of the program is equal to TOP-PAGE.
print "code length = ";top - page

PI - Returns the value of pi: 3.14159265.

TRUE - Returns the value -1.
FALSE - Returns the value 0.

INSTR - Returns the position of a string within another string.
Syntax: INSTR(str1,str2[,str3])
Str1 - the string where the search will be performed.
Str2 - the string being searched for.
Str3 - the starting position for the search (from 1...255) - default 1.
Example: instr("pippo", "i")

DIV - Returns the remainder of a division.
Example: 23 div 5 will return 4.

CLS - Clears the screen and positions the cursor at the top.

Basic extension classification: Basic dialect emulation

A series of commands that implement an emulation of BBC Micro Basic at a rate of between 60 and 70 percent, in this case only partially increasing the possibility of reusing some Basic programs written for the BBC Micro. It is a pity that the software was never finished, because it would certainly have opened up a range of opportunities for porting BBC Micro Basic games.

Where to find it
BBC Basic II can be downloaded from:
http://mdfs.net/Software/BBCBasic/C64/

```
>RUN
BBC BASIC CPU Timing Program
Real REPEAT loop          0.95MHz
Integer REPEAT loop       0.95MHz
Real FOR loop             0.94MHz
Integer FOR loop          0.94MHz
Floating-Point Test       0.94MHz
String manipulation       0.94MHz
Procedure call            0.95MHz
GOSUB call                0.94MHz
Combined Average          0.94MHz

Compared to a 2.00MHz BBC B
>
```

Fig. 4 - Output of the CLOCKSP example program, which compares the speed of the C64 and the BBC at 2.00 MHz

ugBASIC - A new era for programming

by Paul Garcia

I recently discovered an exciting project that started a few years ago: ugBASIC.

It is an isomorphic Basic cross-compiler specialized in efficient programs on various platforms based on 6502, Z80, and 6809. A daunting task, but one that ugBasic performs perfectly.

It is isomorphic because it guarantees translation into machine code in the closest way possible to the execution target, regardless of what that may be.

The application includes several compilers, one per platform, and an IDE where you can code programs and distribute them on the specific platform.

BASIC can use line numbers or not and offers modern features such as subroutines that use labels and functions, for example. There are also keywords for manipulating sounds and graphics.

The IDE is very powerful, and configuring target platforms and emulators is very simple. Once everything is set up, we will see a menu option to compile the program for each platform and another to call up the emulator and load the program to be executed from there.

The language has managed to group commands very well, covering the most common features of the 8-bit machines it supports. The following example clears the screen to black, sets the color to yellow, and draws some circles on the screen.

The project page on GitHub contains lots of examples, and the online documentation is excellent and very extensive.

The IDE interface

From testing on different systems (I tried Plus/4, Atari 8-bit, and Commodore 64), I got different results. This shows that, even with a powerful tool like ugBasic, writing for different platforms requires knowledge of how the specific target works and adapting the program accordingly: for example, all machines have different address maps, and if you need to POKE data directly from memory, no

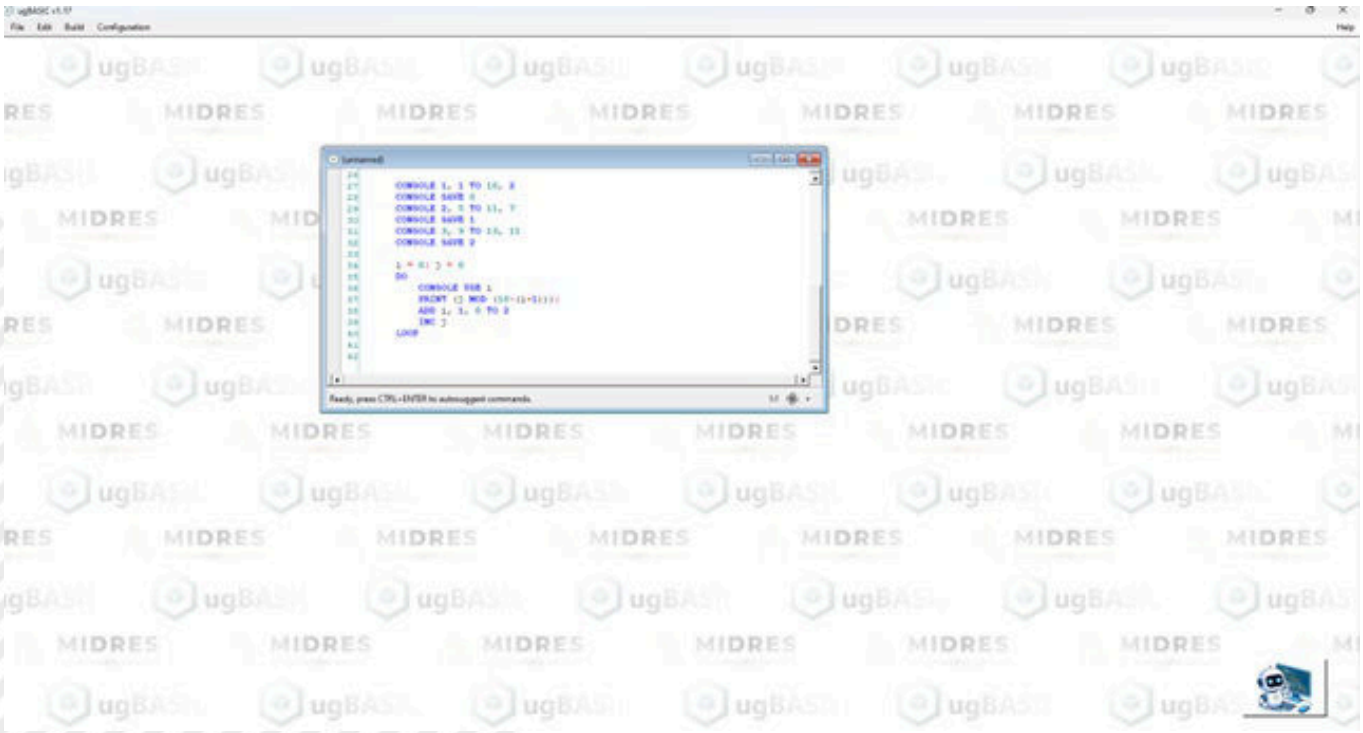


Fig. 1 - The ugBASIC IDE interface

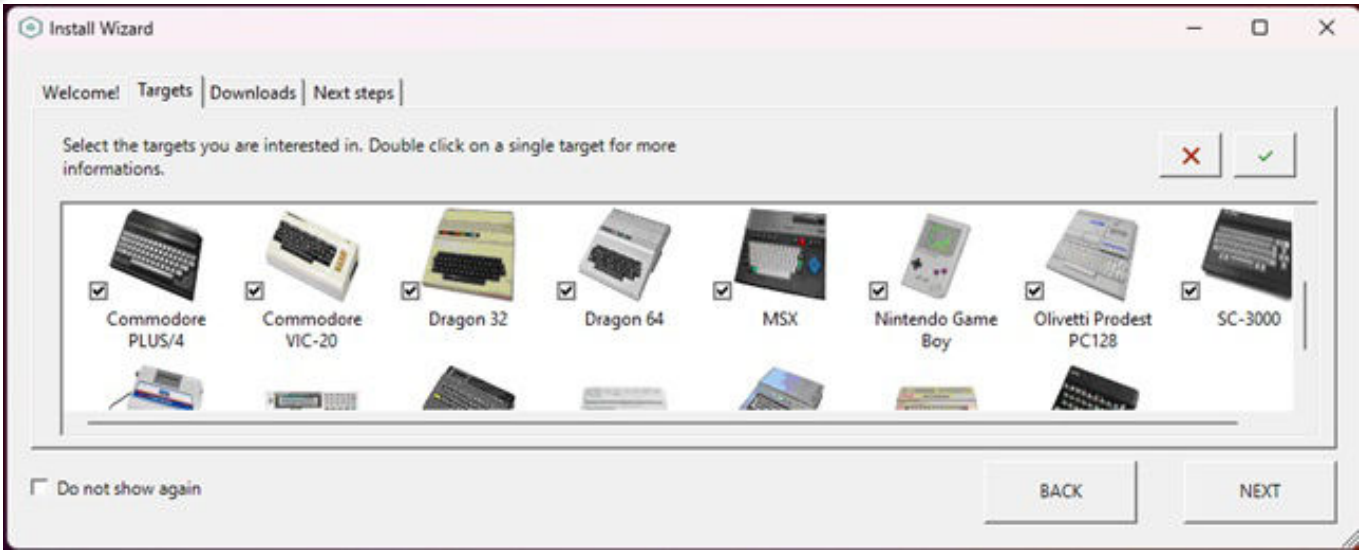


Fig. 2 - The installation wizard that allows us to make various configuration choices

amount of magic will make it work on all these targets.

This is not a flaw in the application, but the expected behavior when dealing with so many radically different machines. There is no such thing as "write once, run anywhere."

Among the titles created in ugBasic, I cannot fail to mention Soko64, a sokoban for C64, the recent port of Donkey Kong for PC 128 (reviewed in this issue), and 4 Gravity, a clone of Connect 4.

UgBasic is an application available only for Windows and currently available in its 1.17 release at: https://ugbasic.iwashere.eu/.



Fig. 4 - The recent (and very Italian) Donkey Kong for PC 128 developed in ugBasic. (NdFF - You can find a review in this issue)

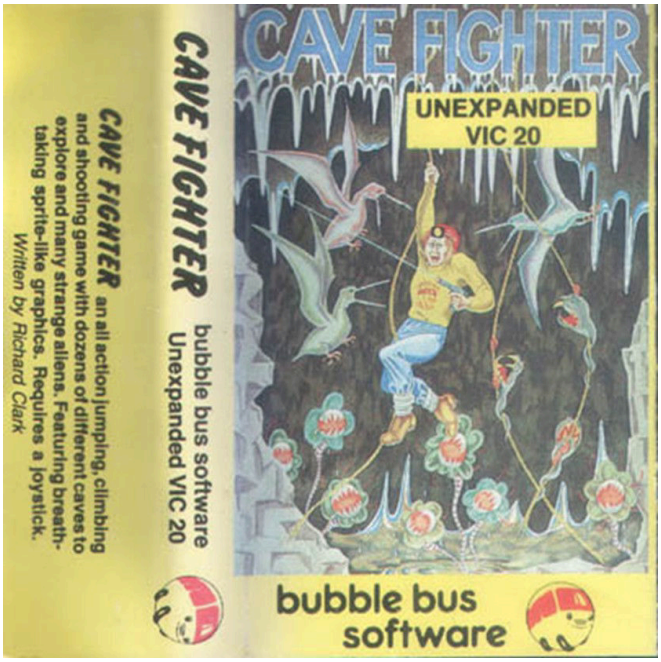
```
BITMAP ENABLE
CLS BLACK
INK YELLOW
CLIP 20,20 TO 50,50
r = (POSITION) 0
FOR r=4 TO 96 STEP 4
    GR LOCATE 10, r
    CIRCLE ,,r+9
NEXT

HALT
```

Fig. 3 - Example of code in ugBASIC

Cave Fighter

by Javier Gonzalez



Cave fighter is a 1985 platformer game for the unexpanded VIC20 from Bubble Bus Software. It's been said to me that the playability is good. The more time you press the fire button the farther away you jump. I eventually got the hang of it.

I have found two different tap files on the internet. Apparently both contain the same game, but the levels are different.

When you load and run the tap, a small intro is played, a message tells you to write down the tape counter and then press F1. Then the tape resumes its movement, and when it finishes loading, the game immediately starts. You don't get any further indications. There may have been written in the tape cover, but I'm not aware.

When the game is over, apparently you're supposed to rewind the tape to match the counter, and press F1. But if you press F5 the game restarts from the beginning, although the score is not reset.

I haven't found the program in d64 format. The configuration I like is a real VIC20 with a SD2IEC card reader. This requires d64 format, I eventually tried to convert the tap to d64.

Binary misteries

I suspect the two different tap files correspond to the two sides of the tape. Anyway, when you do LOAD, one of the .tap displays FOUND FIGHTER1, while the other displays FOUND FIGHTER2.

Actually the filenames FIGHTER1 and FIGHTER2 contain a = character which is hidden because it is followed by the backspace (delete) code. The program checks for this symbol, I guess to make more difficult duplication with simple LOAD/SAVE commands.

It's possible to verify that both programs are the same binary. The differences are in the next file, named LEVELS, which contains the data for 5 different levels.

In my opinion this game contained too much data to fit into an unexpanded configuration, and that's why they split the level data in two archives, which was usual for disk games but not for tape ones.

Although LEVELS is actually a single block of memory which loads from address $1000 to $13B9, it was saved as a sequential archive, the kind that must be retrieved which instructions such as OPEN#, INPUT#, GET#. It makes me wonder if they had some tool to do the level design.

When LEVELS loading is completed, the code checks if the archive is actually data or it is a program to which the control must be transferred. I haven't found any file intended to grab control this way. I don't have any guesses for this.

To summarize the startup sequence, the program copies parts of itself to areas of memory in the first kilobyte of RAM, addresses 0 to $3FF. Then it displays the welcome screen. Then checks if the filename contains "=", otherwise it freezes. Then it plays some music while it checks for the F1 keypress. At this point there's enough available memory to load the level data from tape. Once done, it checks if it actually is level data, and it transfers control to the game.

"Reverse engineering"

I don't like this term when mostly you're reading code written by some other guy, but I'm using tools, so I guess

it's correct. The program binary can be fed to C64Studio, and it performs a disassembly and tags all the labels. The listing which it provides can be correctly assembled. This makes it easier to browse the rest of the code and add changes.

So I found out that when the player finishes the last of the levels, which happens to be the fifth, it tries to reload levels from tape. It made sense that when the player finished one set of levels, the other set had to be loaded. There's no need to swap and rewind tapes if we take the level files to a d64 disk image.

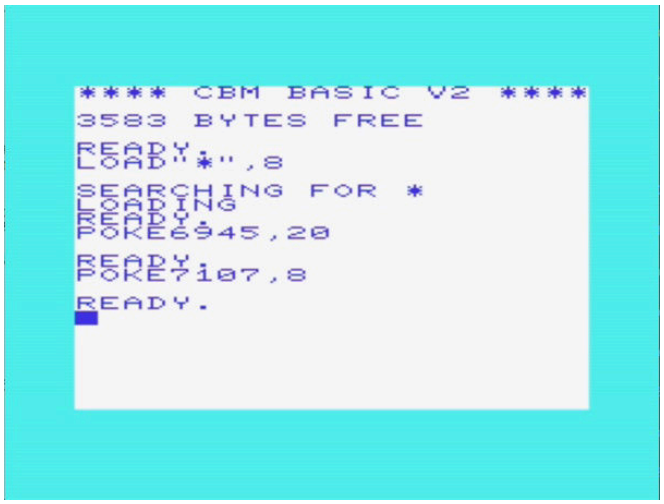
To make the game more friendly, I added an end of game screen which displays the score and tells the user to press F1 or F5. F5 still starts a new game with the set of levels currently in memory, but now restoring the score to 0. F1 starts a new game too, but instead of the player picking the tape he wants to reload, it just swaps the set of levels to the one which isn't currently in memory.

It would be desirable to be able to start the game with the first set of levels, instead of guessing if we want or not to swap the data in memory. But I could only do a few changes, because there's very little memory available, finding more would require further digging into the code.

POKEs

The number of lives initializes to 9. It is kept directly on the screen. If you are playing in the emulator and running low on lives, you can just open the monitor ALT-H and type the command:

f 1e14 1e14 0a



You can change the initial number of lives to a number greater than 10 (don't use 32, space char, though), but then a weird symbol will show up instead of an actual number, until it falls again below 10.

The initial number of lives was held in 1C29, but I had to change that to spare some bytes of memory. Now it's in 1B21. To enter the poke, LOAD the program and, before running it, type: POKE 6945,20.

But there's a more desirable patch. The time to complete the 5 levels is limited and a little low. To slow down the countdown you can change a parameter inverse to the speed. This part of the code is unmodified, the parameter is hardcoded set to 7:

.C:1bc2 A9 07 LDA #$07 speed parameter of the counter

.C:1bc4 85 4E STA $4E

.C:1bc6 20 AC 1D JSR $1DAC decrease counter 1 unit

The fastest is 0 and the slowest 128, you can use for example 8 or 9. LOAD the program and, before running it, type: POKE 7107,8.



Link to download the game:

https://drive.google.com/file/d/10mxuvn_G07lZSJlyRVW8-oOLuYX_MI3c/view?usp=drive_link

The "Guillotine" - for C64 and for beginners

by Eugenio Rapella

In the italian television game show "L'Eredita' ," the winner of each episode enters the final round with a prize pool accumulated from previous games. The contestant is presented with five pairs of words, one after the other. The contestant must choose one of the two words: if they choose the "clue word," the prize money remains unchanged; if they choose the other, the "guillotine blade" falls on the prize money... halving it!

The contestant's choice only affects the value of the prize pool: the correct "clue word" is highlighted anyway, and at the end of the round, the contestant has one minute to find the "secret word" suggested by the five "clue words" (regardless of which ones they chose). If they succeed, they pocket the prize money (if you're curious, type "YouTube Guillotine" into Google and everything will become much clearer).

When the contestant is asked to choose between the two words, there is not much time available and, in general, the contestant chooses the word "at random."

Even identifying the "secret word" suggested by the five "clue words" is no easy task... we'll come back to that later.

And now... a little math.

Let's use M to indicate the prize money accumulated by the contestant at the beginning of the "guillotine"; we want to determine the law of the random variable X = "prize money after choosing the five words."

The value of X depends on how many times the contestant manages to choose the correct term. We use the letter G to indicate the correct choice (G=correct word) and the letter E in the other case (E=incorrect word).

A final round is therefore characterized by a sequence of five letters chosen from G and E. The sequence EGEEG means that the contestant chooses the "Wrong" word in the first pair, the "Right" word in the second pair, and so on.

If they choose "at random" each time, they will choose the correct clue (G) with a probability of 1/2 and the



Fig. 1 - The Guillotine - " final game of "L'Eredita'"

incorrect clue with a probability of 1/2.
The probability of a particular sequence is therefore

1/2·1/2·1/2·1/2·1/2=1/32.

The sequence GGGGG, which has a probability of 1/32, is particularly lucky: the prize pool remains unchanged. Conversely, it is equally difficult to get all the choices wrong: the sequence EEEEE still has a probability of 1/32; in this case, the prize pool is halved five times and reduced to M/32.

There are five different ways to make only one mistake: EGGGG, GEGGG, GGEGG, GGGEG, and GGGGE. In all these cases, there is only one halving; therefore, with a probability of 5/32, the final prize pool is equal to M/2.
By swapping E and G, we will have, with a probability of 5/32, only one G and four E with a final prize pool equal to M/16.
In the case of 3G+2E, the prize pool is halved twice and therefore becomes M/4. To determine the probability of this situation, a little "combinatorial calculation" would be useful: it involves calculating the number of anagrams of the "word" GGGEE (or calculating the number of combinations of 5 objects in groups of 2).
There are not many, so without resorting to combinatorial calculus, we can get by by listing them:

EEGGG, EGEGG, EGGEG, EGGGE (those beginning with E)
GEEGG, GEGEG, GEGGE (those beginning with GE)
GGEEG, GGEGE (those beginning with only two Gs)
GGGEE (the only one beginning with three Gs).
So there are 10, meaning that the probability of the final prize pool reaching the value of M/4 is 10/32.
This leaves the case of 2G and 3E; swapping the roles of E and G in the previous list gives us 10 sequences. With a probability of 10/32, there will be three halving events and the final prize pool will be worth M/8.

The law of the random variable X is therefore:

X:	M	M/2	M/4	M/8	M/16	M/32
p:	1/32	5/32	10/32	10/32	5/32	1/32

The first row shows the values that X can take, while the second row shows the relative probabilities.
The "average value" E(X) of the random variable X is obtained by multiplying the values of X by the relative probabilities and adding the various contributions.
E(X) provides an "overall estimate" of the value of the random variable.
In our case, taking M/32 as the common factor, we have:

E(X)=1/32·M·(1+5/2+10/4+10/8+5/16+1/32)=

=1/32·M·(32+80+80+40+10+1)/32=243/1024·M

Since 243:1024 = 0.2373046875, after the last word is chosen, the prize pool is, on average, reduced to 24% of its initial value.

How often does the contestant manage to find the "secret word"? The authors do not make life easy for the contestant, who is also under pressure from the presence of the cameras. I have considered a hundred episodes and, statistically, the word is identified, on average, once in ten times.
This means that, again on average, the sum actually paid out by the organizers is about 2.4% of the initial prize pool (taking into account that, on average, nine times out of ten the contestant wins nothing), which explains how it is possible to start with really high initial prize pools: â,¬180,000, â,¬190,000, and â,¬200,000 are among the most frequent values!

To see how things work in practice, let's put our Commodore 64 (the VICE emulator, to be precise) to work, which will simulate a large number of 'guillotine operators'.

Here is the code:

```
100 poke 53280,6:poke 53281,6:print chr$(5):x=rnd(-ti)
110 print chr$(147);"** the guillotine **":print
120 input"initial prize pool ";mp:vt=mp*243/1024
130 print"theoretical average value (vt) ";vt:print
140 input"how many simulations ";ns
150 for n=1 to ns:s=mp
```

```
160 for k=1 to 5
170 if rnd(1)<0.5 then s=s/2
180 next k
190 print n,s
200 g=g+s
210 next n
220 print:print"initial prize pool ";mp
230 print"theoretical average value (vt) ";vt:print:print
240 print"have been performed ";ns;"simulations":print
250 vo=g/ns:print"average value obtained (vo) ";vo
260 print"percentage difference between vo and vt
";100*(vo-vt)/vt
```

At 100, the usual coloring and initialization of the (pseudo)random number generator; at 120, the contestant's prize pool at the start of the "guillotine" (variable MP) is requested.

The "theoretical" average value, assuming that the contestant chooses one or the other of the proposed words with equal probability, is, as we have seen, equal to 243/1024 of the initial prize money. The value is calculated at 120 and printed at 130.

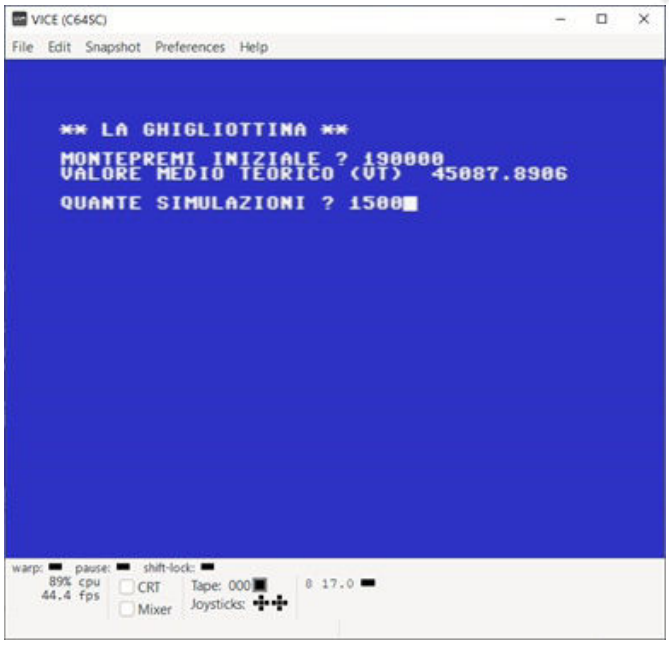
At 140, the number of simulations (NS) is requested. For each simulation, five times, it is checked whether the random number generated is less than 1/2 (RND(1) generates a random number between 0 and 1 at each call) and, in this case, the prize money is halved (inst. 170).

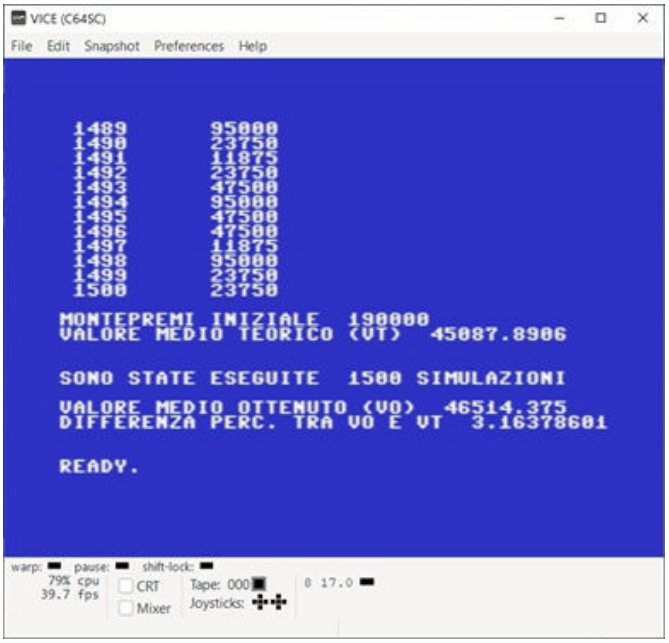
At 190, the number of the simulation in progress and the prize pool at the end of the five choices are printed (this PRINT slows down execution and can be eliminated if this information is not of interest).

At 200, the prize pools are accumulated in variable G for the calculation of the average prize pool obtained (variable VO at 250).

At 260, the percentage difference between the value obtained and the theoretical value is evaluated.

The simulations confirm our expectations; for example, with an initial prize pool of â,¬190,000, after the five words have been chosen, the prize pool reaches an average value of â,¬45,088. I put C64 to work simulating 1,500 "guillotine players" and, in the end, they ended up with





an average prize pool of â,¬46,514 (the percentage difference from the theoretical value is very small: about 3%).

Our Commodore never disappoints us and, by the way, the "secret word" to guess in the "guillotine" in Fig. 1 is... "COMMUNICATION."

INFORM 6 - TUTORIAL 5

by Fredrik Ramsberg - adapted for RMW by Gianluca Girelli

PunyInform Coding 3: Daemon and Object Description

This is the last tutorial on programming with PunyInform. In this tutorial, we are creating a game in which the protagonist works for Mrs. Morris. It's the end of the day and you want to go home. All you have to do is put a plate of spaghetti in the microwave at the right temperature to be eaten and put it in the freight elevator. Then you can leave.

Declaring constants

```
1  !% -~S
2  !% $OMIT_UNUSED_ROUTINES=1
3
4  Constant Story      "A warm meal";
5  Constant Headline   "^An interactive temperature challenge.^";
6
7  Constant STATUSLINE_TIME; Statusline time;
8
9  !Constant DEBUG;
10 Constant INITIAL_LOCATION_VALUE = Kitchen;
11 Constant OPTIONAL_EXTENDED_VERBSET;
12 Constant OPTIONAL_ALLOW_WRITTEN_NUMBERS;
13 Constant NO_SCORE;
14
```

In line 7, we declare that we want to show the time on the status line instead of the score.

Line 11: We want the player to be able to "set (object) to (number)". This is included in the extended verbset, so we'll just add this option. We also get a bunch of other useful verbs. If file size were a major concern for us, we could just define the verb "set" by hand, but it's not.

Line 12: In addition to allowing the player to type numbers with digits, we can allow them to use words for small numbers, so the player can type "set timer to five."

Line 13: We have decided that we do not need a scoring system for this game. Defining NO_SCORE removes the verbs and actions for displaying the score, as well as the messages telling the player that the score has increased or decreased, etc.

Entry point routines, extensions, and grammar

After defining all the library constants, it's time to include globals.h. Next, we create our own global variable. A

```
15 Include "globals.h";
16
17 Global f_served_meal = false;
18
19 [DeathMessage;
20     if(deadflag == 3)
21         print "You've been fired";
22 ];
23
24 Include "puny.h";
25
26 Include "ext_waittime.h";
27
28 Extend 'set' replace
29     * noun 'to' number                    -> SetTo
30     * noun 'to' number 'minute'/'minutes' -> SetTo;
31
32 Verb 'start'
33     * noun -> SwitchOn;
34
35 Verb 'stop'
36     * noun -> SwitchOff;
37
```

PunyInform program can define up to about 150 global variables of its own. This can be useful for keeping track of what happened in the game, etc. Let's give this particular variable a name that starts with "f_" to indicate that it is a flag, something that can only have values true (1) or false (0). When the game starts, the player has not served a meal to Mrs. Morris, so the flag starts with the value false.

PunyInform supports a set of "entry point routines" (see which ones in the PunyInform manual and read what they do in the Designer's Manual). If you want to define entry point routines, you must do so before including puny.h. One of these routines is DeathMessage.

If at any time we want to end the game, we set deadflag to a value greater than 0. The value 1 (also called GS_DEAD) means that the player is dead. The value 2 (= GS_WIN) means that the player has won. Values greater than 2 are used when we want to add our own ways to end the game. If we use a value greater than 2, we also need to add a DeathMessage routine that checks the value of deadflag and prints a message.

In line 26, we include an extension called "ext_waittime.h". This allows the player to type things like "wait 10 minutes" or "wait until 9:00 PM".

The verb "set" can be used in two ways: "set (object)" or "set (object) to (number)". For our game, it's best if we remove the "set (object)" form and add another form: "set (object) to (number) minutes." When we want to remove part of a verb's grammar, we have to replace the entire grammar for that verb. That's what we do in lines 28-30. Note the keyword replace.

In lines 32-36, we add new ways to express "turn on (object)" and "turn off (object)", namely "start (object)" and "stop (object)" respectively.

The kitchen

```
38  Object Kitchen "Kitchen"
39      with
40          name 'benches' 'cupboards' 'drawers',
41          description "You are in the heart of the house, the kitchen. There's an
42              exit to the north. Benches line the walls, with cupboards and
43              drawers underneath.",
44          n_to [;
45              if(f_served_meal)
46                  return Street;
47              "You can't leave until you've put a good warm meal in the
48                  dumbwaiter.";
49          ],
50          cant_go "The only exit lies to the north.",
51      has light;
52
```

The kitchen is where everything happens in this game.

If the player tries to go north, we provide a routine to decide the outcome of this action. If they have served Mrs. Morris her meal, we return Street, which is obviously a location. Otherwise, we print a message explaining why the player cannot go north and return true.

The dumbwaiter: the ticket to winning and losing

The dumbwaiter is a container that is always open. To give it its own paragraph in the room description, we give it the when_open property. In this routine, we print that there is a dumbwaiter here, then we execute the ##Search action with the noun self. We do this with the angle bracket notation on line 58. This means that the game will print what it would normally print if the player had typed "search dumbwaiter," i.e., it will say what is in the dumbwaiter.
Then we have a before routine to handle the player putting things in the dumbwaiter. As you already know from previous tutorials, a before routine can react to actions typed by the player. It can also react to actions performed

```
53  Object -> Dumbwaiter "dumbwaiter"
54      with
55          name 'dumbwaiter',
56          when_open [;
57              print "Set in the east wall is a dumbwaiter. ";
58              <Search self>;
59          ],
60          before [  t;
61              Receive:
62                  if(noun ~= Spaghetti)
63                      "Mrs. Morris would not like to get that with the
64                          dumbwaiter. You decide against it.";
65                  print "You put the plate of spaghetti in the dumbwaiter and
66                      send it upstairs. ";
67                  t = Spaghetti.temperature / 6;
68                  if(t < 2)
69                      "You hear a loud ~Blech, it's cold!~ from above, and the
70                          spaghetti comes down again.";
71                  if(t > 2) {
72                      deadflag = 3;
73                      "You hear a loud scream from above. That was apparently too
74                      hot.";
75                  }
76                  ! All OK, we are now free to leave the kitchen!
77                  f_served_meal = true; remove Spaghetti;
78                  "After a short while, the dumbwaiter comes down again, empty.
79                      Evidently, Mrs. Morris was happy with the meal.";
80          ],
81      has static container open;
82
```

in the code, such as <Search self>; . In addition, some actions emit "fake actions." A fake action is an action that has no action routine and no grammar to indicate it. These are the fake actions that PunyInform can emit:

* The ##Insert action emits a false action ##Receive to the object the player is trying to put something on. While this false action is in progress, receive_action has the value ##Insert.
* The ##PutOn action emits a false ##Receive action to the object on which the player is trying to put something. While this false action is in progress, receive_action has the value ##PutOn.
* The ##Take action emits a fake ##LetGo action to the object from which the player is trying to remove something.
* The ##ThrowAt action emits a fake ##ThrownAt action to the object at which the player is trying to throw something.
* The ##Go action emits a fake ##Going action to the location where the player is going.

So, for example, when the player types "put banana in box," the banana can react to the ##Insert action and the box can react to the ##Receive action. In the game we are writing, here is what we do every time the player tries to put something in the elevator:
* If the noun is not spaghetti, it is simply denied: we print a message and return true.
* We print that the player is putting spaghetti in the freight elevator.

* We check the temperature of the spaghetti, divided by six. (Any remainder is discarded.)
* If it is less than 2, it is too cold. The player will have to heat the food more.
* If it is greater than 2, it is too hot. The player is fired and the game ends.
* Since it must be two at this point, we note that the player has indeed served Mrs. Morris a satisfactory meal (by setting f_served_meal to true) and can now go home. We also remove the spaghetti from the game and print a message.
* Note that no matter what happens, we always return true, thus blocking the action. This means that nothing actually ends up in the dumbwaiter. While we could print that the player puts the spaghetti in the dumbwaiter, we don't actually have to do that.

The Microwave, Part 1

```
83  Object -> MicrowaveOven "microwave oven"
84      with
85          name 'microwave' 'oven',
86          describe [;
87              print "^There is a microwave oven here, its door ";
88              if(self has open) print "open";
89              else print "closed";
90              print ". It is currently turned ";
91              if(self has on) print "on. ";
92              else print "off. ";
93              <<Search self>>;
94          ],
95          before [;
96              SwitchOn:
97                  if(self has on) rfalse;
98                  if(self has open)
99                      "Nothing happens, as the microwave oven is open.";
100                 if(Timer.setting == 0)
101                     "Nothing happens, as the timer is currently set to 0.";
102         ],
103         after [;
104             SwitchOn:
105                 StartDaemon(self);
106             SwitchOff:
107                 StopDaemon(self);
108             Open:
109                 if(self has on) {
110                     give self ~on;
111                     StopDaemon(self);
112                     "The microwave oven goes silent.";
113                 }
114         ],
```

The microwave is a rather complicated object. Here we see the first part, and the second part is in the next image. There is also a timer for the oven, which will come later.

First, we want to tell the player about the oven in the room description. While there are specific properties such as when_open and when_closed, there is always the more generic describe, and this seems more appropriate here, as we not only want to say whether the oven is open or closed, but also whether it is on or off and what is inside it.

Next comes the before routine, which reacts to the ##SwitchOn action. If the oven is already on, we don't need to react. The action routine will tell the player that the oven is already on, which is exactly what we want. So we return false. Now, if the oven is off and open, it cannot be turned on. The same applies if it is off and closed but the timer has not been set. In these cases, we print a message and return true.

Now it's time for an after routine. If ##SwitchOn was not interrupted in the before routine and the ##SwitchOn action routine saw no reason why the player should not be allowed to turn on the oven, we will start the oven daemon using the StartDaemon() routine.

A daemon is a routine associated with an object using the daemon property. It can be started with StartDaemon(object) and stopped with StopDaemon(object). By starting a daemon, you indicate that you want it to run at the end of each turn until you stop it again. It will run regardless of whether the player is near the object or not. In this case, we use a daemon to heat food. Even if we had other rooms that the player could explore and the player left the kitchen, the oven should continue to heat any food inside it for the entire time set on the oven timer.

Let's go back to the after routine. In line 106, we react to ##SwitchOff by stopping the oven daemon.

Then we react to ##Open. If the player opens the oven when it is on, we turn off the oven, stop the daemon, and print an appropriate message. Since we also return true, the default message will not be printed.

The microwave oven, continued

If the player examines the oven, we say it is clean and tidy, and then we have them examine the timer using <<Examine Timer>>; the double angle brackets mean

```
115         description [;
116             print "It's clean and tidy, as always. ";
117             <<Examine Timer>>;
118         ],
119         daemon [;
120             ! Heat spaghetti
121             if(Spaghetti in self)
122                 Spaghetti.change_temperature(4);
123             Timer.setting--;
124             if(Timer.setting < 1 && self has on) {
125                 give self ~on;
126                 waittime_waiting = false;
127                 print "^With a loud PING, the microwave oven shuts down.^";
128             }
129             if(self hasnt on)
130                 StopDaemon(self);
131         ],
132         add_to_scope Timer,
133     has static container transparent openable open switchable;
134
```

"perform this action, then return true."

Then there's the demon. It's responsible for heating the food, as well as turning off the oven when the timer reaches zero.

If the spaghetti is in the oven, it increases the temperature of the spaghetti by four levels. We do this by calling a custom routine in an individual property of the Spaghetti object, called change_temperature. We could have called this property pretty much anything we wanted, but what it does is change the temperature of the spaghetti, so change_temperature seemed appropriate.

The properties provided by the library are all common properties. You can add some common properties yourself using the syntax Property my_property; but the number of common properties is limited, especially when you use the z3 format. You can still use any number of individual properties. You do this simply by writing the name you want to use in an object declaration and the value it should have for that object. Individual properties take up a little more space and are a little slower to access than common properties, but for many uses this is not so important.

So let's decrease the timer setting by 1, using Timer.setting--; . This is equivalent to writing Timer.setting = Timer.setting - 1; . There is also ++ to increase a variable by one.

Now let's check if the timer has reached zero. If it has, we also check if the oven is still on, and if so, we do this:

* Turn off the oven

*Set waittime_waiting to false. This is a signal to the ext_waittime extension that if the player is currently waiting because they typed something like "wait until 8:30" or "wait 20 minutes," that wait should now be interrupted: the player wouldn't want to keep waiting while their food gets cold again.

* Print a message saying that the oven is PINGing and turning off.

Finally, we check if the oven is now off, and if so, we also stop the daemon.

In line 132, we define a property called add_to_scope. The add_to_scope property is used to say "whenever this object is in scope (= can be accessed by the player), also place other objects in scope." It can contain a list of objects to place in scope or a routine that places objects in scope using PlaceInScope(object);. In this case, we only need to place a single object in scope and there are no ifs or buts, so a list is fine. The list can contain up to four objects in a z3 game or up to 32 objects in a z5 or z8 game.

So why do we need add_to_scope here? Normally, we could link the timer to the oven by making the timer a child object of the oven (putting it "in" the oven), but this would be confusing because the oven is also a container, so the children are considered to be inside the oven. This is a case where add_to_scope comes in handy. Another example might be a telephone. While you are talking to someone on the phone, that person should be in scope, even though they are not in the room with you. To achieve this effect, you can have the phone add the person to scope for the duration of the call.

Spaghetti, part one

The plate of spaghetti is another complicated object. The code is split into two images here.
We have given it an individual property called temperature. This starts at 0, which is room temperature. We have decided that 29 is the maximum temperature, and this is the temperature it reaches if we heat it in the microwave

for a long time. 29 is probably about 200Â°C.

Then there is another individual property called change_temperature, which contains a routine that does this. The routine is designed to be called with an argument (deg) and tries to change the temperature by that amount, ensuring that the temperature remains in the range 0 to 29 inclusive.

And we have another individual property called print_temperature, which contains a routine that does just that. It uses a switch statement, which is a convenient way to do different things depending on the value of an expression. You could achieve exactly the same effect with a series of if

+ else statements, but this may be more readable.

Keep in mind that Inform only has integer arithmetic, so self.temperature / 6 will be rounded down to the nearest integer. If we wanted to know the remainder of the division, we would use %, as in self.temperature % 6.

The spaghetti daemon has only one task: to cool the spaghetti by one level each turn, unless the spaghetti's temperature is already at 0. Note that this daemon is always running, so when the spaghetti is heated in the oven, its temperature is increased by four by the oven daemon and decreased by one by its daemon, each turn. In total, the temperature increases by 3 each turn in the oven.

The spaghetti, continued

```
        invent [;
            if(inventory_stage == 2 && ~~ObjectIsUntouchable(self, true)) {
                print " (";
                self.print_temperature();
                print ")";
            }
        ],
        description [;
            print "This is a plate of spaghetti carbonara, one of Mrs. Morris's
                favourites";
            if(~~ObjectIsUntouchable(self, true)) {
                print ". It is ";
                self.print_temperature();
            }
            ".";
        ];

```

Spaghetti has an invent property. This is used to influence how the object is printed when PunyInform lists objects, such as when doing inventory, when looking inside something else ("search oven"), or when printing objects in a room. The invent routine is called twice:

* First, invent is called with inventory_stage set to 1. This happens just when the object's name is about to be printed. If the invent routine returns true, nothing else is printed (and invent is not called again).
* Then invent is called with inventory_stage set to 2 when the object name has been printed but additional information such as "(providing light)" has not. If the invent routine returns true, nothing else is printed.

For spaghetti, we use this to say how hot the spaghetti is, unless we can't touch it, which only happens when it's in the oven. ObjectIsUntouchable(object, dont_print) is a routine provided by PunyInform to decide if an object cannot be touched by the player because there is a barrier in its way. If we don't give a value for the dont_print parameter, or we give it the value false, a message will be printed if the player cannot touch the object. We don't want that here, so we give it the value true.

Then there is the description property. Since we want to print some words describing the temperature of the spaghetti in both the invent and description routines, it makes sense to put the code to print those words in a separate routine. Hence the print_temperature property.

The timer

This is the timer for the oven. It is not located in a room, but is dragged into the scope from the oven. The timer has an individual property setting that contains the number of minutes remaining.

The description property tells the player the current setting of the timer.
We use the before routine for several purposes:
* We give the player a meaningful message if they try to pick up the timer.
* If the player tries to turn, push, or pull the timer (all of

```
Object Timer "timer"
    with
        name 'timer',
        setting 0,
        description [;
            "The timer is set to ", self.setting, " minutes.";
        ],
        before [;
            Take, Remove:
                "It's an integral part of the microwave oven.";
            Turn, Push, Pull:
                "Try e.g. ~set timer to 45~ to set the timer.";
            SwitchOn:
                <<SwitchOn MicrowaveOven>>;
            SetTo:
                if(parsed_number > 60)
                    "60 minutes is the highest setting.";
                self.setting = parsed_number;
                "The timer is now set to ", parsed_number, " minutes.";
        ],
    has static;

```

which can be considered reasonable attempts to set it), we help them with the syntax they need to set the timer.
* If the player tries to turn on the timer instead of the oven, we redirect the action to the oven. We have a bunch of code in the oven object to handle SwitchOn, and all of that will be applied, just as if the player had typed "turn on the oven." Note that we use double angle bracket syntax to perform the action, which means we also return true afterwards, thus blocking the default response of the SwitchOn action for the timer.
* We allow the player to set the timer to a number (of minutes). When a grammar line allows the player to type a number as part of the input, that number is kept in parsed_number.

The street and the Initialise routine

The last object in the game is the Street location. As soon as we exit, a ##Look action will automatically be performed. We use the after routine to react to this by ending the game and printing a message.

```
Object Street "Street"
    with
        description "It's the dark street just outside Mrs. Morris's house,
            which you know all too well.",
        after [;
            Look:
                deadflag = GS_WIN;
                "^Free at last! You can now go home and get some well-deserved
                    rest.";
        ],
    has light;

[Initialise;
    SetTime(20 * 60, 1);
    StartDaemon(Spaghetti);
    print "^^You've worked all day at Mrs. Morris's house. Now all you have
        left to do is serve her dinner, and you can go home.^^";
];

```

In the Initialise routine, we need to set the time of day, as this is a game that shows the time on the status line. We set it by calling SetTime(time, step); . time is the number of minutes after midnight, so 20 * 60 means 8:00 PM. step is the relationship between minutes and moves. A value of 1 means that one move takes one minute. A value of 5 would mean that one move takes five minutes. A value of -5 would mean that five moves take one minute.

Then we start the spaghetti daemon, which will run for the entire game. And we print an introduction to the game.

Links

The source code seen in this tutorial, as well as the compiled game (demogame_3.z3) can be downloaded from this folder:
https://drive.google.com/drive/folders/1KDb6X7IgiiEdRYzZ4fqEbwFpmfzb-xLo

The PunyInform project page

https://github.com/johanberntsson/PunyInform

The PunyInform manual

https://github.com/johanberntsson/PunyInform/wiki/Manual

A bit of rarity

(rummaging here and there)

The mysterious Hardtek joystick interface

by Alberto Apostolo

I am one of the lucky owners of a clone of the Sinclair ZX Interface 2 produced by Hardtek (Fig. 1). Searching for information on the Internet, I discovered that this was a brand used in the mid-1980s by the Italian company B & V Interface of ForlÃ¬ to sell modems and other types of peripherals (Fig. 2) as well as a light pen interface for the ZX Spectrum (Fig. 3). In 1985, B & V Interface also distributed (at a price of 12,000 lire) the game Graal for ZX Spectrum created by Franco Fabbri (Fig. 4) and reviewed by G. Petris and F. Guccione in December 1985 in issue 32 of the magazine Videogiochi (Jackson Publishing Group).
The game (COD. 013S) may have been part of a collection of games sold by Hardtek Software, a branch of Hardtek [Pa22].

The editorial staff would be delighted to receive a contribution from Franco Fabbri on the creation of the game (including the techniques used) and the cover of the COD.013S cassette designed by Carlo Ravaioli.

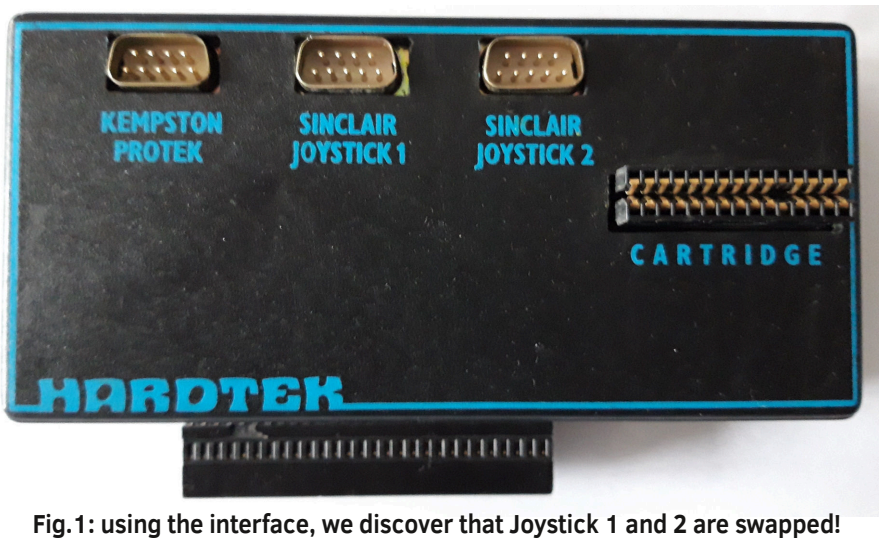


Fig.1: using the interface, we discover that Joystick 1 and 2 are swapped!



Fig.2: advertisement for B & V Interface and Hardtek.

Bibliography

[Pa22] A.Pachetti, 'Un "Graal" per il Sinclair Spectrum', Frammenti Digitali, Vol.1, N.12, 2022/06/23, https://quattrobit.substack.com/p/un-graal-per-il-sinclair-spectrum
ast accessed: 2025/03/17.



Fig.3: interfaccia penna ottica.



Fig.4: screenshots of the Graal game.

Earthion

Yuzo Koshiro wants to reinvent retro shoot 'em ups

by Takahiro Yoshiokai

Earthion, a highly anticipated title among shooter fans, recently captured attention at the Tokyo Game Show 2024. Developed by Ancient, a company renowned for its contributions to classics such as Street of Rage 2 and 3, Legend of Thor, and ActRaiser 2, this game promises to rekindle players' nostalgia for the retro era.

Yuzo Koshiro: Artistic and Music Director

Leading the project is Yuzo Koshiro, a legendary composer known for his work on iconic titles such as Revenge of Shinobi and Street of Rage. Koshiro is not only composing the soundtrack for Earthion, but also taking on the role of game director. His appearance on stage at Tokyo Game Show 2023 allowed fans to discover the first images of this promising shooter.

The game was presented on two stations at TGS 2024: a Megadrive version connected to a CRT screen and a PC version. In particular, the MegaDrive version featured two distinct levels. The first level takes place above the Earth's atmosphere, while the second begins with an atmospheric entry before diving into the clouds and flying over the sea at sunset.

Smooth gameplay and innovative mechanics

Earthion's gameplay is smooth and responsive. The game features a leveling system for primary and secondary weapons, which are filled by collecting crystals. Once the maximum level is reached, the weapons become more powerful. The ship is also equipped with a shield with a gauge that depletes when the player takes damage. Once the gauge is depleted, an audible alarm sounds, and any further hits will destroy the ship.

At the end of each level, players receive a score based on their performance and can choose from several upgrades to enhance their ship. These upgrades include increasing the number of secondary weapons, strengthening the shield, or improving the level of weapons.





But when is it coming?

Originally scheduled for release in late 2024, Earthion's release has been postponed to allow developers to incorporate player feedback and improve the game's balance. The game will be distributed by Limited Run Games outside Japan and by Super Deluxe Editions in Japan. An arcade version for exA-Arcadia terminals is also planned, with specific modifications made by the exA-Arcadia team.

According to the latest information, Earthion should be available on Steam soon, although the Mega Drive cartridge version will take a little longer to be unveiled. The game is also expected to arrive on modern consoles and arcade cabinets, demonstrating the project's ambition to reach a wide audience of shooter fans.

In conclusion

Earthion looks like a promising title for lovers of retro shooters. Thanks to careful art direction, a soundtrack by Yuzo Koshiro, and smooth gameplay, this game could easily become one of the great Mega Drive classics. Players are eagerly awaiting new information, which could be revealed at the Retro Game Summit on March 22, 2025, in Japan.

The story of Donkey Kong

A monkey, a plumber, and a series of fortunate events

by Carlo Nithaiah Del Mar Pirazzini

Imagine! If Nintendo had never printed extra arcade motherboards for Radar Scope... Shigeru Miyamoto would never have been able to create Donkey Kong... And if they had never created Donkey Kong... then the Mario we know would never have existed!



Donkey Kong was born because of a miscalculation! It was born from the "failure" of the shoot 'em up Radar Scope in America and the idea of recycling unused PCBs. Mind you, Radar Scope was a good game, and fun too! But in America, they were tired of playing hundreds and hundreds of more or less "innovative" clones of Space Invaders. To conquer the US market, something more was needed!

The Radar Scope PCB

The development of Donkey Kong began as a way to clear out the excess PCBs from the arcade game created by the unknown Shigeru Miyamoto, Hirokazu Tanaka, and Gunpei Yokoi. These three were still unknown to gamers at the time.

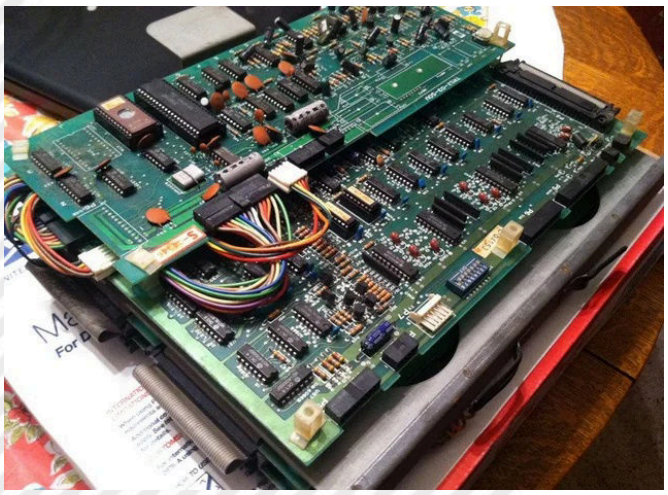


Fig. 1 - The Radar Scope PCB

This dynamic trio came up with the brilliant idea of changing the order of things, adapting the cabinets, and "modding" the board, presenting a totally different product. No more spaceships! Make way for a mustachioed and bizarre plumber/carpenter with a big moustache, a big ape, and a young damsel to rescue. The story was simple: the gorilla stole the worker's girlfriend... the task was to get her back! The end. Simple. Beautiful to look at. Intuitive. Despite the bizarre concept, the game became a huge success in America and around the world. It is the title that essentially invented platform games, but in those days, arcade titles were inventing genres left and right. The real reason why it has remained etched in the minds of players around the globe is to be found in the narrative opening, the memorable music, and the colorful, cartoonish graphics.

Neither Monkey Kong nor King Kong

Even today, there is still debate as to why a huge gorilla is called Donkey. A common belief is that Donkey Kong is a mistranslation of Monkey Kong, but this was quickly disproved. According to creator Shigeru Miyamoto, the name 'Donkey' was intentional, to refer to the monkey's stubborn nature.

Regardless of the source of its name, it was DK's surname that got Nintendo into trouble with Universal Studios. The film company claimed that the game infringed on the copyright of King Kong, both in terms of its plot and its title. Apparently, the big studio thought it could intimidate Nintendo into reaching an agreement, but the legal team at Nintendo never wavered. After proving that Universal didn't even own the rights to King Kong, the court sided with Nintendo, a major victory on its path to expansion



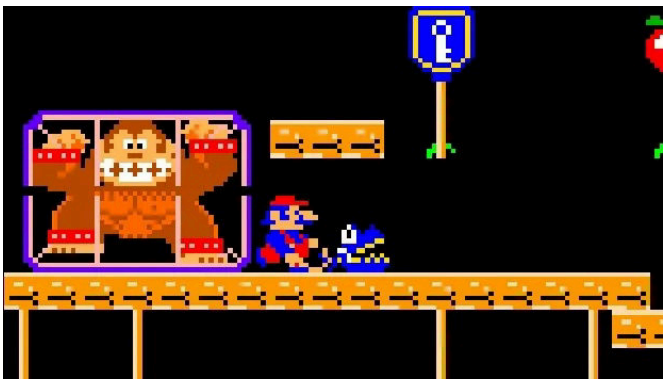
Fig. 2 - These "bad boys" will become stars

in the United States.

I'll save you, Dad!

When it came time to make a big sequel, Donkey Kong was not the star of choice. There was no damsel in distress anymore, and Jumpman (now renamed Mario) was the villain of the series. It was up to Junior to save his father in an exciting, colorful, and very entertaining platform game called "Donkey Kong Junior."

Seeing Mario as a whip-wielding jailer ready to kill a baby gorilla was a bit jarring. It was a risk that Nintendo did not take again. In fact, Donkey Kong and Nintendo's future mascot went their separate ways for quite some time.



The forgotten friends

After getting rid of his son, in the third arcade chapter of the saga, Donkey Kong returned to his old destructive habits. This time, the imposing primate carefully avoided Mario, who was enjoying great success with Mario Bros. alongside his brother Luigi, and took over the greenhouse of a funny little unknown man. The only one to come to the aid of the defenseless plants was Stanley the Bugman, a likeable hero who was soon forgotten.

Abandoning platforming to become a Galaga-style shooter, Donkey Kong 3 was a strange asterisk in the monkey's career. As cool as he was, Stanley couldn't replace Mario in the hearts of gamers.

After that, the furry ape appeared less and less. Little Jr. joined the cast of the first Super Mario Kart... until 1994.



How high can you get?

No matter where he ends up, Donkey Kong's legacy at Nintendo seems more secure than ever.

Japan Episode 26: Gachagachagacha...pon!

by Michele Ugolini

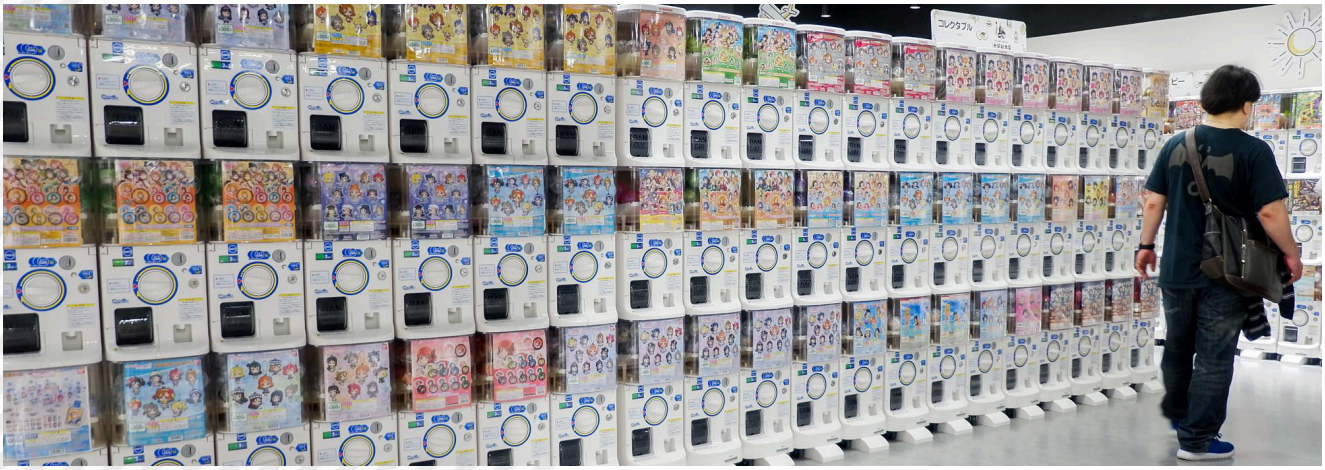
Dear readers, let's continue our journey through Japanese Gachapon. We have reached the third turn of the noisy "gacha!" wheel, which will deliver the mysterious ball to the tray with a thud, "pon!".
I have already given you some information about the long queues for these machines along the tourist streets in big cities. I also mentioned that, in Tokyo, there are obsessive forms of collecting, as in any other part of the world... more or less. Let's remember that, especially in Tokyo, space is extremely limited, and it is precisely in these areas that the art of bonsai and technological perfection in miniaturization thrive.
It is curious to note the absolute necessity of miniaturization in these densely populated areas. It seems to be an unavoidable, daily form of survival for the Japanese.
Can thousands and thousands of gachapon satisfy this great need to own small things? Or rather, not small, but miniaturized, with great precision and an enormous choice of objects that take up very little space.

A district of Tokyo, Ikebukuro in particular, known for being a center for pop culture enthusiasts and collectors, is the ideal place to find an incredible variety of gachapon.
https://bandainamco-am.co.jp/en/others/capsule-toy-store/store/ikebukuro/special/
The Ikebukuro shopping district (image at the bottom of the page) currently has an area of 1,250 mÂ² filled with over 3,000 machines ready to give you millions of balls, always filled by the quick and attentive sales assistants.
Did you put the money in the wrong slot? Is the wheel that dispenses the balls stuck? Has the machine run out of balls?
Don't worry, a sales assistant will be with you before you even need assistance. Trust me, the girls are lightning fast, and broken machines are such a rarity that they make the front page of the local newspaper!
Most of these machines require a few hundred yen to operate, from Â¥200 to Â¥500, but there are also machines dedicated to collectors, which are much more expensive and can cost as much as Â¥2,000 per item dispensed. Of course, you never, ever, ever get to choose what you get. Fate reigns supreme even when the price goes up, and then the world of collecting does the rest, throwing the customer into the clutches of 'swap clubs', an exclusive club that is definitely no healthier than other types of 'swap clubs'! Dear readers, what would you like to find inside these balls that come out of Gachapon machines? The choice is vast:

1. Anime and Manga Characters
- Miniature figures of the most famous anime and manga characters.
- Cups or glasses featuring the protagonists of the series.
- Key rings and pendants with anime characters.
- Miniature action figures of popular characters.
- Anime/manga-themed puzzles, cards, and stickers.

2. Collectible Gadgets and Accessories
- Key chains (shaped like characters or themed objects).
- Fridge magnets with images of famous characters.
- Rings, bracelets, and other jewelry.
- Paperweights, pen holders, or other office supplies.
- Miniature wristwatches or table clocks.
- Personalized mugs and water bottles.

3. Desk and Office Items



- Mini gadgets such as cable ties, laser pointers, or themed pens.
- Notepads and sticky notes with fun designs.
- Miniature trees or plants to decorate desks.
- Gnomes or desk figurines.
- Kawaii kitchen timers or alarm clocks.

4. Games and Puzzles
- Three-dimensional or miniature puzzles.
- Construction toys or skill games.
- Mini board games.
- Card puzzles or memory games.
- Interactive gadgets that require a specific action, such as bottle caps that play a special sound.

5. Food and Drinks
- Mini plastic or resin foods (such as sushi, hamburgers, desserts) often used as decorative items.
- Miniature snacks or toy food packs.
- Food-themed mugs or tea sets.

6. "Kawaii" Items and Clothing
- Miniature stuffed animals or soft pillows.
- Miniature shoes and accessories for dolls.
- Mini bags, backpacks, or purses.
- Hats and other kawaii accessories.

7. Video Game Characters
- Mini figures of classic video game characters such as Mario, Zelda, PokÃ©mon, Final Fantasy, etc.
- Video game-themed puzzles or cards.
- Miniature joypads or controllers.
- Coins and medals with video game symbols.

8. Themed and Curious Objects
- Miniature reproductions of famous objects from Japanese culture (e.g., temples, historical objects, traditional instruments).
- Miniature reproductions of everyday objects (e.g., phones, musical instruments, tools).
- Bottle caps and decorations with a theme.
- International pop culture items, such as non-Japanese movies and TV series.

9. Jewelry and Fashion Accessories
- Earrings, necklaces, and bracelets with kawaii designs.
- Miniature sunglasses or reading glasses.
- Bandanas or other miniature fashion accessories.

10. Home and Kitchen Items
- Mini kitchen utensils (e.g., spoons, cups, cutlery).
- Themed saucers and coasters.
- Miniature plants for home decoration.

11. Extravagant and Strange Objects
- Very strange or bizarre gadgets, such as toys that interact in unusual ways or emit peculiar sounds.
- Objects that imitate animals, such as insects, fish, or fantastical creatures.
- Unusual devices, such as miniature fans or cameras.

12. Rare Collectibles
- More exclusive collector's items, often linked to special events or collaborations.
- Numbered or limited edition items that are valuable on the collectors' market.

13. Special Event Items
- Limited edition items for holidays such as Christmas, Halloween, or Sakura (cherry blossom season).
- Items related to special anniversaries or celebrations.

Don't think that I've listed everything; in fact, I haven't listed a practically infinite number of special items. In the past, I've also talked about "Eropon," so I imagine that on my next trip, I'll find other surprises in the dynamic world of miniaturized consumer goods! This room dedicated to Ikebukuro was inaugurated in February 2021 and has quickly become a notable tourist attraction among Japanese and foreign collectors.
Dear tourists, don't be afraid, are you looking for something special? The staff is ready for anything, especially ready to refill the pallets and encourage the sound of "gacha gacha" along with the 100-yen coins falling into the internal collector of the machines.

A little anecdote: some articles on the web say that gachapon were invented in America in 1965, but we should point out that the real Japanese gachapon phenomenon began in 1960 thanks to the Tomy company. Although vending machines selling small sweets and toys already existed in America before 1965, these items were by no means "miniature reproductions highly faithful to reality." The concept of miniaturization originated with the ancient philosophy and art of bonsai, which originated in distant China and was perfected in Japan during the Heian period (794-1185 AD)..

Let's explore this concept of absolute precision in miniaturization by talking about one of the many brands that produce items for Gachapon. The products of the Kitan Club are very famous and can

be viewed on numerous websites, such as:
https://meccha-japan.com/it/485_kitan-club
https://kigurumi-shop.com/kitan-club/
The Kitan Club headquarters looks more like a toy store than a company headquarters. Visitors are greeted at the main entrance by life-size figures (such as a gorilla) and toys of all sizes scattered everywhere.
The shelves display the Gachapon toys released by the company over its 15-year history, and the sheer variety of shapes and configurations inevitably draws attention to this microscopic world.

Among these products, we find the company's most successful product: the Koppu no Fuchiko (Cup Fuchiko) series, pictured at the bottom of the page. These are figurines of a woman named Fuchiko (a play on the Japanese word for the rim of a cup, fuchi) in all kinds of poses, created specifically to balance on the rim of a cup or glass. The brilliant designs and incredible variety are perfect for whetting collectors' appetites. The figurines quickly became a viral hit on social media after their launch in 2012, particularly among young women, and their popularity has grown across generations with the Sports series, released in July 2021.
"We developed Fuchiko with manga artist Tanaka Katsuki," says Kitan Club president Furuya Daiki. "We work with artists such as Katsuki and sculptor Hashimoto Mio, but some of our ideas come from our monthly work meetings. Today, we have about 20 employees, and most of them participate in the meetings, where everyone brings their ideas to the table. If the prototype isn't interesting at first glance, the item won't go into production, but if everyone is immediately enthusiastic about it, then we move on to production. One of our strengths as a small company is that we can move very quickly from the idea stage to the finished product. It takes a long time for large companies to plan things."
For example, Onigiringu (a play on words combining onigiri, or rice ball, and the Japanese pronunciation of ringu, meaning ring) was born from an employee's idea. The first release dates back to 2019, but since then it has become a series, with the fourth release in the summer of 2021. The toys feature a rice ball-shaped case containing a ring whose 'gem' is shaped like the traditional rice ball filling: umeboshi, salmon flakes, salmon roe.
Young people often post photos on Instagram and show their friends this bizarre fashion accessory to wear on their fingers. The popularity of some trends, let's remember, like all Japanese fashions, can be very short-lived and fickle.
Furuya left his job at capsule toy manufacturer YÅ«jin (now Takara Tomy Arts) and started working on his own in 2006, at the age of 30. He was part of the generation that grew up with Kinnikuman gum (small rubber reproductions of characters from the popular wrestling-themed fantasy anime I mentioned in previous articles). For his company, however, he decided to focus on a new, more adult-oriented market. "I knew that with the declining birth rate in Japan, there would be fewer and fewer children, so from the beginning I narrowed my focus to adults. The business started in the red because we put quality above everything else, but then Fuchiko exploded and the business took off. However, the last five years have seen new competition grow rapidly." Onoo Katsuhiko, head of the Japan Gachagacha Association, also worked at YÅ«jin before Furuya joined. He now works as a





consultant and gacha event organizer. According to Onoo, the capsule toy market is worth about Â¥40 billion a year and has grown by about 50% over the past ten years. Major players Bandai and Takara Tomy Arts hold about 60% of the market, but in recent years new companies have made their way in, and now there are about 30 smaller companies targeting mainly adults. Approximately 300 new products are released each month, sold out at approximately 600,000 vending machines nationwide. Items are mainly sold in the Â¥300 to Â¥500 range, and reasonable prices contribute to their popularity.

Onoo is an expert on the history of capsule toys and says that Gachapon has improved on the idea that originated in the United States, so now is the time to explain what I mentioned earlier about the birth, or rather, the non-birth of Gachapon in America. "The United States had gumball machines and then started putting toys in them. During World War II, President L. O. Hardman of the US trading company Penny King came to Japan to buy toys to put in vending machines. The first capsule toy machines (an old photo at the bottom of the page) appeared in Japan in 1965. In the same year, Hardman helped found the Japanese company Penny ShÅ kai. Children were soon fascinated by the machines in front of candy stores. They were so popular that Asahi Graph magazine published a special feature on them in 1966. For children, it was their first experience of a form of gambling with their pocket money. They took 10 or 20 yen from their wallets and turned the handle. But there was never any guarantee that the toy they wanted would come out. For a child, it was a serious pattern, a life lesson, based on hope and often disappointment. I am now fifty-six years old and grew up spinning those handles in front of the candy store. Now, thanks to the high quality of the products, the gap between winning and losing has narrowed. However, I love that doubt and frustration of not knowing what will come out.

Bandai entered the capsule toy market in 1977. The company launched products based on its own characters at a price of Â¥100, while most of its competitors charged around Â¥20. Bandai's Kinnikuman gum, launched in 1983, sold 180 million pieces. The Gundam series also became a huge source of success.

Onoo calls this period the first wave of gacha popularity; YÅ«jin entered the scene during this period in 1988.



The second wave came in 1995, triggered by the release of Windows 95 and the new blogging trend. People started talking about collecting Gacha toys on their blogs, and soon after, Bandai's new HG Ultraman color series, sold for Â¥200, became a huge hit. Until then, all Gacha toys were single-colored. Disney characters began to appear, and the market began to expand beyond children to their parents as well. The third boom came in 2012 with Koppu no Fuchiko. We are now in the fourth wave: "characterized by specialty stores aimed specifically at women. Since 2019, stores such as Gacha Gacha no Mori have spread throughout the country, and about 60% of their customers are women."

According to Onoo, the COVID-19 pandemic in 2020 caused a temporary decline in sales at stores specializing in capsule toys, but they soon recovered. In August 2020, Bandai Namco opened its flagship Gashapon department store in Ikebukuro, which I mentioned above. It is filled with approximately 3,000 machines and is now in the Guinness World Records as the largest collection of capsule toy machines in a single store. In October of that year, the film version of Demon Slayer: Kimetsu no Yaiba was released in theaters to huge success, contributing to a massive increase in capsule toy sales. Furuya also predicts that the number of physical stores will begin to decline in the near future and that online gachapon aimed at young 'digital natives' will become a new milestone in the market. 'Content will become digital, like music, videos, or art. I think our company should take a leading role in opening up a new digital gacha market'.

Well, dear readers, this is the small but big world of Japanese miniaturization, an art that ranges from bonsai to Onigiringu (photo at the bottom of the page) and is even becoming dematerialized and digitized. Who knows what transformations it will have to come up with to feed and quench the greed of the vast world of us poor collectors.
Until next time, which will obviously be titled with an extra "gacha" sound compared to the title of this article, see you soon!



Hello, let us introduce ourselves!

Readers meet authors... Who's who by RMW Editorial Staff... :-)

We have reached issue number 50 and we have not yet done the honors of introducing those who collaborate with RetroMagazine World. Someone pointed out this omission to us and we have therefore decided to remedy it. Obviously, this is not the entire editorial staff, but it's a start... :-) So, in no particular order, please meet...

David 'Cercamon' La Monaca

Hi there, I am 56 years old and I am from Rome, although I have been living in Switzerland for several years now. I have always been an entrepreneur in the IT business and consulting. Why do I like retrocomputing? I started typing on the keyboard of a Commodore 64 that I bought in 1984 with my teenage savings. As a big fan of 8/16-bit computers, in 2017 I joined the founding core of RetroMagazine World after contacting the editorial staff about an error I found in a BASIC C64 listing on fractals published in one of the very first issues. Francesco, Ermanno and Marco pulled me into the RetroMagazine adventure without much effort and I immediately liked the idea of contributing. Since then, together with Francesco, Marco, Giorgio, Carlo Nithaiah, and all the other contributors, I do a bit of everything to ensure the success of each issue of RMW in Italian and English.

Eugenio Rapella

I have been collaborating with RMW for about three years. I live in Morbegno, in the province of Sondrio. I am a retired math teacher and undoubtedly the oldest member of the group (I will be 72 in three months). My contributions to the magazine are small programs in BASIC (with a dash of Assembly).

Nithaiah Del Mar Pirazzini

I have been part of RMW since 2019 and am proud of it. It is a large group of experts covering all possible fields. My profession is in "IT security" but I have a background in computer science. My passion comes from afternoons spent with my brother, playing with the C64 and the NES. I follow very closely everything that happens in the "new era of retrogaming" and retro development for our beloved systems.

Roberto Del Mar Pirazzini

Born in 1982, I am passionate about JRPGs and Japanese games. In my daily life, I work in programming and development, but I still enjoy sharing the secrets and wonders of some titles for Japanese consoles that are unknown in Italy. What better place to do so than RMW?

Takahiro Yoshioka

Developer for a large Japanese company and a great fan of gaming and the history of Japanese video games.

Giampaolo Moraschi

It all started with CVG back in the 90s, and my passion for writing has remained. I am passionate about 8-bit systems such as Amstrad and MSX and... I am old!

Ingrid Poggiali

I'm the youngest member of the editorial team (21), but I have a great passion for video games, especially on consoles. It's all Uncle Nith and my father's fault, but I forgive them ;).

Barbara Murgida

I am proud to be part of the editorial team's female quota. On RMW, I usually talk about the Game Boy and my cartridge collection.

Marta Rossmann

Football player, nurse, and... video game player! Heck yes. I'm new here, but on RMW I like to talk about new games.

Linus, aka Bimbomillo

I am an electronics designer and repair technician. I have been passionate about retro gaming since the days of the C64, which I owned and still have in working order. I

work with generative AI and 3D animation. However, my main passion is retrogaming, as I own all the major consoles up to the Xbox 360, and I am happy to introduce today's young people to the games that shaped an era.

Chiara "Kika" Carrara

I am passionate about retrogaming, from the C64 to the PlayStation, including classic PCs (DOS and non-DOS games), and I love graphic adventures of all kinds, especially classic (and pixelated) ones. At RMW, I am responsible for giving voice to new homebrew games, but also for talking about little-known titles ;).

Leonardo Miliani

I'm from Florence and have loved computers since I was 14. I started with the Commodore 16 and have programmed in basically every language, from 65xx assembly onwards. A few years ago, I built an 8-bit computer in the style of the 1980s and, thanks to it, I started writing technical articles and monographs on the most popular retrocomputers and retroconsoles for RMW.

Marco Pistorio

Born in 1973, I am 51 years old and live in Catania. My passion for computers began in the mid-1980s. Although the Commodore 16 was my first computer, the Commodore 64 is my favorite, the one I got to know best and spent the most time with, which I got in early 1985. Like many of us "kids of the 80s", I started learning BASIC by typing endless listings from magazines, then quickly moved on to Assembly, which was more difficult but much more powerful and faster than BASIC V2. Meanwhile, the first IBM PCs appeared on the computer scene, along with MS-DOS, and with the advent of Windows, I hung up my trusty Commodore 64 for over twenty years in favor of these new tools, which gradually became my work tools. Today, I am an IT manager, developing on Windows systems using .NET technologies, administering servers, managing IBM AS/400 systems, and, for some years now, I have taken up my "old love" again, namely the Commodore 64, and have been part of the RetroMagazine World editorial team since 2017.

Querino Ialongo

I have been collaborating with RMW since its early issues and have always been involved in writing reviews for arcade games and 16-bit console titles. I am 48 years old, a musician, a primary school teacher, and I enjoy composing music and writing children's fiction books. I am passionate about arcade games, consoles, and old PC games. I created a Discord community, Retro Multiplayer, where we get together to replay these titles using netplay or LAN.

Michele Ugolini

Konnichiwa dear readers, my name is Michele Ugolini, born in 1979 in the province of Rimini. I write about retrogaming in today's Japan. I have had a deep passion for Japan ever since Nausicaa of the Valley of the Wind was broadcast in Italy on Rai1 in 1987. It was a revelation and a metamorphosis for me: a mix of attraction and admiration for Japanese ideals. I have been living, working, and studying in Japan for about twenty years, and I recount some aspects that can be related to retrogaming because, especially for their culture, it does not have the meaning of a simple "past/retro", but rather represents a very solid basis for current and, above all, future projects.

Giorgio Balestrieri

Having entered the world of software development thanks to video games, I have been collaborating with RetroMagazine World since the very beginning. My favorite topics are adventures, both textual and graphic, programming, and above all, the stories behind the stories, i.e., the background of the genesis of programming languages, video games, hardware systems, and in general, everything that was born during the "belle epoque informatique."

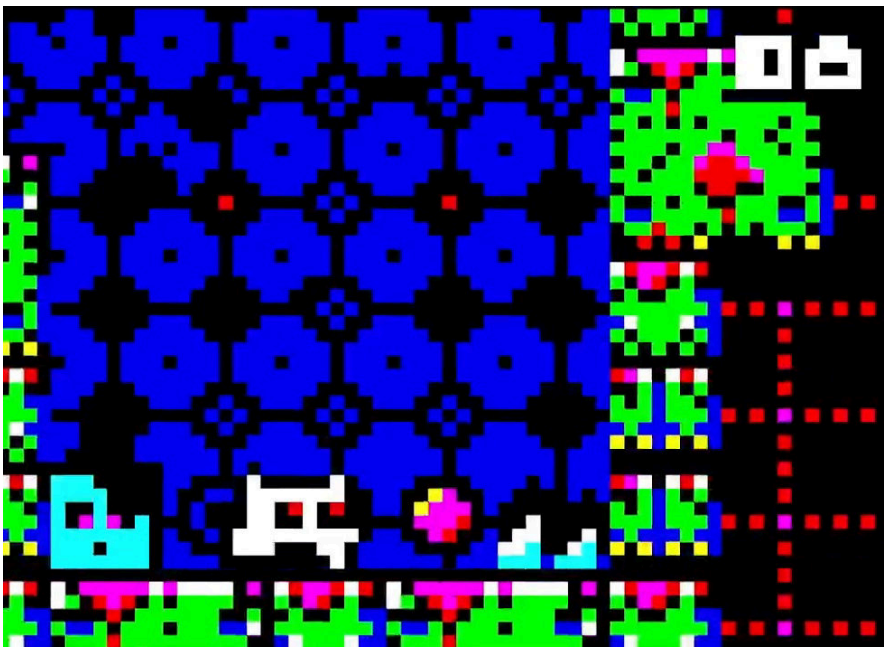
Francesco Fiorentini

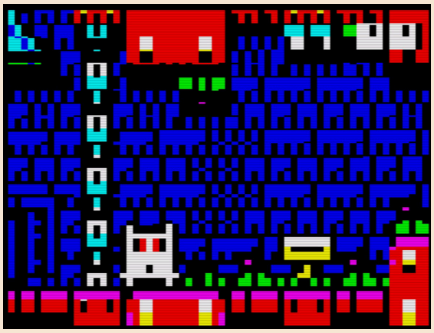
I started the RetroMagazine World project when I was living in the Netherlands, but I moved back to the province of Siena a couple of years ago. I work remotely in IT for a Belgian multinational pharmaceutical company. I am passionate about retrocomputers, I love them all, but my favorites are the Amiga, the Commodore 64, and the Amstrad CPC. At RMW, I am responsible for layout and articles on niche software, programming languages, and sometimes game reviews. I collect computer books and magazines from the 1970s onwards.

NEW GAME

PLYUK

Year: 2025
Editor/Developer: RetroSouls
Genre: Puzzle
Platform: ZX Spectrum 128k
Website: https://retrosouls.itch.io/plyukzx









Here we are reviewing a new homebrew for Spectrum, a machine that has often been underestimated over the years but can also be very rewarding. Let's talk about this interesting little game, Plyuk, which is the name of the game and also the protagonist we will be playing.

This little guy has fallen into a cave and we have to help him find his way back home, which is no easy task.

Our little friend has a very special ability, he can clone himself, which will be useful for reaching the keys scattered everywhere and then getting to the door that appears at the end of each level.

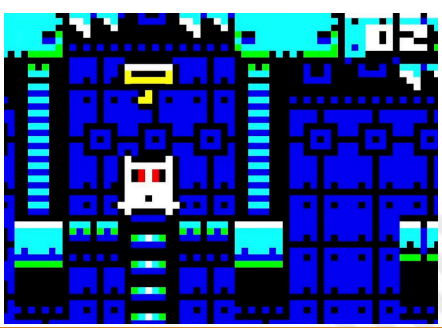
The graphics are well done, colorful, with fairly large sprites. Sometimes it can be annoying during movements because of the bright colors. But it is fast and certainly effective.

The sound effects, in my opinion, are strange but bearable.

However, this is a good puzzle game, fun, which could keep you entertained for a few hours. Our SPECCY (128 k) has certainly been put to good use here.

by **Chiara "Kika" Carrara**





OUR FINAL SCORE

» Gameplay 80%
An interesting puzzle game which, in my opinion, becomes frustrating after a while due to the overly "confusing" graphics and some gameplay choices.

» Longevity 82%
This is definitely a well-made Spectrum game, without too many pretensions. In any case, it's a good way to have fun for a few hours!

NEW GAME

BUBBLE BOBBLE

Year: 2024
Editor/Developer: Vega
Genre: Platform
Platform: Atari 8bit
Website: https://vega.atari.pl/main-page/bubble-bobble/

There are games that belong directly in the absolute Olympus of video games. Incredible sagas that captivated us from an early age and "raised" us.

Among these is undoubtedly the story of Bub and Bob in Bubble Bobble.

The platform masterpiece by the late, brilliant Fukio Mitsuji arrived in arcades thanks to Taito in 1986, changing the concept of "two-player gaming" forever. No competition to reach the end, but... collaboration.

While Bubble Bobble is great to play alone, it becomes magical when played with a friend or sibling. An example of level design and gameplay that has lasted for almost forty years.

After seeing it in various editions for a wide range of home systems, it has now quietly arrived on Atari 8-bit systems thanks to Vega, a very active and talented Polish developer.

The game is based on the BBC Micro version but has been rewritten from scratch to take full advantage of the graphics and music capabilities of the Atari XE/XL... all in a 64Kb file.

All 100 levels are included, including the final boss, and the developer has included two different game endings depending on whether you play in 1 or 2 player mode.
The formats available on the website are disk and cartridge and, in

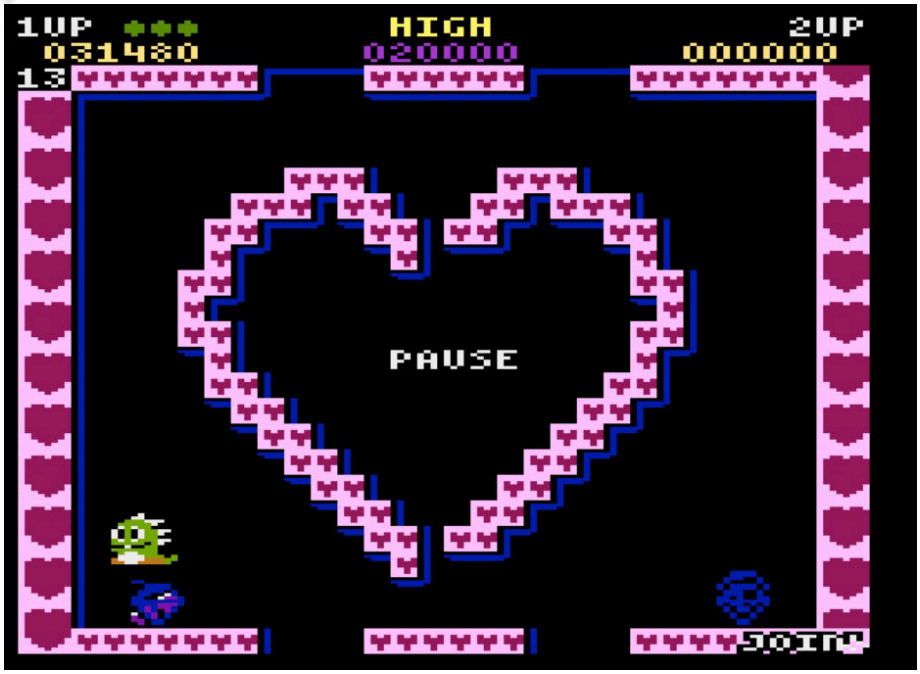


emulation, require ALTIRRA version 4.30 or higher that supports the DCART format.



In terms of gameplay, this version has some differences compared to the arcade or C64 versions, but it





OUR FINAL SCORE

» Gameplay 95%

Even in this version, Bubble Bobble is an example of how to make an immortal game.

» Longevity 95%

In doubles, it's its bread and butter. In singles, it's wonderful. Just as nature intended!

remains a great game with polished graphics and endless replayability. Without a doubt, it's one of the titles I played the most during the recent Christmas holidays, reminiscing about the good old days.



Don't miss out on it and play it until you wear out your joystick. Bubble Bobble is an immortal masterpiece in every version.

by **Roberto Del Mar Pirazzini**





NEW GAME

NIXY AND THE SEEDS OF DOOM

Year: 2024
Editor/Developer: Haplo
Genre: Platform
Platform: Commodore 64
Website: https://h4plo.itch.io/nixy2

After months of hard work, the Haplo team has placed a little gem right under our Christmas tree. Nixy and the Seeds of Doom is here, and we're back on the road.

This time, little Nixy will face a mission to stop the corruption that threatens her home in the clearing.

We will find ourselves in her shoes, exploring mysterious caves and ruined castles, trying to avoid ghouls, cursed knights, obstacles, and traps of all kinds as we try to gather clues and enlist the help of valuable allies.



This C64 version features several additions and improvements over the (beautiful) ZX Spectrum version. Forty detailed screens with animated backgrounds, lots of new sprites, an in-game map, a space with hints to continue the adventure, a new audio section, and the expansion of some levels.

Nixy is a classic example of an early platformer (it has a fixed screen) programmed with a clever balance between aesthetics and gameplay.

There is a great deal of skill in the development and fantastic high-resolution graphics, animations, and attention to detail.

The level design is very stylish, challenging and requiring a good memory and a lot of practice.



The music suits the game well, and Nixy has a certain overall charm that brings it closer to the first game.





OUR FINAL SCORE

» Gameplay 90%

The aesthetics encourage you to keep going and discover more and more. Added to this is a beautiful level design style.

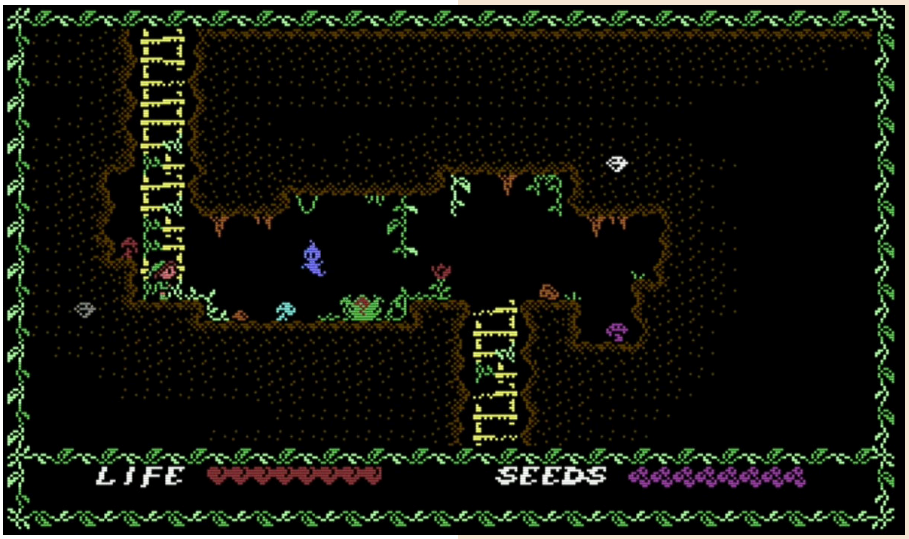
» Longevity 85%

It's not a classic modern platform game, but it has a gameplay approach that requires attention.

To complete it correctly, it takes about 4 hours of play and a fair amount of patience. Nixy's flaw is its somewhat ruthless style, which allows for few mistakes.

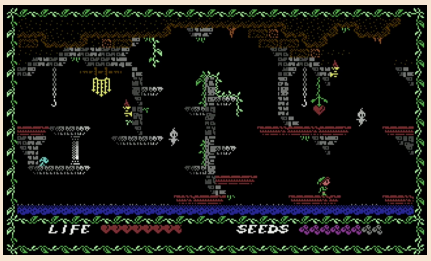
If we exclude this, we are faced with another great game for the Commodore 64.

by **Carlo Nithaiah Del Mar Pirazzini**











NEW GAME

FASTER

Year: 2024
Editor/Developer: Jonathan Thomas
Genre: Driving game
Platform: Atari STE
Website: https://retroracing.itch.io/faster-atari-ste

Jonathan Thomas' racing game for Atari STE appeared on itch.io in December 2024. A very welcome Christmas present.

Faster offers everything we loved about the racing games of the 1980s arcades. A bunch of great color sprites (thanks to the STE's Blitter), a huge graphics palette, awesome audio, and smooth racing at 50fps.

Add to that a day and night cycle and tremendous, tremendous playability.

One of the titles that comes closest to the "pure, free, and simple arcade" feeling of the glorious years gone by. No objectives, tutorials, cutscenes, or endless game modes. Here, you just have to "step on the gas" and race like crazy until time runs out.

The developer, Jonathan Thomas, is a veteran of this genre of games. He was part of the Gremlin team that developed Lotus on ST. There is craftsmanship in his FASTER.

The inspiration is definitely Konami's 1986 WEC Le Mans, but Faster manages to imitate the sprite scaling techniques seen in some Sega titles of the same period, even though the ST does not have this kind of functionality.

The driving feel in the game is special: it's not particularly "realistic," but it has that Out Run/Lotus style that makes it so appealing.









OUR FINAL SCORE

» Gameplay 80%
Aesthetically sublime and endowed with that typical appeal of 1980s arcade games. A blast.

» Longevity 80%
Not easy but satisfying to play and replay... endlessly.

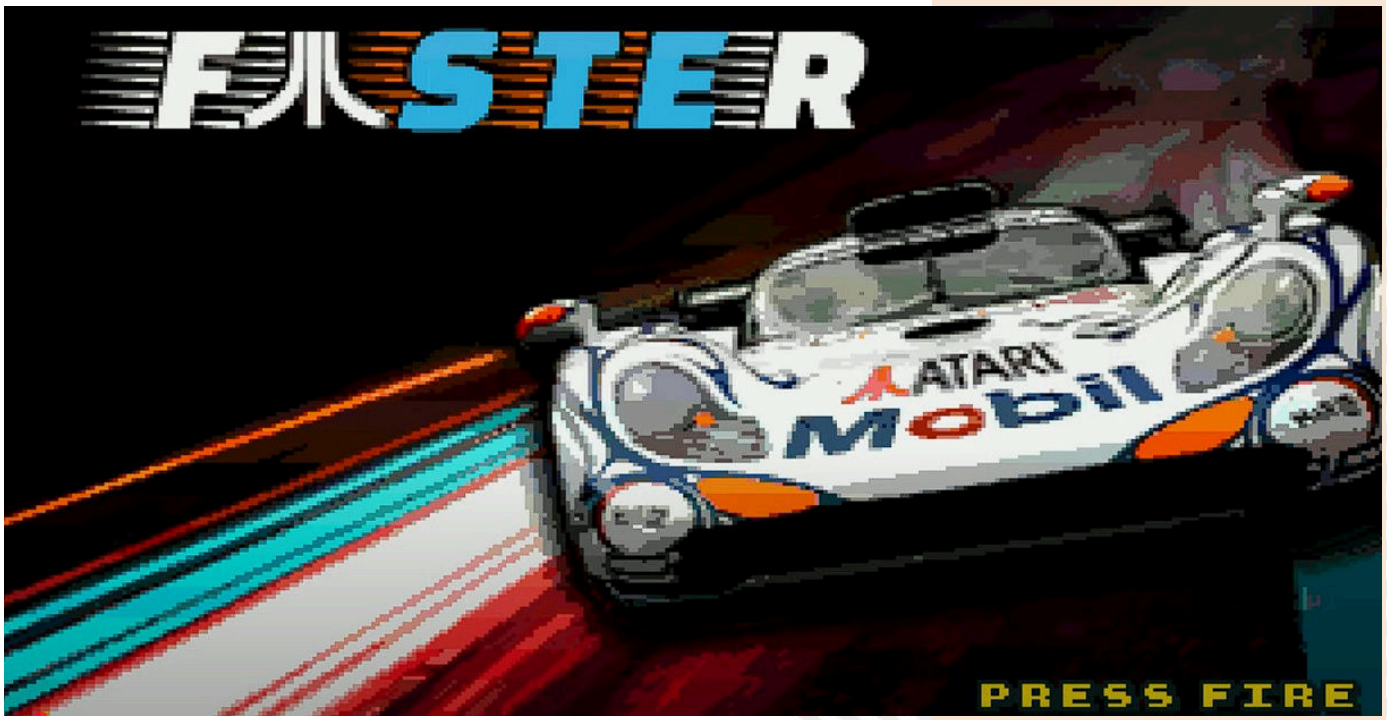


It's a ruthless game that requires practice, but we don't mind. It's pure, unadulterated arcade fun, and for that we already love it.

One of the best games released during this period.

by **Carlo Nithaiah Del Mar Pirazzini**





NEW GAME

CAPTAIN BARREL

Year:2025
Editor/Developer: OzzyOuzo
Genre: Platform
Platform: Neo Geo CD, Sega Megadrive, PSP, Dreamcast, Windows
Website: https://ozzyouzo.itch.io/captain-barrel

But this is Snow Bros, only dirtier! Instead of cute snowmen, we have an old farting pirate, but it's still Snow Bros!

That's not a bad thing for me, far from it. I loved that game in all its forms, and I literally slaughtered it on MAME by playing it so much.

The gameplay of Captain Barrel is the same, but this time we're pirates. Or rather, an old pirate with bad breath and serious flatulence problems.

Armed with a sword, we have to help this ugly mug clean up the seven seas of horrible creatures that look a lot







OUR FINAL SCORE

» Gameplay 80%
It's a clone of Snow Bros. Simple and with well-established gameplay.

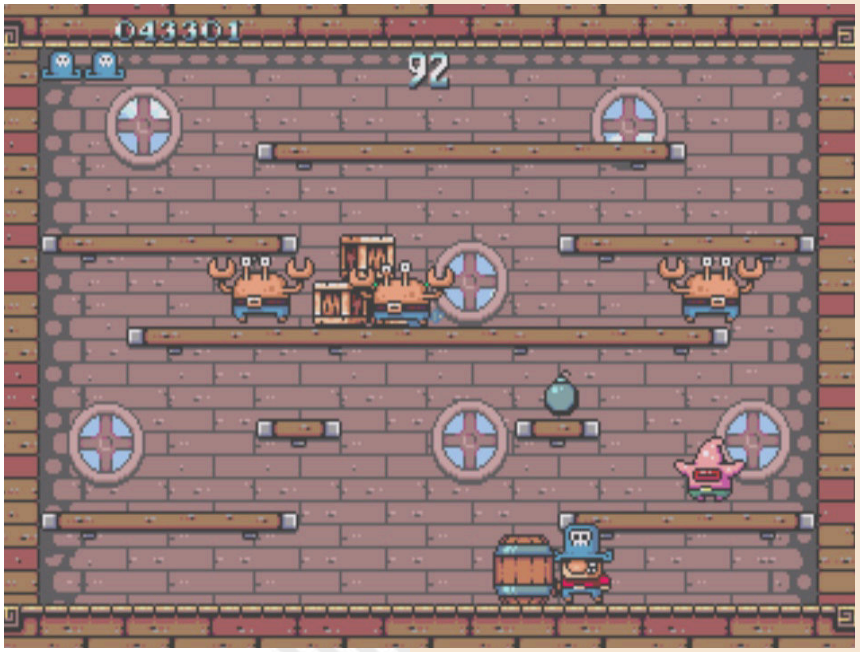
» Longevity 70%
Cute, for sure... But suffers from a certain repetitiveness in the enemies.



like the characters from SpongeBob.
By hitting them a few times, we imprison them in a barrel and can kick to hit other enemies or barrels. Just like the giant snowballs in Snow Bros.
At the end of each world, there is the classic challenge with the mega-chubby bad guy of the moment. You have to hit him with various objects, monsters, barrels, or your sword.
The game is available in different formats and for different platforms. I tested the MD version (identical to the others in every way, ed.) and enjoyed it.
It's silly enough to make us laugh out loud, simple to play, and aesthetically pleasing.
Of course, it doesn't have the magical beauty of Snow Bros, but it's an interesting title.
It's a shame about the lack of originality of the monsters and the cost of the ROM. In 2024, I think â,¬20 for a digital title is definitely too high.
Anyway, if you like "absurd" things, give it a thought.

by **Ingrid Poggiali**

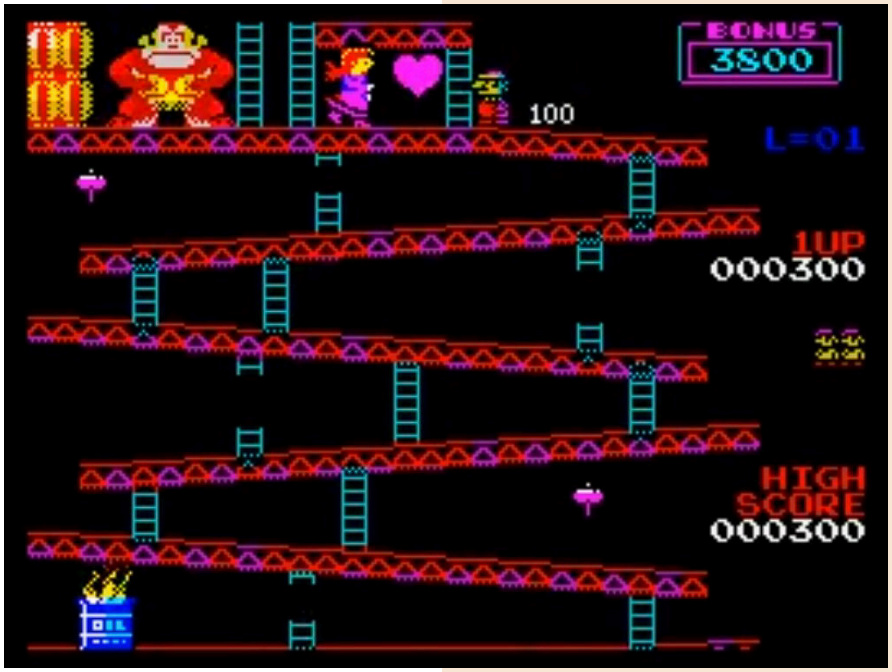




NEW GAME

ARCADE ZX COLLECTION - DONKEY KONG

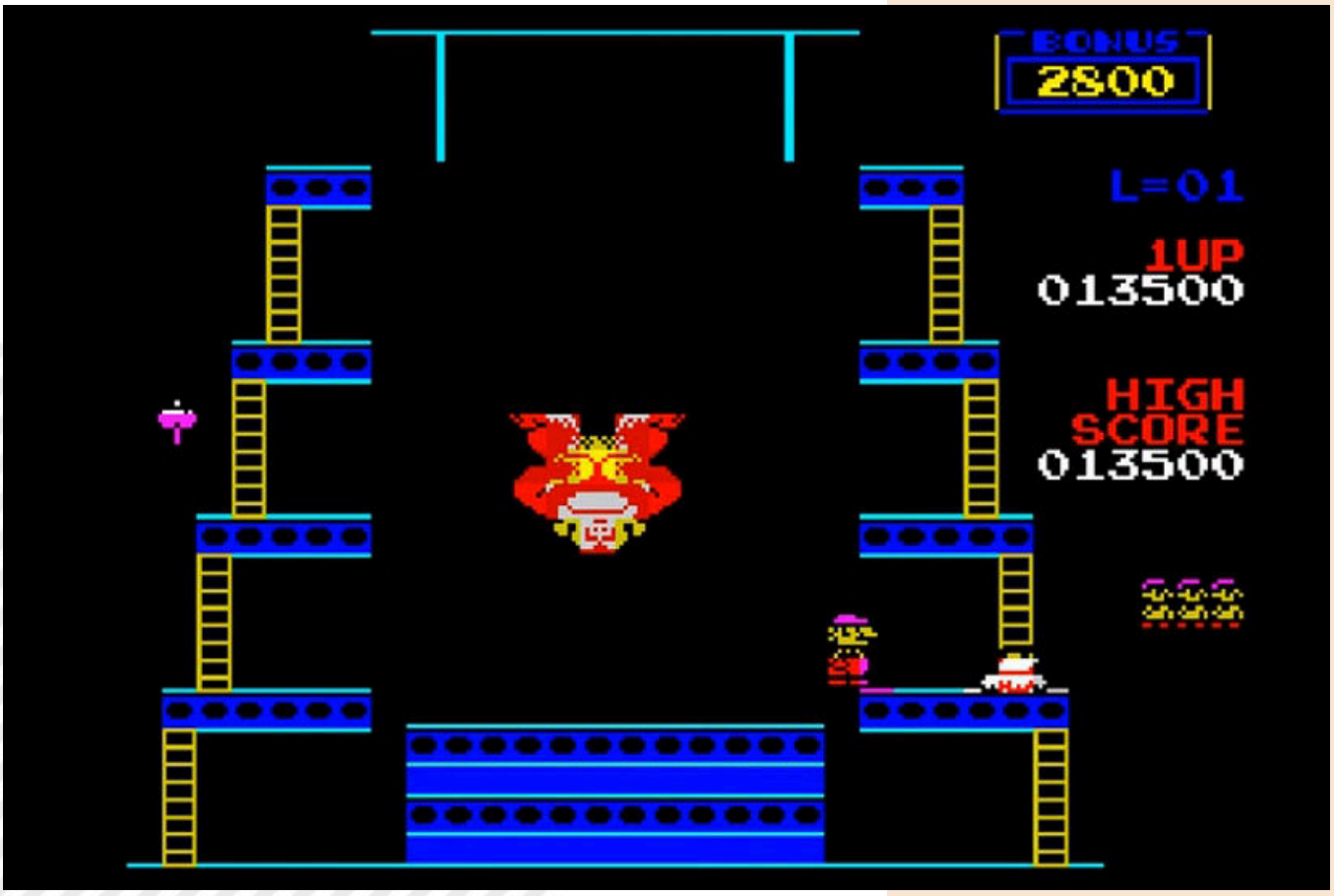
Year: 2024/2025
Editor/Developer: Bubu Marcianito
Genre: Platform
Platform: Zx Spectrum 48/128
Website: https://bubu-marcianito.itch.io/arcade-zx-collection-donkey-kong



Since 1981, everything has been said about Donkey Kong. We know why he is called Donkey and not Monkey, we know Mario's first name and his first job. We even know how the sound was generated and how it was developed from Radar Scope.

We have seen it on every possible platform. We saw it looking splendid on ColecoVision at the time, but also in bizarre bootleg versions or for C64.

We already saw a ZX version in 1986 by Ocean Software. It was a decidedly subdued version, created in a hurry to cover a slice of the market.
Thirty-nine years have passed since





OUR FINAL SCORE

» Gameplay 85%

It is still a playable and enjoyable platform game. The keyboard controls are not exciting, but in 2024, between emulators and THE SPECTRUM, we can enjoy the joystick we want.

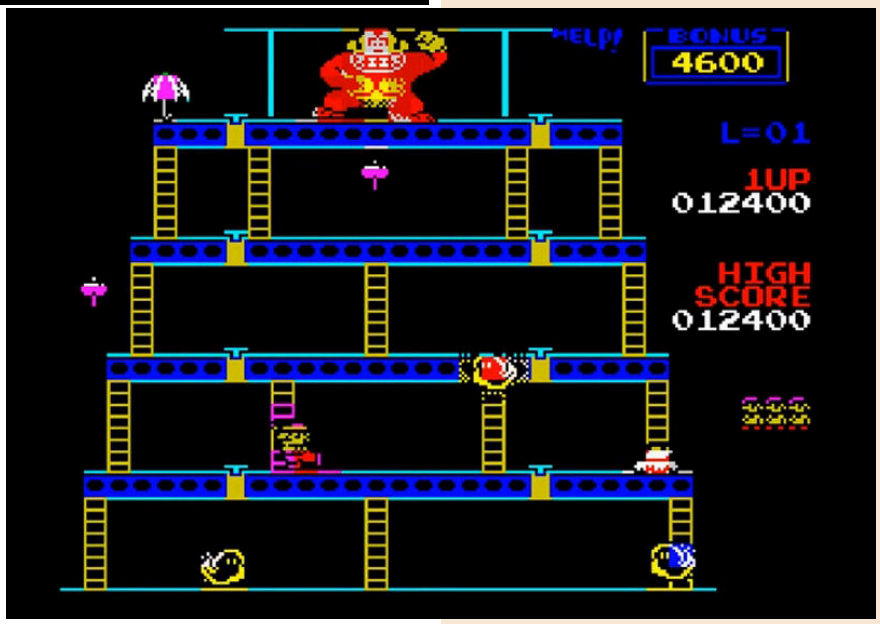
» Longevity 85%

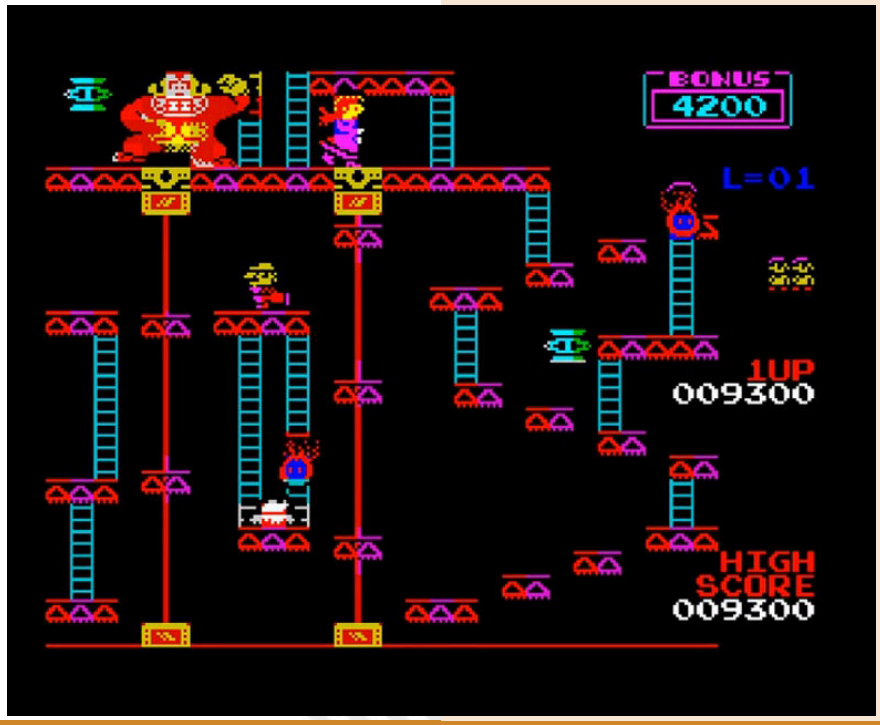
Not varied but nice and solid! And long-lasting... and ruthless!

that "faded" version of DK, and today we are faced with Artonapilos's good port for the "Arcade Collection ZX" series.
This series takes a series of titles from the past and brings them, with adjustments, to our beloved ZX.

This version of DK is much more similar to the arcade version. All the levels are there, the graphics work (even the color clash is pleasant), and we have good audio, improved in the AY version specifically for ZX 128k.
The Donkey Kong formula remains unchanged: jump and don't make mistakes.
It may not be the most modern of games, but it's still damn playable, even in this ZX version.

by **Giampaolo Moraschi**







NEW GAME

DONKEY KONG

Year: 2024
Sviluppatore: Paolo Cattaneo
Genre: Platform
Platform: Thomson MO6/ PC128 Olivetti Prodest

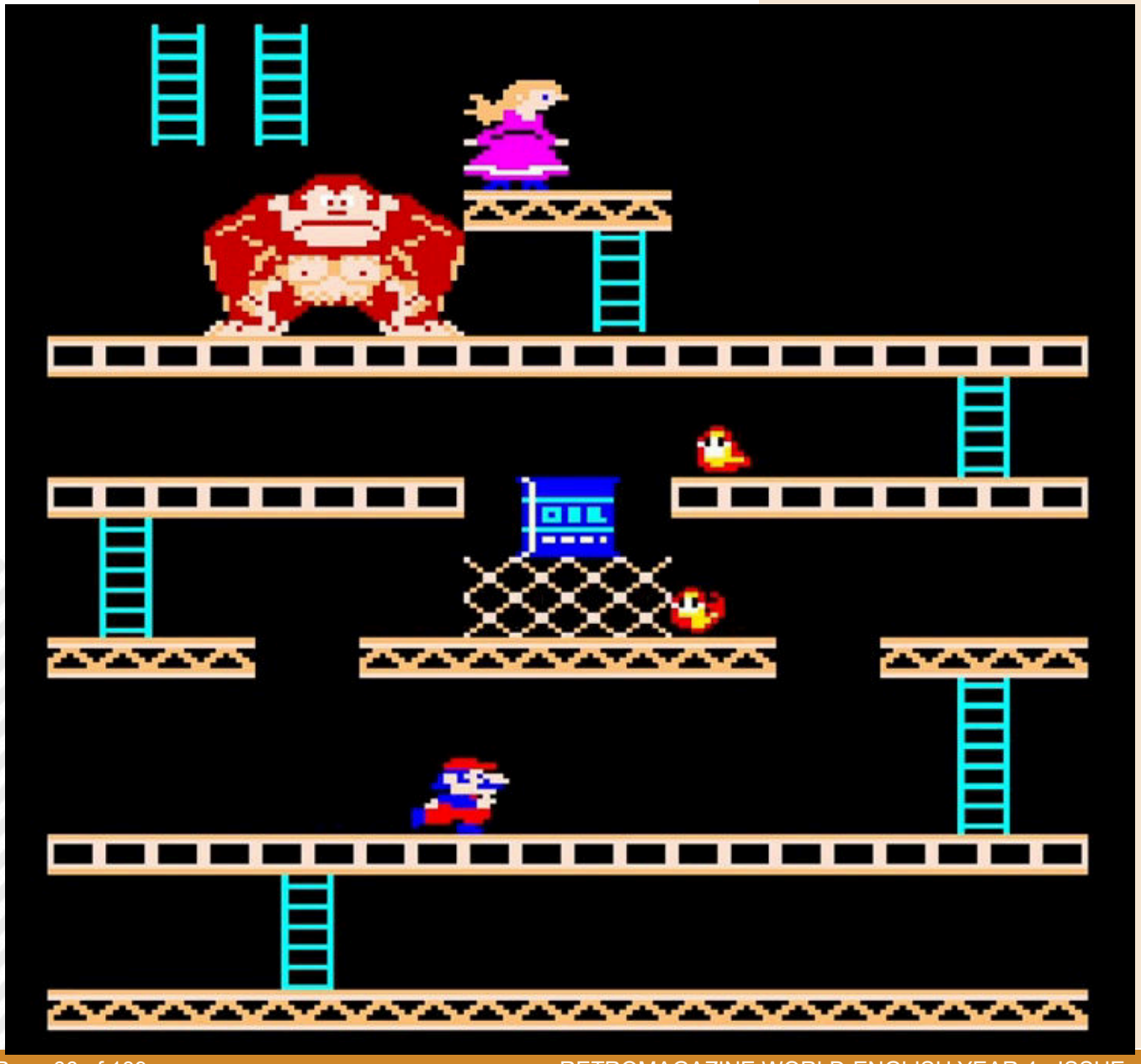
After talking about it extensively in issue 49 of RMW, with discussion and an interview with the developer, here we are at the moment of truth.

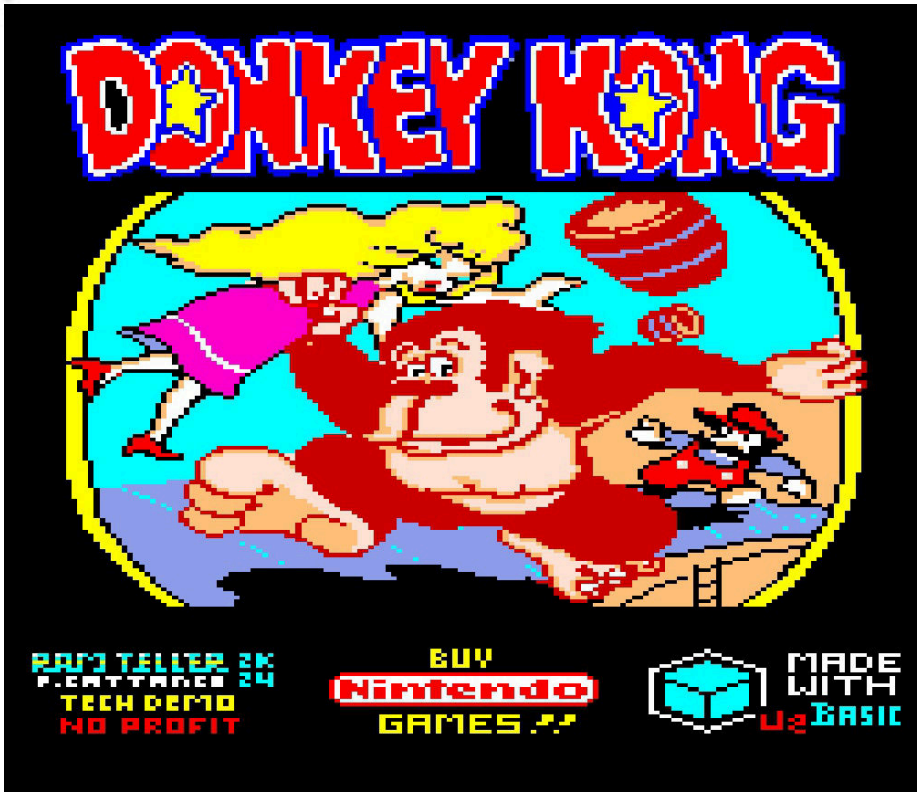
This version of DK has several interesting new features. First of all, it is designed for a machine that was not widely used for games at the time, but which has a beautiful color palette that is fully showcased in this title.

The game is made with the powerful UGBASIC, an impressive product that allows for very high performance when processed correctly.

Speaking of the game itself, it has all the magic of the arcade title and then some. At the beginning of the game,







OUR FINAL SCORE

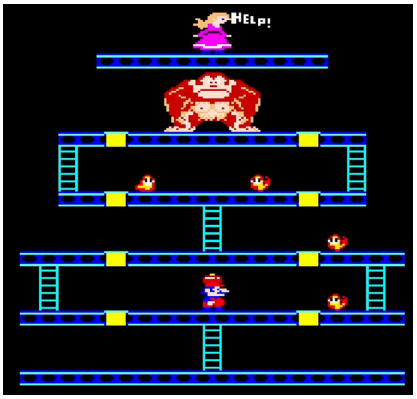
» Gameplay 90%

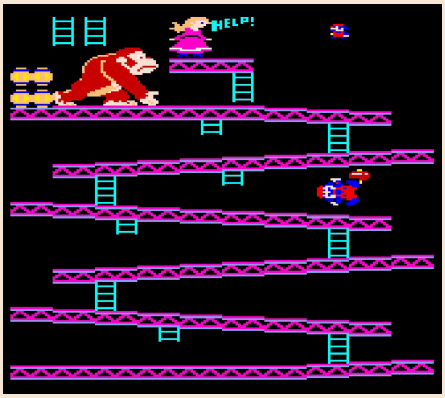
Seeing it on PC128 is a joy for the eyes and the heart. Same gameplay, with the addition of Luigi and Popeye.

» Longevity 85%

Donkey Kong looks like a cartoon but is ruthless with the classic arcade games of yesteryear.

we can choose between Mario, Luigi, or Popeye. This is a clear homage to the characters of the first Nintendo, the one from the arcades of the early 1980s.





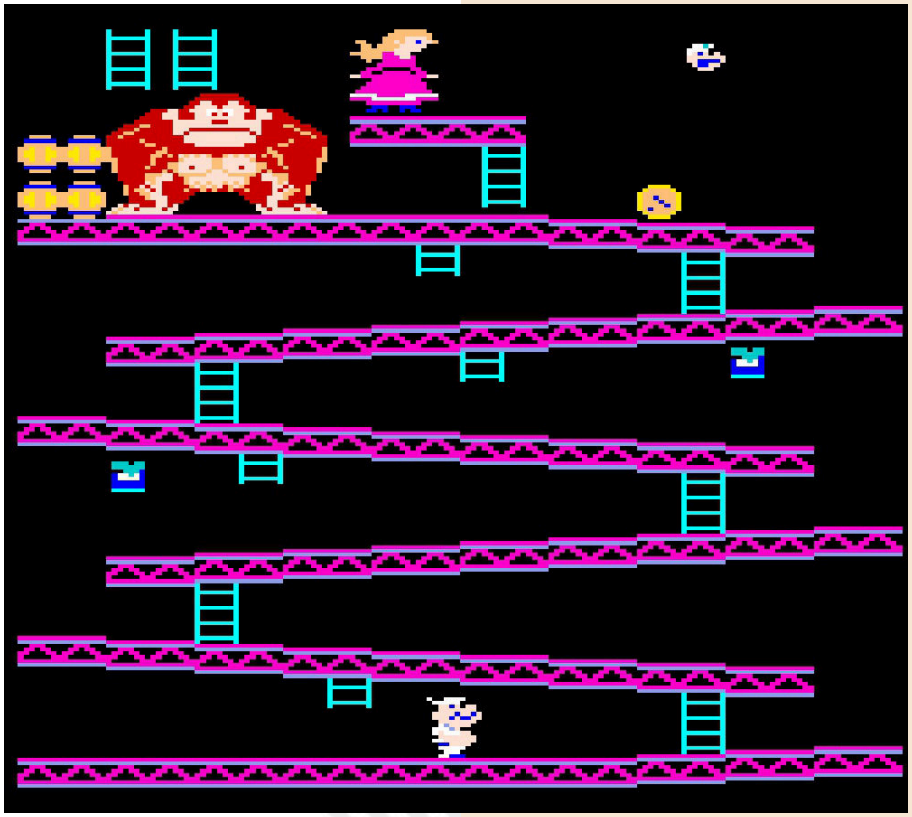
In terms of aesthetics, it runs beautifully on a machine with less than stellar performance. It moves quickly and is well animated.

In terms of playability, the original gameplay style is unchanged.

For now, it is not possible to find the file to play on your PC128 or in emulation, but there will soon be some interesting news (which will involve us).

But between this and the ZX version reviewed in this issue, which is the best? The correct answer is the one you enjoy the most... the rest is just talk from aging fans.
Have fun.

by **Carlo Nithaiah Del Mar Pirazzini**



NEW GAME

DRAGON QUEST 3
HD-2D REMAKE

Year: 2024
Editor/Developer: Square Enix, Team Asano, Amata KK
Genre: JRPG
Platform: Nintendo Switch, Playstation 5, Xbox series X/S, Windows



I didn't think I would get excited again playing the third chapter of Dragon Quest.

It's been around for decades, has sold millions of copies, and has already been "remade" twice. But I got excited again.

This game gives me that innocent sense of wonder about the places you explore, the dialogues with the characters, the epic battles, and it does so from a new perspective, with fantastic new details and vibrant pixel art never seen before.

I wanted to explore just for the pleasure of seeing where my wanderings would take me, but once I entered the game world, I stayed... and fought with pixels and impressive monsters, retraced intimidating and claustrophobic dungeons, and ultimately repelled the darkness.

So many small details appeared before me that breathe new life into something old, familiar, and already excellent.

Dragon Quest 3 has always been a perfect capsule of the best of this genre of games, where the protagonist's initial innocence is transformed into something epic.

There are ships to sail, kings to visit, volcanoes to climb, and wrongs to right, but the scope of it all, especially the parts that are only lightly sketched in most RPGs, is so grand that just visiting a new town feels like an adventure.

These are not just places to stock up on items and leave immediately; wandering through the alleys of certain places will feel like coming home, then returning in the evening to see what has changed, what is open, and what is different once again. Exciting, epic.



The gameplay in Dragon Quest 3 enlivens battles that only superficially resemble many other classics of the genre. The initial trio of mage, warrior, and priest is "reasonable," but soon gives way to incredible, characterful characters who change the outcome of our journey.



The skills you learn develop over time, giving rise to characters with incredible and completely unique skill sets. Every party and every game I've played over my years of playing Dragon Quest has felt completely my own. Dragon Quest 3 HD-2D retains all of this and adds something more.



This is a remake that speaks to the past but isn't stuck in it. Its willingness to embrace the new while respecting





OUR FINAL SCORE

» Gameplay 85%

The classic JRPG! Well-designed and with compelling gameplay. Nice difficulty options included.

» Longevity 90%

There is a lot to do, explore, and see. But the strong point is the beautiful plot and narrative. Unique.

the long tradition allows the game to feel comfortable but genuinely surprising at the same time. Battles have their own short but "sweet" set of customization options, allowing us to easily speed up or slow down the new combat animations whenever we want (even every turn) and decide how challenging the battles can be.

The simple "Dracky Quest" setting is so generous that it prevents the party from dying in battle. On the other hand, the Draconian Quest setting is ready and willing to try to kill every member of the party whenever you "dare" to activate it.

With a thoughtful set of options, Dragon Quest 3 is a truly well-made RPG: a great adventure filled with exciting monsters, moving characters, and a combat system with enough depth to reward strategic thinking, but not so complex that it becomes a second job. It is focused and driven by an energetic story eager to take us from one incredible event to another with minimal filler in between. Each plot twist offers an extraordinary mini narrative arc, from false kings to daring rescues, and the outside world, normally the part between the interesting things, is full of hidden treasures and fun secrets.

We are looking at a perfect remake. The changes are substantial but respectful, extremely nostalgic and surprising at the same time. This is more than an RPG story made accessible to a modern audience, it is a great role-playing game for anyone who wants to embark on a fantastic adventure.

by **Carlo Nithaiah Del Mar Pirazzini**







NEW GAME

MIGHTY STEEL FIGHTERS

Year: 2024
Editor/Developer: Amstrad GGP
Genre: Beat'em up
Platform: Amstrad CPC 464, 6128 con espansione 512k.
Website: https://amstrad-ggp.itch.io/mightysf

The evil Mr. Big sent his henchman Tong Poo to kidnap our hero's girlfriend, who had just recovered after he rescued her from a wicked wizard (in Toki for Amstrad, also by Amstrad GGP).
Once again, the poor warrior must fight his way through a series of one-on-one encounters, just like in Street Fighter II.
Hey! But this is Street Fighters II, only the characters have become small and stocky, with sweet "kawaii" style eyes and different names.
Mighty Steel Fighters is a tribute to Capcom's fighting masterpiece. It's a somewhat unusual tribute because it incorporates a story and changes the rules of the game a little.
It's still a fighting game, but with the limitations of the Amstrad. The number of characters to choose from is significantly smaller than in the famous coin-op, the graphics are very limited in terms of movement, and obviously the graphics use various tricks to make them look good.



The Super Deformed look of the characters is nice and conveys the idea well. It is reminiscent of the one created for SNK vs CAPCOM on C64/128, and personally, I really like it. The control system for executing the numerous moves takes a little practice, but it is well explained in the PDF file that comes with the game ROM download and on the itch.io website. The game runs on all Amstrad Classic 464 and 6128 computers, provided they have a 512k RAM extension. The website lists the numerous possible configurations and, of course, full









OUR FINAL SCORE

» Gameplay 75%
The control system is cumbersome and requires practice.

» Longevity 85%
There are enough characters to play with and a good range of options.

compatibility with the various emulators on the market (Winape, ACE, javacpc, Retro Virtual Machine, etc.) is maintained.

There are 8 playable characters and two final bosses. Each has their own different and well-designed settings. There is a very useful training mode and three difficulty levels to choose from when you start rolling out the cardboard boxes.

The technical aspect is impressive. Colorful, well-designed backgrounds and a nice set of character animations do their job and showcase the graphics capabilities of the 8-bit Amstrad machine. The sound is definitely a gamble. The soundtracks aren't bad, but the digital vocalizations of the various moves are definitely scratchy. As I mentioned above, the combat system takes some learning. The moves are differentiated between weak, medium, and strong and are well characterized (the weak ones are very fast, while the strong ones are devastating but very slow). The parry system is not as responsive as it needs to be to make the game interesting, but it works.

For a variation on the theme, it is certainly well done and highly recommended if you have an Amstrad.

by **Giampaolo Moraschi**







NEW GAME

DUNGEONETTE

Year: 2024
Editor/Developer: Mutation Software
Genre: Dungeon Crawler
Platform: AMIGA AGA
Website: https://softwareamusements.com/MutationSoftware/index.html



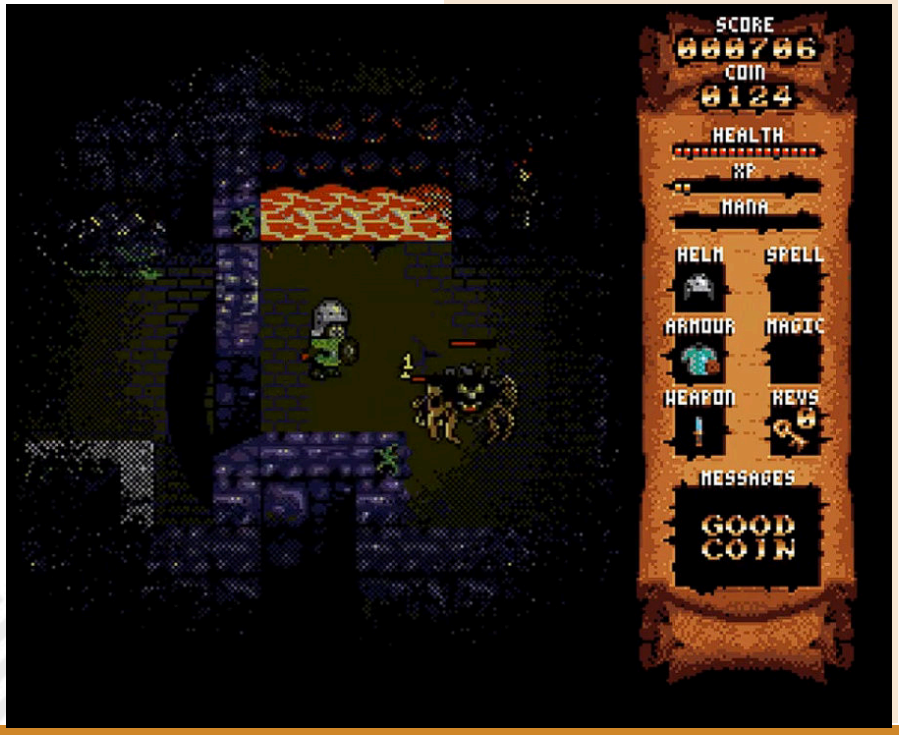
Dungeonette immerses us in a classic dungeon crawling adventure, in which we take on the role of a brave hero, catapulted into battle in the Dungeons of Doom to defeat the Dark Lord Aksnes. Unfortunately, in this incredible adventure, you start out armed with only basic equipment (ugly, poor, and not very useful), navigating mazes, defeating monsters, and purchasing new weapons and armor.

The gameplay is pretty simple: it's an action RPG that combines exploration with hack-and-slash combat, reminiscent of Diablo. You enter the dungeons, slay your enemies with your favorite weapon (or rather, the best weapon you can afford at the time), collecting coins along the way. It's everything we've seen in fantasy stories: the typical journey of an adventurer who starts out with poor equipment, a tin helmet, and a dagger, but who eventually becomes (by collecting coins and treasures) a war machine capable of freeing his enchanted world from evil.

Money... yes. At the beginning, it is scarce, and it will be important to arm yourself wisely and sparingly.

Once you have saved the required amount of money, every upgrade purchased from the shop seems to have an impact and, as a touch of class, the character will change visually to reflect the change in equipment.

Most levels feature puzzles to solve in the form of levers, switches, or hidden doors. Once solved, the game will show us what has changed in the level. This is very welcome, as I find it frustrating when you pull a lever in a sprawling level and are left guessing









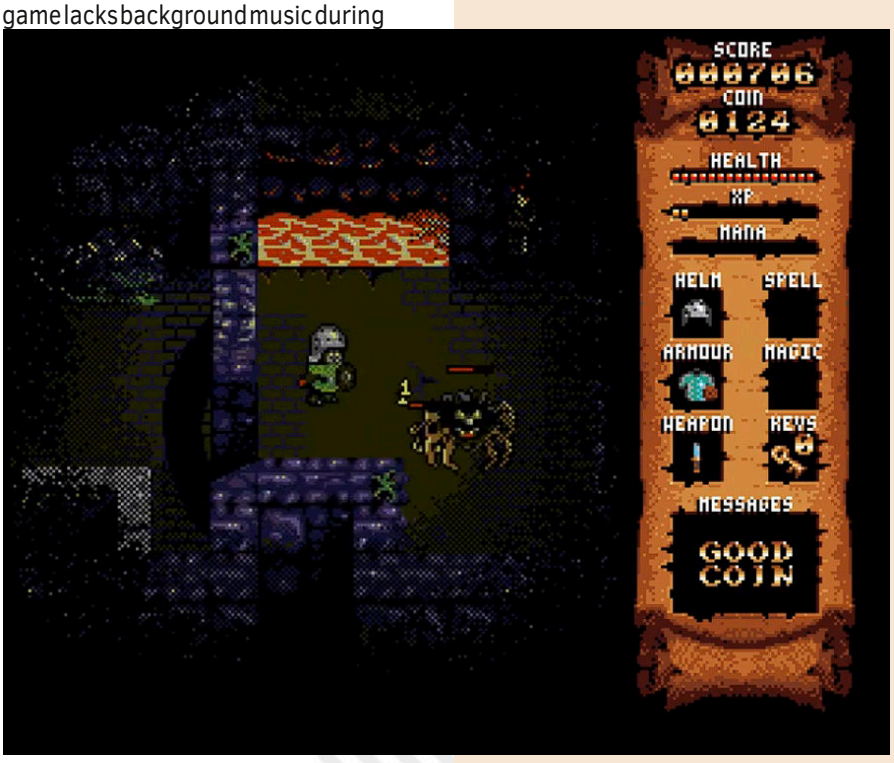
what has been done, where, and why. An on-screen map is also handy in most (but not all) levels, which can be useful with the larger sections.

Early on, as long as you're armed with a sword or dagger, combat is personal and up close. You have to be right next to an enemy to hit them, so it's not uncommon to get hit in return....clearly, these are the risks of the trade when you sign up to be an adventurer! However, sometimes it feels like the collisions aren't quite as precise as they should be: your hits always land as expected, but often the bad guys can still damage you for a split second after their body disappears. If this were a one-hit-kill game, that would be pretty awful. Since Dungeonette's enemies (in general) only deal light damage, just remember to keep your distance for a second after killing them.

Visually, Dungeonette strikes a great balance between classic dungeon themes and cartoonish charm. The scrolling isn't super smooth, but it moves fairly well, and you can switch between 50Hz and 60Hz modes at any time. In several levels, a dithering overlay on the screen gives a gloomy or shadowy effect, making the dungeon appropriately dark and oppressive. The environments vary as you move through the levels, from the very first linear level to more complex, labyrinthine areas with secret sections to explore. The mix of environments, bosses, and hidden treasures calls for exploration.



The title screen music, a rearrangement of a Barry Leitch track by programmer Adrian, sets the tone with a cheerful gothic atmosphere. Unfortunately, the game lacks background music during



gameplay. Fortunately, thanks to detailed sound effects and atmospheric noises (such as the thunderous booms in level 6), we won't miss the music too much. The dungeons are far from silent, even without a soundtrack.

It's interesting to note that your health level carries over between levels. So if you're down at the end of a stage, you're in for trouble in the next one. This adds an extra layer of strategy, encouraging you to play cautiously and make sure you don't take too much damage early on. Potions and food can help restore your health (or your mana if you buy a spell), but they're not overly generous.

To get through the levels in one piece, you need to plan your attacks carefully, especially when facing bosses and minibosses.

This challenge is somewhat mitigated, however, as dying is more of an inconvenience than anything else. The boss challenge isn't particularly difficult, but it is definitely inconvenient as death results in the loss of XP and gold.

As for the length of the game, I'm a little conflicted. It's extremely impressive how large and labyrinthine some levels are, which is undoubtedly a good thing. And there are 16 levels, which is another good thing. What creates conflict for me is the strange difficulty curve. While the first few levels are difficult, either due to equipment or initial unfamiliarity, the subsequent ones are perhaps too... easy. Exploration is always fun, but combat becomes a walk in the park.

Personally, I would have preferred fewer levels, but much more difficult ones. Overall, the constant progression of upgrades and equipment (at least initially) keeps things fresh, the varied environments ensure that no two levels are too similar, and the atmospheric sound design draws you into the action, even without a musical score to support it.

The map overlay is useful, as most areas are quite large. It's worth playing and deserves full promotion. The game is available in digital or physical format with a CD playable on the CD32 and ADF and ISO files included on a USB drive. You need 2 MB of RAM and an AGA chipset to play it, and it works flawlessly in emulation, on the A500 mini and A600gs.

by **Carlo Nithaiah Del Mar Pirazzini**

OUR FINAL SCORE

» Gameplay 90%

The levels are fantastic and feature a wide variety of settings. The character changes visually when equipped, which is another great touch. The game is accessible and the controls are intuitive.

» Longevity 50%

Too easy once you get past the first world. The difficulty curve definitely needed to be better managed.





NEW GAME

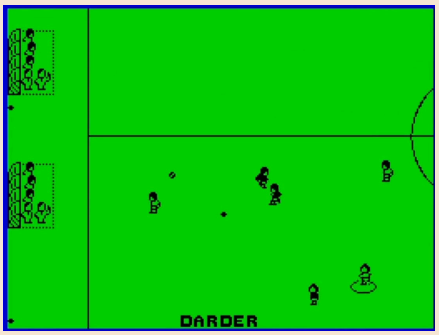
SPECCY SOCCER

COMMUNITY EDITION 2023

Year: 2023
Editor/Developer: Voxel Tower
Genre: Sportivo
Platform: ZX Spectrum 128k
Website: https://voxeltower.itch.io/speccysoccer









Sensible Soccer on ZX Spectrum? Yes, it exists and it's called Speccy Soccer.

A title created by Voxel Tower in 2023 that takes us onto the pitch with the same atmosphere as the Sensible Software title.

The 2023 Community Edition features 120 real teams, all the possible rules, different types of passes to be made with extreme joystick precision, and the same realistic ball physics seen in Jon Hare and associates' masterpiece.



They have even included the option to play with up to 4 players simultaneously, 3 skill levels for the CPU, and all those little rules that make the game the most complete soccer title on ZX (recommended only 128k or Spectrum Next/N-Go).

The same style of play, the same physics, and the same dynamics as Sensible Soccer are present, accompanied by fairly detailed and fast 4-color graphics and good sound. The goalkeeper AI is also interesting, much more dynamic than in Sensible and definitely more attentive to curling shots and headers.

This title is the ultimate tribute to the soccer masterpiece of the 16-bit computer era and is a great product for the Spectrum.

It costs only $3 and is well worth it, trust me, it's really worth it.

by **Giampaolo Moraschi**

OUR FINAL SCORE

» Gameplay 95%

120 teams, up to 4 players can play simultaneously, improved CPU AI, different game levels, world championship, perfect game physics. A masterpiece!

» Longevity 95%

If you love soccer and have a ZX, this is a must-have for your game library.

NEW GAME

GRAND THEFT AUTO 3

Year: 2025
Editor/Developer: Frogbull
Genre: Action
Platform: Sega Dreamcast
Website: https://dca3.net/

The power of retrogaming! When fans create a Dreamcast port of GTA III, you can't help but be amazed.

Originally designed for the Dreamcast, GTA III DC was ultimately abandoned in favor of the PlayStation 2 for commercial reasons.

Its development on the Sega machine lasted four months before DMA Design itself changed its mind about the target console in favor of the more profitable Sony platform.

An interesting anecdote is that Sega could have acquired the GTA license in the 1990s. The Japanese company was offered the rights to publish the first GTA on PC, but failed to distribute it on PS1. Another publisher, which was willing to pay more, managed to do so on both platforms and was therefore granted the privilege of management.

But what would GTA 3 have been like on Dreamcast? Could the developers have made it work? The first question is difficult to answer. Only a tech demo with a moving character was created on the Sega Dream Machine.

As for the second, the developers were confident they had found solutions to make it all possible. Although it may have seemed technically complex, it was only a matter of resources, technology, time, and, above all, money.

But now, thanks to a group of developers led by Frogbull, Falco Girgis, and Stefanos, the dream of seeing GTA3 on Sega's 128-bit console is a reality.



Available online at the web address above, this playable version offers a nostalgic dive into the world of





OUR FINAL SCORE

» Gameplay 90%
The crazy, violent, and impetuous spirit of the game is fully present in this excellent conversion.

» Longevity 90%
An open world. That says it all!





Dreamcast. Although some technical limitations are visible, the appeal of the port lies in its fidelity to the spirit of the console. Players can explore Liberty City in an environment reminiscent of the dawn of 3D open-world gaming.

For the curious and enthusiasts, this version of the game represents a rare opportunity to rediscover a classic on a beautiful but unfairly underrated platform.

The number of polygons has been reduced in the car models, for example, due to a lack of memory (the main obstacle encountered), although not insurmountable...

Certainly a challenge for the guys behind the project, also known for being the developers of major Dreamcast emulators such as NullDC and Raicast. Without a doubt, the spirit of the game is intact. Its raw beauty and political incorrectness that made the saga loved/hated is there and clearly visible and playable on Dreamcast.

To play this port, you need to carefully follow the tutorial on the official page. You will need to own the PC version of GTA3, then compile the version with the necessary tools. Since Take-Two Interactive Software, the publisher of the franchise, is very strict about the intellectual property of its titles, it is not advisable to offer the ISO in GDI or CDI of Grand Theft Auto Dreamcast as a direct download, which is why Stefanos Kornilios Mitsis Poiitidis and his team did not do so.

by **Roberto Del Mar Pirazzini**



NEW GAME

STAR BLADER

Year: 2024
Editor/Developer: Retro Guru
Genre: Beat'em up
Platform: Atari Lynx
Website: https://www.retroguru.com/star-blader/

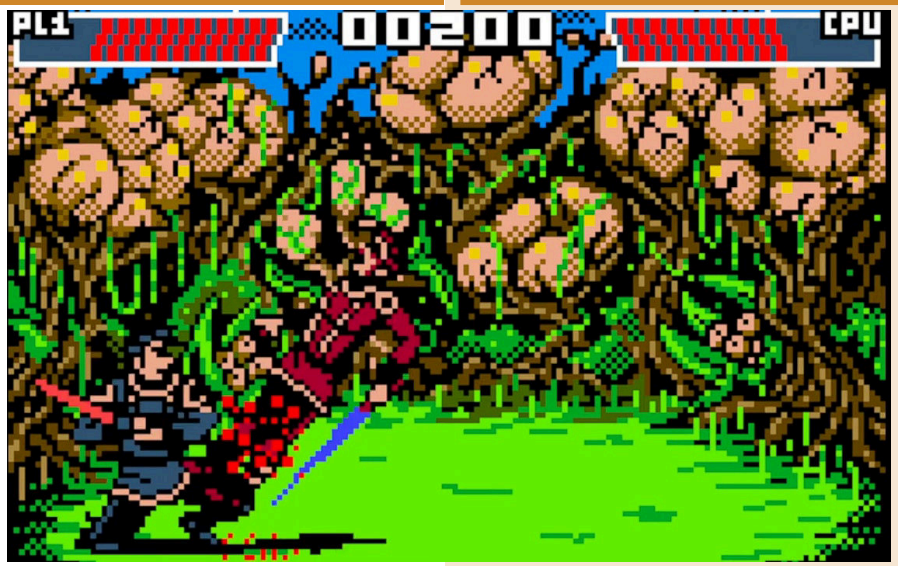
A sci-fi remake of the Epyx classic for C64 Barbaria, with a great tribute to the Star Wars saga and the epic battles between Jedi.

The game was presented in demo version at Revision 2019 and gradually improved until its release in 2025.

During a diplomatic mission on Xanesh 7, Princess Alenia is kidnapped to prevent a war against the robotic rebels. It's up to our hero to challenge numerous opponents to free her.

Technically, this is a good beat 'em up that effectively exploits the technical capabilities of the Lynx.

Graphically, it is well done and features well-animated sprites of decent size. The backgrounds are a bit anonymous.



The chiptune soundtrack is interesting and sets the right pace for the game. The gameplay mechanics are reminiscent of the aforementioned Barbarian. You use the button to strike and direct the type of strike with the







OUR FINAL SCORE

» Gameplay 80%
Epyx Barbarian-style combat mechanics that need a little practice to master.

» Longevity 70%
Cute but perhaps too monotonous in combat. The dual mode with two Lynxes connected is beautiful.

D-pad.

Less intuitive than a classic beat 'em up, but definitely more stimulating.

We can say that this type of approach requires a bit of training, but it does not limit the playability.

The real problem with the game is the lack of variety in the fights. In the end, they all turn out to be the same, and once you learn the technique for approaching the blows, it will be easy to get to the end.

On the other hand, the possibility of playing in pairs on two Lynxes connected with the Comlynx cable is interesting. Without a doubt, the 2-player challenge mode is the strong point of the game and increases its longevity by a few points.

The physical version was released in November 2024 and will arrive in the homes of those who ordered it in early 2025. A digital download version will also be released shortly.

In conclusion, it is a more than decent title for Lynx and deserves a look.

by **Giampaolo Moraschi**





NEW GAME

CHOUYOKU SENKI ESTIQUE

Year:2025
Editor/Developer: Broke Studio, Cat Hui Trading
Genre: Shoot'em up
Platform: FAMICOM/Nintendo NES
Website: https://www.brokestudio.fr/product/chouyoku-senki-estique-fc/

Another impressive homebrew for Nintendo's 8-bit console. A platform that already has a vast library of titles of this genre, but with this new title from Cat Hui Trading, it adds another important piece to its hall of fame.

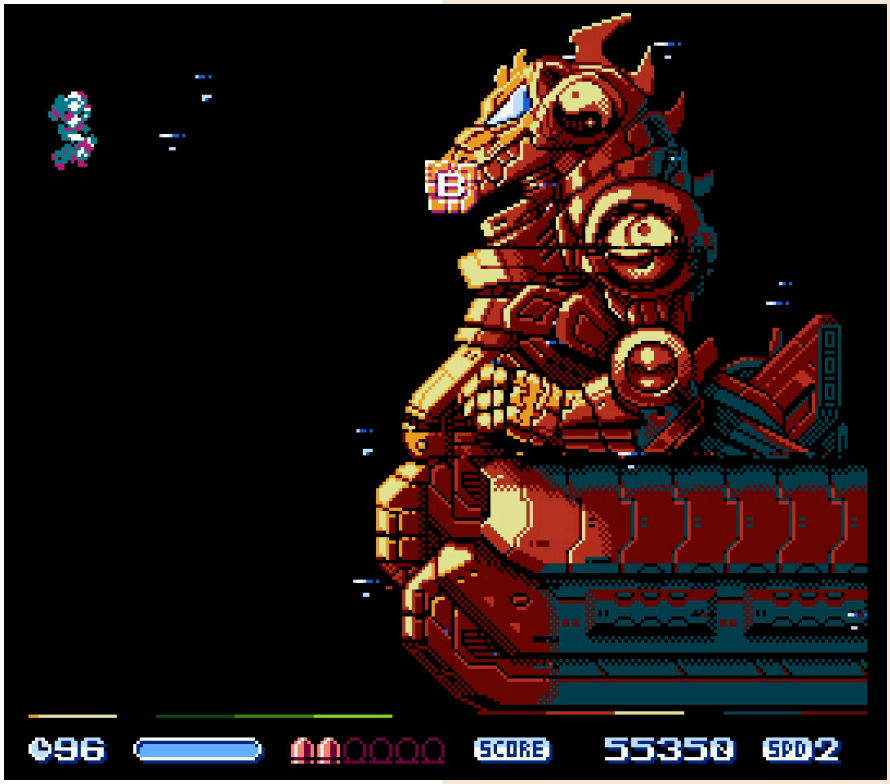
It doesn't innovate anything, but what we have here is a title developed with care, detail, and a good balance of levels and their difficulty curve.

In the year 2413, Earth is invaded by evil space pirates called "Van De Raus." They dominate the most important cities on the planet and subjugate the human race.

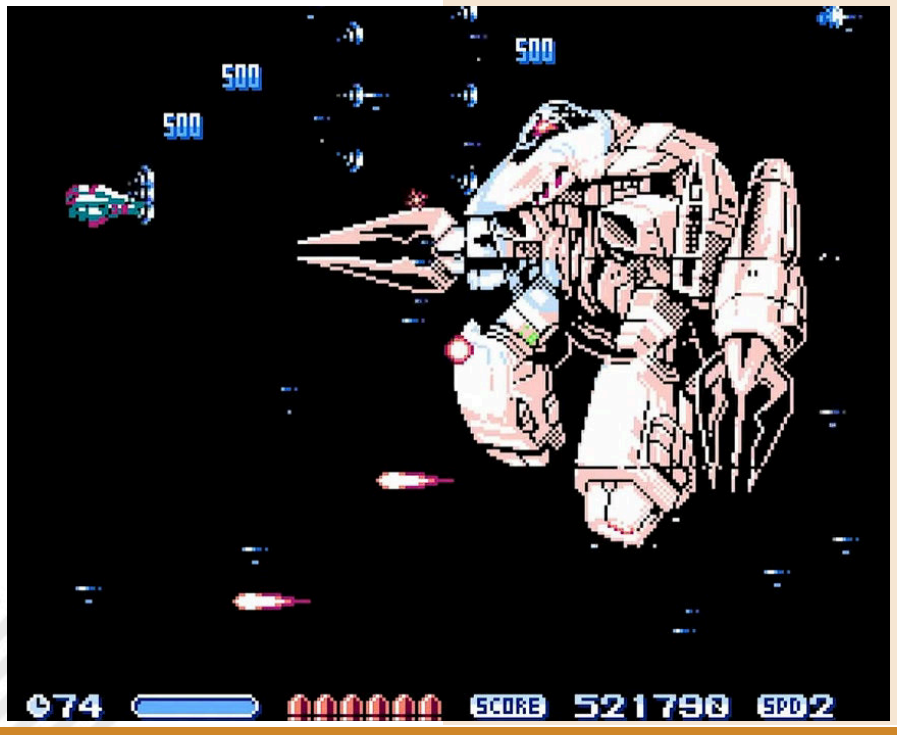
The friendly planet Petelgeuse has sent two space aviation aces, Mary and Kanon, aboard the Estique, a fighter jet with the ability to transform into an assault mecha.

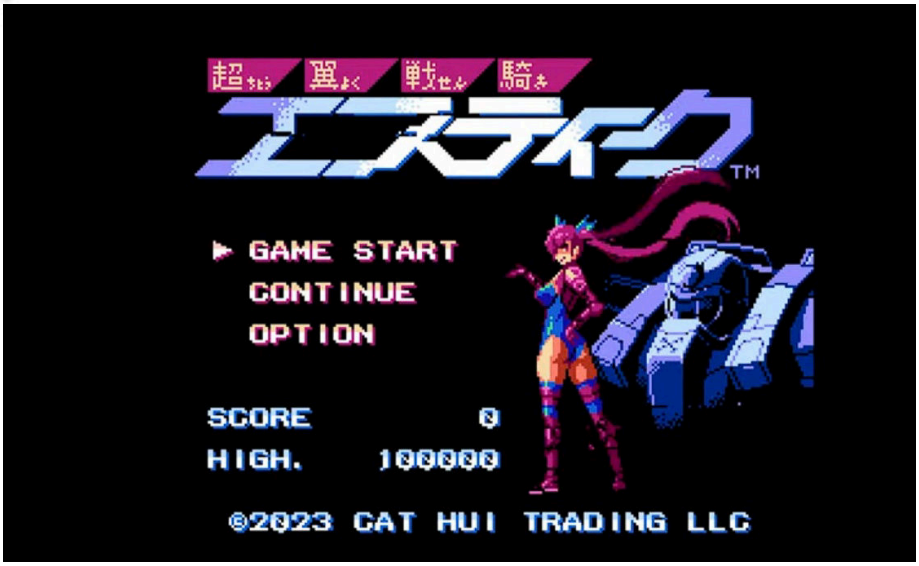
A classic game with six large levels full of enemies to shoot down and a sparse but definitely useful power-up system. Essentially, we have two types of power-ups that allow us to extend our firing range or add two shield pods to our vehicle. In both cases, every time we collect these power-ups, they unleash a massive dose of energy on the enemy, helping us to take them down.

This is very useful in boss fights with huge enemy mechs that are impressive in detail and in the amount of firepower they throw at us.



The title is technically very well done. The graphics are varied, detailed, and





OUR FINAL SCORE

» Gameplay 90%

Interesting ship-to-robot switch, power-up system, and well-structured level design.

» Longevity 85%

It's playable. It has a balanced and increasing difficulty curve that I haven't seen in a long time.

colorful, moving very fast and never slowing down. There is some minor flickering on the screen when it fills up with enemies, but it never slows down. Another well-crafted aspect is the audio, with a good soundtrack and lots of well-made sound effects.

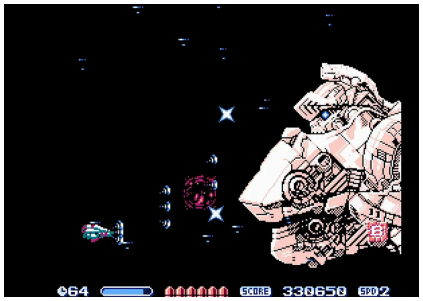
Without reinventing the wheel, the game is a classic shoot 'em up, but it's fun and very playable. The levels are carefully structured and gradually increase in difficulty without overly stressing the player.

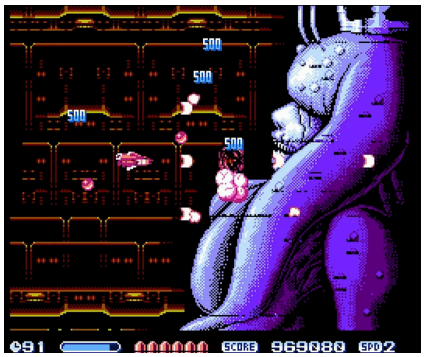
The ability to transform from a ship to a robot is interesting and useful. The difference between one transformation and another is not striking, but it is interesting against some end-of-stage bosses.

The game is available in both PAL and NTSC cartridges and is also available in NES or Famicom format.

If you are looking for a new shooter for your little NES, don't miss Chouyoku Senki Estique.

by **Roberto Del Mar Pirazzini**









NEW GAME

COBOL'S LABORATORY

Year: 2024
Sviluppatore: Oniric Factory
Genre: Platform
Platform: Nintendo NES
Website: https://oniric-factor.itch.io/cobol

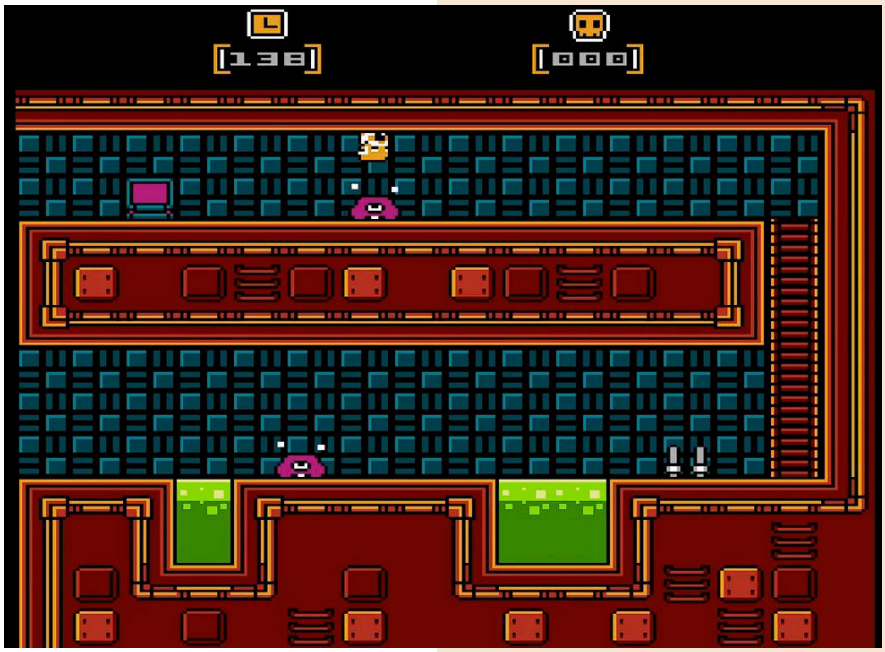
Professor Cobol is the most important scientist in MOS city. So important that his creations improve the lives of its inhabitants. He is completely dedicated to the development and production of devices for improving quality of life. Anything electronic in MOS city ... is definitely a Cobol creation.

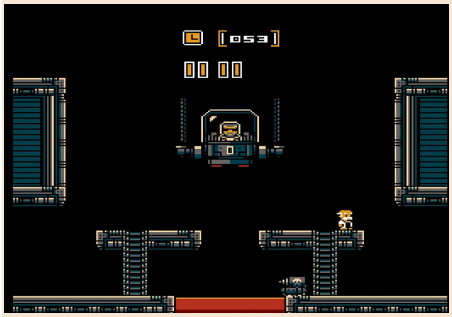
Our mustachioed little man has only one problem: Dr. Pascal, a former collaborator who, overwhelmed by his mentor's "absolute morality," decides to attack the laboratory and steal every invention. Pascal is an arrogant and eccentric character and, in his mad genius, comes to believe that he is superior to anyone he meets on his path.

Cobol's Laboratory is a new platform game for our beloved NES that reminds us of Megaman in style and graphics and follows the classic fixed-screen games of the genre.

In this title, we must try to defeat Pascal and thwart his evil plans for absolute conquest. All this must be done by traversing intricate levels full of enemies and obstacles as quickly as possible. The time in the game is always running out, and... little time equals certain death.

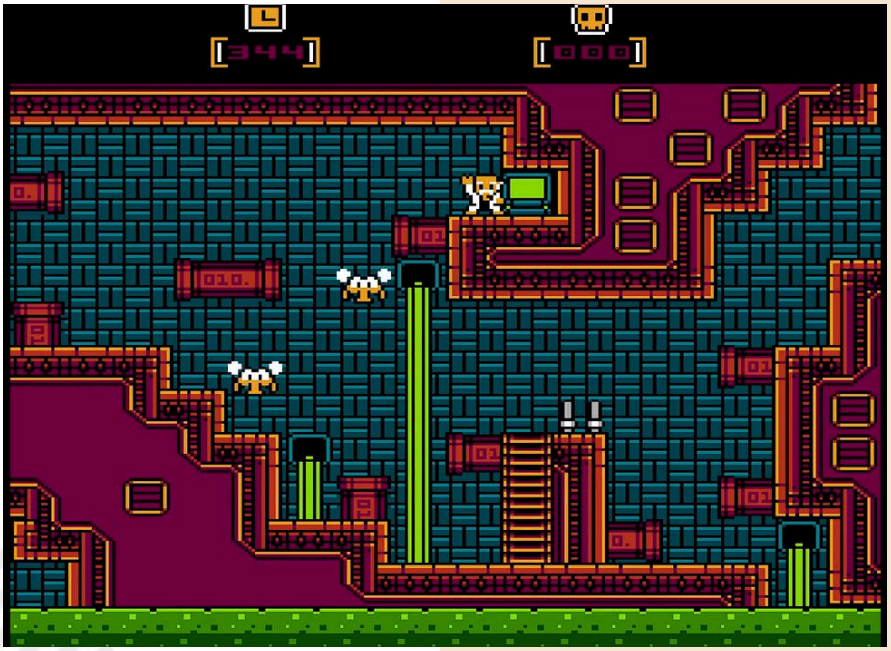
Fortunately, there are several bonuses that will allow the friendly Prof Cobol to increase his precious minutes and thus reach the end.





The new game from Oniric Factor pays homage to some programming languages and does so in a fun way, presenting itself as a colorful and well-structured platform game.

The graphics are reminiscent of CAPCOM's NES productions. Beautiful





OUR FINAL SCORE

» Gameplay 80%
Good gameplay that is very easy to learn. Not too varied but fun.

» Longevity 75%
The level of challenge throughout the game worlds is interesting, although I would have handled the boss fights better.

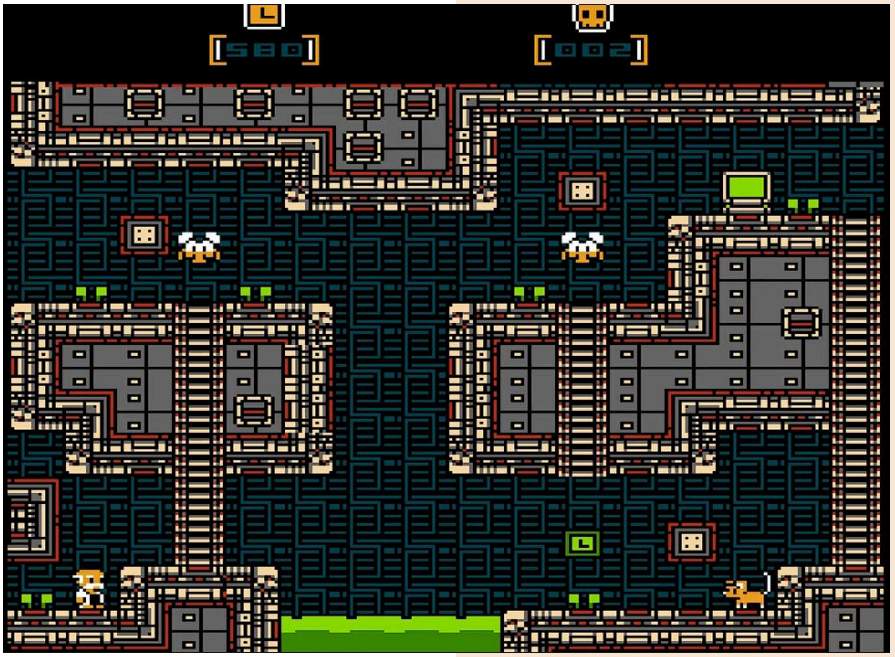
animations, a decent variety of backgrounds and levels in general, and a decent speed of play.

The title is a classic example of an 'old school platform game' where it is essential to learn the best strategy to save your skin and try to free the laboratory.

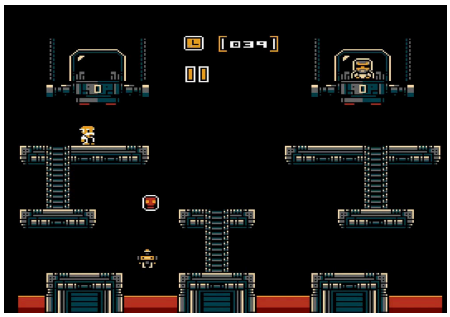
The boss fights are also interesting, although rather repetitive.

It costs 5 euros, is well made, and ranks among those titles that are "neither bad nor good" but worth trying out. Perhaps I would have added a little more spice to increase the challenge a bit, but even so, the title is fun to play.

by **Carlo Nithaiah Del Mar Pirazzini**







NEW GAME

COIN RUSH

Year: 2024
Sviluppatore: HailToDodongo
Genre: Party game/Brawler
Platform: Nintendo 64
Website: https://mega.nz/file/omYEVJQK#uRaDQsWJN6r0P3tfWY8RRUa03VDBJhhgyphxXg1plsM

Coin Rush ruins friendships! Money doesn't buy happiness, and in this title it's clear that getting rich is a matter of life and death.



Coin Rush is a mini-game created by HailToDodongo, released on December 13 to participate in the N64brew Game Jam.

It is a side-scrolling beat 'em up party game that presents itself in all its brutal beauty with graphics reminiscent of Paper Mario.

The goal is simple: collect as many hollow pentagonal coins as possible. They are scattered randomly throughout the levels, and some can be found by breaking objects along the way.

The level always scrolls to the right, and it all boils down to a huge battle to see who can collect the most. You can play solo against the CPU or against two or more players. If your character falls or is pushed off the playing field, they lose a lot of coins. You jump with the A button and can attack with your sword using the B button. The sword can break objects or strike to destabilize and knock other players off. The blow does not take coins away from your opponent but slows them down considerably.



At the end of the level, you encounter a large snake-like boss from The Legend of Zelda. You have to defeat it and collect the coins.

A fun title full of surprises, a game that goes far beyond what a mini-





OUR FINAL SCORE

» Gameplay 85%
Simple gameplay and exciting battles that are easy to tackle. Nice level design work.

» Longevity 90%
Deadly with four players!

game should be.



The graphics are beautiful to look at, every object in the game has a look reminiscent of miniature dioramas, and the characters remind us of the graphic poetry of Paper Mario. There is a skillful use of textures and colors in the game.

The gameplay is well structured, with each round lasting about 4 minutes and allowing for exploration of the level and competition between players. I found it a little frustrating that the swords do very little damage; I would have preferred one hit = one coin lost.



Otherwise, it's an excellent game that I recommend you download and test on real hardware, perhaps challenging your family and friends. At the end of the game, you won't be such good friends anymore, and your family might cut you out of their will... but it'll be worth it!

by **Roberto Del Mar Pirazzini**

NEW GAME

INFEZTATION

Year: 2024
Editor/Developer: Monte Boyd
Genre: Run ‘n Gun
Platform: Commodore 64
Website: https://monteboyd.itch.io/infeztation

Another title from talented programmer Monte Boyd, released for the C64 at the end of November 2024.

It is a run 'n gun style side-scrolling platformer that can be loaded on real hardware or in emulation.

In the shoes of a galactic sheriff, we explore a mysterious space station in deep space. Our hero is equipped with a semi-automatic rifle, his courage, and his trusty robotic sidekick D3P-UT.

Freeing the spaceship is no easy task. The levels are teeming with crazed security drones and strange alien creatures. Along the way, we can collect various (limited) upgrades for our rifle, armor that allows us to fly, combat armor, and even a pod that transforms us into a destructive Metroid-style sphere.

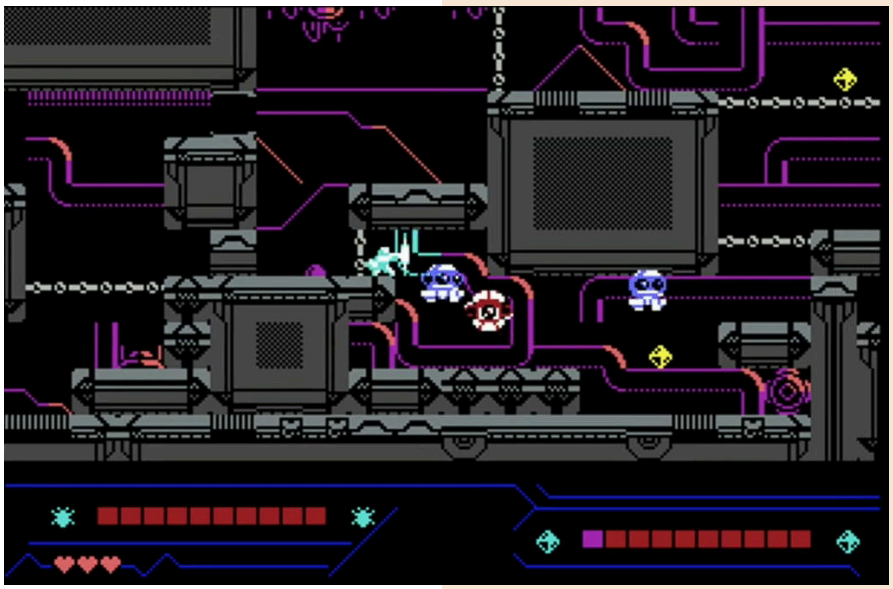
In fact, the game vaguely resembles the famous Nintendo title in terms of its approach to action, exploration, and gameplay dynamics.

The graphics are all in high resolution (as in other titles by the developer) and feature a highly detailed alien environment rich in animations. Perhaps the colors are not too varied, but they are definitely impressive and characteristic of the game genre.

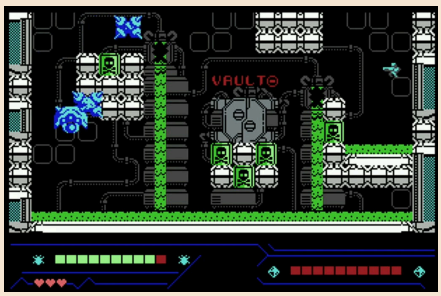
The game areas are divided into three macro sections, each consisting of four sectors of three levels each, for a total of 36 levels complete with bosses.

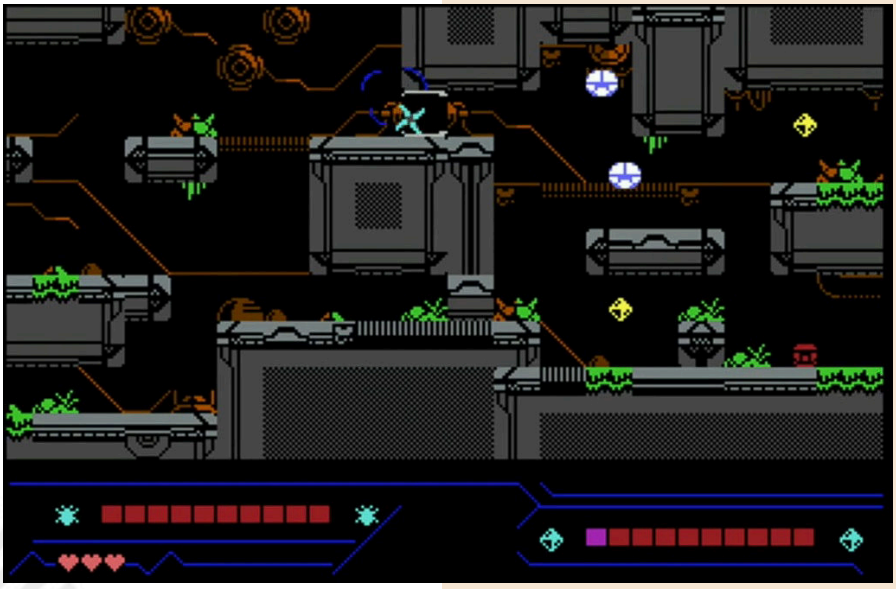
The latter are quite challenging and visually impressive.

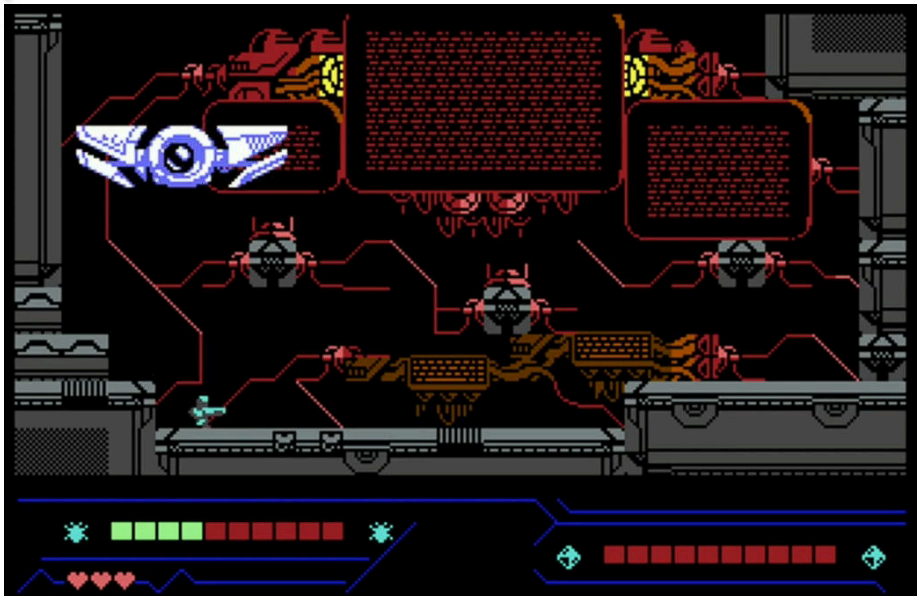
There is a handy set of passwords so



you can restart from the level where you left off. The programming, as well as the graphics and audio, are by Monte Boyd. This 'guy' deserves praise because he puts a touch of class into every game he makes, making it instantly recognizable, a bit like the Bitmap Brothers did back in the day. The only drawback of the title is the character's maneuverability. Mind







OUR FINAL SCORE

» Gameplay 85%
Distinctive and very large levels. The jumping may need to be fixed or better managed.

» Longevity 80%
A good 36 levels of action and fun.

you, it's not uncomfortable, but personally, I would have appreciated an option to jump with a second button instead of pressing up on the stick. Of course, 99% of C64 titles are like this, but here it really makes itself felt and often leads to less than ideal choices. Except for this (my personal preference, ed.), the game is very fun and has a good difficulty curve.

by **Carlo Nithaiah Del Mar Pirazzini**





NEW GAME

OLD TOWERS

Year: 2024
Editor/Developer: RetroSouls
Genre: Puzzle
Platform: Nintendo NES
Website: https://retrosouls.itch.io/old-towers-nes-famicom

Every now and then, I review a product that reflects what I have been writing about for some time. Old Towers is one of those products.

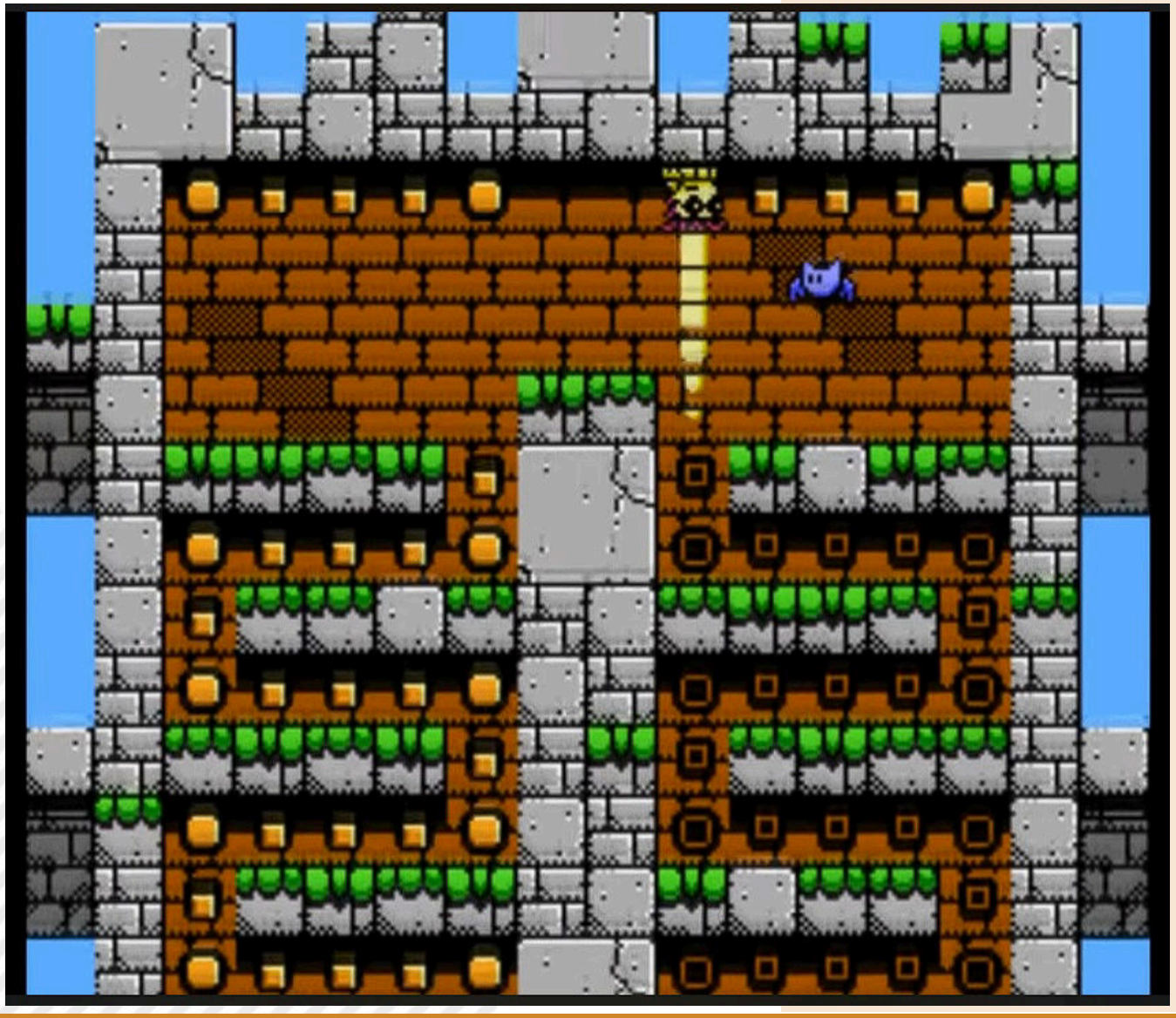
Old Towers has already been with us in several versions: Spectrum, Megadrive, Snes, and even Evercade. The Nintendo NES version was missing.

In this version, as in the others, RetroSouls has created an interesting, playable, and fun product.

Graphically, it's not very impressive. It wasn't impressive in its previous incarnations, and it's not impressive on the NES. It's well animated, very colorful, and fast-paced. But it's not "graphically mind-blowing." And that's what I look for in a game!

The beauty of the title lies in the gameplay. In Old Towers, we have to collect all the coins and reach the top of the tower. There are several





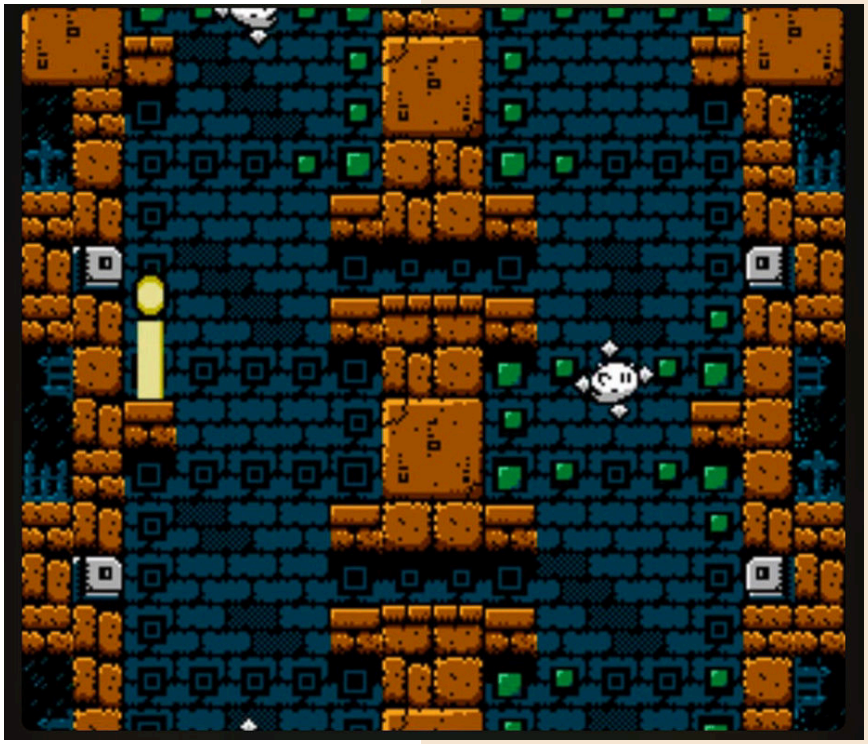


OUR FINAL SCORE

» Gameplay 85%
Fun and fast-paced with beautiful game mechanics.

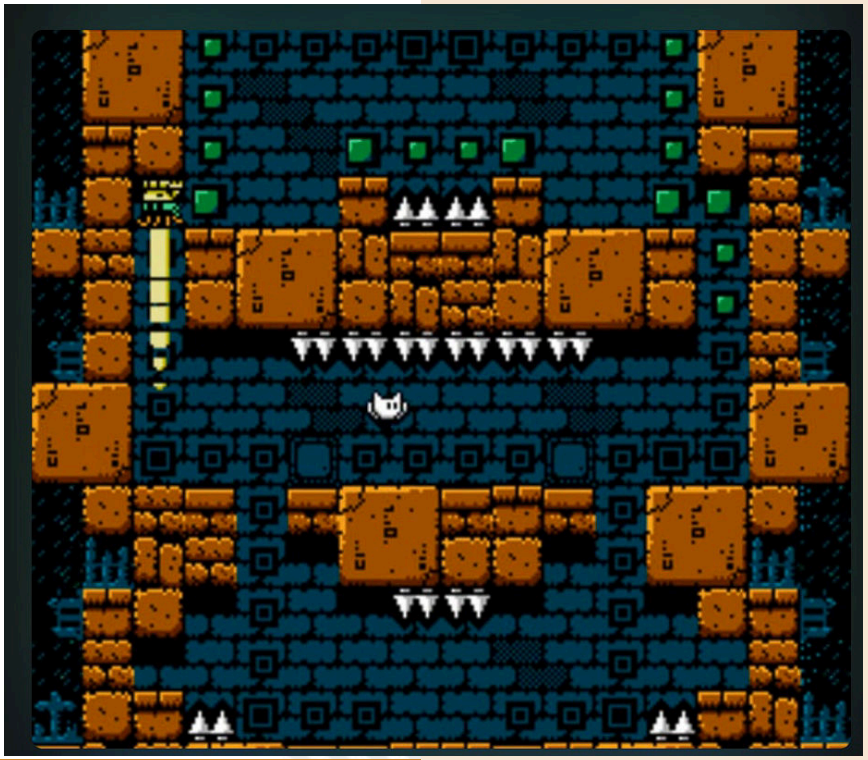
» Longevity 80%
A title suitable for everyone, including families.

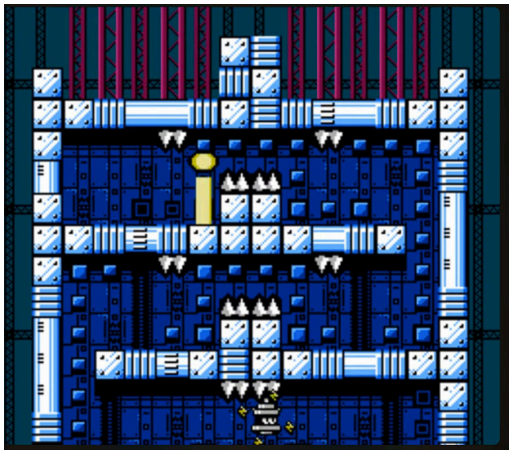
'dangers' to avoid, such as spikes and enemies. Simple mechanics, well-constructed levels, and the implementation of a second character. We will often find ourselves with two characters in play, and it will be essential to use both to complete the level. The combination of this synergistic alliance becomes essential to completing our adventure.



Nice! Simple but nice!
This NES incarnation performs well, sounds good, and is as fun as the others. It sets in motion some dynamics that we don't find in other titles. It's fast and also adapts to micro-games of a few minutes between one more serious game and another.
If you're looking for a good puzzle game for the NES, don't miss it.

by **Marta Rossmann**





NEW GAME

THE SHADOWS OF SERGOTH

Year: 2022/2025
Editor/Developer: DoubleSided Games
Genre: Dungeon Crawler/RPG
Platform: Amiga
Website: https://doublesidedgames.com/games/the-shadows-of-sergoth/

A beautiful dungeon crawler in perspective on Amiga, just like in the days of the great classics of this genre on the Commodore platform.

A first-person game set in the most classic medieval fantasy world, in a small kingdom called Chrisandia, in the south of the Marak peninsula. A sparsely populated place that lives off fishing and trade with the northern countries. The king, Orlof VI the Valiant, is the descendant of a dynasty that has always distinguished itself during the conquests of the past, in what is known as the "Age of Ashes." During the wars against the evil emperor Sul Rakin, the kingdom proved itself to be courageous and resilient. The events narrated in the game take place five years after the fall of the emperor, in the year 351 of the Crystal Era.

At the time of its release, I was unable to try it, but I am taking advantage of the Dark Shadow of Sergoth expansion to discuss it thoroughly and as it deserves.

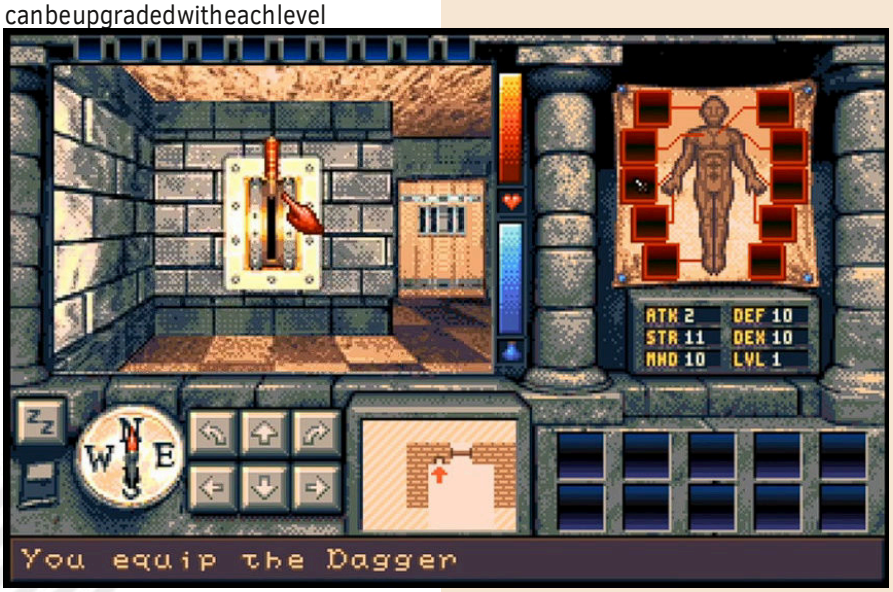
The game is the direct descendant of the 2018 title of the same name for Amstrad CPC (I highly recommend getting it). It is reminiscent of Eye of the Beholder or Dungeon Master. At the beginning, you will have the option to choose three difficulty levels (adventurer, warrior, or champion). At this point, you can choose one of five types of adventurers to play with. You can also choose their gender and



race (human, elf, dwarf, half-orc, or lizardman). Each of these has specific stats and bonuses. The manual, included in both the digital and boxed versions, provides a brief overview of what you can do with one of the initial choices to start the game.

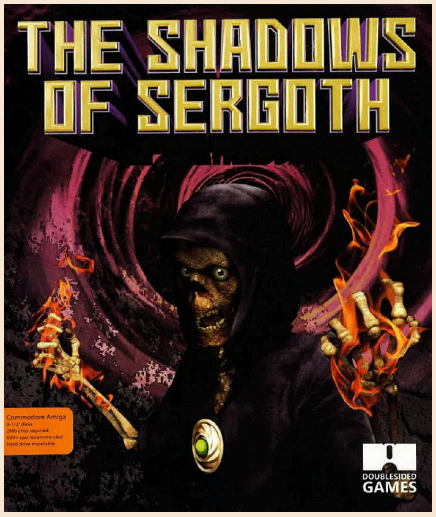


The character has three primary stats (strength, dexterity, and mind) that canbeupgradedwitheachlevel



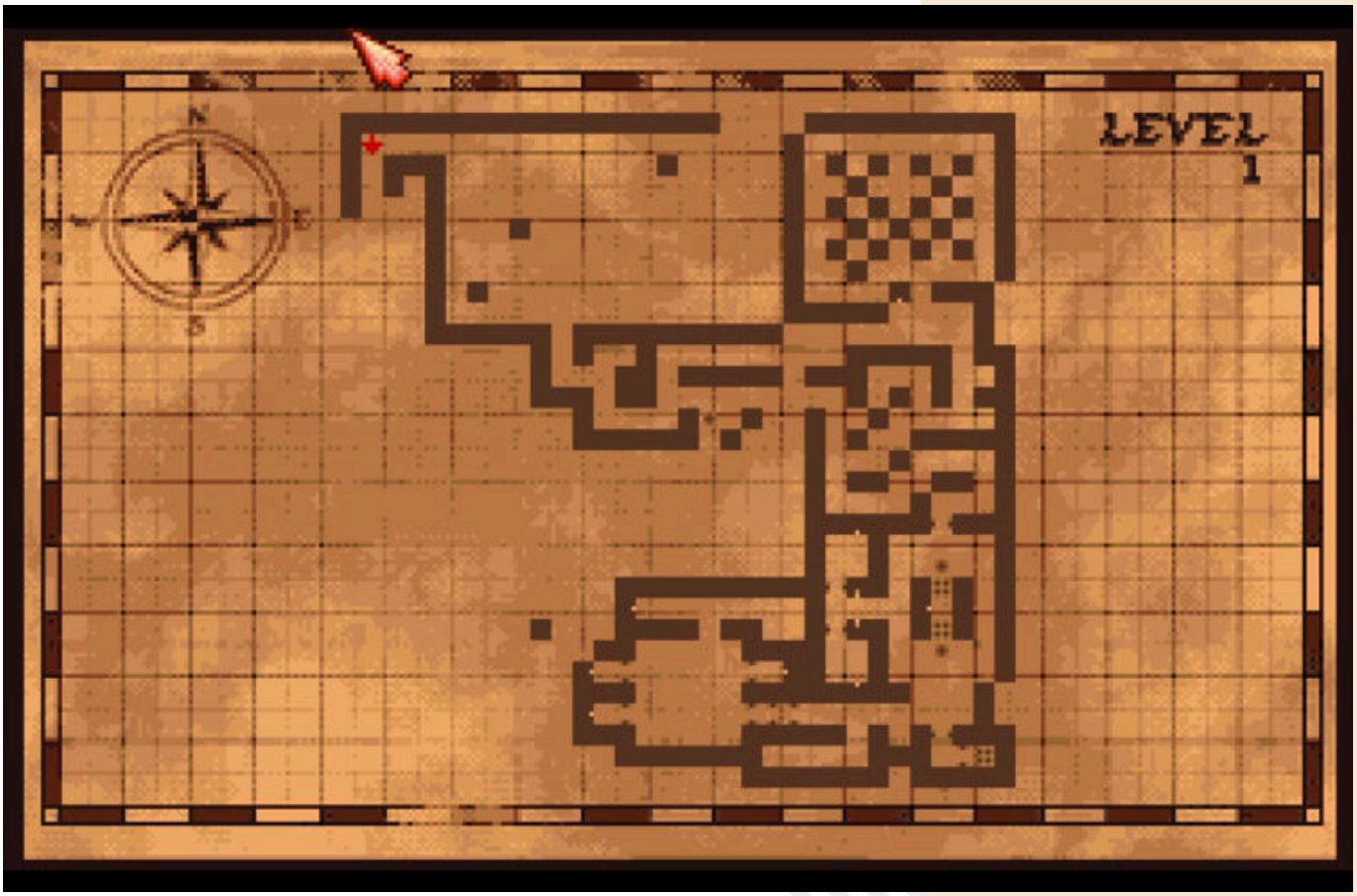






upgrade (up to twenty) by increasing experience points. There are also four secondary stats (Attack Bonus, Defense Bonus, Health Points, and Spell Points). My advice is to make the most of the keyboard because there are many more commands than the usual movements and attacks. There are up to 13 keys to use to best manage your characters. It takes practice, but I find this very stimulating.

At the bottom of the screen, we find the dungeon game map. It is large and very well developed. When we move, the map fills itself in with a convenient automapping feature. The movement on screen is very similar to that of an FPS and less jerky than in the classic Dungeon Crawlers of the past. It's a rewarding, easier, and more modern exploratory experience because it allows us to move relatively faster through the dungeon. There's a lot to do inside the dark tunnels: fighting, of course, but



also clicking switches, finding keys or magic portals, equipment, and much more.

There are also mini side-quests that we can choose whether or not to undertake. Since this is a solo adventure game, our adventurer has the ability to cast spells. We have 24 different spells, including attack, defense, healing, levitation, and teleportation. All are very interesting and effective.

The rules of the game are based on Microlite20, an extreme simplification of the classic Advanced Dungeons & Dragons. Combat is turn-based and, as in the most classic of classics of the genre, we can recover health and magic mana by eating food or drinking healing potions during combat. There is also a series of puzzles to solve, which add more depth than the classic fight, pull the lever, and grab the treasure.

The Dark Shadow of Sergoth expansion adds a series of custom maps in addition to the main ones, increasing the difficulty level and, consequently, the challenge. We can undoubtedly rank this title among the best of its kind in the modern era for Amiga.

As a role-playing gamer, I must admit that I am fully satisfied with both the base title and the expansion.

There is a lot to fight, explore, and discover, and it is very balanced. I particularly appreciate the Microlite game system and believe it lends itself perfectly to dungeon crawlers on computers.

Moving around the dungeon is smooth and easy, with an excellent keyboard/mouse combination never seen before in past titles.

Graphically, it is stunning, and graphic designer Tencu has shown great artistic skill in capturing the typical, epic look and feel of dungeons. There are some 3D motion effects that enhance the gaming experience. Mike Richmond's soundtrack is excellent and atmospheric.

The boxed version of the title contains the game on three 3.5" floppy disks, the manual, various stickers, a real compass, and a nice D20.

It is also available as a digital download, without gadgets but with a nice PDF manual to read.

As we come to the end, I can only recommend that you get hold of this masterpiece and its expansion. It is an example of how to interpret the spirit of the wonderful dungeon crawlers of the past in a modern key.

by **Roberto Del Mar Pirazzini**

Expansion:
https://quantumcodemonk.itch.io/dark-shadows-of-sergoth

OUR FINAL SCORE

» Gameplay 95%
A great action RPG, but not only that. With lots to explore, fight, and collect. It takes some practice at the beginning to learn all the commands, but it's worth it.

» Longevity 95%
The base game already offers several hours of "exploration," and the expansion perfectly complements it, providing many more hours of gameplay. Not to be missed.





NEW GAME

STAR FURY

Year: 2025
Editor/Developer: Raphael Rezende
Genre: Shoot'em up
Platform: Apple II
Website: https://www.callapple.org/product/star-fury-for-the-apple-ii/











Star Fury is a classic Apple II arcade game with a "space" theme that nods to the classic Defender, created by Raphael Rezende.
The title is available for $12.95 and includes the PDF manual, the image file for a 5.25" floppy disk, and the label image.
The game will see us clearing space of terrible alien creatures across 8 levels of increasing difficulty. At the end of level 8, we will start again but with greater difficulty and a faster game speed.



You start with three lives and only laser weapons. The spaceship can move both left and right, and you'll have to keep an eye on the amount of fuel at your disposal. There are no fire bonuses or smart bombs, just classic lasers to blast the aliens in the face and sporadic supplies to collect in the sky.
After accumulating 90 points and killing at least 18 aliens, you move on to the next level.
The aliens move randomly across the screen, following a specific attack pattern that you have to memorize if you want to survive.
It's a very simple but fairly entertaining game. The technical aspect features simple graphics that move well and sound effects consisting solely of combat sounds.
It can be played with a keyboard (a horrible experience) or a joystick, and, of course, it can be launched in emulation without any problems.
Is it fun? Yes, but slightly monotonous after the third world, which is all the same.
I would have added more obstacles in the game and more enemy waves to spice things up.

by **Carlo Nithaiah Del Mar Pirazzini**

OUR FINAL SCORE

» Gameplay 70%
A good challenge across 8 levels, but a little lacking in "features" and gameplay.

» Longevity 65%
Eight tough levels, but too similar to each other.

NEW GAME

BATTLE FOR CRONOS

Year: 2024
Editor/Developer: Windigo Productions
Genre: Strategico a turni
Platform: Commodore 64
Website: https://windigoproductions.itch.io/battle-for-cronos

A spectacular discovery has been made on Cronos, and all the rival powers in the sector have sent combat forces to secure the find and gain maximum power.

A little Dune 2 on Commodore 64, this is Battle for Cronos. A turn-based wargame for up to four players.

To be successful on the battlefield, you need to effectively combine different types of units, take the terrain into account, and plan supplies for your units.

The campaign is divided into eight missions, each playable in two difficulty levels. There are 6 skirmish maps and 10 simulator missions for tactical training.

The game allows you to save using save states or passwords and lets you command up to 20 different units.

This title is reminiscent of the aforementioned Dune 2 but also Battle Isle. It takes a little practice to master, but fortunately, the digital ROM comes with a nice manual that explains how to get the most out of your army.

We recommend approaching the game mechanics starting from the pages of the guide to better enjoy the game and not make the mistake of abandoning it too soon because it is "difficult."

We believe that more games of this kind are needed on the C64. They are lacking, and we think that the platform is the most suitable place to test titles with a minimalist appearance but great playability/tactical qualities.

Technically, it is limited but functional, and the graphics are well characterized despite being very basic.

Functional, that's it! The graphics are functional to the style of the title.









Too bad about the music. The sound effects are just a couple of beeps and there is no music.

In conclusion, it's a good turn-based strategy game. A bit punishing, even at level 1 if not approached with care and without reading the manual, but it's nice and we liked it.

by **Giampaolo Moraschi**



OUR FINAL SCORE

» Gameplay 75%
Requires practice and a thorough reading of the game manual to be appreciated as it should be.

» Longevity 70%
Not easy if approached incorrectly. Requires tactics and patience.



NEW GAME

CASTLEVANIA AGA

Year: 2025
Editor/Developer: Dante Retro Dev
Genre: Platform
Platform: Amiga AGA/CD32
Website: https://danteretrodev.itch.io/akumajou-dracula-aga



Akumajo Dracula/Castlevania is undoubtedly one of the most iconic series of the 1980s. Created on Famicom, but converted to any 8- and 16-bit platform up to today's modern consoles, the saga of the Belmont family and its entanglement with Dracula is undoubtedly one of the most beautiful to test and play.

The plot revolves around the fearsome vampire created by Bram Stoker, inspired by Vlad Tepes II, known as the Impaler, and the descendants of the Belmont clan of vampire and monster hunters (and their numerous allies).

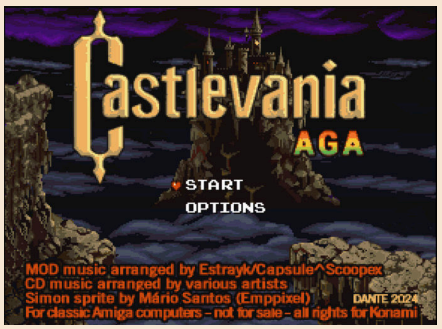
The game was a hit on the Famicom thanks to its gameplay dynamics, solid gameplay, and graphics reminiscent of the monster movies of the 1930s and 1950s.

After a mediocre Amiga version in 1990, which was graphically acceptable but terribly 'wooden' (and that's a compliment, ed.), here is the Amiga AGA version created by Dante Retro Dev.

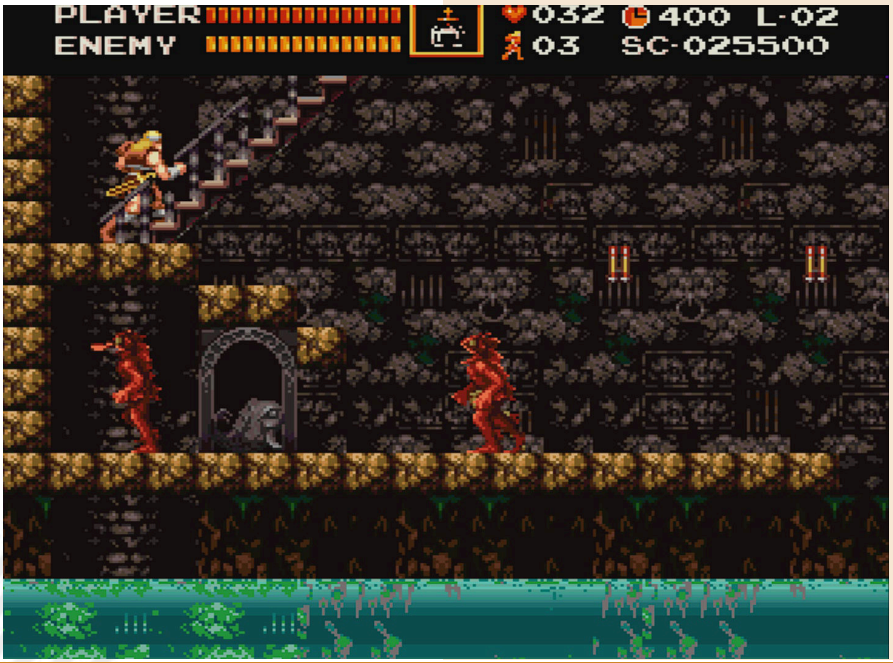
A title that we have followed with interest on our page over the years, which is now finally available in a complete and playable version and totally 'free to download'.

While the drama is still the same, the style of the game recalls the original FAMICOM/NES title but updates it with a graphic style reminiscent of later 16-bit titles, with some gems taken directly from the Chronicles series and the beautiful Sharp X68000 version.

The game is still based on jumping, destroying the deadly enemies that come our way, collecting bonuses and upgrades for our weapon and, possibly, an additional weapon.



This version features six levels divided into different sections to explore, with a final boss fight. The end-of-level monsters are just that... monsters!





OUR FINAL SCORE

» Gameplay 95%

Perfect controls (double button and CD32 pad included) that allow the character to respond appropriately in every situation. Technically very impressive.

» Longevity 90%

A game with excellent level design and a good difficulty curve. The battle with Dracula deserves to be fought with skill.

They are straight out of the golden age of horror movies, with a beautiful Frankenstein, for example, in perfect Boris Karloff style, or an incredible Medusa reminiscent of the one in the 1981 movie Clash of the Titans.

If you are a fan of "old" monster movies, this title and the entire Castlevania saga are a blessing.

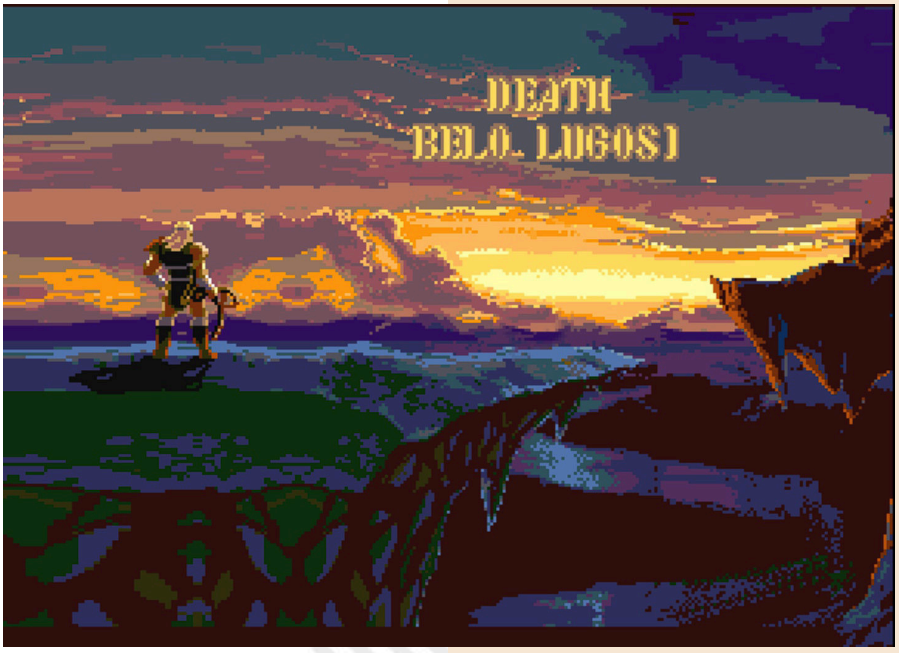
The gameplay is solid and closer to the original version than the one made in 1990. The hits are precise, the weapon synchronization is perfect, and everything works wonderfully.

Nothing to say about the soundtrack, a perfect transposition of the tracks created by Kinuyo Yamashita and Satoe Terashima.

The game runs on real hardware requiring Fast Ram. On the basic A1200, it has several problems running correctly, while on CD32, the iso had no problems or crashes. We recommend testing the best configuration in emulation and perhaps transferring it to suitable hardware.

What more can we say? It's an almost perfect title with a great balance of difficulty. The levels have a curve that gradually rises. It's a pleasure to play this way. A great way to start 2025 (or should I say 2026... FF) on Amiga.





di **Carlo Nithaiah Del Mar Pirazzini**

NEW GAME

A GREAT NEW WORLD

Year: 2025
Editor/Developer: Phaze 101
Genre: Puzzle
Platform: MSX



"Oh wonder! What wonderful creatures! And how beautiful is the human race! Oh sweet new world, full of such people!!"

Dystopian and disturbing, this is A Great New World on MSX.

It takes real heroism to create a game inspired by Aldous Huxley's Brave New World. Written in 1932, Huxley anticipated the development of technologies for reproduction, eugenics, and mind control, used to forge a new model of society, sketching a dystopia in which man lives in a dramatic existential limbo. It is a cold, detached, cynical text that highlights the grotesque aspects of the drama on which the author focused.

The game is not based on the events of the book, but on the society it describes. In this world, everyone has a role and is conditioned from birth to be perfect for that role and, most importantly, to be happy.

In the game, we are tasked with making the 'perfect' society work. We must ensure that the right number of citizens of each type are raised and prepared/conditioned to play their role in the world through a series of mini-games that are much more 'adult' than they appear on the surface.

Each turn of the game, natural disasters will reduce the population, and we will have to create new embryos, sort them according to their roles (it is necessary to have different types of people available, otherwise society will collapse), and then condition them to give their best in performing a specific role. To be perfect and happy.



A.W.E.S.O.M.E.! There are no words to do justice to this new title from Phaze101. Unique in its genre and endowed with a cynical but very interesting style.

A version of the "God games" but with a touch of MK Ultra and mass





OUR FINAL SCORE

» Gameplay 95%
The plot, tutorials, graphics, music, and mini-games... everything is perfect!

» Longevity 90%
It requires dedication and commitment, but it's very engaging.

manipulation.

The game features a nice tutorial for each event in both English and Italian, as well as several screens explaining the evolution of our dystopian society. There are no similar games on MSX or even on other platforms.

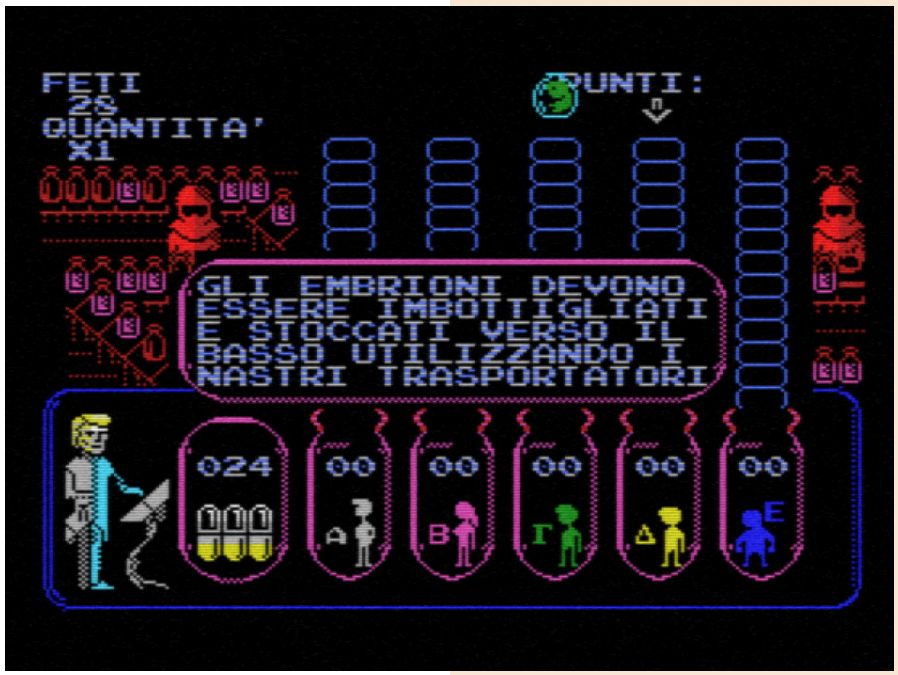
Beautiful is an understatement. An incredible plot and a unique appeal that keeps you glued to the screen. The mini-games seem to come straight out of a Game Boy puzzle game but have depth and a great ability to engage the player.

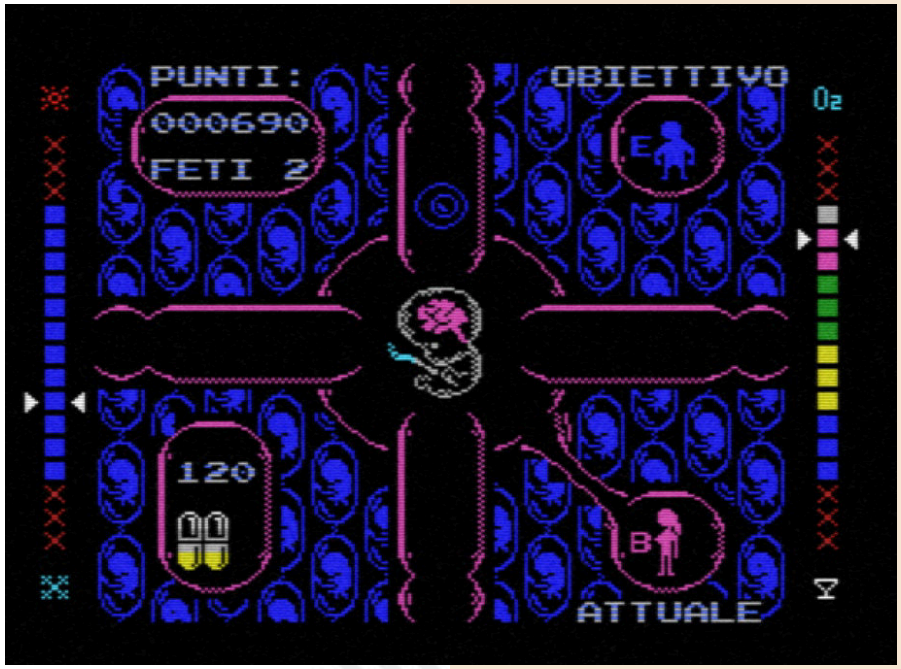
The aesthetics and audio are also unique. The graphics are minimalist but with dark and oppressive colors that greatly enhance the overall atmosphere, and the music is a gem in terms of tension and production.

There are no other words to describe this title. It must be tried, experienced, and savored. It is a game that keeps you glued to the screen and makes you think.

"Today, the art of mind control is becoming a science. And those who practice this science know what they are doing and why; they are guided by theories and hypotheses well-founded on massive experimental evidence.".

by **Carlo Nithaiah Del Mar Pirazzini**





NEW GAME

ANNIHILATOR

Year: 2025
Editor/Developer: Salt & Pixel
Genre: Shoot'em up
Platform: Game Boy Color
Website: https://saltandpixel.itch.io/annihilator

A crazy, dystopian future in the year 40XX. The city of Eden Try is teeming with life and pain. Everything is fueled by the agony of those who must endure the "Tribulation."

This experiment transforms human suffering into fuel for war machines and enhanced soldiers. The victims' torsos, vital organs, and brains are fused together with machines designed to extract emotions.

Locked in a perpetual cycle of death and rebirth, they relive their last moments over and over again. But something has changed: one survivor has escaped this destructive cycle and is ready to free the human race from all this pain.

Annihilator is a brand new top-down shooter for GBC. We play as the survivor Shinryu. The goal is simple: destroy everything that stands in your way to freedom and annihilate the corporation.

In a nutshell, it's a formula already seen in Smash TV or the recent Xenocrisis. From the latter, it takes the approach to each level and the "frantic" style of play.

The game is available for digital purchase for $10 on the developers' page.

It's a pretty fun and noisy title. The waves of enemies are quite challenging and require a couple of games to understand and manage. The game also features a series of cutscenes (along with a nice introduction) that narrate the development of the whole story.

The background is actually very



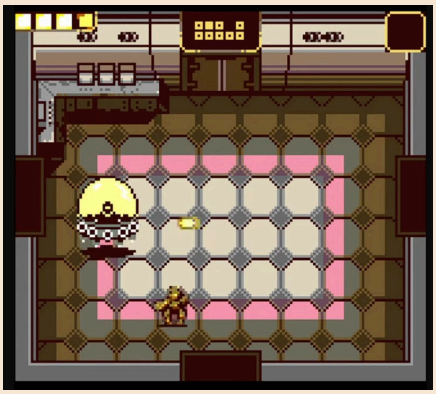




OUR FINAL SCORE

» Gameplay 75%
Nothing innovative under the sun. You shoot and dodge bullets. The approach to boss fights is interesting, but the absence of smart bombs is a penalty.

» Longevity 65%
Penalized by the vast number of titles in the genre.



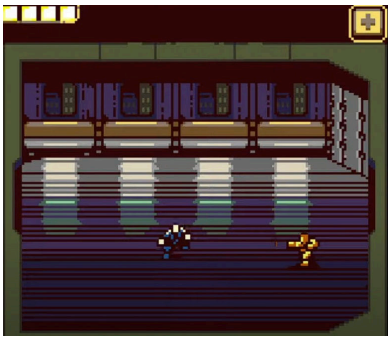
interesting, and I could see it being well developed within a techno-sci-fi role-playing game.

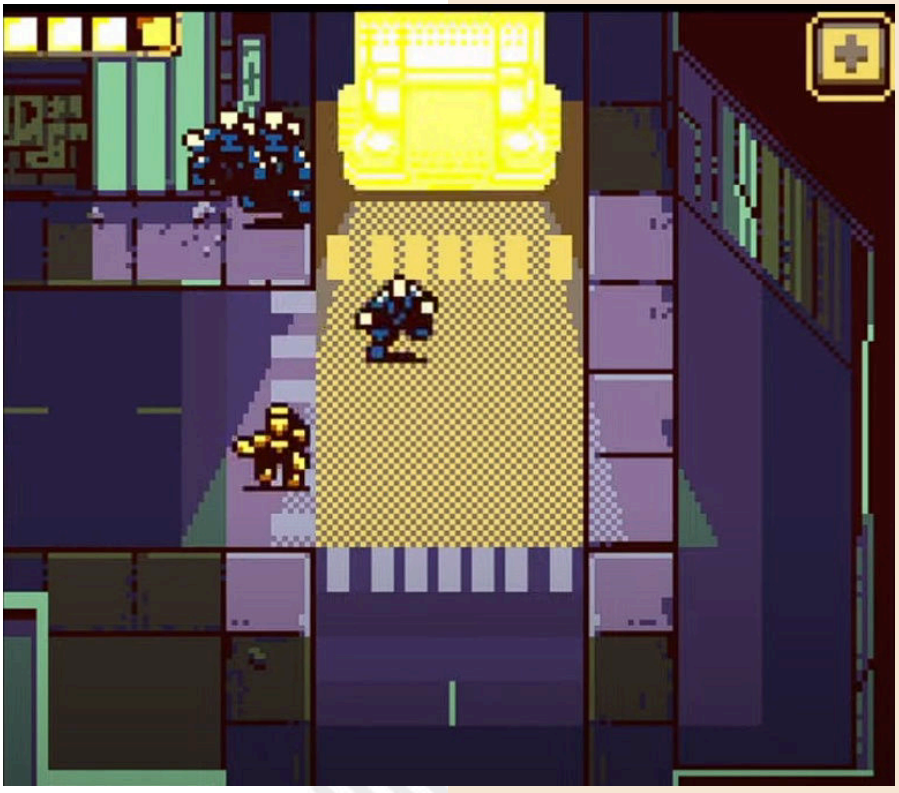
The comparison is with the aforementioned Xeno Crisis, recently released on GBA. Let's say that from a technical point of view, it obviously comes out defeated. The graphics work, but they are not very detailed.

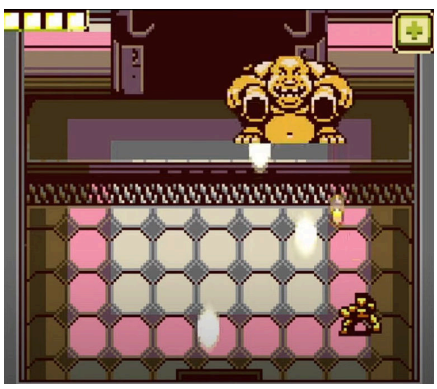
It's playable, but it has that strange feeling of "dÃ©jÃ vu" that will soon make you abandon it in your virtual game library.

In any case, it's an interesting product for enthusiasts with a beautiful storyline.

by **Marta Rossmann**







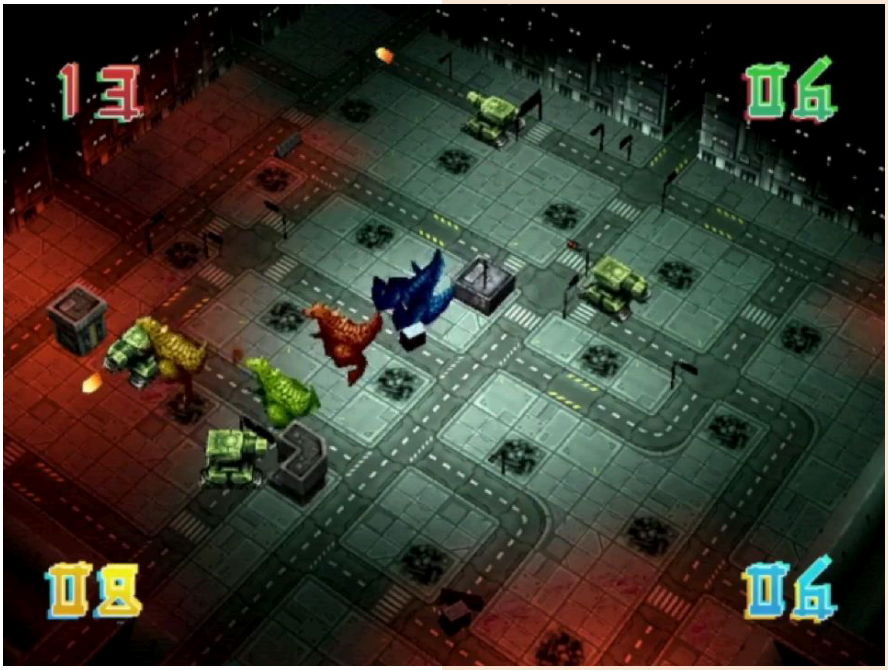
NEW GAME

DESTROY!

Year: 2024
Editor/Developer: Team Ultra Rare
Genre: Action/Brawler
Platform: Nintendo 64
Website: https://github.com/n64brew/N64brew-GameJam2024/tree/main/code/rampage

Destroy! is a homebrew minigame for the N64, released in late December 2024 and competing in the N64 Game Jam. It is very reminiscent of the classic Rampage, in which you play as giant kaiju monsters destroying the city.

A game begins with each player in a corner of the screen within a city grid of buildings with an isometric 3D view. There are twenty buildings arranged in a 5x4 pattern, and each player controls a giant Godzilla-like kaiju that can swing its tail at others to knock them to the ground.

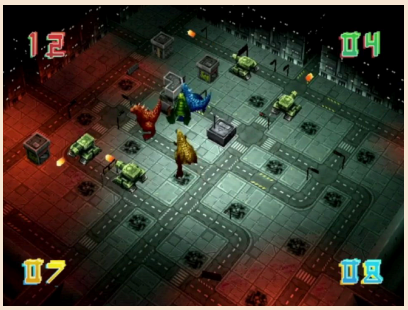


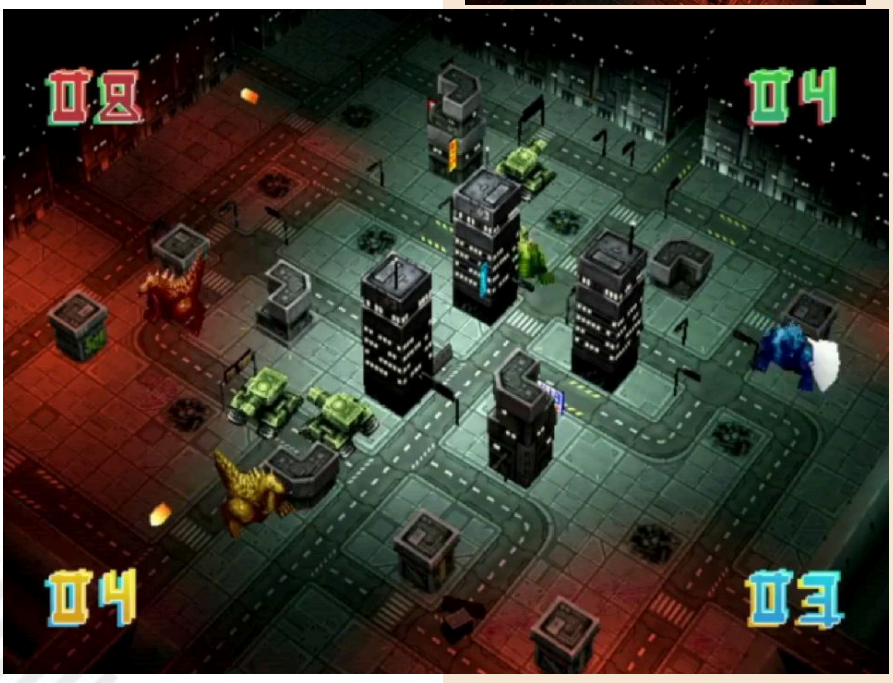
Players earn points by attacking and destroying buildings. The player with the most points wins the level and climbs the leaderboard. To spice things up, there are several armed armored vehicles traveling around the arena with the aim of stopping the destruction. The vehicles cannot be destroyed and represent the real obstacle.

Each type of building is worth a different number of points depending on its size: small buildings are worth 1 point, medium buildings are worth 2 points, and large buildings are worth 3 points. Each building also has a different resistance depending on the tail blows it will take.

The game was developed by an all-Italian team that has created a simple and fun product.

The gameplay and style of Destroy! are very reminiscent of the arcade game Rampage (or Rampage: World Tour / Universal Tour, if we want to stay on the N64). The main difference is that Rampage is a 2D platformer,







OUR FINAL SCORE

» Gameplay 90%
Everything is super easy to manage, with responsive controls and a pure RAMPAGE-style atmosphere.

» Longevity 90%
In multiplayer, it's truly devastating! It's loud and destructive and doesn't require too much ingenuity to play. Pure destruction!

while this is more like a top-down 3D beat 'em up. When it comes to playing, the goal is simple and clear: break as many things as possible. The only thing that isn't very clear at first is that tanks don't give you any points when you hit them and only provide a slight inconvenience.

The rounds are quite short and fast, and one game leads to another. Playing against the AI also provides a good level of challenge, but the best part is still the multiplayer game.

That said, the dark and gritty atmosphere adds a bit of tension to the game. It's as if the stakes are high and there's no choice but to fulfill your destiny and bring everything crashing down.

Destroy! is one of those games that really gets your blood pumping for some gratuitous destruction. It makes you smash the controller to win the game, and it's always a lot of fun.

by **Carlo Nithaiah Del Mar Pirazzini**





NEW GAME

F-16 FALCON STRIKE

Year: 2024
Editor/Developer: Jarosław 'Roeoender' Wosik
Genre: Simulatore di volo
Platform: Atari 8bit
Website: https://webchrono.pl/assets/f16fs/index.html

How wonderful was the golden age of flight simulators on home computers? I'm talking specifically about combat simulators. There were countless titles, hyper-complicated and detailed, that "flew" through the virtual skies of our gaming machines. A genre that suffered a sharp decline in the late 1990s and is now limited to a niche market on modern gaming platforms.

But now, on Atari 8bit, we have F-16 Falcon Strike. A Polish title developed for the Abbuc 2024 contest, it has earned praise for its quality and playability.

In the game, we wear the uniform of an F-16 fighter pilot in the Polish Air Force. The aim is to defend the skies of the EU and Poland from the aggression of the BARF (Russian and Belarusian Federation) in the fictional "Kroleviec Campaign."

The campaign consists of 15 missions of increasing difficulty and different settings: air combat, interception of enemy bombers, ground unit support, bombing, and assault on enemy ground units.

Each mission is accompanied by an excellent text briefing explaining the conditions for victory.

The scenarios are real, i.e., they replicate real cities, airports, and



areas in their exact locations.

The work involved in setting up the fighter is interesting. The maneuverability of our F16 depends on how it is equipped with weapons/fuel tanks. The same also applies to the speed of the aircraft and its ability to fly at altitude (via the atmospheric density factor).



We can equip our F16 with various





OUR FINAL SCORE

» Gameplay 80%

Lots of options to manage and very complete for a title that is only 130kb. Not easy without following the tutorial and manuals.

» Longevity 80%

The missions are well structured and enjoyable to play. It's not a game for everyone.

weapons: cannons, unguided missiles, guided missiles - air-to-air: AIM Sidewinder, AIM 120 Amraam, air-to-ground: AGM 65 Mavericks, anti-radar: AGM 88 HARM.

All this can be done during the setup phase on a dedicated screen.

The game is truly a complete product. Missions can fail if the enemy reaches the target during our assault flight. There is a nice implementation of flight time and everything is quite realistic.

The three-dimensional engine is convincing and everything moves at a decent speed.

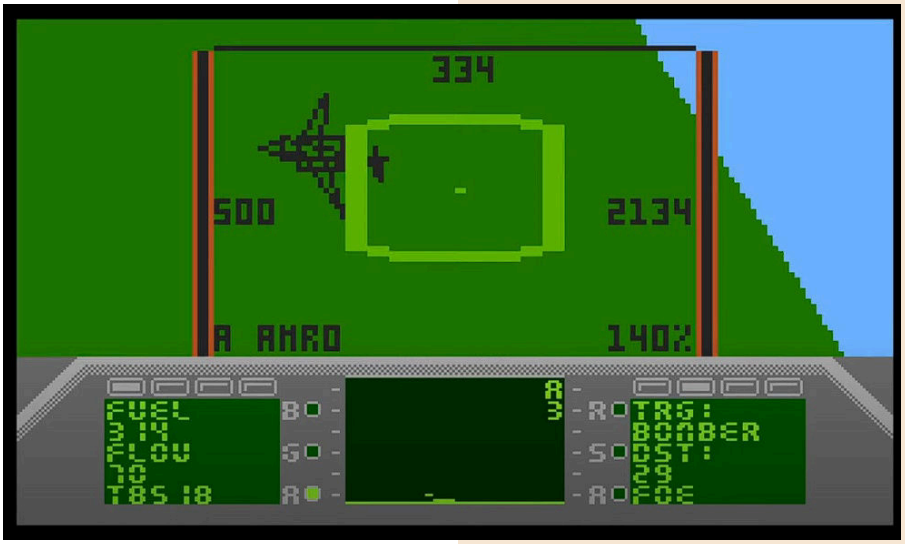
It is not an easy game to "manage." A nice video tutorial is available on the developer's website. A product from another era, dedicated to fans of this genre and lovers of war simulations.

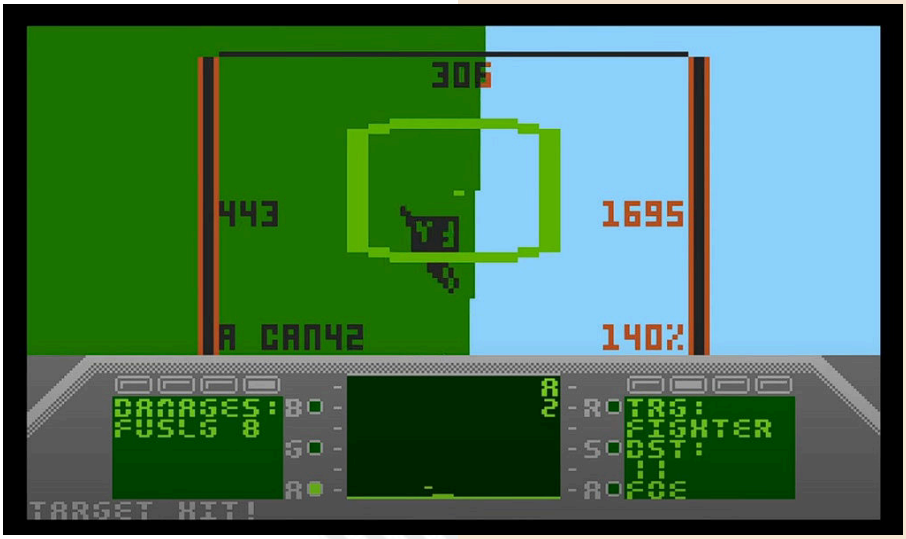
Super complete in every function, definitely worth trying.

by **Giampaolo Moraschi**









RANMA ½: AKANEKODAN TEKI HIHOU

Year: 1993
Editor/Developer: Toho, Rumic Soft
Genre: JRPG
Platform: Super Famicom, Super Nintendo
English version: https://www.romhacking.net/translations/404/

It's hard to believe, but Rumiko Takahashi's Ranma Â½ was once one of the most popular series to grace the emerging Western anime fandom of the 1990s.

Ranma's popularity is important to understand, because otherwise the logic behind the translation of the series' main foray into the RPG genre would be almost impossible for a fan to follow.

Ranma 1/2: Akenekodan Teki Hihou, translated as Ranma Â½: Treasue of the Red Cat Gang, is very basic. It has an easy combat style to the point that spamming attack or our special attack is sufficient for most encounters.

There are no side quests, the story is a fairly straightforward MacGuffin hunt, and all the intriguing details are largely watered-down elements of its source material.

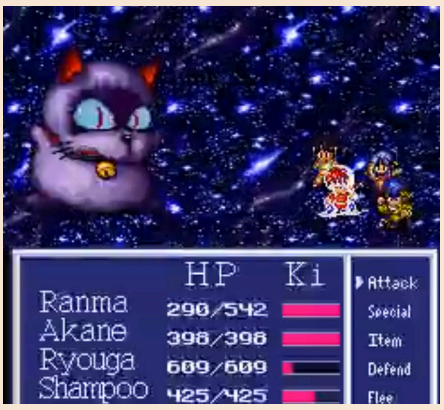
It's not a horrible game, mind you. It's a perfectly functional, good-looking, no-frills Super Famicom RPG that lasts less than ten hours. None of its shortcomings are so great as to make the gaming experience painful or boring; it's just that playing it feels like going to a restaurant and finding that the only thing on the menu is bread. Even if that bread is excellent bread!

In my case, the gaming experience left me mostly with nostalgia for the good old days.



For those who don't know, Ranma Â½ is an action-comedy manga published from 1987 to 1996 by Rumiko Takahashi. It centers on arrogant kenpo prodigy Ranma Saotome and Akane Tendo, two teenage martial artists who are betrothed and must constantly fend off various unwanted suitors with gratuitous amounts of cartoon violence. To further complicate matters, there is a curse that transforms Ranma from male to female when he is splashed with hot or cold water. Many of the aforementioned suitors are similarly cursed but transform into animals.

If all this sounds interesting to you,





I'm sorry to say that the plot of Treasure of the Red Cat Gang seems more like the classic plot of any Japanese role-playing game, but with the cast of Ranma Â½ inserted to give it a delicate flavor. Ranma and Akane are out and about when an ancient evil gang of cat-themed bandits kidnaps Ranma's father, Genma. The pair chase after them only to be captured and taken away to a continent full of rural towns. From there, Ranma, Akane, and other supporting cast members from the series must search for three mystical items before the titular Red Cat gang can use them to take over the world.

Despite the lack of an enticing setting or even an interesting premise, this isn't necessarily a death sentence for a Ranma Â½ RPG. There's plenty of humor to be had from all of this, even in familiar scenarios. In fact, half of the jokes in the original came from mixing melodramatic romantic feuds with incredibly funny martial arts encounters. There are actually many story arcs in Ranma that focus on recovering various MacGuffins, and what elevates them is Takahashi's irreverent sense of humor and his perfect mastery of visual comedy, slapstick, and action.

This humor is not absent from Treasure of the Red Cat, and what little there is is much appreciated. I was repeatedly amused whenever Ranma's rival, Ryoga, unwittingly abandoned the group due to his terrible sense of direction, and I was happy to see that the game remembered how terrible Genma was as a father. But it's all too distracting, and none of it affects the story in any meaningful way. It helps that the fan translation, currently the only way to play this game in English, is often rather flat. It's perfectly readable, and the characters seem to be written accurately.

The aesthetics fare better in this regard. While the game is full of villages starved of distinctive features, a revolving door of generic cave dungeons, and mostly unremarkable sound effects and music, the character sprites are well characterized. They aren't the most diverse set of sprites out there, but they represent the cast fairly well. My favorite sprites are probably the damage animations for some of your party members, which are appropriately cartoonish for a Ranma Â½ game. The enemy sprites are similarly quite evocative of the series' comical art, which at least means that combat exudes a "Takahashi" vibe.

The combat itself is as simple as possible for the genre. It's turn-based, with "Attack" for normal attacks, "Special" for special moves, and "Item" for items. The only noteworthy part is that the special attack resource, Ki, isn't indicated by numbers, but by a bar with no clear values. Levels fully restore HP and Ki and are surprisingly frequent, so combat ends up being largely unchallenging. There's even a surprisingly functional auto-battle feature to speed things up even further. The difficulty might occasionally ramp up with a boss, but it's nothing that a item or two can't fix. And just in case the rather frequent encounters start to bore you, Ranma is equipped with a guaranteed escape (as accurate as in the manga) in his "Special" menu.

Outside of combat, the experience remains entirely uneventful. The game, as I said, has no side objectives, and its few unique elements are barely worth mentioning. Even without a guide, it would be difficult for anyone to get

OUR FINAL SCORE

» Gameplay 70%

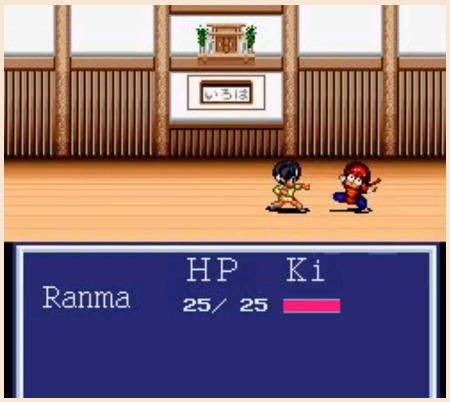
Linear plot without any exaggerated twists. The translation from Japanese is not bad.

» Longevity 75%

For true fans of the series. Only for them is the title perfect! For everyone else, it's one of many RPGs on Super Nintendo to rediscover, but certainly not a masterpiece.





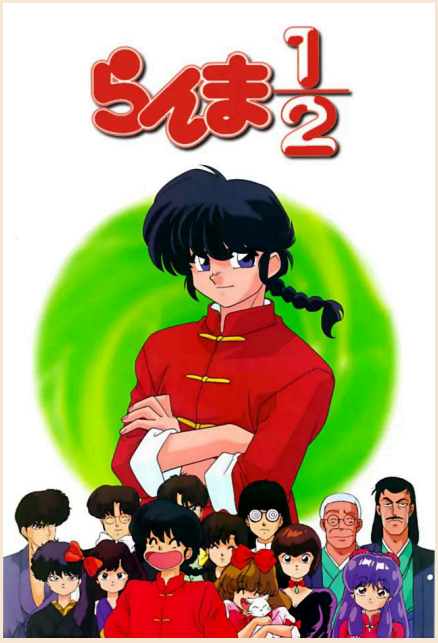


lost, which is technically an advantage, although in this case it almost as much indicates a lack of variety. There are times when the party must use their cursed forms to access certain areas, but this is very rare, and the idea is not used elsewhere. The cursed forms don't even affect combat in a consistent way. Ranma can go into battle in either boy or girl form without effort or repercussions, while Ryoga and Mousse, who transform into a pig and a duck respectively, lose access to certain moves in those forms. Shampoo, however, can transform into a cat and suffer no penalty. It's fairly easy to imagine a version of this game where managing transformations is more of a factor in combat and exploration, so it's quite disappointing to see one of the most notable points of Ranma Â½'s plot play such a minor role.

Ranma Â½ as a series has always been better suited to the fighting game genre, even if the few examples of fighting games were inferior versions of their contemporaries. The recent anime remake gives me a slight hope that someone might ping Arc System Works for the next step, though I won't be holding my breath.

As it stands, Ranma Â½: Treasure of the Red Cat Gang is a standard RPG if ever there was one. It elicits neither anger nor joy in any meaningful way. As I neared the end of my playthrough, I realized that whatever appreciation I had for Treasure of the Red Cat Gang stemmed less from the game itself and more from the fact that it had gotten a fan translation to begin with. As mentioned earlier, Ranma Â½ was incredibly popular among Anime fans in the 90s, but to leave it at that is probably to sell it short. It was actually comparable in reputation to Sailor Moon and Dragon Ball Z. Unlike those series, however, it didn't have staying power in the collective minds of fans in the new millennium. It's still loved as a classic by many, but that love is largely overshadowed by the adulation accumulated by more recent offerings. But it's that early 2000s love that I find most appealing in Treasure of the Red Cat Gang. It may not have much to offer beyond the fact that it's a Ranma Â½ game, but I'm still impressed that the translators at the "Ranma Team" took the time and effort to bring it to an English-speaking audience. Not all translation projects need to be motivated by a desire to see a forgotten masterpiece or obscure cult hit. Sometimes the impulse lies in a love for a work and a desire to see all its derivatives, or even simply in respect for the love of others. Even though killjoys like me can't look past its flaws, I never felt like this game was intruding on my time or that of the translators.

by **Roberto Del Mar Pirazzini**







NEW GAME

TRACKER HERO

Year: 2025
Editor/Developer: Zener
Genre: Music game
Platform: Amiga AGA/ECS
Website: https://zener.itch.io/tracker-hero

There was a time when music games for various systems were hugely popular. The Guitar Hero series, for example, or Rockband or DJ Hero. All titles that transported players into the game, inserting them as members of a band via guitar or drums or, as in the case of DJ Hero, allowing them to edit songs and perform them on a console.

They caused a sensation and are still fondly remembered by many fans of the genre.

Could something like this be missing on Amiga? In Zener's (the developer) mind, I would say no, and here we are with Tracker Hero, a music title that is reminiscent in every way of the aforementioned and beloved titles of the genre.

What do we do in this game? Simple, the aim is to play the MOD tracks in the base game, in the additional packs, or those we add to the data folder as well as possible.

MODs are the musical format par excellence in the Amiga world. They are used in the demo scene and in many chiptune music concerts. The most famous program for creating them was the renowned PRO TRACKER, developed by Lars Hamre, Anders Hamre, Sven Vahnsen, and Rune Johnsrud. It allowed users to create musical "pattern" sequences, link them together, and create complete pieces of music. The format was precisely .MOD.

Initially developed only for Amiga, it was later recreated to make it compatible with Atari ST, where it also achieved considerable success.

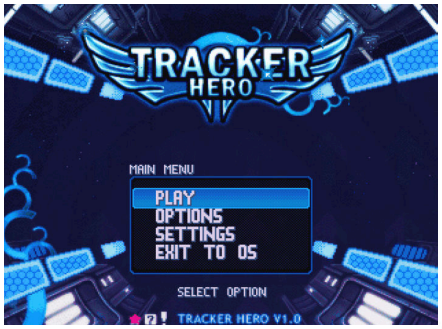
Back to the game. Tracker Hero is just like the titles in the Guitar Hero series. The song chosen in the menu starts playing on the screen, and the aim is to press the four buttons on the screen correctly to play it as well as possible. The game allows you to use the Amiga keyboard via the F1, F2, F3, and F4 keys, but you can also use the four buttons on a CD32 pad or use a guitar or PS2 dance mat using Paul Willingham's PS2-Amiga adapter or PSX64.

While the keyboard can be cumbersome, the pad or guitar is great fun and guarantees hours of entertainment.

It is available for free on the website in AGA or ECS format and with several packs of titles to play. It is also possible to load additional MODs by placing them in the appropriate folder.

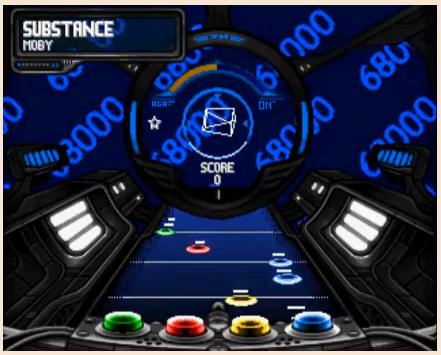
What more can I say? Aesthetically, it's nothing special, but it's definitely functional and certainly a fun and unusual game to see on an Amiga.

by **Carlo Nithaiah Del Mar Pirazzini**









OUR FINAL SCORE

» Gameplay 80%
Cumbersome with the keyboard, but wonderful with the many possible configurations.

» Longevity 90%
Lots of songs to play with endless possibilities thanks to the ability to add more (almost infinite).

NEW GAME

ELITE

Year: 2025
Editor/Developer: Aleksi Eeben
Genre: SCI-FI simulator
Platform: VIC 20
Website: https://vic20elite.wordpress.com/

Elite is a classic video game, a classic of science fiction gaming, and a milestone in programming in the era of early home computers.

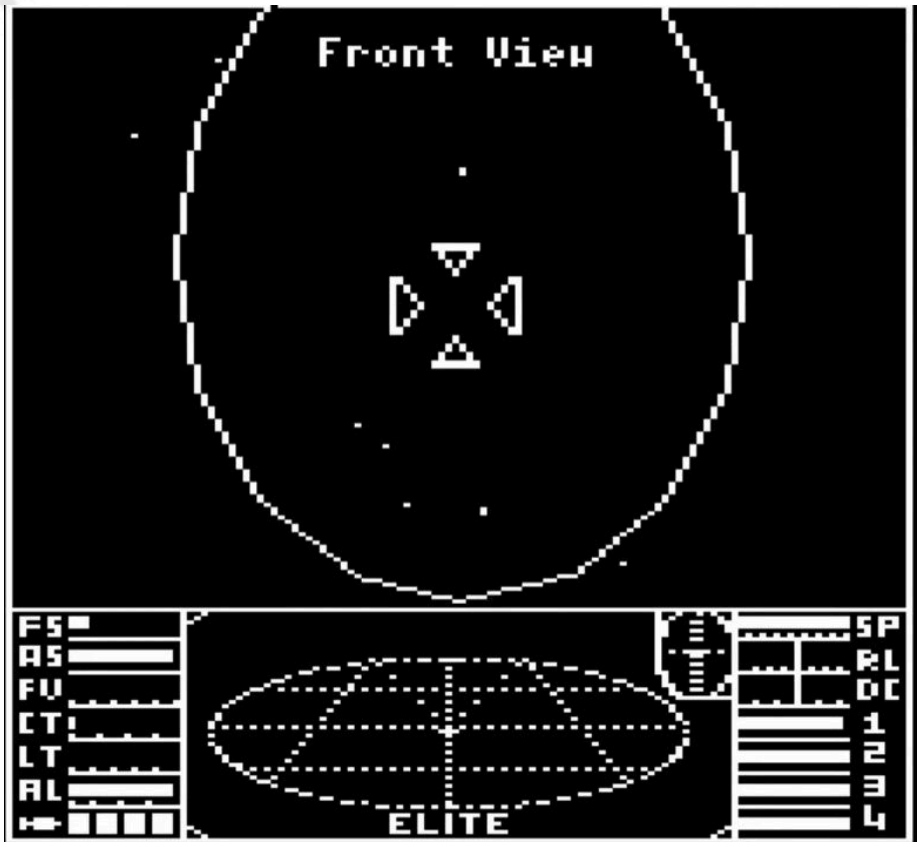
A space trading simulator developed in 1984 by David Braben and Ian Bell and published by Acornsoft for the BBC Micro and Acorn Electron.

It was one of the first home computer games to use 3D wireframe graphics with hidden line removal. It added graphical and gameplay aspects drawing on the 1974 classic Star Trader. Another major inclusion was the inspiration from Robert Holdstock's short story The Dark Wheel, which presented players with a set of moral and legal codes to aspire to.





The series is one of the longest-running video game franchises. The first title was followed by Frontier: Elite II in 1993 and First Encounters in 1995, which introduced Newtonian physics and realistic star systems. A third sequel was released in 2014 and is known as Elite Dangerous, which was crowdfunded and subsequently released on the market. Braben and Bell's title was extremely influential, becoming a model for many series and was converted for virtually every platform of the period. This VIC 20 version amazes us with its quality and fidelity to the original title. Of course, it cannot run on a basic VIC, but requires a 32K RAM



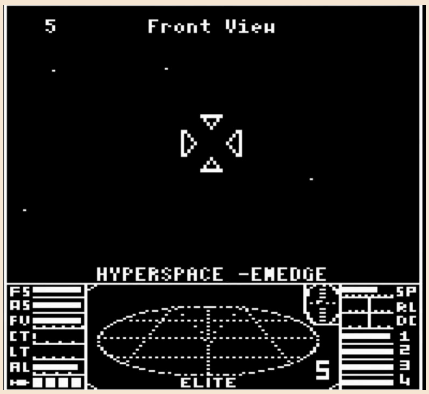
OUR FINAL SCORE

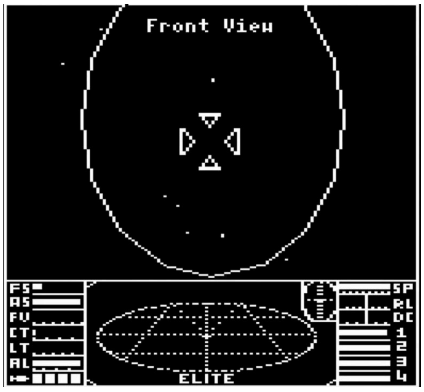
» Gameplay 90%

There are very few options missing, but the quality of the game is still immense.

» Longevity 90%

If you love space, Elite is a must-have and must-play. Immense and still great fun today.





expansion.

It follows the native version for BBC Micro and Acorn, from which some features have been omitted (planet descriptions, for example, some ship designs, and the planet search mode). This is to save memory for such a complex title.

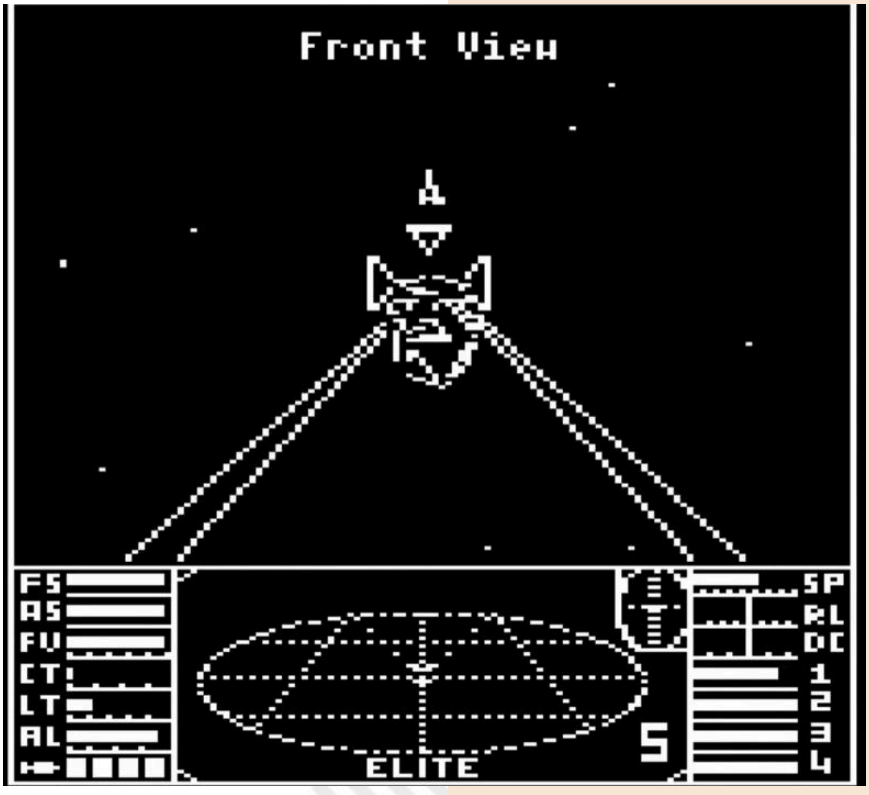
However, 30 different ships have been included, 27 of which have a unique design, and the Coriolis space station and the Dodo are also present. On BBC and Acorn, for example, only 11-13 ships were available.

It is possible to play it directly from the keyboard, and the reference site I have left in the description has good documentation on this.

What more can I say... I like this version... a lot! It runs smoothly on VIC and is just as playable as the other versions I have seen over the years.

It is worth downloading and playing.

by **Giampaolo Moraschi**



NEW GAME

AVALAN

Year: 2025
Editor/Developer: Psytronik software, Icon 64
Genre: Avventura
Platform: Commodore 64
Website: https://psytronik.itch.io/avalan

Second review and let's get straight to the point! Here I am to say a few words about this new homebrew that has just been released.

AVALAN immediately caught my attention because it closely resembles a Commodore 64 game that I loved, released way back in 1985. I'm talking about The Willow Pattern Adventure (you'll find a photo on this page).



A very interesting new game, where you play as our heroine (very blonde and muscular) exploring the ancient island of Avalan, searching for the pieces of the great sword EXCALIBUR, previously destroyed by a very evil monk.

Unfortunately, it won't be as easy as it sounds. The monk has enlisted an army of soldiers ready to kill us at all costs, and there will be no way to change his mind except with a nice sharp sword stuck in his forehead.
There are 44 pieces to find, so we'll have quite a bit of work to do on an island consisting of 256 fully explorable screens!

Once you have recovered the last piece, a pedestal will appear in the center of the island, the EXCALIBUR, at which point you can show that "nice old man" of a monk who's boss!
An interesting game that you can find on the official website for just over $3. A fair price for some healthy adventure fun.



The package includes the soundtrack

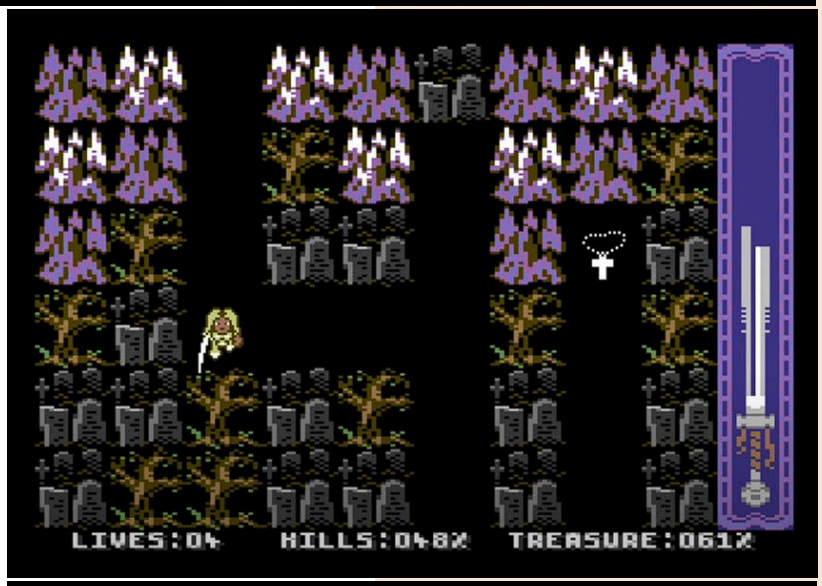




in mp3 format and a case + printable disc label.

Of course, this game is also compatible with various C64 emulators (Vice is always recommended) and with the maxi and mini versions of the C64 (or real hardware, ed.).

by **Chiara "Kika" Carrara**





OUR FINAL SCORE

» Gameplay 85%

Beautiful, although I noticed some difficulty in moving the character, sometimes a little too rigid, but still a minor issue.

» Longevity 93%

It's exactly the kind of game I love! With exploration of the location and lots of patterns, you can lose hours playing it!

NEW GAME

MORTAL KOMBAT II

Year: 2025
Editor/Developer: Shaun
Genre: Beat'em up
Platform: 3DO
Website: https://ko-fi.com/3dohd

The 3DO was an "unlucky" console. It was conceived at a time when the words "multimedia" and "interactive" were still in their infancy and CD technology seemed to be the future.



Promoted by industry magazines, it was supposed to be the "future," but it arrived far too late. In 1994, the year of its launch, it was slaughtered by competition from Sony's Playstation and Sega's Saturn.

Among the most popular titles, however, we find some gems, almost all conversions of PC titles, such as Crash 'N Burn, Gex, Total Eclipse, or the excellent conversions of Samurai Shodown and Super Street Fighter II.



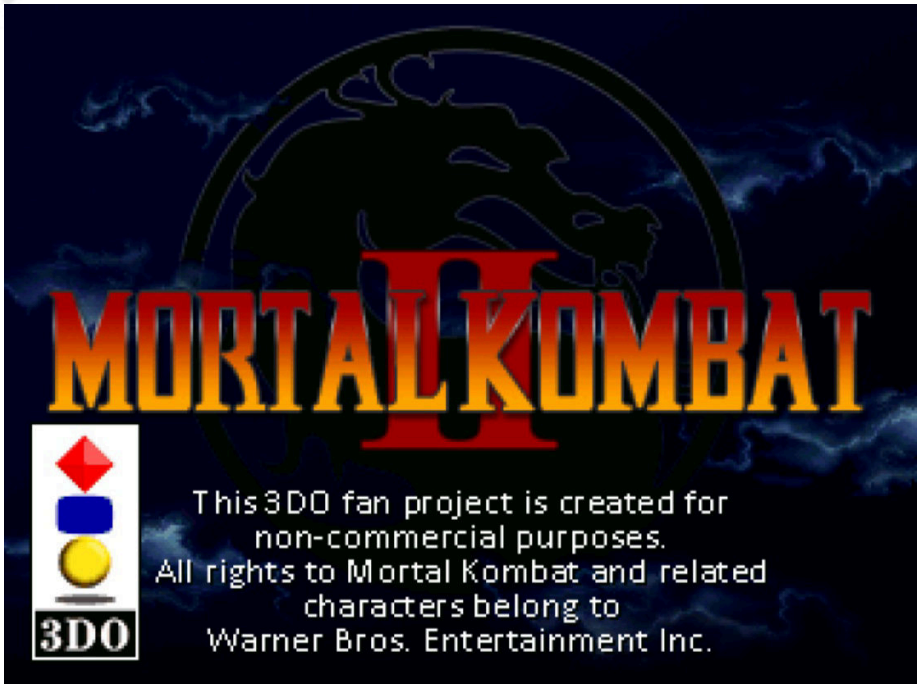


This port of Mortal Kombat II by Shaun, an independent developer who has done a truly great job, is added to the console's game library.

Midway's 1993 splatter beat 'em up is in great shape on 3DO.
The game is complete with all its modes, new characters, special moves, and various "Easter eggs" from the arcade game. All this is complemented by excellent graphics, great sound, and perfect playability on the console's pad.



The title is available in ISO format



OUR FINAL SCORE

» Gameplay 90%

It reflects the style of gaming from the 90s. It's a fighting game team that's different from modern ones and requires more practice, but it's fun and identical to what we found in arcades. It has all the special moves, secret characters, and every other trick in the book.

» Longevity 85%

A title that is still very "competitive" to play today.

directly on the developer's page, who emphasizes that he will continue to update it until it is "arcade perfect."



The homebrew market for Trip Hawkins' machine is not very lively, but this conversion is worth testing and playing. A great job!

by **Giampaolo Moraschi**





NEW GAME

CAVE DAVE

Year: 2025
Editor/Developer: Thalamus Digital Publishing ltd.
Genre: Platform
Platform: Game Boy Color
Website: https://thalamusdigital.itch.io/cave-dave-game-boy-color



What can you buy with just one dollar? Not much. Maybe some candy or a small bottle of water. Something small but that can sweeten your day.

With one dollar, we can buy Cave Dave, an action/platform game in its purest and most classic form.

A miniature Spelunky where our pixelated friend, armed with a limited supply of ropes and bombs, but above all with ingenuity and cunning, will have the goal of plundering the three immense caves and finding his beloved lost PSP... while avoiding everything that lurks in the darkness.

Cave Dave has delightfully simple gameplay: you can move freely around each cave, exploring every corner and eliminating/avoiding any enemies you encounter. You can do this by using bombs, ropes, or jumping on your opponents' heads, just like in Super Mario.

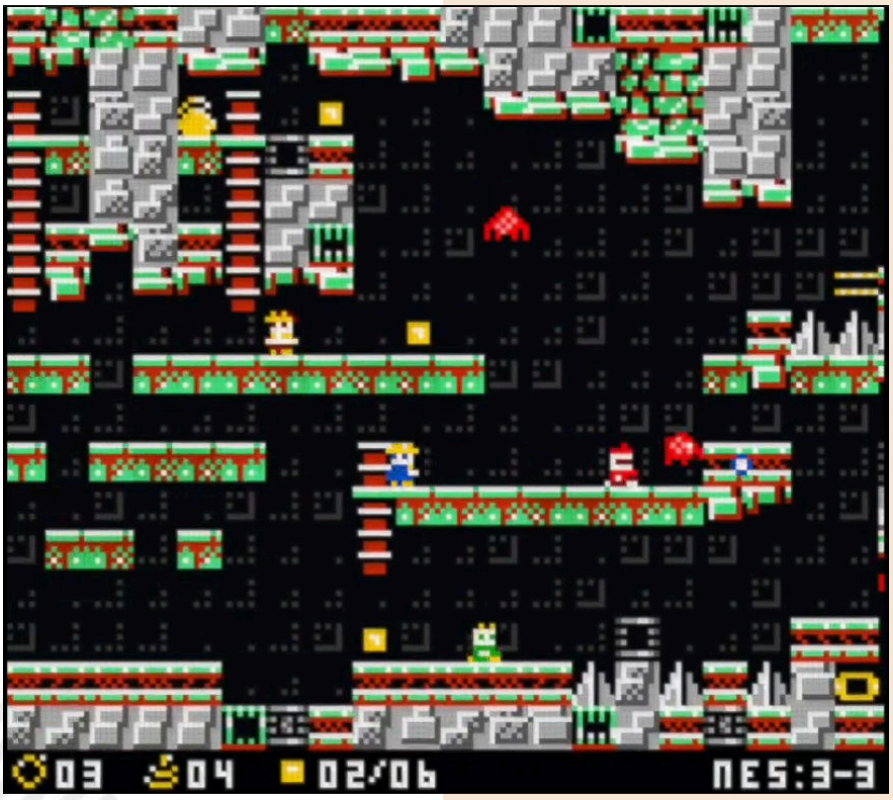
The only limitation is the small number of weapons available at the start, but you'll quickly acquire more as you progress.

It is interesting to note the different "personalities" of each enemy in the game and their behavior. Learning the correct strategy to deal with them will be crucial to completing the adventure and preserving our sanity.

The GBC's DPAD is used exclusively to move Dave, with the A button to jump and the B button (combined with UP or DOWN on the DPAD) to throw bombs or lower the rope.



The title is available in two versions: the one we tried for GBC and one for





OUR FINAL SCORE

» Gameplay 92%
Simple but well-made gameplay. A tiny, cute Spelunky clone for only $1!

» Longevity 92%
Virtually infinite thanks to procedural level generation. Not difficult but tricky if taken lightly.

Analogue Pocket. The GBC ROM is designed for use with emulators such as mGBA, but you can test it on real hardware by flashing it or inserting it into an Everdrive.

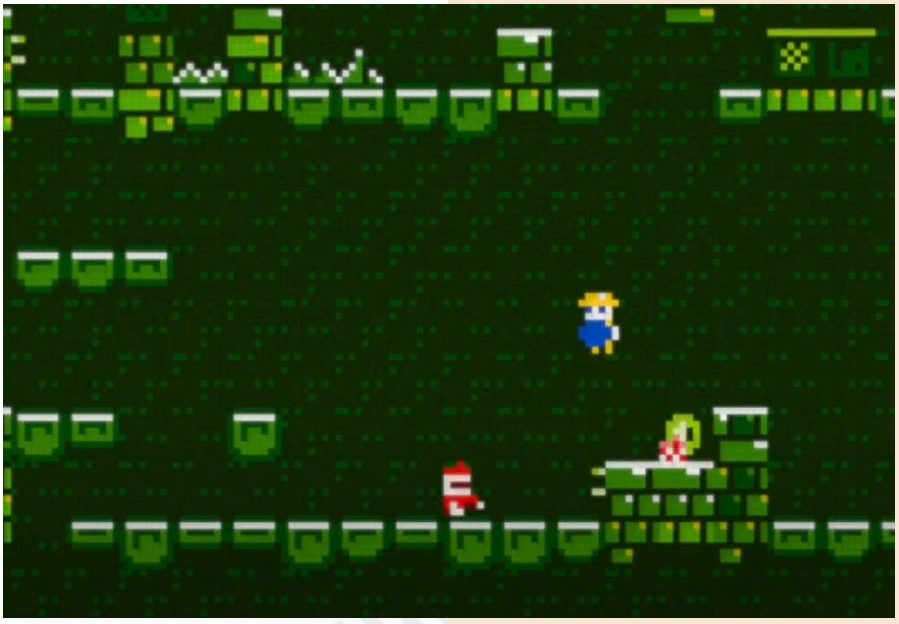
It's a classic action game with procedural levels that increase replayability and longevity. It has great pixelated graphics with remarkable design and animations for the GBC.

The audio is another aspect that impressed us, with an interesting soundtrack created by BEATSCRIBE, who is very active in the chiptune world and worth keeping an eye on.

Cave Dave is a product created on GBStudio and with the engine "adjusted" with GBDK2020, which improves overall speed and makes everything much more efficient.

Lately, GBC titles have been growing tremendously in quality and gameplay, and we are sure you will have a lot of fun playing Thalamus' new title. Another great success!





by **Carlo Nithaiah Del Mar Pirazzini**

NEW GAME

CAPTAIN ISHTAR VS THE FEDERATION'S MOST WANTED

Year: 2025
Editor/Developer: Psytronik Software
Genre: Action multi evento
Platform: Commodore 64
Website: https://psytronik.itch.io/captainishtar2

New title by Alf Yngve and new appearance by Space Marshal Ishtar, who in this case finds herself having to eliminate dangerous wanted interstellar criminals:

Zarthan: a terrorist who commands his crazy army of robots to destroy the planet Magnar

The Cozzi Clones gang: A gang of terrible clones who extort money for protection on the planet Fromachis-3

Nemor: A shape-shifter who holds the commercial planet Basarre in check.

A multi-event title with 5 parts to play, all different in style and gameplay (similar to that seen in the first chapter of the saga reviewed in issue 40 of Rmw ita).

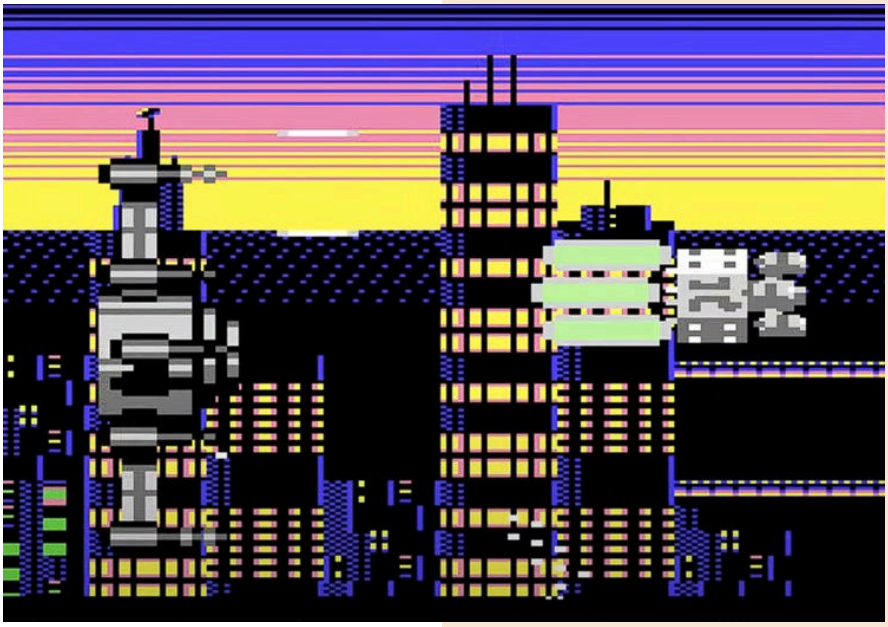
The first world is essentially a shooter where we first have to protect a spaceship full of passengers and then clean up the city.

On Fromachis-3, we have a horizontal shoot 'em up approach, followed by a rail shooter and a first-person shooter. Still on Fromachis, we face the final part of the adventure in Moon Patrol style and the final battle in Gun Fight style.

Moving on to Basarre, we have a jetpack action platform section in a labyrinthine game environment that is rather complicated to navigate.

The style of play is similar to the previous chapter. For lovers of multi-events, this is definitely a good thing, but this chapter of Ishatar certainly has some of the same problems as the previous one.

The game is 'crude'. The visuals seem



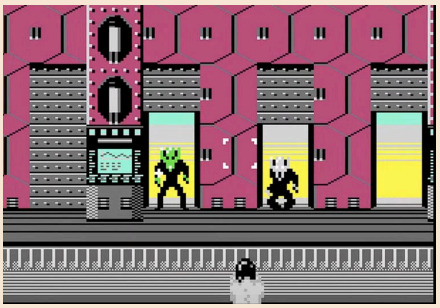
to come from the early VIC 20 titles, with a graphic style that is certainly impressive but very sparse, and very little attention to detail in some sections (such as the platform section). There is a lot of visual chaos and it is often difficult to understand what to do, what to hit or what to avoid.

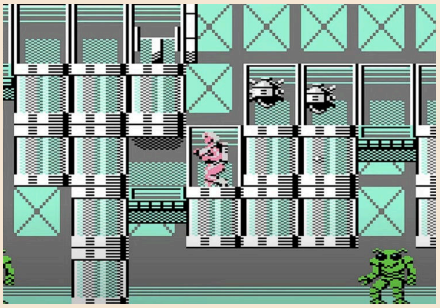


In terms of playability, there are also



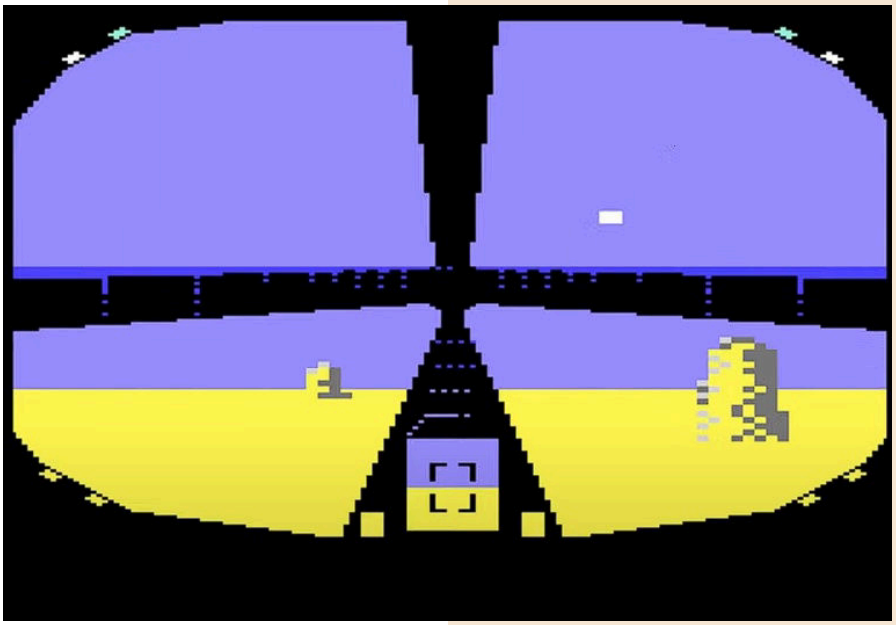






some ups and downs. The classic shooting stages are well structured and fun, but the moon patrol style and platform stages are less so. The difficulty is strange and poorly calibrated.
The biggest plus point? The soundtrack by Richard Bayliss. A guarantee that raises the final rating by a few points. Ishtar 2 is a game that suffers and has interesting ideas but is rushed. A half-finished job.

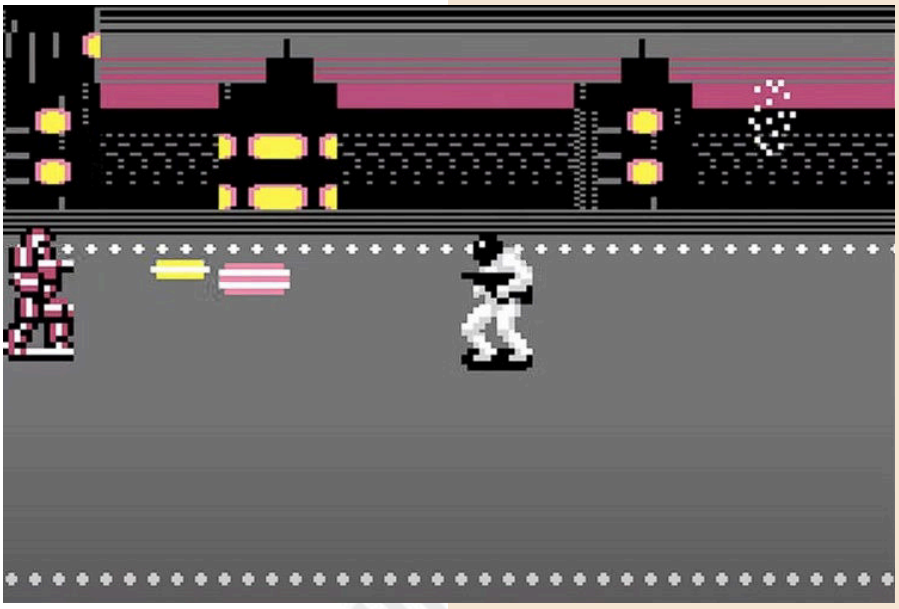
by **Giampaolo Moraschi**



OUR FINAL SCORE

» Gameplay 50%
The multi-events are interesting but need to have a solid, cohesive, and appealing structure. The shooting phases are all the same but enjoyable, while the platform phases are less enjoyable as they are confusing and unclear.

» Longevity 60%
This is not a title that can be completed quickly, so you will have plenty to do and play. It's a shame about the strange difficulty curve in the various scenarios.



NEW GAME

LADYBIRD

Year: 2025
Editor/Developer: Psytronic Software, Icon 64
Genre: Puzzle-Maze game
Platform: Commodore 64
Website: https://psytronik.itch.io/ladybird

The Icon 64\Psytronik team is back with an interesting puzzle game!

The life of insects is never easy, but that of our dear ladybug is terrible!

In this puzzle game, you take on the role of a ladybug mother who must save her little ones from some insects that have decided to kidnap them, probably to make an excellent dinner.

You will find yourself facing 16 nests infested with evil animals that must be avoided at all costs, objects to collect, and lots of puzzles to solve in order to finally reach your beloved offspring (before they turn into a delicious stew).

The graphics are colorful and very beautiful. Obviously, this is a "clone" of another classic game, FIRE ANT from 1983, but it is certainly much more visually appealing and definitely more "modern."

The gameplay is fun, an excellent arcade game without too many pretensions, but one that will still keep you entertained for a while.

The music is, in my opinion, spot on, very entertaining, and in typical Commodore "80s SID" style.

You can play the game on a C64 emulator such as VICE, transfer it to a C64 mini or maxi, or even play it on the original hardware (with the appropriate resources).



So, to recap:

-16 puzzles to solve

- Very '80s setting revisited in a modern key

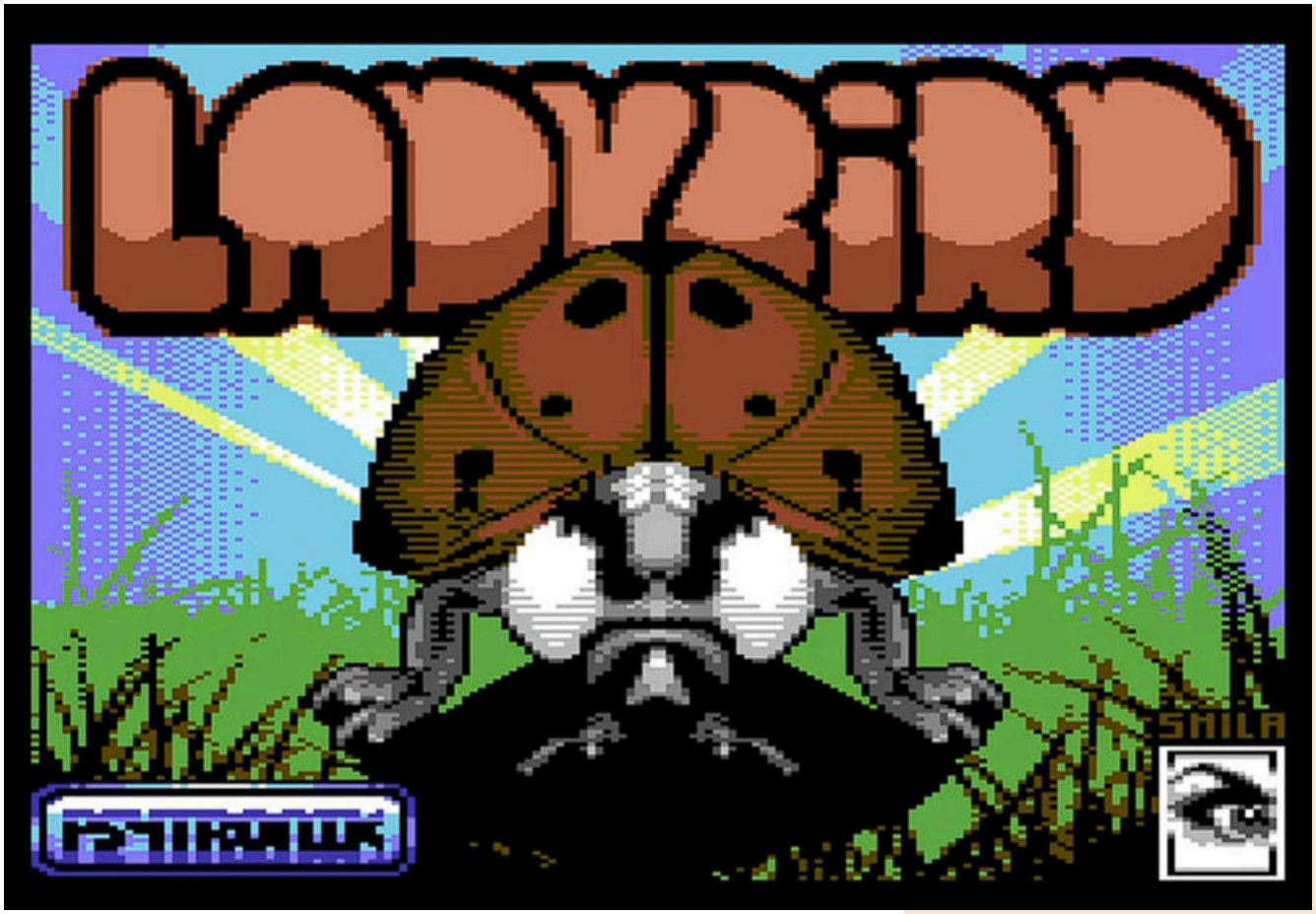
- Fun and enjoyable game

- Recommended for lovers of classic C64 games

You can purchase it on the website







https://psytronik.itch.io/ladybird and the package includes the delightful soundtrack in MP3 audio files, plus a printable disc case + disc label.

by **Chiara “Kika” Carrara**





OUR FINAL SCORE

» Gameplay 90%
A nice game without too many pretensions but with very enjoyable graphics.

» Longevity 87%
It keeps you glued to the screen, but perhaps in the long run it starts to get boring. In any case, it's definitely worth trying!

NEW GAME

ALIEN INTRUDER

Year: 2024
Editor/Developer: Juan J. Martinez
Genre: Platform
Platform: MS-DOS
Website: https://www.usebox.net/jjm/alien-intruder/

"A commercial spaceship has been invaded by aliens. It's up to you to save them."

Classic... I'd say classic! Always the same job. There's never anything else to do. Save this... save that... slaughter that monster... smash that other one. The usual routine of a space warrior. But I can't complain, this is the life of us alien hunters. I wanted to be a baker, but unfortunately I have to do this. Now excuse me, I have to go. There's a group of green, one-eyed Slimes that are particularly annoying me.



Alien Intruder is a classic fixed-screen platform game where you have to jump, clear the screen of xenomorphic vermin, and move on to the next level. It takes a cue from Bubble Bobble for its level layout and "culinary" bonuses, but adds a laser gun and a bunch of rather aggressive monsters.

Our hero has sixty seconds in each level to rescue all the crew members captured by the space monsters and run to the exit. If time runs out, the character loses a life.

There are some special pick-ups:

Bonus points for collecting pizza, soda cans, and shareware disks to increase your score.

Energy bomb that unleashes a nice band of destruction around you, hitting everything in front of you.

Extra time that extends the timer.

Extra lives... which obviously increase your survival (you can collect up to 9).

Completing the level will earn you bonus points for the time remaining, all aliens eliminated, and completing everything without losing any lives.

All this for a total of 50 levels. In short, there's a lot to do!



The first levels are simple, with basic and rather harmless enemies. They serve to test the shooting and jumping mechanics. From level 10 onwards, things start to get serious, with our





OUR FINAL SCORE

» Gameplay 80%
A simple but well-made platform game with lots to play and lots of levels.

» Longevity 75%
Not very difficult but well structured and with a good level of difficulty.

hero facing a fair amount of problems. Graphically, everything is very colorful, well-designed, and looks great. The backgrounds change every ten levels, offering a good variety. The animations are smooth, as is the soundtrack, which, despite repeating in every level, is well done.

Overall, Alien Intruder is a solid platformer with shooting elements. There are enough levels and the difficulty is well balanced. It's not particularly innovative, but it's quite enjoyable.

It's a title designed to run smoothly on old MS-DOS systems such as the 286 and, of course, it runs in emulation with the classic DOSBOX.

by **Carlo Nithaiah Del Mar Pirazzini**







NEW GAME

MIKE MACH 2

Year: 2025
Editor/Developer: LC-Games
Genre: Platform game
Platform: Commodore 64
Website: https://lowcarb.itch.io/mike-mech-2-c64

After the release of the first Mike Mach, Luca Carminati returns with his LC games with the sequel Mike Mach 2.



This is a really fun platform game.

It all begins with our hero exploring the interior of a cargo ship, trying to activate all the levers in the various rooms that make up the game.



Unfortunately, our friend has no weapons with him. This is a big problem that he will have to compensate for with a lot of cunning, avoiding as much as possible the alien creatures on the ship and the countless traps that would reduce him to mincemeat.

Along the way, he will find objects to collect in the form of crystals, which are very useful for increasing the player's final score, and some keys that will allow him to access other parts of the ship that would otherwise be inaccessible.



Mike Mach 2 is divided into four holds. Each time all the levers in one of these are activated, Mike must abandon it and the aliens present will be terminated by a laser beam.

As I said, Mike Mach 2 is a lot of fun, with just the right balance of difficulty



and beautiful graphics that take us players on a gaming experience with a very "retro" feel.

The game can be downloaded from the LC games page on itch.io and runs smoothly on any possible and imaginable Commodore configuration.

by **Chiara "Kika" Carrara**





OUR FINAL SCORE

» Gameplay 87%

Very nice and smooth, perhaps the sprite is a little "stiff" in its movements, but definitely controllable.

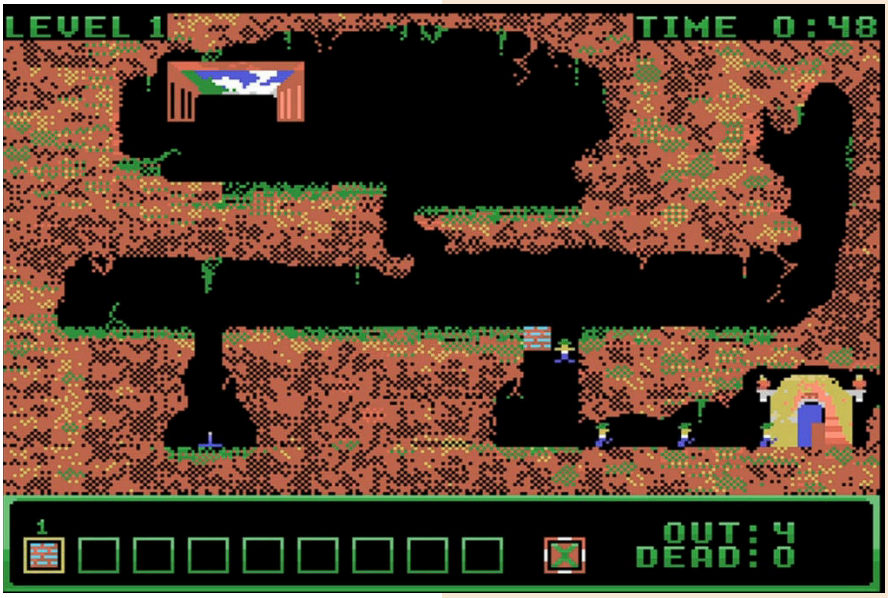
» Longevity 90%

This is a game that will keep Commodore 64 fans glued to the screen, as they are used to this gameplay, which is very similar to that of the magnificent 80s/90s. Highly recommended by me, Kika's word.

NEW GAME

DOOMLINGS

Year: 2025
Editor/Developer: Totta
Genre: Puzzle game
Platform: MSX
Website: https://www.msxdev.org/2025/02/03/msxdev24-31-doomlings/



I love Lemmings. I've always loved the Amiga classics made by Psygnosis. I love the crazy levels, the traps to avoid, the totally absurd way these funny little creatures attract danger. But to all this I add a... what if... instead of helping them, I slaughtered them or nuked them? How many times have I let them get "squashed" or destroyed, splattering on the ground or burning in lava. Sadism? No, I don't think so. A desire for revenge for the hours spent "freaking out" on a certain level. But finally, the time has come for revenge!

Doomlings is Lemmings in reverse, and the protagonists resemble the green-haired rodents only in appearance because, in reality, they have no desire to be slaughtered.

For the first time, we will take on the role of the "executioners" and will have the task of bringing the little, infamous rodents to their ultimate death.

Not all at once and not in all levels, but, as usual, following the instructions before each level.

To complete the extinction of the cunning Doomlings, we will have several tools at our disposal: walls, crushing presses, bombs, blades... in short, we are certainly spoiled for choice.

As I mentioned, these little "infamous" creatures have no desire to be slaughtered and, as you will see, they will prove to be quite tenacious and cunning.

Add to all this the time that is inexorably running out. There is little time available to complete the extermination of these little annoying pixels.



Totta has created a fun and unexpected game for MSX with good technical features.

The minimalist graphics work great and move well, accompanied by a pleasant and light-hearted soundtrack. The game works and is fun. Perhaps I would have revised the controls for





OUR FINAL SCORE

» Gameplay 75%
The control system needs to be revised. On the other hand, all the levels are very varied and fun.

» Longevity 65%
Fun and complex, but the problem is that there are only four levels in the basic version.

managing the options to be chosen in the game a little better (I find it a bit cumbersome), but once you learn and get used to it, it becomes super playable. Like the original Lemmings, patience is required here (actually, a lot more) to complete the level and move on to the next one. So, avoid it if you are a casual gamer or someone who wants to relax while playing.

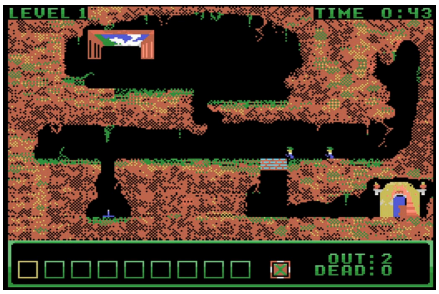
This version was released with only four levels, but a future release with more levels is planned.

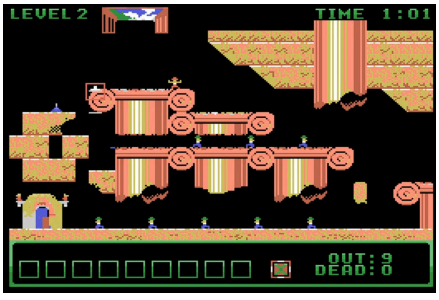
Doomlings is not relaxing. It's a massacre, and it's no joke!

by **Giampaolo Moraschi**









KAIZOU CHOUJIN SCHBIBINMAN ZERO

Year: 1997
Editor/Developer: Henshin/ Tokusatsu , NCS/Masaya
Genre: Platform
Platform: Super Famicom/ Super Nintendo

When I played this game for the first time, I thought, "This must be the result of a rather heavy dinner of peppers, where you dream of a mix between Mega Man and Sailor Moon"... I was right!

A platform game with a decidedly "kawaii" look, featuring two Power Rangers-style superheroes kicking the butt of hordes of bizarre enemies.

The saga began on PC Engine, and NCS/Masiya moved away from NEC hardware to produce this title on the Super Famicom. It was created at the end of the console's life cycle in 1994, but was only distributed in 1997, available for download on Satellaview, a Nintendo online channel that was very popular in Japan.

The Schibibinman series is clearly inspired by the Mega Man saga, where you control heroes jumping from platform to platform and facing enemies and dangers. This new version on Super Famicom is more reminiscent of a side-scrolling beat 'em up, which is controlled like a platform game.

Our heroes are reminiscent of Mega Man, the Schibibin shot is a mega blaster, the enemies look like they came out of a Haim Saban TV show... lots of action and punches.

The title is relatively unknown in the West and has only recently been translated into English for the international market.

The level design is excellent. The levels are large, offering the possibility to descend and ascend from different heights, allowing you to strike enemies in the most "colorful" ways. The boss







OUR FINAL SCORE

» Gameplay 85%
A very varied Mega Man clone with excellent level design. Lots to see and play.

» Longevity 80%
It's not a difficult game thanks to its excellent difficulty balance. Definitely worth checking out.



fights are intuitive and challenging. The bosses themselves have complex attack patterns that are challenging even for the most experienced player.
The graphics are well animated but rather bland, typical of Satelliview games. The sprites have smooth animation, but the backgrounds could have been more polished (few have multi-layered and parallax backgrounds).
The music, on the other hand, is very good and catchy.
Despite its less than exceptional technical aspects, Schibibiman Zero is one of the best games in the series, if not the best, and one of the few good games available on Satellaview.
In 2017, the retro company Columbus Circle obtained the rights to it, releasing a physical version on cartridge complete with box art and manual.
Another title to rediscover for our Super Nintendo.

by **Roberto Del Mar Pirazzini**





NEW GAME

FINAL FIGHT MD

Year: 2025
Editor/Developer: MXRetroDev
Genre: Beat'em up
Platform: Sega Megadrive
Website: https://mxretrodev.itch.io/final-fight-md

Final Fight is a cult classic! A title that won the hearts of all lovers of beat 'em ups. A watershed between the old beat 'em ups of the 80s and the bigger, more aggressive generation of the early 90s.

We all loved Final Fight, whether for its impressive graphics for the time, its diverse selectable characters, or its raw and aggressive storyline.

We all know the exploits of Cody, Guy, and Haggar. The madness of Metro City, and we have also learned to appreciate the sequels developed on Nintendo consoles.

Final Fight spawned several similar beat 'em ups, and the genre would never be the same again.

The home versions of the game had mixed fortunes: some were spot on (the one for Sharp X68000), others were definitely interesting but incomplete. Among them was the Super Nintendo version.

On Megadrive, Capcom's game only arrived in the form of a "good version" for Mega CD. Until now...

Yes, because after several months (years) of development, MXRetroDev, aka Mauro Xavier and his team, have brought us this Final Fight MD.

The final and "almost" perfect version of the Capcom game that runs on a simple Megadrive. No special chips or who knows what other devilry. Here is the passion of a team that knows the machine and, thanks to SGDK, has produced a great game.

It has all the original game and a few extra goodies. We have often talked about it on our social media pages



and on the Retromagazine TV YouTube page, but only today have we been able to fully test the game as a whole. Without using the original source code, the development team has made the gaming experience as similar as possible to the arcade version. Huge sprites, meticulously crafted backgrounds, and smooth animations







OUR FINAL SCORE

» Gameplay 90%

Final Fight MD is the perfect version of a timeless classic, to which the developer has added several gameplay options and the ability to use the character Maki from Final Fight 2...

» Longevity 90%

...This significantly extends the life of the game. Long live FINAL FIGHT!

are a first-class calling card. The AI of the opponents is reminiscent of that seen in arcades, and the Sega Megadrive palette is used to perfection.

There is the classic Arcade version, but we also have the option to play Survivor, Mega Mode, and Time Attack modes. It is possible to play in doubles and select the female character Maki (seen in Final Fight 2 on Super Nintendo). All this significantly increases the game's longevity.

The 'weak point' is perhaps the audio. Despite the effort put into development, the samples are a bit crackly, but overall the soundtracks are perfect.

As I write this, the game is not yet available for download. Mauro Xavier managed the development through his Patreon channel where, for a small contribution, you can support his work. He will soon release the final version as a "Free download."

The game is fully compatible with emulation and real hardware (loaded on Everdrive or similar).

A real gem.

by **Carlo Nithaiah Del Mar Pirazzini**





EMLYN HUGHES INTERNATIONAL SOCCER

Year: 1988
Editor/Developer: Audiogenic Software
Genre: Simulazione calcistica
Platform: Commodore 64, Amstrad CPC, ZX Spectrum, Atari ST e Amiga

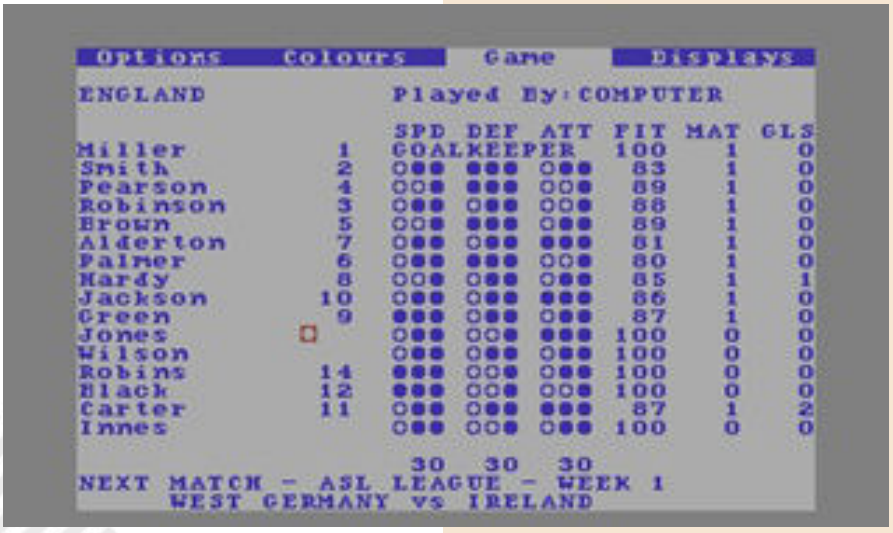
Emlyn Hughes International Soccer is a soccer video game released in 1988, published by Audiogenic Software. The game takes its name from its spokesperson Emlyn Hughes, a popular English soccer player. The game was initially released for Commodore 64, and was later converted for Amstrad CPC, ZX Spectrum, Atari ST, and Amiga. In 1992, La Idea released a licensed version entitled Retee! for Amiga and Commodore 64, featuring Italian localization, with teams and players from the real Italian league.



The game was one of the first attempts to combine typical arcade action with the management aspects of a soccer team; it is possible to decide the roles of the players, who have different characteristics. The controllable teams are the national teams of England, Scotland, Ireland, the Netherlands, Italy, France, Germany, and Spain. Each national team has its own players with their own names and defined characteristics. Everything (team names, jersey colors, player names, and even their characteristics) is fully editable, with the possibility of transforming the national teams mentioned into others or into clubs, saving the data on tape or disk. Players are characterized by different skills: speed, shooting, tackling, and fitness, which vary on a skill scale from 1 to 3.

The field is shown with a perspective view from the long side, with horizontal scrolling. Graphically very similar to the first game released, International Soccer, but in this version, players can perform all kinds of actions on the field, from different types of headers (diving or stationary) to







sliding tackles. They can commit fouls and shoot in different directions and with different power, as well as get injured with a relative drop in performance. The game includes a text bar with rudimentary commentary. During matches, you can hear the fans chanting, including cheers with stadium horns and drums. Given its deliberate managerial complexity, the game offers countless options. A drop-down menu system with a disappearing effect is used to manage the huge number of configurable aspects. The competitions to choose from are cup, championship, and league. You can play friendlies or an entire championship with home and away matches. The most interesting part is the implementation of various shots, which can be performed through a series of movements with the joystick. Each shot can be performed in eight different directions. So you can do ground shots, lobs, heel shots, etc., and you don't necessarily have to turn the player. For example, you can run along the wing and, while running, hold down the shoot button and perform a quick maneuver before releasing the button to decide the type of shot and the direction. The power is determined by how long the shoot button is held down. At first, it is difficult to master all types of shots, but after a few attempts, it becomes THE soccer game for the C64.

by **Lino, alias Bimbomillo**



OUR FINAL SCORE

» Gameplay 92%
Probably the best soccer game on the Commodore 64.

» Longevity 92%
Virtually eternal.

PROBOTECTOR

Year: 1991

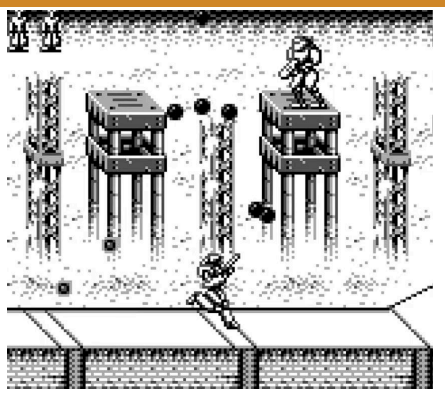
Editor/Developer: Konami

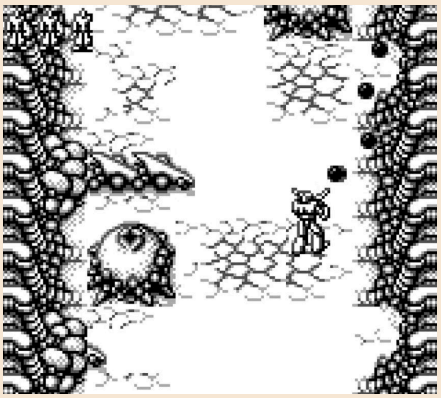
Genre: Run and Gun

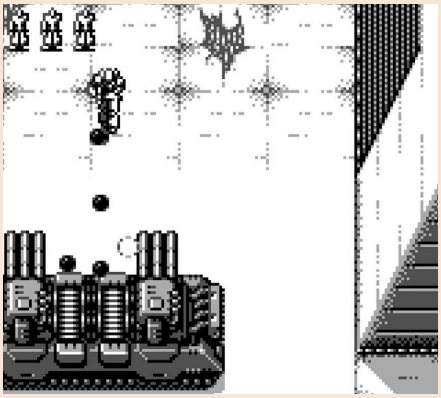
Platform: Game Boy

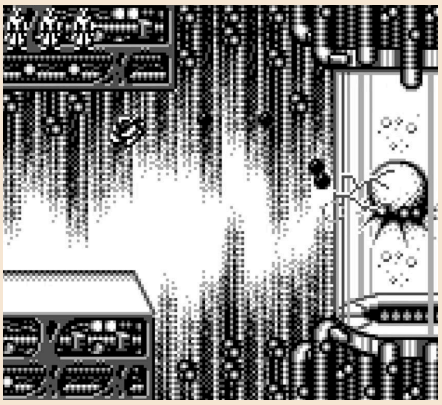
Hello, everyone! Did you have a good holiday season and a good start to 2025? Today I bring you a brand new review of a historic title.

A title that I love, a famous "Run and Gun" that everyone knows and has played at least once in their life: Contra, released in Japan under its original name, in America as "Operation C" and in Europe as Probotector, which differs in the sprite, because while in the Japanese and American versions we find a soldier named Bill "Mad Dog" Rizer (modeled on Schwarzenegger), the European version features a robot (if I'm not mistaken, due to censorship, but I don't want to say anything stupid).













staple of arcades on the small Nintendo console was something incredible.

The title was also highly appreciated for its speed and truly top-notch sound quality.

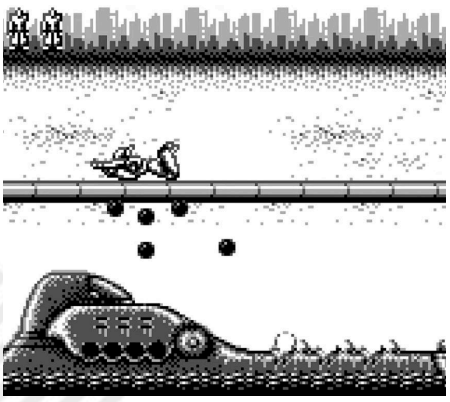
Over the years, its gameplay has remained fresh and fun, so much so that it was often re-released in several collections in 1997 and in 2019 in the Contra Anniversary Collection for PS4, Xbox One, Switch, and PC.

Don't miss it. Have you ever played it?

by **Barbara "Morgana" Murgida**

At the beginning of the game, we are attacked by many robot soldiers and can acquire various power-ups for our rifle. As we progress and eliminate the bosses, the view alternates between 2D and top-down.

Despite its age, it's a truly amazing game, and the fact that it's portable makes all the difference. Seeing a



OUR FINAL SCORE

» Gameplay 89%
A classic of the Run and Gun genre that immediately draws you in with its plot and gameplay. It's hard to put down once you start.

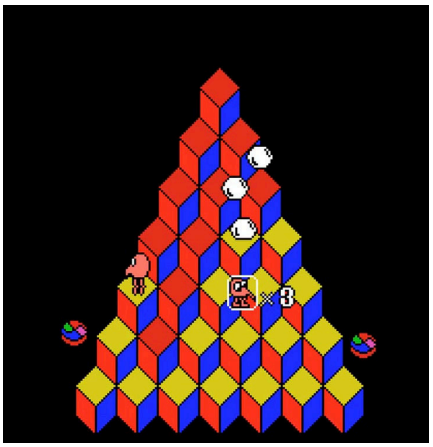
» Longevity 80%
A tough title that keeps the player engaged until the very end.

NEW GAME

Q*BERT

Year: 2025
Editor/Developer: Jelle Roggen
Genre: Platform
Platform: MSX2
Website: https://www.msxdev.org/2025/01/11/msxdev24-21-qbert/

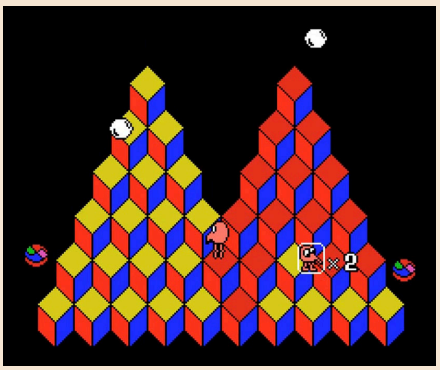
Q*bert brings joy. Although the game is an endless source of frustration, especially in the advanced levels, it is a title that is difficult to tire of.

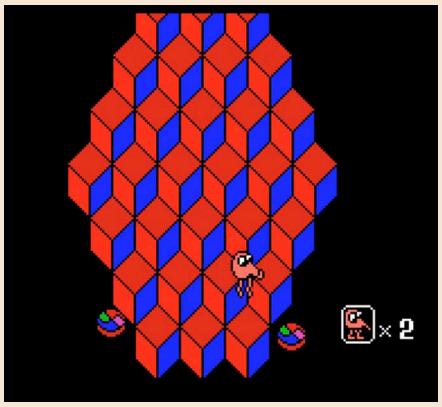


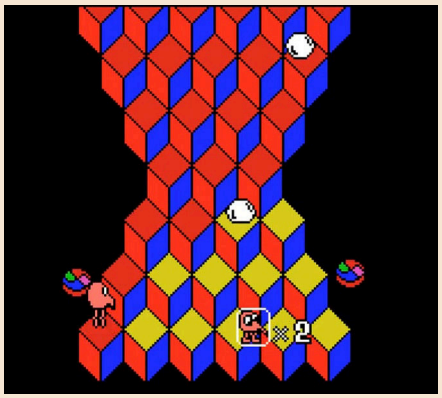
This version is a new adaptation for MSX2 of the arcade classic.
It took a long time to complete (the author mentions thirty years of development). Started in the 1990s, it is only now arriving on our systems.
The concept of the game is simple: the small and quirky Q*bert must transform the blocks into the same color by jumping on them. Simple, right? Yet in the world of video games, nothing is simple. In this case, other dangerous characters are introduced to chase us and prevent us from completing the task. Avoiding these bizarre and murderous creatures is the only way to see the sun rise the next day.
The game is available in .dsk format for MSX2 and uses the keyboard to move the funny hero.
What more can I say? It is well developed technically and fun as usual. Was it missing? I don't know, it's fun and deserves to be played even in this new MSX2 version.

by **Giampaolo Moraschi**









OUR FINAL SCORE

» Gameplay 80%
Q*bert is always fun.

» Longevity 80%
The first few levels go smoothly... then all hell breaks loose!

NEW GAME

NITRO

Year: 2024
Editor/Developer: Thalamus Digital Publishing Ltd
Genre: Driving
Platform: Game Boy Color
Website: https://thalamusdigital.itch.io/nitro-game-boy-colour

A fast-paced racing game that pays homage to classic titles such as Out Run and Lotus. No frills, no complicated interactions or configurations. The goal is simple: prove you are faster than your opponents by completing increasingly challenging tracks. Highways, deserts, cities, and much more. All this to become the champion, all this to get the highest score on the High Score table.

Extremely simple gameplay: you drive your vehicle along a grid of routes, using the various nitro boosts at your disposal strategically. They are used to accelerate and are essential for making up time, which, inexorably in this kind of game, runs out. Once you have completed a stage, you are offered a choice of routes for the next stage. Similar to Out Run.

The D-pad is used to drive the car, while the A button is used to select options in the initial menus and to accelerate during the game. The B button allows you to exit the various menus. Pressing UP on the D-pad activates the Boost.

The game is available for digital download for $1 and is in GBC (Game Boy Pocket) and POCKET (Analogue Pocket) format. The GBC ROM works perfectly in emulation or on cartridge. Aesthetically, it is reminiscent of the titles developed by Magnetic Fields and published by Gremlin in the early 1990s. I found a connection with Lotus in terms of aesthetics and driving style. It moves quickly, and the limited color palette of the GBC is used to great effect. The sound is on par with this genre of games, and the audio effects are well done.

Nitro does not claim to be the definitive driving game for the GBC, but it is undoubtedly a fun, simple, and well-made game. It costs only $1, which is money well spent to help the developers.

If you are looking for something complex, this is not for you (and perhaps we are not even on the right platform), but if you are ready to speed down the roads at full throttle, Nitro is what you need.

by **Giampaolo Moraschi**











OUR FINAL SCORE

» Gameplay 80%
An old-school arcade driving game. No need to think about how to configure your car, just put your foot down and go full throttle.

» Longevity 80%
Well-structured tracks with increasing difficulty.

BALLOON KID

Year: 2000
Editor/Developer: Nintendo
Genre: Action/Platform
Platform: Game Boy, Game Boy Color

Balloon Kid / Balloon Fight is a platform game developed and published by Nintendo for the Game Boy. It was released in October 1990 in North America and in January 1991 in Europe. A Game Boy Color edition with some new features called Balloon Fight was also released in Japan on July 31, 2000.

In 1-player mode, the gameplay is an arrangement of Balloon Fight's Balloon Trip mode, in which the screen automatically scrolls to the left while the player controls Alice, who uses two balloons to float in the air. To make her float in the air, the player must press (and sometimes hold) the A button to make her wave her arms to soar upward. Alice also has the ability to remove her balloons and walk on the ground, as well as jump. If both of her balloons are popped or removed and she lands safely, she can inflate two new balloons (by pressing down repeatedly) and fly again.

The goal of this mode is to travel from start to finish while collecting balloons left by Alice's brother, Jim, along the way. The player must also prevent Alice from colliding with enemies who are attempting to pop her balloons, push her, or kill her outright. Some enemies, such as Balloon Birds, came from Balloon Fight. The giant fish that eats anyone who flies too close to the water also comes from Balloon Fight. There are four bosses in Balloon Kid. To defeat them, the player must fly Alice around them and have her detach her balloons to bounce on them. She can also jump and stomp on them whenever it is safe for her to do so, as in other typical platformers.

The 2-player mode is loosely based on Balloon Fight's Game A and Game B modes, in which one player battles another player. One player controls Alice, while the other controls Alice's friend and eternal rival, Samm. The goal is to collect more balloons than the other player before they reach the end of the level.

Balloon Kid's "Balloon Trip" mode is based on the mode of the same name in Balloon Fight, but with Alice instead of a Balloon Fighter. Everything else, including the background music itself, has remained unchanged from Balloon Fight's Balloon Trip mode.
Personally, it was one of the first games I tested on the first version of the GB, and I found it very enjoyable and fun. Playing it on the GB Color makes it even more appealing. The only drawback is the lack of a password system, which forces the player to start the game from the beginning every time. The difficulty is well balanced, although the game mechanics force players to memorize the timing of the enemies. The last levels are quite difficult and require many attempts to complete. This makes the game quite frustrating. The music is quite nice and fitting.

by **Lino, alias Bimbomillo**







OUR FINAL SCORE

» Gameplay 85%
The difficulty is well balanced, although the game mechanics force players to memorize the timing of enemies.

» Longevity 90%
It could have been better with a password system.

BEDLAM

Year: 1988
Editor/Developer: GO!
Genre: Shoot'em up
Platform: Commodore 64

Amidst the seasonal fog in Milan and even a light hailstorm in February, I rediscovered, among the many but never enough titles from Biscottone, a rather unusual vertical shooter. Not like the classic, hackneyed ones that were popping up like mushrooms at the time and were also a bit difficult; not that this one is a walk in the park, mind you... Bedlam by Go! is one of those games that captivated you because of the decent cover that the original games had and that would still captivate today's generation. Many of you retrogamers will remember it for its beautiful cover depicting a space man.

Let's start with the details: enemy spaceships don't shoot at you and only try to make you lose lives by crashing into you. But that's not all, there are turrets on the ground that never stop shooting at you at lightning speed. Two players can play simultaneously and, fortunately, without accidentally shooting each other, except for a few collisions. The bonus level is inside a pinball machine, and once you pass it, you are catapulted to the next level, despite a fearsome ball ready to be launched by mistake from the spaceship.

The game consists of 16 levels, specifically 15 space bases plus one level in open space. Even though the enemy spaceships don't shoot, they are not very easy to avoid, especially the eye-shaped ones that chase you everywhere. As in any shooter, the secret is to shoot down as many as possible to limit the difficulty, earning you points and, above all, paying attention to mastering the speed of the spaceship so as not to lose control without hitting anything, since the real difficulty is always the latter. The sound consists only of gunshots and the noise of collisions, although in this game collisions don't make you lose lives but worse: lose control!

At the time of writing, I have not yet completed the game, given the 16 rather substantial and difficult levels. The bonus pinball level is one of the reasons that motivates me to keep going, and a quick game after work or sports is always welcome. Oh, I almost forgot, destroying the entire colony of enemy spaceships and/or turrets will earn you various bonuses such as extra lives, temporary invulnerability, teleportation to the bonus level, etc. These gifts are greatly appreciated by beginners as well as shooting game veterans.

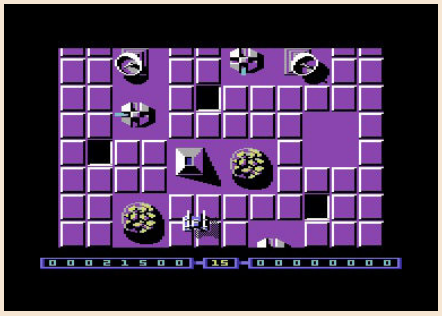
The game was also released for other home computers, including Amstrad and Spectrum. In the latter, the bonus pinball level has a fixed screen depicting a real pinball machine, rather than scrolling vertically like the C64 version.

If you want a bit of originality, leaving aside the more glorious Armalyte, Nemesis, and the like for a few hours, try your hand at this gem, which did not achieve the hoped-for success but certainly has its merits. Or, if you have the original, grab a cloth and dust it off, hoping that the tape hasn't aged.

by **Daniele Brahimi**







OUR FINAL SCORE

» Gameplay 60%
Shoot 'em ups are never easy.

» Longevity 70%
16 levels and well calibrated difficulty.

See you in the future...

And here we are, at the end of issue 50 of RetroMagazine World. A milestone that, when we started this adventure, seemed distant, almost unattainable. Yet, issue after issue, article after article, we have built something special: a community of enthusiasts, an archive of knowledge, a meeting point for all those who love retrocomputing, retrogaming, and the computer culture of the past.

Looking back, we can proudly say that we have come a long way. We have explored the systems that have marked history, brought forgotten software back to light, told stories of pioneers and visionaries, shared vintage programming techniques, and delved into the secrets of hardware that, despite its age, continues to arouse wonder and curiosity.

But nostalgia is not our only driving force. RetroMagazine World is not just a journey into the past, but a bridge to the future: retrocomputing is still alive today thanks to developers, content creators, collectors, and enthusiasts who continue to experiment, innovate, and keep this culture alive.

This fiftieth issue is dedicated to you, our readers, without whom none of this would have been possible. Your enthusiasm, your support, and your desire to share have made this magazine more than just a PDF to download: it has become a real point of reference for those who, like us, have never stopped dreaming in front of a green phosphor screen or an old floppy disk.

What does the future hold? We cannot yet know for sure, but one thing we are certain of is that the passion for retrocomputing will never fade. We will continue to recount, discover, document, and celebrate this extraordinary world.

Thank you for accompanying us this far. See you in the next issue... and in the next fifty!

Francesco Fiorentini

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