FIFTY YEARS OF BASIC
BASIC ON THE ATARI

GAMES FOR THE STE
GIANA SISTERS & PAC-MANIA

PRINT MAGAZINES
HAPPY BIRTHDAY, ATARI INSIDE!

Content 08/2014

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Welcome to st-computer

A new magazine

ST-Computer was Germany's oldest and longest-running Atari magazine, published from 1986 to 2004. I began writing for the magazine in 1996, the "past Atari days", when we were hoping for new Atari clones that would continue the Atari legacy. Such machines ranged from pricey (Medusa T40, Hades) to affordable (Milan). After the demise of the Milan 2, we were hoping for the Atari Coldfire Project.

Now that the ACP finally arrived as the Firebee, the availability of the MIST ST/Amiga clone and the progress on Suska, the hardware we were dreaming of is available. If you want to buy new Atari compatible hardware, there are plenty of options. Still preferring classic Ataris? There are new accessories released for them as well.

Unfortunately things aren't looking bright when it comes to Atari news sites. The only site with somewhat regular news is dhs.nu and the ACP website. Both are specialised sites. Other topics only appear in forums or Facebook groups. I believe that getting news out there is important and that's why st-computer is available at various sites.

This is the first issue after a ten year hiatus. The first big topic is a look at the history of the BASIC programming language and the most import BASIC implementations for the Atari ST. Then there are two great games for the Atari STE, both Giana Sisters and Pac-Mania are improved over their original ST releases.

The st-computer magazine was only available in German language, although a few articles were translated and published by other magazines. Aiming for a bi-monthly schedule, submissions in both English or German language are welcome.

Matthias Jaap

NEWS

Pole Position for the ST

Pole Position is a true arcade classic but unlike many arcade games it was never ported to the ST. Jonathan Thomas is working on a faithful conversion of the Namco racer. Still images look almost identical to the arcade original. Jonathan is using a cross-compiler to develop for the Atari and will also release a port for more recent computers which will use updated graphics. A first preview version has been released on atari-forum.com. The developer will report on the progress at his Twitter account (@RetroRacing).I

Hatari 1.8.0 supports Pasti

Most commercially released ST games have been successfully archived, many as "cracked" versions done by various groups during the ST's commercial life span. The STX format also known as "Pasti" is an attempt to archive disks without modifications, copy protection included. The imaging tool works on any ST/STE, a DLL was released to add Pasti support to Steem. Unfortunately, the code for the DLL was never open sourced, thus cutting off other emulators and operating systems other than Windows.

STX has now finally arrived on other platforms thanks to a new open-source Pasti decoder. The first emulator using this decoder is Hatari version 1.8, others may follow. Hatari has been ported to various systems, including Android and even the Firebee.

BadMooD - Doom revisited

Id Software released the source code for the original Doom 17 years ago. Since then, the popular first-person shooter has been ported to numerous systems, including the Atari. Unlike previous ports, BadMooD has been optimised for the Atari Falcon and thus runs even on the stock 16 MHz 68030 CPU. Douglas Little's port only requires 30 MB hard disk space and the WAD files of the original Doom. An RGB monitor or television set is recommended for improved performance, but the game will also run on a VGA display. The game will even work on a 4 MB machine, although barely and with lots of disk access. BadMooD has been in the works for a few years, the recently released version is playable.
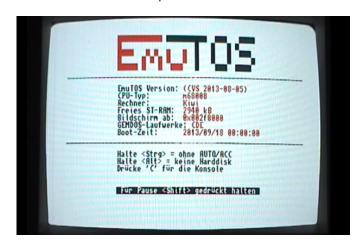
Kiwi computer available now

There is certainly no shortage of new Atari compatible hardware: Suska, MIST, FireBee and the Kiwi. The Kiwi is unique 68k homebrew computer built upon components available in the mid to late 80's. Simon Ferber used components from different sources: The 8/32 bit CPU 68008 was used by the Sinclair QL, the SID sound chip by the C64 and the Yamaha V9900 video chip was designed for the next generation of MSX computers. Graphically, the system is almost on par with the Falcon and capable of displaying 32768 colours and sprites. Just like most home compu-

ters of the 80's, the Kiwi will boot straight into Basic.

The computer offers limited ST compatibility using the port of the EmuTOS operating system. Currently only simple text-only TOS programs will run.

The Kiwi Homebrew Computer Kit costs 333.33 Euro and is sold as a kit only without RAM and the SID chip. Assembling the Kiwi isn't a project for beginners and very little software is available for the computer.

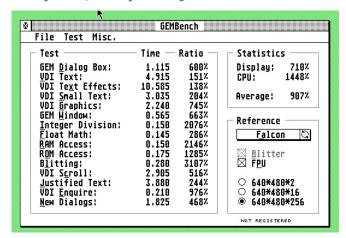https://www.ist-schlau.de/

New FireTOS beta

FireTOS is a heavily patched version of TOS 4.04 for the Firebee and Rodolphe Czuba's CT60 accelerator. Aniplayer developer Didier Méquignon didn't just improve compatibility though – he added new features as well.

Among these new features is support for memory cards. The first partition will be used as drive A.

Other additions include support for the STiK/STinG network API, SFTP folder mounted network capability for onboard Ethernet. Native support for Radeon cards is built-in, as is support for USB and PCI slots. It contains a bare bones version of fVDI (no support for vector fonts).

http://didierm.pagesperso-orange.fr/

RaspARI, Raspberry PI ST emulator

The Raspberry PI has sold over three million units and is used for all kinds of applications. Thanks to Armin Diedering (ResourceMaster) you can add one more application: Atari emulation. RaspARI is a new emulator and emulates most of the ST components and the Falcon Videl Shifter. Unlike emulators such as STeem, RaspARI was developed with GEM applications in mind rather

than games. First benchmarks show that the emulation is faster than a Falcon at 640x480x256.

RaspARI is currently in development. It isn't the only Atari emulator for the PI: Jens Heitmann has ported Aranym to the small computer.

http://www.atari-forum.com/viewtopic.php?f=8&t=26508

ATARI PLAYONE: JAGUAR + CD IN ONE UNIT

Among the many plans Atari had for the Jaguar video game system was the "Jag Duo" which would've been a Jaguar with the CD attachment in one system. This would have helped lower the costs of the system and improve reliability. Atari was also working on the Jaguar 2 with an improved chipset – it's not known whether the Jag Duo would've used the regular Jaguar or the Jaguar 2 chipset.

The PlayOne is a hardware mod by 10p6 that combines the Jaguar and the CD unit in one case that still looks very much like the original Jaguar one. This is more than a simple mod however, a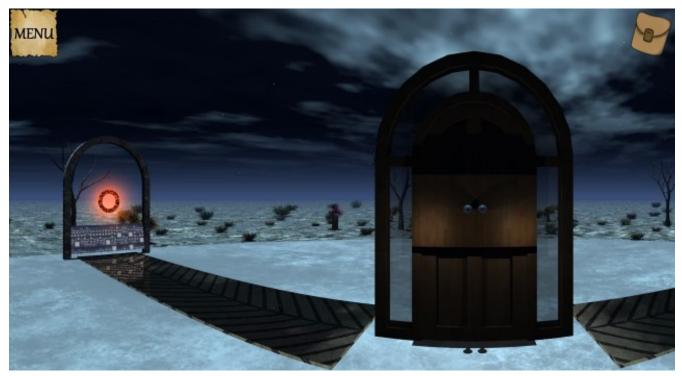s he also increased the system speed from 26 to 32 MHz and added connectors for Audio/Video, S-Video, RGB and networking. These ports are part of the LinkBox, a CatBox-like extension that can also power a MP3 player – presumably to add music to Doom.

Unfortunately there hasn't been any news since he released the video. 10p6 announced that he wanted to further work on the case and maybe look for a manufacturer. Information about the project was hosted at the now-defunct site Jaguarsector. The mod supposedly doesn't require to cut open and destroy the Jaguar or Jaguar CD case.

JAGUAR CD: YOPAZ ICESTAR AND PHILIA

Lucky owners of the Jaguar CD attachment continue to enjoy homebrew releases and can now add to more games to their collection thanks to Orion.

Philia: the Sequel to Elansar is a Myst-like adventure game with panoramic graphics and some puzzles to challenge your mind. Unlike its predecessor Elansar, it will only be released on CD.

Yopaz IceStar is the second new game and a port of the PlayStation game also developed by Orion. Yopaz features a strange parallel universe that is encapsulated in huge ice walls. The titular

hero tries to collect all the stars, making him possibly an enemy of all intergalactic civilisations. Despite the bizarre backstory, Yopaz IceStar is just a simple puzzle game: Your character will move until it hits an ice block or wall and there are transporters which may be used if the smiley has the same colour. The game has 40 levels and a built-in level editor.

Philia, Elansar and Yopaz are also available for other systems such as iOS and Linux. Orion has released lots of small games and demos for the Jaguar in the past and some can be freely downloaded from the

developer's website.

http://onorisoft.free.fr

Yopaz IceStar
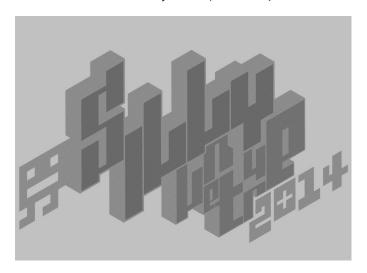
STOS Compiler 3.0

The game-creating Basic – which has occasionally been used to write applications as well – is not dead: Petari used the assembler code of the STOS compiler to fix many bugs. Version 3.0 generates binaries compatible with all TOS versions. Previously, binaries needed to be patched to be compatible with TOS 2.0 or newer. A separate version of STOS for the Falcon is still planned with support for the Falcon's video modes, DSP and more than 100 new commands. There's also a new universal STOSFIX patcher available which will patch any compiled STOS program to work on any TOS version. The best source for STOS related news is the "STOS Basic Current News" thread at atari-forum.com. There is currently no up-to-date website which has the most recent version of the developer tools and STOS source code.

Silly Venture 2014

The Silly Venture 2014 will take place from 5th to 7th December in Gdansk, Poland. The organisers expect more than 200 Atari enthusiasts, competitions will be held for all Atari systems from 2600 to the Jaguar. The festival will also celebrate the 25th anniversary of the Atari STE, the Silly Venture site features a STE theme.

http://www.sillyventure.eu

ACE Tracker/ACE MIDI 2.0 released

New Beat has released a major update to their software synthesizer ACE MIDI and the ACE Tracker to commemorate the first version's release over ten years ago. Version 2.0 improves WAV support and increases the maximum number of samples to 256. Triangle and trisaw wave, high pass, band pass and band stop filters have been implemented, there are two new source oscillators in F.M. mode and new tracker commands for ACE Tracker. Both ACE MIDI and Tracker require a Falcon 030 with 4 MB RAM and a VGA or RGB monitor. Like previous versions, ACE Tracker is free while ACE MIDI costs 115 US-Dollar or 85 Euro. The demo version of ACE MIDI hasn't been updated.

http://newbeat.atari.org

E-Jagfest Europe 2014

Fancy a trip to Duisburg? Jaguar and Lynx fans will head to Mündelheim near Duisburg on the 15th and 16th November for 2014 Atari Jaguar Europe Festival. In previous years, visitors could try out the VR headset, see the Atari 800 notebook and play many games. st-computer will also report on this festival.

Highlights: New Lynx and Vectrex homebrew titles, various prototypes, rotary controller and RGB cable for the Jaguar, retro game vendors, presentation of the FPGA Multiple Classic Computer 216.
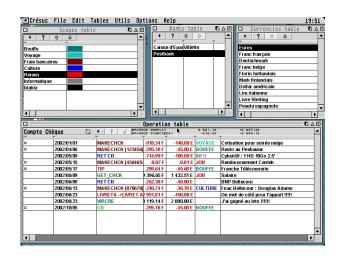
http://ejf.larshannig.com

UpToDate

www.atariuptodate.de

Name	Version	S	T	F	B	Name	Version	S	T	F	B
7up	2.33pl8	S	T	F	B	Manitor	1.04	?	?	?	?
ACE MIDI	2.00	-	-	F	-	maxYMiser Live	1.33a	?	?	F	?
ACE Tracker	2.00	-	-	F	-	Meg	1.4C	S	T	F	B
AHCC	5.1	S	T	F	B	mxPlay	2.0	-	?	F	B
Aniplayer	2.23	?	T	F	B	MyMail	1.96	S	T	F	?
ArtWorx	2.09	S	T	F	B	Nemesis Indicator	1.1	-	-	F	-
Atari Works	1.207	S	T	F	B	Papillon	3.04	S	T	F	B
AtarIRC	2.06	S	T	F	B	papyrus	10.20	S	T	F	B
Calamus SL	SL2006R5	S	T	F	?	PH Weather	1.21	-	T	F	B
CAT	5.43	S	T	F	?	Phoenix	5.5	S	T	F	?
CoMa	5.3.2	S	T	F	?	PhotoLine	2.3 plus	?	T	F	-
CoNnect	97b	S	T	F	?	Pixart	4.52	S	T	F	-
Cresus	1.2B	S	T	F	B	qed	5.0.5	S	T	F	B
Cypress	1.73	S	T	F	?	Reevengi	0.19	-	?	F	?
Diskus	3.97	S	T	F	?	SE-Fakt2013!	2.40	?	T	F	?
EmuTOS	0.9.3	S	?	F	B	Signum!	4.4	S	T	F	-
FreeMiNT	1.18	?	T	F	B	Smurf	1.06	?	?	F	-
fVDI Snap	1.1C	S	T	F	B	STarCall Pro	3.2D	S	T	F	?
GEM-Setup	2.01	S	T	F	?	STj	1.50	?	?	F	?
GFA-Basic Compiler	3.60	S	T	F	B	Tempus Word NG	5.4	S	T	F	-
GFA-Basic Editor	1.51	S	T	F	B	TeraDesk	4.06	S	T	F	B
HD-Driver	9.02	S	T	F	?	Texel	2.2	S	T	F	-
HypView	0.40.0	?	T	F	B	That's Write	4.12	S	T	F	?
JAnE	2.20	S	T	F	B	Troll	1.7C	S	T	F	B
Jinnee	2.5	S	T	F	-	X11-Basic	1.23	?	?	?	?
Joe	1.5C	S	T	F	B	XAct/SciGraph	3.1	S	T	F	-
KK Commander	1.5G	S	T	F	B	zBench	0.99	?	T	F	?
Litchi	1.3	?	T	F	B	Zview	1.0.1	?	?	F	?

Compatibility: ST (S), TT (T), Falcon (F), Firebee (B)

Enthusiasm for Atari
20 years Atari Inside

The Atari Inside may not be as well known as the ST-Computer or ST-Magazin, but it had its role in Atari history in Germany. The first issue was released twenty years ago. Let's take a look back at and underrated magazine.

The year is 1994: Two of Germany's biggest ST magazines, TOS and ST-Magazin, merged with ST-Computer which became the last Atari magazine to be sold at stores. Meanwhile Atari was concentrating all remaining resources on the video game system Jaguar. Still, even with no new Atari ST on the horizon, TOS software quality was at its peak, CD-ROMs were on the rise and Falcon owners could choose between a large amount of professional hardware and software.

Atari & proud

ST-Computer was a well-established magazine with its first issue published in early 1986. Its two main rivals both ceased publication in 1993. One year later, a new challenger appeared: the Atari Inside. Atari Inside was a professionally made magazine, although the layout with its variable font size and background colour certainly had a "fanzine" feel to it. The magazine makers also had a different attitude and they knew how to sell their first issue by speculating about a possible Falcon/TT successor called the Milan. Ironically it was the publisher of the Atari Inside who later founded Milan Computersysteme and released their 68040-based Atari clone.

The topics covered by Atari Inside varied wildly: Falcon accessories, ST games, new Jaguar titles and even articles about the Atari Portfolio. Starting with the racing game Cruisin' Beasts, publisher Falke Verlag started selling software. Later they sold abandoned ST software (Ray-Start) and Atari hardware at bargain prices.

Most vendors who advertised in the ST-Computer also supported Atari Inside. The most notable exception was Application Systems, distributor of programs such as CAB and Texel.

Atari Inside also reported on the wave of Atari emulators but never attempted to turn into a multi-format magazine - unlike the ST-Computer which introduced a Macintosh magazine-in-a-magazine after the release of MagiCMac.

End and transition

With issue 4/96 came the announcement that the magazine would turn subscription-only, but only one issue was released for subscribers before Atari Inside's publisher took over the ST-Computer. The new magazine was called ST-Computer/Atari Inside until 2000, when the name was phased out in favor of ST-Computer. There were still alternatives for German readers like CD magazine Revolution, but ST-Computer survived all of them.

Still missing the VCS 2600 in your collection? For a short period, many Atari vendors in Germany started selling Atari 8 bit computers, Lynx, Portfolio and video game consoles.

ST-Magazin 8/1989

ST-Magazin was one of the big Atari magazines in Germany and published from 1987 to 1993 before it was folded into ST-Computer. It's one of the magazines archived at stcarchiv.de.

Back in 1989, **emulators** running on the Atari ST were quite popular in Germany. ST-Magazin reviewed the two Mac emulators Aladin and Spectre. Spectre was fairly new at that time but became later the Mac emulator of choice due to its support for 128k ROMs and Macintosh disks. PC emulation wasn't as advanced in 1989, with PC-Speed being the hardware based emulator. ST-Magazin also published a list of other emulators and operating systems, some of which haven't been archived yet. Does anyone remember Cohurrent DOS for the Atari?

ST-Magazin also reviewed a few games. Bullfrog's Populous was game of the month. Atari also made news: The **Portable Color Entertainment System** (PCES), later renamed the Lynx, was the world's first colour handheld system. One of the official press images showed a hand throwing the PCES into the air.

Comics were part of even serious minded ST magazines. Jens Klöpfel created the Dr. Nibble Crew, a fictional IT group. The comic satirised daily computer life and was published in ST-Magazine's predecessor 68000er as well. Klöpfel, along with many ST-Magazin authors, later joined TOS magazine.

The Exceptions (TEX) was one of the early demo crews releasing demos that pushed the ST to its limits. Members of TEX were also writing for ST-Magazin, describing techniques to program soft scrolling and 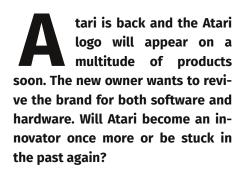develop a soft synthesizer. Their series of articles "Die Hexer" (The Sorcerers) was followed by another part in 1989: This time, the right border was used for graphics.

Atari 2014

What's up Atari?

Atari is back and the Atari logo will appear on a multitude of products soon. The new owner wants to revive the brand for both software and hardware. Will Atari become an innovator once more or be stuck in the past again?

Atari was once known for innovation and revolutionised both the gaming and personal computing market. During the Hasbro and Infogrames era, the brand was less successful. In 2008, Atari was delisted from NASDAQ and on January 21st 2013 Atari filed for Chapter 11 in January. The company tried to sell its portfolio of games but only managed to sell few properties such as Star Control, which was picked up by Stardock. In December, both creditors and the court approved Atari's plan to pay back debts and exit bankruptcy.

Today's Atari has ten employees and retains rights to Rollercoaster Tycoon, Test Drive and most classic Atari games of the early arcade era.

Atari CEO Frederic Chesnais was already an Atari executive from 2001 to 2007. He wants to revive Atari as a brand which does more than print its logo on shirts. The famous stylised logo should appear on hardware products again. However, even the new company couldn't resist to tap into its arcade legacy:

"Atari Casino", a collection of casino games with Atari characters will be launched in cooperation with FlowPlay. Another cooperation led to the release of Asteroids and Centipede as "Hashteroids" and "Centipup".

Past to future

What's left of the company? Since the Hasbro era, Atari leverages a couple of arcade classics and releases them over and over again. Attempts were made to modernise Pong, Breakout, Centipede and other titles. Atari even recycled Haunted House and Outlaw, although they have little in common with their VCS ancestors.

Atari obviously doesn't have the capability to develop games and hardware itself, and thus relies on licensing out the logo to other companies. One of those licensees is Asia Kingston Limited, which announced a slew of Android devices featuring the Atari logo. Neither the 5 inch "Tablet Game" nor the 6.95 inch "Superzoom Phablet" can rival the top devices in their respective category. All come preinstalled with the games Circus Atari, Centipede and Atari's Greatest Hits.

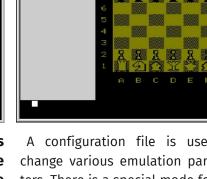*A new IP: Pride parade simulator Pridefest.*

Tainted Legacy

Atari was once synonymous with video gaming and innovation. Every owner of the Atari brand since 1996 failed to take properly care of it, concentrating instead on rehashing the same old arcade titles. Atari's arcade legacy and brand are both a blessing and a curse. Centipede and other titles still sell on the app store and other companies are interested licensing the brand.

Unfortunately, the well-known arcade titles don't feature notable characters. Nintendo (Mario) and Namco (Pac-Man) are still able to develop games using characters from the golden era of arcade gaming that feel fresh and innovative. There's not much Atari can do with another iteration of Missile Command or Centipede. Of the properties acquired through Hasbro/Infogrames, only Rollercoaster Tycoon holds any value today.

Atoric

Among the many computers released during the golden age of home computers were the Oric-1 and Oric Atmos. Mildly popular in France and the UK, both machines are emulated by Atoric.

During the first half of the 80's, dozens of home computers were released. Few of them achieved mainstream success. British company Tangerine Computer Systems aimed for a slice of the booming home computer market with the Oric-1 and its successor Oric Atmos. Both are similar in specs with the ZX Spectrum, though they are using a 6502 CPU instead of a Z80. Tangerine managed to sell over 100000 units in the UK and France. Oric clones were produced and sold in Yugoslavia and Bulgaria until the early 90's.

Emulation

Atoric is an Oric emulator for the Atari ST and compatible systems. It emulates the Oric's 6502 CPU, graphics and accessories. Emulation of the sound chip isn't necessary, as the Oric used the same AY chip as in the Atari ST. Atoric is also compatible with Atari clones like the Milan.

A configuration file is used to change various emulation parameters. There is a special mode for the Milan's 640x480 256 color mode, as the Milan doesn't offer the more suitable ST low resolution. ST owners may use a special overscan mode (320x228). This mode requires original hardware and isn't compatible with emulators or extended STs. Overscan mode is of limited use, as the ST and even the Falcon are generally not fast enough to emulate an Oric at full speed.

Atoric is one of the few emulators capable of running inside a GEM window. This further impacts emulation performance but is an interesting choice for Milan owners. The config file also contains an option to switch off sound. While sound output doesn't impact the performance of the emulation, the AY three channel audio sounds weird when played using the Milan's one channel beeper.

Keyboard layout an Oric model (Oric-1, Atmos, Telestrat) can be selected in the config file. The emulator supports disk and tape images.

Usage

There were no built-in joystick ports, so all Oric games can be con-trolled with the keyboard. CLOAD "" will open the file selector to load an image. The HELP key will open the emulation menu where you can switch the disk image.

Software

The Oric wasn't supported by the big publishers of that time. Smaller companies released original titles or reprogrammed titles popular on other systems. Games were mostly on par with Spectrum titles during that time period (1984-1985). Games and demos are still being released today, some of the most impressive titles ("Impossible Mission", "Skool Daze") were released after the year 2000. Two games are included with Atoric: Defender and Chess-II.

More games are available through sites such as oric.org. Some Oric websites and programs are only available in French.

Conclusion

Atoric is one of the more interesting emulators for Atari compatible systems, even years after its last update. To fully enjoy the emulator, you will need to be familiar with the Oric and own a fast TOS machine. This makes Atoric a true niche emulator.

Fifty Years of BASIC

For most developers, BASIC was their introduction to programming. It is fifty years since Kemeny, Kurtz and a number of students created the BASIC programming language at Dartmouth college.

BASIC was born in the year 1964 when computers were used at universities, a few companies and government agencies only. Even at universities, computers weren't accessible to all students as developing programs required a high degree of skill. Thomas E. Kurtz and John G. Kemeny started creating a new programming language that should improve computer literacy and make it easier to teach others how to write programs. BASIC is an acronym for Beginner's All-purpose Symbolic Instruction Code. Kurtz/Kemeny's BASIC became later known as Dartmouth BASIC and was further improved until the late 70's when the seventh and final version was released.

Like most early computer software, Dartmouth BASIC was no commercial project. Neither was the later released Tiny BASIC. Computers weren't popular enough to build a business model upon selling BASIC interpreters and compilers. This changed in the mid-70's with the release of the Altair 8800, a computer that was affordable to enthusiasts and yet powerful enough to run a version of BASIC.

The first commercial version of the BASIC language was released for this system and it was the first product of a small software company called Microsoft.

Microsoft BASIC

Paul Allan and Bill Gates believed that it was the right time building a commercial software company. It was also the birth of software piracy as Altair BASIC was copied and spread by Altair owners, much to the dismay of Gates. Still, Microsoft BASIC became the dominant BASIC dialect of the 80's and was licensed to almost any computer company. It was usually built into ROM and

available after switching on the computer. During that time, "operating system" was synonymous with the BASIC interpreter.

Atari, Apple, Commodore and numerous smaller companies all licensed BASIC from Microsoft. Notable exceptions were Sinclair and Amstrad. Apple first released

the Apple II without Microsoft BASIC but added it later with a ROM swap. The 8-bit Atari computers included a rather unique BASIC dialect developed by Shepardson Microsystems. Microsoft BASIC was available as a cartridge later.

Just because most computers ran a dialect of Microsoft BASIC didn't mean that programs were easily translatable. The capabilities and instruction set of each dialect varied greatly, especially graphics and sound commands.

Microsoft's focus later changed to MS-DOS, Windows and business software. The software company still continued improving their version of BASIC and released Visual BASIC to facilitate the development of Windows applications. Varieties of this BASIC flavour were also done for writing Office macros and the .NET framework (VB.Net). Visual BASIC was a large departure from the original Altair BASIC to the point that it was like a new programming language. Line numbers were no longer necessary while features from other languages were incorporated into the BASIC programming language.

Small BASIC marked Microsoft's return to their roots. A modular educational language accompanied by an updated release of 1978's "BASIC Computer Language" (David Ahl). The Small BASIC edition is

READY.


```
**** COMMODORE 64 BASIC V2 ****
64K RAM SYSTEM  38911 BASIC BYTES FREE
READY.
10 FOR I=1 TO 15
20 POKE 53281,I
30 NEXT I
40 GOTO 10
```

available as an ebook, the original one is archived with the permission of Ahl at atariarchives.org.

Fragmentation

Early BASIC programs were simple enough that they could run with minor changes on various computer systems. Some BASIC books described the changes necessary to run the program on various models. More advanced programs weren't that easily transferable: While Atari BASIC supported developers with special commands for graphics and sounds, C64 owners needed to write directly into the system's memory to create sprites or play music.

Even early 70's program may not run on more modern BASIC dialects: GFA-BASIC doesn't support line numbers and there is only instruction per line. Converting a program between modern BASIC dialects usually doesn't make sense – it's faster to rewrite the program in the other BASIC dialect.

True BASIC

What is the "true BASIC"? There

may well be over one thousand BASIC dialects and extensions. Even simple instructions such as "clear screen" might be implemented differently depending on the dialect.

Kemeny and Kurtz tried to create a new standard, restoring the compatibility that was lost with the various BASIC dialects released after their Dartmouth BASIC: The first version of True BASIC was released in 1983, supported graphics and many new instructions. Line numbers were now optional and True BASIC is still supported to this day.

True BASIC was offered for various systems, including the Atari ST, Amiga and Tandy. Programmers were promised that they could write their program once and then offer

it for various systems. However, only the Windows version is still supported – the Mac release doesn't support OS X. True BASIC was largely ignored outside the U.S. due to its high price tag and powerful competitors.

A living language

BASIC is a living language and has evolved so much since Dartmouth BASIC that it's modern incarnations might as well be seen as another programming language altogether. However, all these varieties of BASIC have one thing in common: They want to make writing programs as easily as possible. That's why new dialects of BASIC are developed to this day.

Original copy of 8K BASIC on paper tape for the MITS Altair 8800. Photo by Michael Holley

BASIC on the Atari

What were the most influencial BASIC dialects for the Atari ST, what is a BASIC interpreter doing in XControl and which BASIC brought the 520 ST to the level of an Atari 400? Let's have a look at BASIC dialects for all Atari machines.
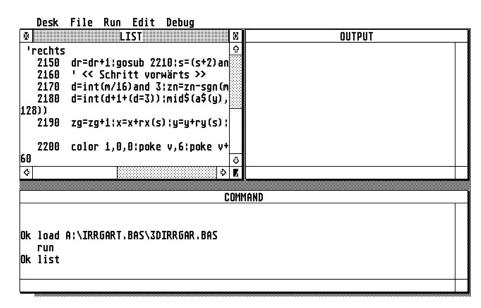

Slow and crash-prone: The official ST Basic.

The Atari 520 ST was still in its infancy but already bilingual: Atari put two programming languages on the disk supplied with the computer. ST owners could either play around with Logo's turtle graphics, or try ST-BASIC which was developed by Metacomco. Logo left no lasting impression other than a few Logo workshops in early Atari magazines. ST-BASIC however quickly gained a reputation - although not a good one.

ST-BASIC

ST-BASIC was supposed to be an early show piece for the advanced 16/32 bit technology of the Atari ST. The programming language made full use of GEM and opened four windows on startup. This not only forced programmers to constantly switch between windows but it was also quite slow. Further tarnishing ST-BASIC's reputation were various bugs. A simple assignment such as "x=18.9" would crash the interpreter. Early ST's also didn't have TOS in ROM which left only about 11 KB RAM for developers after booting up TOS and ST-BASIC.

Atari and Metacomco quickly promised to fix the bugs. Version 2.0 introduced new instructions but still used the four window interface. Developing GEM applications still wasn't easy and a compiler was not supplied, forcing developers to look for third-party solutions. Most of them didn't, as alternatives were already available by the time ST-BASIC 2.0 hit the market. ST-BASIC's unpopularity was visible in magazines and PD libraries. Only very early PD disks contain a few programs written in ST-BASIC. In Germany, developers and magazines quickly switched to GFA-BASIC.

GFA-BASIC wasn't the only early alternative for BASIC developers. Omikron BASIC and Computer Concept's Fast BASIC also quickly surpassed ST-BASIC in popularity.

Omikron BASIC

In 1986, German company Omikron Software released their version of BASIC on a cartridge. Procedures and functions were included but its most important feature was precise calculations, thus making it a good choice for scientists. Line numbers were supported but optional and the editor of version 1.0 was instantly familiar to anyone who had developed on 8 bit computers.

Instead of integrating hundreds of commands into the interpreter, Omikron opted for a modular concept and began offering libraries. The first ones were for GEM/AES and ISAM (database), later ones included the Numeric, MIDI and Sta-

Omikron Basic 3.0 became the official ST Basic in many European countries.

tistic library. Third-party devel-opers could distribute libraries too, one of the last ones was the KLib by Karsten Lüdersen.

While it was possible to develop GEM applications, the editor of Omikron BASIC made no use of the ST's graphical environment. The decision to forgo a GEM based edi-tor with windows was not criticised by ST-Computer editor Markus Ner-ding in his review of Omikron BASIC in issue 12/86, although he noted that the GFA-BASIC's editor was more comfortable. Omikron impro-ved the editor with version 3 and finally introduced a GEM-based editor in version 5, released in 1996.

Even though ST-BASIC was still supplied with every ST, developers in Germany gave up on the stan-dard BASIC and opted to buy a BA-SIC interpreter instead. Type-in listings were mostly in GFA-BASIC and occasionally in Omikron BASIC. The latter finally became the new official ST BASIC thanks to a deal between Atari Germany and Omi-

kron. Atari UK preferred First BASIC by HiSoft which became part of many ST bundles released there.
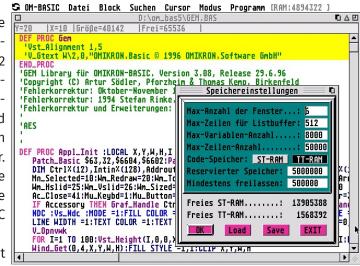
The contract was only for the Omikron BASIC interpreter version 3. Much like competitor GFA, Omi-kron failed to improve their BASIC for faster processors, higher reso-lutions and multitasking. This be-came an issue after the release of the Atari TT.

Omikron BASIC 4.0 wasn't a true next-generation BASIC, but it fixed compatibility issues with the TT and suppor-ted the 68882 math coproces-sor. The compi-ler was sold together with the interpreter. The high price tag of the "Omikron BASIC development system" meant that it was un-affordable for

small developers.

Unlike GFA-BASIC, Omikron was supported until the late 90's. Omi-kron BASIC 5.0 finally offered a real GEM-based editor with syntax co-louring and auto indention. The last version was released in July 1998, the demo version is still available from Berkhan Software. An attempt was made to continue developing the BASIC for Mac com-puters. Running the BASIC on to-day's Macs isn't possible since the Omikron BASIC doesn't support In-

Version 5 added a GEM editor - and interesting colour choices.

tel-based Macs.

Omikron BASIC never achieved mainstream success, even after it was supplied with new STs. GFA dominated the German market thanks to aggressive marketing and a great selection of books and sample code.

GFA-BASIC

Frank Ostrowski was no stranger to ST owners who previously owned an Atari 8-bit computer. He created the Turbo BASIC XL interpreter and compiler, a fast and modern BASIC dialect. Turbo BASIC was released as a type-in listing in German computer magazine Happy Computer and became a popular alternative to Atari BASIC.
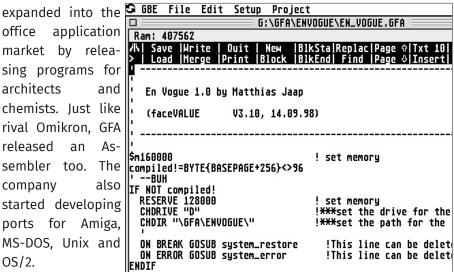
Ostrowski continued his work on the Atari ST. His GFA-BASIC was published by Integral Hydraulik, a company that later changed its name to GFA Systemtechnik. The first version came out in 1986, a few months before Omikron BASIC and was one of the most modern dialects of BASIC at that time. Gone were line numbers and multiple instructions in one line, GFA-BASIC forced the BASIC programmer to code in a structured manner. Interpreter and compiler were sold separately, but GFA released a free run-only interpreter to start non-compiled programs.

Version 1 was quickly followed by version 2.0 released in the same year, a compiler and a book written by Ostrowski himself. GFA-BASIC was heavily marketed and quickly

gained opportunity. Programs coded in this BASIC dialect were distributed as freeware, shareware and commercially. The first three versions of word-processor papyrus were written in GFA-BASIC.

The popularity of GFA-BASIC allowed GFA to branch out: Besides a few tools for the BASIC, GFA expanded into the office application market by releasing programs for architects and chemists. Just like rival Omikron, GFA released an Assembler too. The company also started developing ports for Amiga, MS-DOS, Unix and OS/2.

GFA-BASIC 3.0 was released in 1988 and almost doubled the number of available commands by improving support for writing GEM applications. The editor still didn't make use of standard GEM features and wasn't designed for higher resolutions or multitasking environments. However neither accelerator nor graphic cards were wide spread and the first multi-tasking systems weren't available at that time. In reviews, the editor was praised for its innovative fea-

The original GFA editor was advanced for its time.

Keeping GFA alive: Lonny Pursell's GFA editor.

tures such as auto indent and syntax folding.

The last official version was 3.6TT, a compatibility update for Atari's 32-bit computer. GFA concentrated on GFA-BASIC for DOS and Windows. An attempt to update the BASIC was made by Richter Distributor in 1993 starting with porting the editor and interpreter from Assembler to C. Lack of developers forced the company to abandon their plans.

The "GFA-BASIC Editor 4.0" released through various pd libraries was essentially the editor module of the ACSpro development system.
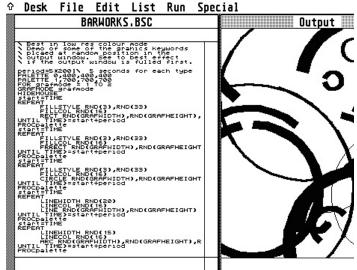
Even without the original publisher supporting GFA-BASIC, developers managed to modernise the BASIC and patch the bugs in editor, compiler, library and linker. Without patching the various parts of GFA-BASIC, programs are likely to crash on modern ST compatible systems. The latest and undoubtedly most ambitious effort to modernise GFA was done by Lonny Pursell: He not only patched compiler and linker, but also released a GEM-based editor that can used just like the old editor but is multitasking friendly.

Fast BASIC

Not only were Germans inspired/appalled by the quality of ST-BASIC. Fast BASIC by Computer Concepts was released in 1986 and featured a GEM-based editor much like Atari's BASIC. Unlike ST-BASIC, Fast BASIC was perfectly usable, had a reasonable fast editor with the option to select blocks with the mouse, a search/replace function and only two windows instead of ST-BASIC's four. Most AES and VDI calls were supported by the BASIC, procedures and functions could be used and developers could use the built-in Assembler to speed up their programs.

Even though it was faster than ST-BASIC, the editor was slower than GFA-BASIC's. Fast BASIC also failed to gain market share in Germany

Fast Basic offered a GEM-based editor and was faster than ST Basic.

and likely was never released in that country. It was moderately successful in the UK and the original still shows up at retro stores and on eBay from time to time.

While the feature set of Fast BASIC was impressive in 1986, it's not a good programming language to use for modern applications. The editor won't work on anything newer than TOS 1.00 and while a compiler was advertised, no copy has been found yet.

LDW BASIC Compiler

LDW produced a fine spread sheet program (Power Calc) for the Atari ST but also tried to enter the programming language market. LDW BASIC Compiler was marketed as the essential tool for ST-BASIC developers. ST-BASIC programs could be compiled into standalone pro-

grams, thus making Atari's BASIC slightly more useful. LDW even included a few enhancements, removed some limitations in the handling of strings and arrays and simplified GEM development. Line numbers were optional in LDW, although making use of this and other extra features meant that the program couldn't be executed in ST-BASIC anymore. In fact, you could write programs in any text editor as long as the syntax was compatible with the compiler.

LDW BASIC Compiler was obviously the victim of ST-BASIC's failure on the market. The compiler might've had a better chance if it would've been designed as an independent development systems.

HiSoft BASIC

In the early 80's, British software house HiSoft was already known for programming languages, releasing various languages such as Assembler, Pascal and C for the ZX Spectrum. The company had no problem moving on to 16-bit, Devpac became one of the most popular Assemblers for the Atari ST.

HiSoft BASIC was offered under various names for the ST. All varieties used a GEM-based editor much like FaST BASIC and supported user-defined functions and local variables. Some varieties of the BASIC also included the compiler

The editor was used by HiSoft for various languages.

Enchant replaced HiSoft's GEM toolkit.

which could be started via the editor. Even though it used GEM, the editor was not on par with GFA's: It did not perform a syntax check on text entry.

One of the most confusing aspects of the language are the different names of HiSoft BASIC. First BASIC was the entry-level version and only featured an interpreter, Power BASIC was more powerful (obviously) and then there were HiSoft BASIC and HiSoft BASIC Professional. The latter was capable to use external libraries, but cost twice as much. HiSoft later simply sold their BASIC as HiSoft BASIC.

Like FaST BASIC, HiSoft BASIC was in many ways superior to the two German BASIC dialects. HiSoft was more successful than Computer Concepts in establishing their BASIC but failed outside the UK. Distribution rights for the USA were picked up by Michtron and in Germany Markt & Technik sold all HiSoft programming languages. Unfortunately, HiSoft arrived too late in these markets. Their German distributor was unwilling to put much marketing effort into it and even ignored HiSoft BASIC in their own magazine (ST-Magazin). ST-Computer did publish a review in late 1988, criticising the lack of user-friendliness and syntax-checking.

HiSoft BASIC enjoyed a longer lifespan than GFA-BASIC and since HiSoft sold the 1 and 4 MB version of the Falcon in the UK, was also adapted to the Falcon 030. As their international distributors gave up on the Atari market, HiSoft's Falcon support wasn't noticed outside Great Britain. One of the finest external libraries was released after HiSoft left the Atari market: Enchant simplified development of modern GEM applications and supported new technologies like OLGA and BubbleGEM.

Since HiSoft BASIC was supported much longer than FaST BASIC, it's not hard to pick up a copy of the original program. First BASIC was part of many software bundles Atari UK included with their STs and STEs and basically became the new ST BASIC. Even today, it might be an appealing choice for people who want to dabble with BASIC on the ST. However, with the release of the GBE (GFA-BASIC Editor), GFA-BASIC is a better choice due to its compatibility (when patched), superior editor and better support.

Other candidates!

GFA, Omikron and HiSoft BASIC are all quite common, easy to find and still used by developers. Lots of other BASIC dialects went unnoticed by the developer community and are of little use today. Most of these were released early in the ST's life span to compete with ST BASIC.
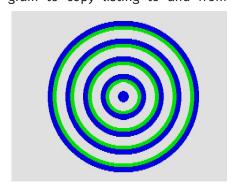
Softworks BASIC is one of the more obscure BASIC dialects for the Atari ST. Released in 1986 as a compiler language only, it lacked an interpreter and used 1st Word as an editor which was supplied with every copy of the BASIC. The BASIC

featured complex data structures, support for inline assembler and understood about half of the commands of ST BASIC. According to a review by British Atari magazine Page 6, compiled Softworks applications were in some benchmarks slower than uncompiled ST BASIC programs. The language wasn't developed specifically for the Atari ST and was also available for Amiga and Mac computers. Programs could be easily transferred unless you took advantage of any system specific instructions.

DBASIC (Dinosaur BASIC) is also of interest, although it is, like the name implies, anything but modern. The distribution method was unique as the BASIC used its own disk format, requiring a transfer program to copy listing to and from

standard disks. It also didn't take advantage of any of the ST's advanced features. The BASIC could be distributed freely but didn't include documentation other than a few sample programs. Developers had to buy the DBASIC book to get a good idea what the BASIC was capable of. DBASICs's creator is more renowned than his creation: Hal W. Hardenberg was one of the early developers for the Motorola 68000 processor, publishing a 68000

newsletter two years before the introduction of the Apple Lisa. At that time, the 68000 was still considered a CPU for workstations. His "DTACK Grounded" published 68000 code and also served as advertisement for his hardware and software projects. Most issues of the newsletter and the DBASIC interpreter are archived on the web.

Being a compiler specialist and having experience in developing for the 68000 should give a company a good head start. Philon released various compilers for 68000-based workstations and started supporting the Atari ST in 1986. **Philon Fast/BASIC-M** offered limited compatibility with ST BASIC programs and was released as a big package with five disks. Stephen Eitelman in his review for Current Notes criticised the speed and size of compiled programs. Even a simple "Hello World" type of program would require 70 kb on disk. Philon also announced an entry-level version of BASIC-M called Henry's Fundamental BASIC, although whether it was ever released is unclear.

"The fourth generation BASIC" was the claim of French developer MemSoft. Not much is known about **MemBASIC** other than a review in French Atari magazine. Line numbers were optional but the size of strings was limited to 255 bytes. The BASIC didn't use GEM and was likely converted from the PC. The business model was similar to DBASIC's: the language was free, the 400 page documentation had to be bought.

Portability was also the main sel-

ling point of **True BASIC**, an attempt by the developers of the original BASIC to create a new standard. Unlike their original creation, True BASIC was commercial and available for the next generation of computers: Atari ST, Amiga, Tandy, DOS-PCs and Macintosh. The new BASIC could work without line numbers, supported graphics and libraries. It was faster than ST BASIC and priced competitively with GFA BASIC. Porting programs to other operating systems wasn't a big concern for BASIC developers at that time though and the hardware-re-independent nature of True BASIC meant that direct access to some of the features of the computer was only possible through libraries written in Assembly language. Pricing in other countries was also an issue: In Germany, True BASIC cost more than GFA BASIC interpreter + compiler. Both the Atari ST and Amiga never enjoyed the success they had in Europe in the US. As a result, support was dropped for these systems and the current version is offered for Windows only. True BASIC still sells the vintage edition of True BASIC ST as a download for 25 dollars.
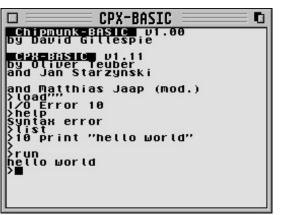
Mirage was an early alternative multitasking, multi-user operating system for the Atari ST and other computers. The OS was sold as a cartridge, advertised in Atari magazines and offered with various programming languages, including **Swifte BASIC**.

Open Source

Bywater BASIC (bwBASIC) is an

open source BASIC interpreter written in Ansi-C. Version 1.1 and 2.2 were compiled by the author of this article to the Atari ST. These are simple TOS applications, graphics aren't supported. BwBASIC is compatible with most BASIC programs from the late 70's and the BwBASIC archive includes 42 BASIC programs.

A whole Basic interpreter and VT52 simulator in a CPX: CPX-Basic.

The interpreter was part of a personal port-a-thon, releasing a new port of a programming language every day.

Atari's extended control panel XControl was created to save precious accessory space and to offer an environment for settings of all kind. However, there were also games created as a CPX module and even a BASIC interpreter. Oliver Teuber and Jan Starzynski ported Chipmunk BASIC to the ST. Rather than releasing it as a TOS or GEM application, they decided to use it for their **CPX-BASIC**. CPX-BASIC was a remarkable XControl module, re-creating a 32x22 (text) and 256x176 (graphics) display. It simulates a VT52 display internally and could've been used as an environment for TOS applications. CPX-BASIC was

distributed in two versions for Ataris with 68000 and 68020/30 CPU. The source code was included as well, two updates done by Matthias Jaap were released later.

The port of Gordon Brandly's 68000 **Tiny BASIC** is based upon the 8080 version of this BASIC dialect. Tiny BASIC was released in the mid-70's and only required 3 kb of RAM. It was frequently discussed in Dr. Dobb's Journal — one of the early and possibly longest running computer magazines.

X11 BASIC was ported recently to the ST. It borrows heavily from GFA BASIC. The port will be reviewed in a future issue of st-computer.

STOS BASIC

Everyone can develop a game! In 1988, Mandarin Software released STOS BASIC for the Atari ST, a BASIC interpreter specifically made to create games. STOS offered instructions for scrolling, sprites and sound, joysticks and sprite collision detection. In order to facilitate developing games further, a sprite and music editor were included as well. Those who were not gifted in creating pixel art could purchase additional sprite and sound packs. Mandarin soon

extended the STOS family with STOS Maestro (sample editor), STOS 3D (for 3D games) and a compiler. The game basic was a smashing success in France and the U.K. and many impressive STOS games were released on cover or PD disks. STOS was less popular in Germany, likely due to the dominant mono display. Mandarin moved on to the Amiga afterwards (AMOS), developer François Lionet later released game construction kits like the "Klick & Play" franchise.

STOS was never adapted to the STE or the Falcon and without patches STOS games are incompatible with any TOS version greater than 1.04. But developers released patches and new libraries to take ad-

Two games written in STOS: Orbit and Billy Boy.

Games written in Basic for the VCS 2600 (Princess Rescue), 5200 (JumPong) and 7800 (Zelda demo).

vantage of some of the STE's and Falcon's features. The source code for STOS was released and some programmers are even working on STOS 3.0.

BASIC for other Ataris

A BASIC for every Atari computer: Except for the Lynx and Jaguar, you can develop for any Atari system in BASIC. Atari's 8-bit computers featured an integrated BASIC interpreter (XL/XE) or used a BASIC cartridge (400/800). Atari also offered a Microsoft BASIC cartridge.

There are multiple BASIC dialects for the Portfolio. Atari sold the PowerBASIC compiler, the free PBASIC interpreter was popular and the commercial Swift BASIC offered various commands to draw graphics. Of course some DOS BASIC interpreters could be used as well.

Warren Robinetts is well known for his VCS game "Adventure", the first action-adventure game. But he wrote another "game" that was no less ambitious: **BASIC Programming**. This cartridge required two keyboard controllers and contained no extra memory. Thus every pro-

gram had to fit in the 127 byte RAM of the VCS. Four years later, Spectravideo released the **CompuMate**, an extension that was almost a whole stand-alone system. The CompuMate contained a 42-key membrane keyboard, 2k RAM, Microsoft Basuc and a built-in music composer and drawing program. Programs were stored on tape. A CompuMate complete with the box is now a sought after collectors item.

The CompuMate is a nice piece of hardware for any VCS fan, but if you want to develop your own Atari games, you should use **batari BASIC**. Batari BASIC is a Linux, OS X and Windows application and generates code which can be turned into a VCS binary with the DASM assembler. Windows developers can even use the graphical IDE Visual bB that contains a sprite and music editor. Dozens of games have been developed with batari BASIC so far.

7800basic may continue batari BASIC's success. This BASIC is also a Windows/Linux/Mac application and is based on batari BASIC. You don't need to know assembly language, but if you do, you can mix

BASIC source code with assembly code. 7800basic makes use of the Maria graphics chip and even supports the Pokey for better sound. The BASIC is still in beta, but there are demo programs like an early Zelda clone.

Unfortunately, the independently developed 5200basic is no longer maintained. Documentation is scarce and it was used for very few games.

Verdict

Looking back at all the BASIC interpreters released for the Atari ST, it's clear that it's not enough to have the most powerful interpreter on the market. GFA BASIC was available everywhere and developers actually used it. This in turn created an ecosystem with books, tutorials and sample code. ST BASIC was never well supported by Atari or the developer community. GFA BASIC and STOS BASIC also proved that a language can thrive even when it's no longer supported by its creator.

Some may still argue that beginners shoould start with a proper

Revisited – Classics remade

These games all have little flaws but are loved by certain fans who decide to fix the flaws decades after the original release.

Looking at another system and being jealous of exclusive titles or better conversions isn't uncommon. In the latter case, there are many reasons for better conversions such as more powerful hardware or developers who have more experience on one system, but less on the other. Sometimes all that was missing was a bit more time. Atari's 2600 port of Pac-Man was a rushed effort while the later Ms. Pac-Man was a fine port. Every ST game that didn't scroll smoothly could've been done better in the hands of mo-

re experienced developers. The otherwise good Jaguar conversion of Doom was missing music. Even Amiga fans weren't perfectly happy: some great ST titles such as Oids and Gauntlet I were never ported to their system.

Redone

Some developers started filling their system's software gaps years later. Amiga developer Meynaf ported many ST games (Oids, Joust, Super Sprint, International Karate, Gauntlet 1) to his favourite computer, others tried to release a better Pac-Man for the VCS - either by patching the superior Ms. Pac-Man or reprogramming the game (Pac-Man 4K), showing that they could

do better.

Blaming the original developers for shoddy conversions is easy, but they had to work under different conditions than homebrew developers. Most were on a tight schedule, received pressure from the publisher and had to work with insufficient documentation or incomplete development kits. E.T. had to be finished within five weeks!

Hardware requirements were also restrictive too. Most early ST titles were designed for the bare system consisting of a 512 KB ST with a single-sided drive (360 KB). Later on, the STE wasn't common enough for developers to take full advantage of the hardware.

This is obviously less of a problem for developers who just program for the fun of it. If their game requires a 2MB STE, so be it. VCS developers may now freely use a 32 KB ROM - using a smaller one is less about being cost effective and more about proving that working within the original limit is possible, such as with Pac-Man 4K.
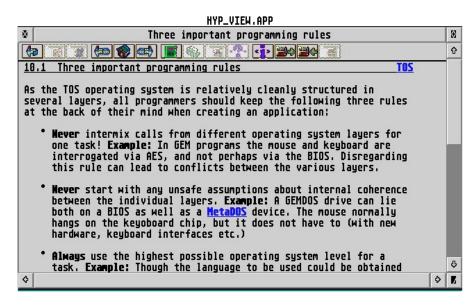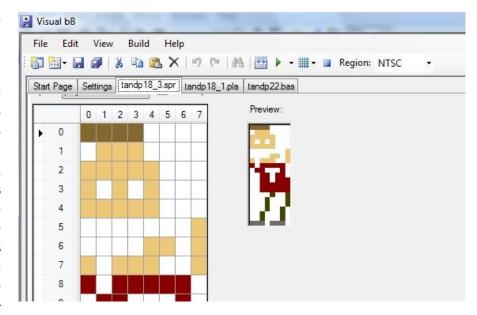
Challenges

Today's developers have access to better tools, documentation and more powerful hardware. They are not required to deliver a game by a fixed deadline. Still, improving an existing game is no easy task.

The original source code is usually not available. Therefore a game has to be carefully examined to find out how the code works and where to insert modifications. That's the reason why Giana Sisters STE requires 2MB RAM. Other developers decide to recode the whole game, using only small parts of the original versions. In Pac-Mania STE, only the music and game logic remain unchanged, while R-Type Deluxe is not using any code from the ST version at all. There are other promising games in development currently, like a port of Galaga 88 for the Falcon.

Read more about the improved versions of Giana Sisters and Pac-Mania (STE) and E.T. (VCS) on the next pages.

Freely available documentation, modern cross-platform development tools and good emulators make it easier to create applications and games for classic systems.

PAC·MANIA

While Pac-Man isn't an Atari game, the beloved yellow pill addict was associated with Atari video gaming thanks to the (in)famous port of the original Pac-Man to the VCS. In 1988 Grandslam Entertainment released a good conversion of the arcade Pac-Mania for the ST. Let's take a look at the STE version, done by Zamuel_A.

Unlike the previously released Pac-Land, Pac-Mania returned to the roots of the franchise but added an isometric 3D view, different themed worlds, and the ability for Pac-Man to jump. The arcade machine was distributed in North America by Atari Games, ports to various game consoles were done by Tengen. Grandslam Entertainment bought the rights to convert the game to various popular home computers, including the Atari ST.

The Amiga version was one of the early games to take advantage of the Amiga's superior graphics and featured a full-screen display. Other versions used a static status area which limited the play field at the bottom (C64) or on the right (CPC, ST). This "trick" was frequently used by ST developers to improve scrolling. In case of Pac-Mania, it worked: The game scrolls slowly but smoothly and the game is perfectly playable. The play field limitation even gave the ST conversion a similar aspect ratio compared to the arcade original.

Still, the ST version received considerably worse reviews than the Amiga version. ST/Amiga Format gave the ST version 65 out of 100, while the Amiga port earned 80. German game magazine Power Play was more generous and rated the ST version 74 percent, praising the smooth scrolling and good music.

Pac-Mania STE

Being released before the STE, Pac-Mania doesn't take advantage of the STE's improved hardware. Pac-Mania STE uses parts of the original code (game logic, music playback, collision detection) and

The ST version received good scores in reviews at that time.

adds hardware scrolling, overscan and sound samples played by the STE's DMA sound.

There are other minor improvements. The level select screen, which was previously monochrome, uses 32 colours now. The levels themselves still stick to 16 colours but make much better use of them. Pills now visibly disappear in Pac-Man's mouth. The whole game runs much smoother, making a good game even more enjoyable.

Another Pac-Mania conversion was in the works for the Falcon, using assets of the X68000 port. This would've been much closer to the arcade than the STE or Amiga version but was abandoned a while ago. Unfortunately Pac-Mania STE doesn't run on the Falcon yet. However, there is still hope that Zamuel_A will release an update as he is in discussion with various programmers at Atari-Forum.com.

The same level in Pac Mania STE: Despite still only using 16 colours, it looks more colourful. Scrolling is smooth and the upper and lower border are used for the playfield as well.

Giana Sisters STE

In 1987, The Great Giana Sisters was released for the Commodore 64, a game clearly inspired by Nintendo's Super Mario Bros. Publisher Rainbow Arts released ports for the Amiga and Atari ST, but the latter version was missing something: scrolling.

Unlike the Amiga and STE, the classic ST didn't support hardware scrolling and some developers struggled with programming a smooth scroller on the ST hardware. Giana Sisters is one of those games: Once Giana reaches the other half of the screen, the playfield is moved half a screeen. This "flip scroll" was subsequently criticised in the reviews at that time, though Giana Sisters was still a great game.

In hindsight, ST and Amiga owners can be glad that the game was released at all. Shortly after the release of the 16 bit versions, Giana Sisters was pulled from the store shelves. A port for the ZX Spectrum was reviewed by various game magazines but never released. Both the C64 and the 16 bit versions are considered collector's items due to their rarity.

STE port

The STE version of Giana Sisters was developed by Zamuel_A and is based upon the original code of the ST version. Various parts of the game are patched while the game is in memory, thus increasing the RAM requirement to 2 MB. Requiring two megs of RAM would probably have been unthinkable back in 1988.

Smooth scrolling

Giana Sisters STE scrolls as smoothly as the Amiga version and offers slight graphical improvements over the ST original such as clouds. The game is more playable than the old version as players will not experience the flip scroll while in mid-jump. Sound effects were also improved by using samples.

Another advantage of the new version is its controls. You can control Giana with either a Joystick or a Jagpad connected to the STE's enhanced joystick ports. Using a button to jump brings the game closer to Nintendo's Mario. Unfortunately the game isn't fully compatible with the Falcon yet. There is a fixed Falcon version of the game distributed in the Giana STE thread at atari-forum.com, but Falcon owners will experience glitches at the top of the screen and a crash if Giana loses all her lives.

Gameplay

Gameplay remains unchanged from the original: Siblings Giana and Maria jump and run through 32 stages, fight against giant scorpions and dragons, and collect diamonds on the way. Collect 100 and you will gain an extra life. Hidden warp stones will let players skip a couple of

Graphic problems on the Falcon.

levels. Less well hidden are various bonus rooms.

Giana Sisters was designed to resemble Super Mario as closely as possible without being a direct copy. Although the first stage is quite similar, level design, characters and capabilities are not

identical. Enemies in Nintendo's game are more varied with some attacking you with hammers or flames. There are also no underwater stages in Giana Sisters.

Giana Sisters isn't an easy game. While Mario will shrink when he touches an enemy in "Super Mario" mode, Giana will die instantly. The underground level design is at times unfair with very tight space to jump. Also, if you lose a life, you'll lose all your diamonds. Accumulating extra lives is therefore much more difficult in Giana Sisters.

Even with these flaws Giana Sisters is still a great game on all three formats and the closest thing to a Super Mario port. The sound is excellent and the graphics are pretty.

Sequels

With the immediate success of the Commodore 64 version, Time Warp were quick to release a picture of the sequel which would feature Giana in a futuristic world. Giana

Sisters 2 did get a release after some graphical modifications as Hard'n'Heavy, which achieved neither the popularity nor the review scores of Giana Sisters. The ST version of the game features the same flip scrolling as Giana Sisters.

While Giana was similiar to Mario, it wasn't a rip-off. Top Byte Software, however, weren't quite as afraid of Nintendo's wrath and released Super Stario Land in 1995. This is an almost exact copy of Super Mario Land but due to its late release in the ST's life span it never caught the attention of Nintendo. Super

Stario Land was followed by a Christmas themed special. Scrolling in both games is smooth.

Giana Sisters' legacy continued on other formats with remakes, hacks, unofficial sequels and the official sequels Giana Sisters (DS/iOS) and Giana Sisters: Twisted Dreams (Windows, PS3, Xbox 360, Wii U).

Giana Sisters STE

Developer: Zamuel_A
Monitor: colour
Controls: Joystick, Jagpad
Source: atari-forum.com

E.T. - The Extra Terrestrial

E.T is often called the "worst video game of all times" by today's video game critics. David Richardson not only explains why E.T was innovative, but also developed a patch to fix the game's flaws.

When Atari set to develop the VCS, simple Pong and shooting games were common. Most games released through the system's long lifespan were action games, requiring little knowledge of the manual. Some games however were more ambitious: Adventure invented the action-adventure genre and Raiders of the Lost Ark used two joysticks. The latter also required users to think outside the box with cryptic graphics and almost no hints within the game. Despite this, both games are well respected today.

E.T

If things had gone a little bit differently, E.T would be among these titles. E.T wasn't without technical achievements for its time: It's one of the few VCS games with a title screen, players need to explore the screens, the characters are recognisable and the game can be solved. The game tries to follow the movie and there are even side quests. Just like the movie, Atari's E.T game involves no violence.

Unfortunately, E.T was fairly complex for a game that tried to appeal to kids. Without reading the manual, players would just run around, falling in pits and failing to get out of them. It's easy to fall into these pits as the collision detection would react even when E.T touches a pit with his head. With the manual, things make more sense: E.T has to collect three pieces of his telephone, call his ship and then reach the landing pad. Each site contains a power zone allowing E.T to execute one special power like calling the spaceship or gaining extra energy. His enemy is the FBI agent, who will steal phone pieces or candy(!).

The licence for E.T wasn't cheap and Atari was betting big money on the game. While E.T is among the most successful VCS titles, it sold nowhere near the numbers Atari hoped. Many cartridges were returned to stores and then to Atari. Still, the impact of E.T was not powerful enough. The „E.T myth", that millions of cartridges were buried in the desert, only became popular later.

Patch

David Richardson documented and fixed a few of the game's flaws and released a patch. In his version of E.T the collision detection has been fixed and the player will only fall into a well if E.T's feet touch it. There's no constant energy loss while exploring the screens, a few bugs have been fixed and a new game mode added.

These changes don't make E.T easier to understand but the game will no longer punish you for exploring the screens. For a game of exploration, this is a vital fix. If you've never played the game before or were frustrated by it, I recommend giving the patched version a try. E.T is a part of video game history and the patch certainly makes it more enjoyable, though not easier to understand.

E.T. (patched)

Patch: David Richardson
Monitor: colour
Control: Joystick
Source: www.neocomputer.org/projects/et/

Love the Machine
Atari Portfolio

In 1989 British company DIP Research released a small and portable computer called "Pocket PC". It was neither the first nor smallest computer, but it differed from similar products by Sharp, Psion and other companies in its operating system: DIP-DOS, an MS-DOS compatible operating system. While it was released and sold, it became more famously known as the Atari Portfolio.

The Portfolio was an impressive achievement in miniaturisation and contained a complete PC more powerful than the original IBM one. An office suite and scheduling application was included in a 256 KB ROM, the spread sheet program was compatible with Lotus 1-2-3. The display could show eight lines with forty characters each. Since the computer simulated a 24x80 display, standard DOS applications could be used theoretically.

DOS compatibility was important both from a marketing and a development standpoint: Software could be developed on every PC, developers quickly started releasing applications adapted for the Portfolio's screen. Commercial software was distributed on BeeCards, flash memory cards originally developed by Hudson Soft. Empty BeeCards could store up to 128 KB, although cards with up to 4 MB were offered later by third-party companies.

Portfolio owners could choose between many hardware accessories. Atari offered a memory extension (256 KB), BeeCards, a parallel and serial interface and a special Card Drive to write BeeCards using a PC. Third-party manufacturers released products such as a CompactFlash reader, blood pressure meter, MIDI interface or a mini printer. Those talented in doing hardware modifications could equip their Portfolio with a backlit display and other mods. Today, the CompactFlash adaptor is probably the most important one, as it facilitates transferring software to the computer. Atari's card drive is only compatible with older PCs featuring an ISA slot.

The Portfolio wasn't the only DOS compatible pocket computer at that time but it was much more affordable than the similar Poqet PC. DIP continued improving their Pocket PC, though subsequent models were not picked up by Atari. The Sharp PC-3000/3100 can be considered a true "Portfolio 2", offering DIP's office suite in ROM. Just like the Portfolio, the Sharp uses parts of the memory as a fast "drive" and can be powered with AA batteries. Display (full CGA resolution) and keyboard were improved significantly. Unfortunately, hardware improvements cut into battery and a higher price tag kept it from repeating the Portfolio's success.

The Portfolio was sold by Atari dealers well after Atari left the market. Around the mid-90's some Atari dealers in Germany sold the remaining inventory of original Atari hardware at bargain prices. Seeing Portfolios sold as a set with the Card Drive was not an uncommon sight at trade fairs. German Atari magazine Atari Inside published a regular column on new Portfolio hardware and software.

Availability

The Atari Portfolio is not a rare item and often appears on eBay. Accessories produced by third-party manufacturers rarely appears on auction site, though some are sold by vendors like Best Electronics.

Size matters

Magazines and brochures usually showed the Atari Portfolio in full size to illustrate how small Atari's PC is. Atari didn't invest much in marketing – and didn't have to thanks to the media attention the Portfolio received.

Preview

Next issue?

The first & the last?

Thanks for reading st-computer! I hope you enjoyed the articles. This magazine started as a fun project to revive the longest-running Atari magazine and for me, it was an interesting experience. I promised an English language version, so I felt obliged to deliver one. Unfortunately, it took longer than expected – writing my own articles twice isn't very exciting, so work on the international edition dragged on for quite a while. I'd like to thank my two proof readers Alan and Mike who offered their help in spell checking the articles.

There are lots of interesting topics planned for future issues, including a review of the Firebee computer and reports on Atari and retro events. There is a big article about the Atari STE in the October issue and lots of game reviews. That's good news :)

Now on to the bad news: This will likely be the first and last issue in English language unless I can find people who can help translating the articles or contribute articles. I simply can't devote so much time to write/translate the German and English edition of st-computer. In respecting the legacy of this magazine, I will continue the German edition.

The other alternative would be to turn the PDF version of the international edition into a paid one. Sponsors and advertisers are welcome as well. I don't expect to get rich with this magazine obviously.

Anyway, these are my thoughts on the future of this magazine. Keep in mind that English is not my first language. Let me know what you're thinking via e-mail, forum or Facebook.

Matthias Jaap

NCC 1701

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THIS AD WAS CREATED ON SINCLAIR ZX81. SERIOUSLY.

ST コンピュータ

現在のアタリコンピューティング　2014年08月

誕生から５０年

ATARIで動作するBASIC

STEの新ゲーム

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アタリインサィドの誕生日