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BUTTERFLY INVASION?

: info

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readme.first

The one who seeks, will find

In the moment of writing it is almost morning, it is dark outside and the rain is pouring down. It's about 5'o'clock in the morning, and I have just come inside.

What the heck have you been doing outside in the middle of the night? I guess this question rises from the crowd of readers. Well, I have been searching. Yesterday afternoon I had a few driving assignments close to one another, and after the last assignment I found out that I had lost my cell phone lid. And the battery for my phone is not exactly in a stable position withou the lid.

And as I searched everywhere at home as well as in my car without finding it, I grabbed my diode torch which gives about flood light compared to its size, and drove to the place 4 miles away where I thought I had lost it.

I could not find what I was searching for. I even asked three small girls I met if they could help me look for the lid, but they had no time no help me.

For many years I have been searching for a paradice for my hobby as an Amiga enthusiast. I prayed for what I believed in, worked towards such a goal, and searched both day and night for a hope that my dream could come true, a hope I have had since 1992 would be fulfilled: That Amiga as a computer platform will survive!

My dream was fulfilled, a new operating system, software and hardware has come with the Amiga brand on it, and it is now actually possible to buy a new and modern Amiga - I found what I was looking for!

But what now, now I found what I was looking for? Then what? Now I begun to search for what I miss perhaps more thn the Amiga itself: The environment surrounding the Amiga!

I began to search for help for all our projects: Journalist help for the #amiga guide magazine, for theNorwegian magazine Amigaguiden, admins/news writers for amiga.no and for AmigaWeb.net, coders for PHP and HTML for my web@look project, co-owners for Radio Reboot, DJs for Radio Reboot, persistant IRCers for all our IRC channels, liisteners for the radio, readers for the magazines, user groups for NAF and so on... And I am mostly asking people in vain of all this, they mostly turn me down... :(

I just found some of what I was looking for, sol am still searching. Then it must be true what someone once said:
«The road is the goal.>
Let us join together and walk the path towards a better world!
Amiga - For a better world!

Tommy Strand

disk.info

Amiga Joystick adapters for sale!
I make Amiga to PC joystick adapters for sale. With such an adapter you can connect 2 ordinary Amiga joysticks and play your favourite Amiga game on your PC.

I have made 2 different sort of adapters, both meant for mounting in front of the PC

Joystick adapter for mounting in a 5,25 inches well, black

Joystick adapter for mounting in a 3,5 inches well, black

for easy access.Are you interested in purchasing one of these adapters, contact me at stianstr@online.no
(300,- NOK per item inc. delivery in Norway)

Source: amiga.no

QXL gets critisized by NAF
Norwegian Amiga Association has sent email to QXL after they removed the cathegory Commodore Amiga, as follows:
Quote:
We notice you removed the cathegory Commdore Amiga from PC-Stationary at qxl.no, and moved the items thereunder to «Others».
I am the founder of Norwegian Amiga Association, http://amiga.no/, and I look upon this change with concern. It is hard to get an ok price for Amiga stuff when this cathegory is hidden, not many bother looking under the cathegory «Others». Compared to a dedicated Amiga cathegory this is not a good solution.
On behalf of approximately 80 members nationwide I hope you can re-add a dedicated Amiga cathegory, once again.
Amiga has also come up with modern

hardware, so that the label Commodore Amiga is no longer a good expression, instead one can use the term «classic Amiga», while the modern platform is a direct transfer of AmigaOS on modern hardware and is been cathegorized as «AmigaOS4+» or «PPC Amiga» for example.
Read more about Amiga at http://amiga.no/ and at http://amigaweb.net/
Good luck with the website QXL.no, that has brought us Amiga freaks lots of good computer trades.

Source: amiga.no

The wait is over
ACube's SAM 440 EP, that first was announced about a year ago, this week officially was awarded the title Next Generation's Amiga, as Hyperion and ACube announced the SAM 400 version of AmigaOS4.1.

SAM 440 EP and AmigaOS4.1 is already available at most Amiga dealers. Amigakit.com has a suggested price of 557,91 Euro for the 667 MHz model of SAM 440 and 127,99 Euro for AmigaOS4.1.

Amcc 440ep is a so-called System On A Chip (SoC), the SAM440 is based on Amcc's Yosemite design, that builds on the Amcc 440ep CPU first announced in 2005. The CPU was developed for use in network devices, for industrial applications, medical equipment and so on.

The Amcc 440ep CPU is available from 333 MHz to 667 MHz. Acube chose to use the 533 MHz (sold out) and the 667 MHz edition.

The SAM 440ep supports maximum 1 GB of DDR-100/133 RAM, has 4 SATA ports, 4 USB in/out and integrated ATI RADEON Mobilitiy M9with 64 MB memory. The first and smallest editionhas got only one PCI slot, the recently announced SAM440Flex has got 3 PCI slots. Amcc 440ep does not support PCI-Express or AGP, an possible edition of PCI-E support would have to use the significantly more expensiveAmcc 460gx CPU that runs on about 1.2 to 1.4 GHz.

For further information look at: acube-systems.biz

In a recently published interview done in connection with a test that ArcTechnica did of AmigaOS4.1, Thomas Frieden of Hyperion revealed that they has a v e r s i o n o f AmgiaOS4.1 for mobile equipment, and that they have d o n e t e s t s w i t h AmigaOS4.running on Cell CPU architecture with up to 7 cores. Cell is used for Playstation 3 among others.

Wonderful pictures from AmigaOS4.1 started to tick in already a few hours after it was announced, thanks to eager beta testers. You can find recent pictures at amigaworld.net. Read more about

AmigaOS41 on Hyperion website.

S o u r c e :
amiga.no

Article about Commodore 64

The website PCWorld has released an online article about Commodore 64, the predecessor of our beloved Amiga, that the

Norwegian newspaper has translated no Norwegian. Read the article here in Norwegian: http://www.vg.no/teknologi/artikkel.php?artid =533551

Read, enjoy and have a nice weekend!

Source: amiga.no

SAFIR-Information

UAE for Nintendo Wii

They who owns the game console Nintendo Wii can now be pleased to hear that it has become a little bit more like Amiga. UAE4WII is just what the

name says. UAE adjusted to be used for Nintendo Wii. If anyone of you have tried it, please give us a report: http://gouky.com/?menu_nav=PROJECTS ?=UAE4WII

Source: safir.amgiaos.se

SAFIR celebrates 4 years today! At 4:31 PM on November 14th, 2004, the third news item in the history of SAFIR was created. The news had 2 comments, both of them was posted by the same person. At that time there were no such thing as a photo gallery, no project and it was not even possible to edit news items.

Today the union of SAFIR of 7 Swedish Amiga user groups, we have 822 members, a support channel at IRC, support for themes at the website, and saebla works now on the 7th bigger upgrade of the forums. *Source: safir.amgiaos.se*

Results Kindergarden 2008

Now Kindergarden 2008 is over, and the results are ready.. Among the surprising winners this year was Ephidrena, who now has become PC sceners.

PHOTO

1.	#11	49 pts	Nakkesmerte ved Induktion - farfar, ledge, flunkium ^ loonies and in-sect respectively
2.	#15	44 pts	Spiral Down - Zeila
3.	#13	25 pts	Rainbow Falls - Sarah
4.	#14	24 pts	my dying rose - response/darklite
5.	#12	21 pts	grisebingen - leia
6.	#10	16 pts	AMIGA - DDT
7.	#04	14 pts	Mongodansen - oyvindr
8.	#06	7 pts	pilkts - proteque/tufs
9.	#03	5 pts	aschetrau - k-man/darklite
10.	#02	3 pts	ibux - of/darklite
	#05	3 pts	general - oyvindr/tufs
12.	#07	2 pts	pom-fri - tft/darklie&tufs&rno
13.	#09	0 pts	Quality - The Alberts
	#08	0 pts	BIOS magic - The Alberts
	#01	0 pts	paracet - spexzter/darklite

PIXELED GRAPHICS

1.	#04	78 pts	Vellykket Afflygt - farfar ^ loonies
2.	#07	49 pts	Wrong Place - Zeila
3.	#05	30 pts	What if I told you I love you - Proteque
4.	#06	20 pts	Life is good - maxon/HBC
5.	#03	14 pts	Great warrior - Proteque
6.	#01	12 pts	Hehe..heh - Zagupi/HBC
7.	#02	10 pts	Phoenix gets eaten by mean sea monsters - Felor / HBC

32K EXECUTABLE MUSIC

1.	#03	73 pts	Færgebad (2.4kb) - Puryx (music) & Mentor (code) / TBC
2.	#02	69 pts	Invisible - Gargaj
3.	#01	58 pts	in this forever - response/darklite

DANCE MUSIC

1.	#05	42 pts	Cleopatra - Xerxes^Brainstorm
2.	#04	31 pts	Saku (Lasteaed Edit) - Sinatra
3.	#09	29 pts	Dark Terror - Elmah^Darklite
4.	#06	28 pts	iPod killed the walkman star - Hansee^Brainstorm
5.	#08	16 pts	Kald Energi - Frequent^Ephidrena
6.	#01	10 pts	Og de sa de ville ha dansecompo - Johny Chrysler and the proteques
7.	#07	9 pts	nostalgia rides high - Mystra^Brainstorm
	#03	9 pts	dans(k)epølse døgnet rundt! - spexzter/darklite
9.	#02	3 pts	i still sing-a-long - djfesse/darklite

GABBER MUSIC

1.	#10	33 pts	Heaven and Hell - Puryx/TBC
2.	#11	28 pts	The Masterplan (KG2008 compo cut) - Gary J. Hung
3.	#04	16 pts	Caverns of Cairo - Elmah^Darklite
4.	#09	14 pts	Gin and Jews - Undercover Jews
5.	#05	12 pts	Sinatra - Response 2 Dbug
6.	#06	11 pts	My bobil is OK - The Røvfuckers
7.	#03	7 pts	give me some violence - response/darklite
	#07	7 pts	The Hoff Talks! - The Other Left
	#08	7 pts	I got rage with my age - Musicman
	#01	7 pts	Kindergabber 08 - Proteque
11.	#02	2 pts	Gom Gabbar (History will call us Men) - fuglet ^ 1dek

WILD DEMO

1.	#07	63 pts	Pumpernickel - HBC
2.	#06	29 pts	hey ho - led's go! - darklite
3.	#05	14 pts	forssa - grey park
4.	#04	12 pts	Det ekje snakk om noko anna enn spykladd 2 - TUFS
5.	#08	9 pts	12 Years to Betlehem - mfx
6.	#03	7 pts	Compofiller II - Proteque
	#02	7 pts	Lefsefest II Forfallet - Tufs
8.	#01	5 pts	a bit shorter, even more pointless - darklite

4K INTRO

1.	#02	63 pts	Nevada - Loonies
2.	#01	47 pts	tingeling goes to etnedals-dagatn - darklite

64K INTRO

1.	#01	62 pts	SUPERPERVO - SUPERGROUP
2.	#02	47 pts	hode - AndyW

DEMO

1.	#09	62 pts	Raiders of the Lost Art - Outracks/Nazareth Creations/Kvasigen/Portal Process
2.	#05	36 pts	Powder Finger - Scandinavian Starrs
3.	#06	23 pts	Could have been done in 5K - Ephidrena
4.	#08	17 pts	K0440 - Traction
5.	#03	8 pts	Caramelldansen - Darklite
6.	#04	7 pts	Intimate and disturbing - Tufs
7.	#02	3 pts	Blackout 9L - mfx
8.	#07	0 pts	Rund - Calamity
	#01	0 pts	The Alberts is Jarig - The Alberts

BANNER

1.	#01	17 pts	Tufs-banner - Proteque/tFt
2.	#02	11 pts	Tufs+Darklite banner - Jente på Karl Johan
3.	#03	9 pts	Darklite-banner - tFt
4.	#04	5 pts	Darklite-banner - tFt

Source: Gjøran A. Sæther / polarboing.com

Bjørn Lynne aka Dr. Awesome

**He has made the mods of Lemmings
and a whole bunch of other mods and music.
He is better known as Dr. Awesome.**

*Text: Erlend Kristiansen
erlend@naf.as*

The Amigaguide went to England and visited an Amiga Legend.
He's known as the man who cerated the Lemmings music, and as the father of many a great mod's, he is Dr.Awsome.

> « *How old were you when you started using Amiga's, and what was your fist computer?*»

I was around 14-15 when I got my first computer, it was a Sinclair ZX Spectrum 48k (The one with the rubber keys).
At that time I learned to program some Basic, and started getting interested in music. The Spectrum only had "beep" sounds, but I bought some add-on hardware later on, to name a few: "SpecDrum" a drum machine and "Music Machine" Midi interface. I used these and a cheap synthesizer to make my first simple tunes.
The Amiga, I got later, when I was about 17-18.. When I first started making music I used Aegis Sonix, and later turned to Soundtracker.

> « *According to your website your obviously still into music, do you still use the Amiga?*»

I have an Amiga 1200 which I've had since about 1993. It has a hard-drive and an extra floppy, and of course two joysticks. I break it out once in a while to play "Stunt Car Racer" and "Kick-Off. :-)

> « *What computers do you own/use today?*»

I have to admit, sadly, that I use a PC with Windows XP. Theres a lot of software available, sound cards and possibilities we could only dream of at the time I started making music on the Amiga.

But the only thing that matters to me is the music anyway, not the computer platform.

> « *What do you do when your not making music?*»

Nothing. I make music on a full time basis. Its what I do for a living, what I pay my bills with.

When I'm not making music I play games on the Amiga, PC or PS2 - Or spend time with my wife and daughter.

> « *What do you think about the music tools available today contrary to the ones you used on the Amiga?*»

Its a totally different world. There are no technical limitations at all, but of of course you still have to sit down trying to make a melody, rhythm and musical structure that "speaks" the listener.
This is still something no amount of equipment can do for you. So even if the equipment is of a totally different world, I'd say the process of making music is basically unchanged since I was using the Amiga and protracker from 1987-1993. I still get the same feeling when I sit down trying to write music.

> « *Can you tell me a bit about the good old days, how does the scene compare?*»

To be totally honest, there is practically no "scene" today, as it were in the good old days anyway.

In the old days we "lived" in the demo-scene! It was everything! We spent 8-12 hours each and every day just making music, making demos, uploading and downloading via bbs's, copying and sending floppies, programing and designing demos.

We also made "The Official Crusaders Eurochart" where people could vote for the best/worst demos, graphics, music etc, etc. And we got BAGS of mail EACH and every day! It was insane. The demo-scene was more then a hobby, it was a lifestyle and all we talked about.

> « *Do you miss the good old days with the Amiga, the Amiga-scene and the Amiga games/programs?*»

Yeah, some times. I haven't seen anything like the communion we had since then, we had so many good laughs back then.

> « *Do you still find yourself listening to old modules, music disks and read old diskmags?*»

Yes, quite often. I still like to listen to Amiga music. Some years ago I made a CD containing remakes of the most popular of

Bjørn Lynne aka Dr. Awesome

my Amiga tracks («12th Warrior», «Bridge to the Universe», "Space Deliria", "Empty Spaces" and many others.) I took the original Amiga melodies but reproduced them on new gear, guitars, base, synths, the works. The CD got released actually, by a main stream record label, they never even knew it originally was from my Amiga days. This CD is called âœReviveâ and is still available on my web site. http://www.lynnemusic.com/mp3.html

> « *Are you still following the development surrounding the Amiga today? What are your hopes and expectations for a new Amiga?*»

I've hoped for many years now, but I have to admit, for each passing year without anything new actually turning up, the hope fades away. Its been so many years now with the âœanytime nowâ there will be a fantastic new Amiga, I really almost stopped believing. :-(

> « *Whats your opinion regarding the best possible way forward with regards to todays bad ass computer systems?*»

It would have to be making a dedicated multimedia system, instead of trying for the market shares Windows/PC has, generally home/office use. Maybe a super computer that excels at film, video and audio production, that NEVER â" EVER!! crashes. I'd pay for that â" if there is software available.

This original interview of Bjrøn Lynne is copyright Erlend Vidar Kristiansen and was first printed in NorwegianAmiga magazine Amigaguiden nr. 2-2003.

MORE ABOUT DR. AWESOME

Bjørn Arild Lynne (born December 31, 1966) (also known as "Dr. Awesome" and "Divinorum") is a Norwegian sound engineer and music composer, now living and working in Stavern, Norway. He has been widely known as a tracker music composer under the name "Dr. Awesome/Crusaders" in the late 1980s-early 90s when he released numerous tunes in MOD format and created music for some Amiga games. His work during that time period was mostly released into the demoscene world.

In 1995 Bjørn moved to England and started working for the video game company Team17 as a sound designer and composer. He recorded most of his studio albums in England, including the Timura trilogy, inspired by the books of Allan Cole. Some of these albums have become quite popular, mostly among fans of indie music. In June 2005 Bjørn moved back to Norway and now works as a freelance composer and owns a plasma display shop.

Bjørn is known for his soundtracks for the Worms and Seven Kingdoms games as well as his own albums in various genres, from fantasy-medieval to progressive rock or even trance (released under the pseudonym "Divinorum"). His tunes have also been used in several TV-shows/movies.

Demoscene
In the later 1980s and 1990s, Bjørn worked in the demoscene using the name Dr.

Awesome (the chosen pseudonym is a joke and doesn't mean anything special). As a member of "Crusaders" demo-group he has created numerous demo soundtracks and standalone tunes in Amiga tracker format. During his demoscene period Bjørn has also made music for several Amiga games like "Qwak", "Brat" and some others (see discography for more info) and recorded his first studio albums: "Hobbits & Spaceships" and "Montage". Later on, some of these "oldschool" tracks would become parts of "Decade" and "Revive" albums. The last one also features some of Dr.Awesome's most popular tunes, recorded with live instruments.

Divinorum
Divinorum (Latin: Divine, Prophet) is Bjørn's project for writing electronic dance/trance music. Under this name he has recorded and published three albums, including a collaborative work with Aural Planet, called "Power Liquids". Although

Divinorum music is very different from Lynne's fantasy/space tunes, it has got numerous positive reviews and got quite high rating on trance charts.

Official release albums

Quiet Places (2008). Self-published. Undercover (2006). Self-published audio CD with crime/spy style music. Cocomposition with Adam Skorupa ("Skorpik").

Beneath Another Sky (2006). Self-published after 3.5 years in production. Similar in mood to Colony.

Soothe (2004). Self-published, audio CD. Soothing, meditation music.

Soothe (2004). Self-published. Music DVD

SHOCKWAVE-SOUND.com

with relaxation/meditation music natively mixed and recorded in Dolby Digital 5.1 surround sound. Endorsed by Dolby.

Statement (2004-03). Self-published dance music CD.

Return to Witchwood (2003-07). Self-published. A sequel to the original Witchwood.

Colony (2002-05-28). Self-published.

Accelerator (2001-12). Self-published.

The Gods Awaken (2001-04). Third album in the Timura trilogy. Based on the book by Allan Cole.

Revive (2000-03). An album of some of Bjorn Lynne's older works in the MOD demoscene, performed with real instruments.

Worms Armageddon Original Soundtrack CD (1999). Team17.

Wolves of the Gods (1999-03). Published by Cyclops/GFT. The second album in the Timura trilogy, based on the book by Allan Cole.

Worms 2 Original Soundtrack CD (1998), SynSoniq Records.

Wizard of the Winds (1998-04). Published by Cyclops/GFT. Adventure / progressive rock. First album in the Timura trilogy, based on the book by Allan Cole. Read Allan Cole's review of the album.

The Void (1997-03). Published by Cyclops/GFT. Published again in March

2004 by LynneMusic. Vibrant electronic progressive psychedelic melodic space-rock.

Witchwood (1996-03). Published by Mellow Records. Adventure / soft progressive rock.

Dreamstate (1995-03). Published by Centaur Discs. Melodic/progressive electronic.

Montage (1994). Published by DENS Design.

Brave New Virtual World (1993) Self-published MC. Music for a theatre production.

Hobbits & Spaceships - The Extras (1992) Self-published MC. Contains some bonus materials which didn't fit the original album.

Hobbits & Spaceships (1992). Joint effort with "Fleshbrain" Seppo Hurme.

Bjorn Lynne Demo Tape No. 1 (1991) Self-published MC.

Game soundtracks

Geneforge 4 (2006) Intro music

Squirrel Escape (2005) Sound effects for a small Flash game.

Lemmings (2005) Sound effects for a PSP game.

Zombieball (2005) Game effects, voice recorded by Bjørn Lynne. Some music licensed from Bjørn.

Lost City of Gold (2005) Arcade game featuring Bjørn's music.

Worms 4 Mayhem (2005). Team17.

Midnight Strike (2005) Online game. Sound effects by Bjørn Lynne. http://www.arcadetown.com.

BumpCopter 2 (2005) Little online game. Sound effects by Bjørn Lynne. http://www.arcadetown.com.

Multiaire (2004) PC puzzle/strategy game by Lost Port software. Custom sound design by Bjørn Lynne and custom music soundtrack developed with DirectMusic interactive music system.

Worms Forts: Under Siege (2004). PC, Xbox; PlayStation 2 video game published by SEGA. All music, sound effects and voice arrangement / editing / recording by Bjørn Lynne. Team17. Blox Forever (2004)

PC Puzzle game published by Arcadetown. Custom sound design by Bjørn Lynne.

Worms 3D (2003). PC, PlayStation 2, GameCube and Xbox video game published by SEGA. All music, sound effects and voice arrangement / editing / recording by Bjørn Lynne. Team17.

Restaurant Empire (2003) Restaurant tycoon type simulation game for PC. Developed with DirectMusic interactive music system (DirectX 8).

Catch the Sperm 3 (2003) Humoristic downloadable "sexual education" game developed by Black Pencil Entertainment AG for the Swiss ministry of public health. http://www.cueni.ch/blackpencil/.

Maximum Capacity: Hotel Giant (Titled "Hotel Giant" in Europe) (2001) Hotel business simulaton developed by Enlight Software and published by JoWood. All music, sound effect and voice recording/processing by Bjørn Lynne.

Worms Blast (2001) Arcade/puzzle game for PC, PlayStation 2, GameCube & Game Boy Advance. All music, sound effects and voice editing by Bjørn Lynne (not GBA version). PC music developed with DirectMusic interactive music system (DirectX 8) Team17. Capitalism II (2001) Business simulation developed by Enlight Software. All music & sound effects by Bjørn Lynne.

Worms World Party (2001). Single- or multiplayer humor/strategy game for PC and Dreamcast. All music, sound effects and voice recording/processing by Bjørn Lynne. Team17.

Bomberman (2001) Online arcade/action game developed by Elkware, featuring 4 tracks of music by Bjørn Lynne.

Stunt GP (2001) Car stunt/racing game for PC, Dreamcast and PlayStation 2. Music and sound-fx by Bjørn Lynne. Team17.

Gate (2000) Gothic sci-fi first-person shooter from GateSoft, Korea. Features two pieces of music by Bjørn Lynne. (Note by Bjørn: Sadly, it now seems that this game might not get released at all in its current form.)

Ford Racing (2000) Car racing game for PC and PlayStation - music by Bjørn Lynne. (Not sound-fx.)

Siege of Avalon (2000) Episodic role-playing game for PC. All in-game General MIDI Music by Bjørn Lynne. (Not the front-end music.)

Spin Jam (2000) Puzzle game for PlayStation. All music and sound-fx by Bjørn Lynne.

Phoenix - Deep Space Resurrection (2000)

"Space opera" 3D action/drama game for PC. Music by Bjørn Lynne (not sound-fx).
Virtual-U (2000) University simulator / game. Features classical music by Handel - arranged for the game by Bjørn Lynne. Also music for animated intro, composed by Bjørn Lynne.
Worms Armageddon (1999) serious game for PC, Sony PlayStation, Sega Dreamcast. Music and sound effects by Bjørn Lynne. Microprose, Team17.
Seven Kingdoms II - The Frythan Wars (1999) Realtime Strategy game for PC. All music and sound effects by Bjørn Lynne.
Arcade Pool 2 (1999) Pool/Snooker game for PC. Music & sound-fx by Bjørn Lynne. Team17
Pig Detective on Wacky Adventures (1998) PlayStation roleplaying game for kids. All music and sound fx by Bjørn Lynne. (Bjørn's note: Unfortunately, this game was never released - it was canned when it was about 90% finished.)
Nightlong: Union City Conspiracy (1998) Point-and-click adventure for PC. In-game music by Gianluca Verrengia and Bjørn Lynne. FMV music by Bjørn Lynne. Voice editing and processing by Bjørn Lynne.
Worms 2 (1998). Humoristic single- and multiplayer strategy/puzzle game for PC. Microprose. Team17.
Worms Pinball (1998) Pinball simulation game for PlayStation. All music and sound effects by Bjørn Lynne. (This is in fact more or less the same game as the below Addiction Pinball. The publisher decided to rename it to "Worms Pinball" for the PlayStation version).
Addiction Pinball (1998) Pinball simulation game for PC. All music and sound effects by Bjørn Lynne. (Rory McLeish on additional guitar). Team17.
Seven Kingdoms (1997) RealTime Strategy game for PC. All music and sound effects by Bjørn Lynne. Dark Corona (1997) Arcade game for Mac. Music by Bjørn Lynne.
Dominion Storm (1997) PC game. General MIDI music by Bjørn Lynne. (note by Bjørn: "Actually I'm not sure if this game ever got released. I lost touch with them.")
X2 (1996) Shoot 'em up arcade game for PlayStation. All music, sound effects and voice editing/processing by Bjørn Lynne. Team17.
World Rally Fever (1996) PC racing game. Sound effects by Bjørn Lynne (not music).
Worms (1995) Humouristic turn-based combat/strategy/puzzle game for PC, PlayStation, Sega Saturn, Sega Mega Drive, Atari Jaguar, Amiga, Mac, Game Boy, SNES. All music, sound effects and voice editing/processing by Bjørn Lynne (not Game Boy version). Team17.
Alien Breed 3D (1995) First-person shooter game for Amiga 1200 and CD32. Music & sfx by Bjørn Lynne.
Qwak (1994) Arcade/platform game for Amiga. Music composed by Bjørn Lynne. Team17.
Project X (1992) Arcade/shooter game for Amiga. Includes one music track composed by Bjørn Lynne. Team17.
Escape from Colditz (1992) Adventure game for Amiga. Music composed by Bjørn Lynne.
Fantastic Voyage (1992) Arcade/adventure game for Amiga. Music composed by Bjørn Lynne.
Cubulus (1992) Puzzle/strategy game for Amiga. Music composed by Bjørn Lynne.
Brat (1991) Arcade Amiga game featuring Bjørn's music.

Divinorum
"Divinorum" is Bjørn's pseudonym for electronic/trance music.

Power Liquids (2003). Collaboration with Aural Planet. Self-published.
Talisman (2000). Self-published.
Isms (1999). Self-published.

Dr. Awesome
Decade (1997). Published by Studio17 under Dr.Awesome. Contains 55 minutes of music plus lots of MIDI, MOD and MP3 files from Bjørn's demoscene period.
X2 (1995). Official soundtrack CD of the game X2.

Miscellaneous records
Photo exhibition music (2005-2006) - music for a photo exhibition of Svenn Dvergastein in Stavern, Norway. Open Interactive / Sky Digital TV games (2001) Games section for Sky digital interactive TV, developed by Open Interactive. Main game section features music by Bjørn Lynne. Solnatt - ambient track available in MP3 format at http://www.soundlift.com/bjornlynne
The LaSalle Bank Chicago Marathon Course Video (2000) Special interest video about training for Chicago Marathon, features music by Bjørn Lynne. Virtual Van Cortlandt Park (2000) Special interest video about the Van Cortland Park cross country race, features music by Bjørn Lynne.

#amiga guide

Amiga One
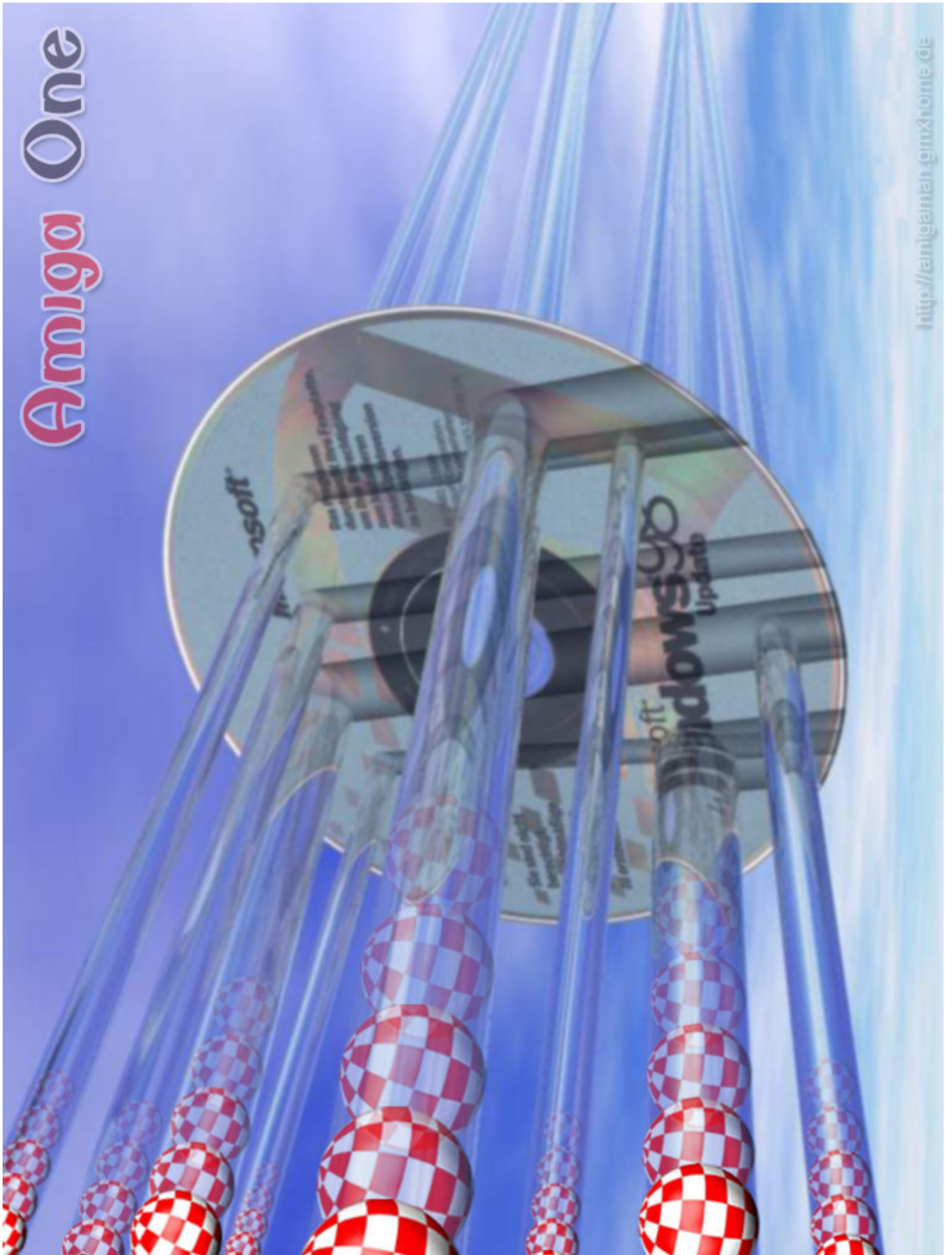
Trashcan

This coloumn contains rumours,
half truths, philosophy and pure nonsense mixed with
direct lies. The #amiga guide only takes partly
responsibility for the contents of this page..

Vista Source Code

Winodws Vista, the most recent version of the Windows operating system from Microsoft, has been heavily critisized for being slow and hard to handle, and at the sam time an amasingly big number of security warnings are presented at any time that you have to handle.

The Trashcan Department has taken this seriously and sent a request to Microsoft requiring the source code of Vista.

Security Officer Bill Blades of th epress department of Microsoft answers that «of security reasons Microsoft never releases the source code of the companies operating system versions, but we sincerely hopes that you will approve the supplied short version of the source code, which we publish at requests from media».

I guess that even if the average reader of this magazine is neither a expert coder nor an illiteral reader, then I suspect the average intelligence level to be of such a quality that any reader can get something out of the code presented to the right of this text.

The Trashcan Department would like to thank Security Office Bill Blades and our beloved leader Erlend Kristiansen for the contribution of this code, and we both hope and assume that you from now on looks at Microsoft Vista with this new knowledge in mind.

```c
/*
      GNOT General Public License!
    (c) 1995-2007 Microsoft Corporation
*/

#include "dos.h"
#include "win95.h"
#include "win98.h"
#include "sco_unix.h"

class WindowsVista extends WindowsXP implements Nothing
{}

int totalNewFeatures = 3;
int totalWorkingNewFeatures = 0;
float numberOfBugs = 345889E+08;
boolean readyForRelease = FALSE;

void main {
    while (!CRASHED) {

    if (first_time_install) {
        if ((installedRAM < 2GB) ||
            (processorSpeed < 4GHz))
            {
                MessageBox("Hardware incompatibity error.");
                GetKeyPress();
                BSOD();
            }
        }
        Make10GBswapfile():
        SearchAndDestroy(FIREFOX|OPENOFFICEORG|ANYTHING_GOOGLE);
        AddRandomDriver();
        MessageBox("Driver incompatibily error.");
        GetKeyPress();
        BSOD();
    }

    //printf("Welcome to Windows 2000");
    //printf("Welcome to Windows XP");
    printf("Welcome to Windows Vista");

    if (still_not_crashed){

        CheckUserLicense();
        DoubleCheckUserLicense();
        TripleCheckUserLicense();
        RelayUserDetailsToRedmond();

        DisplayFancyGraphics();
        FlickerLED(hard_drive);
        RunWindowsXP();
        return LotsMoreMoney;
    }
}
}
```
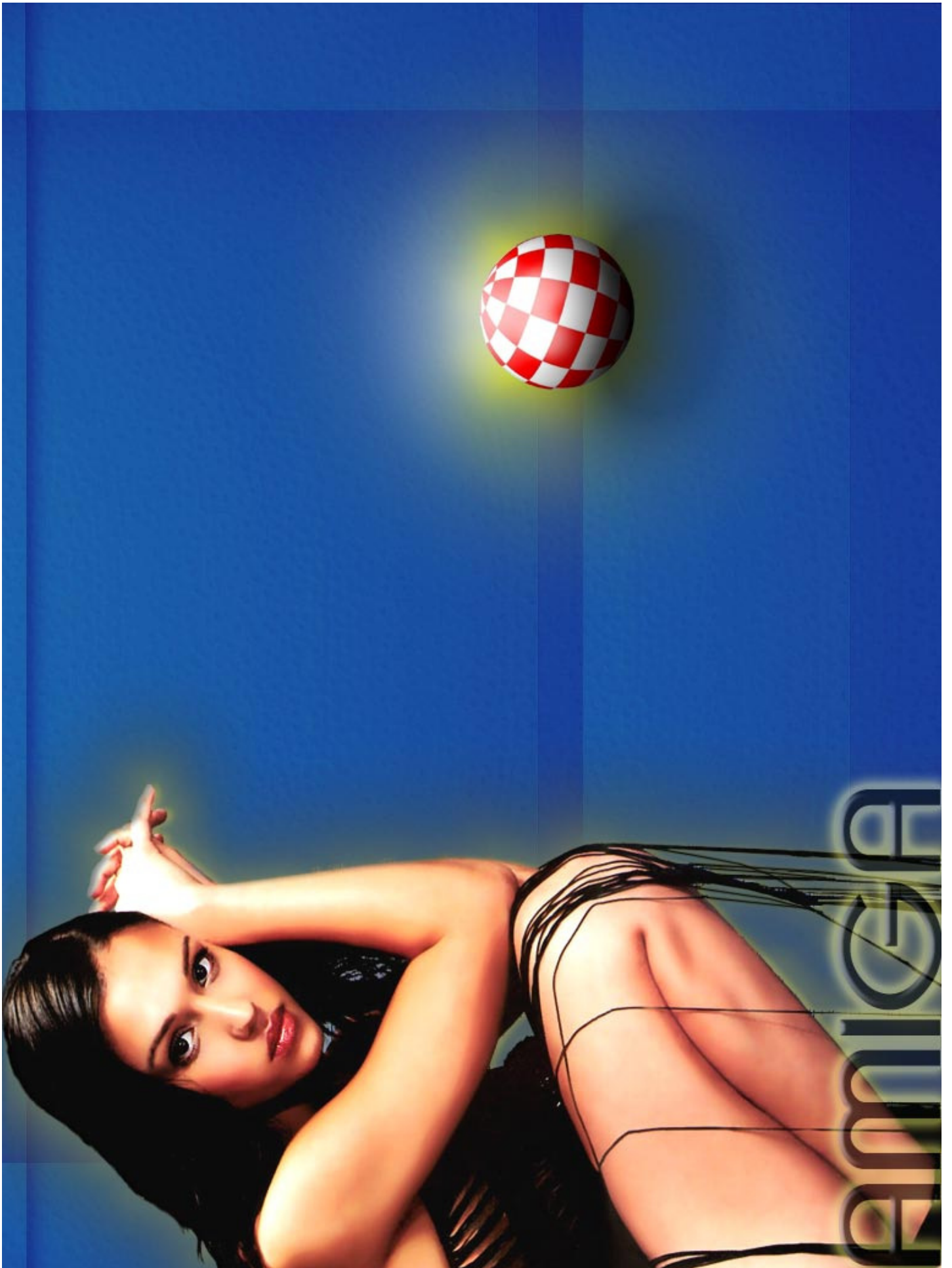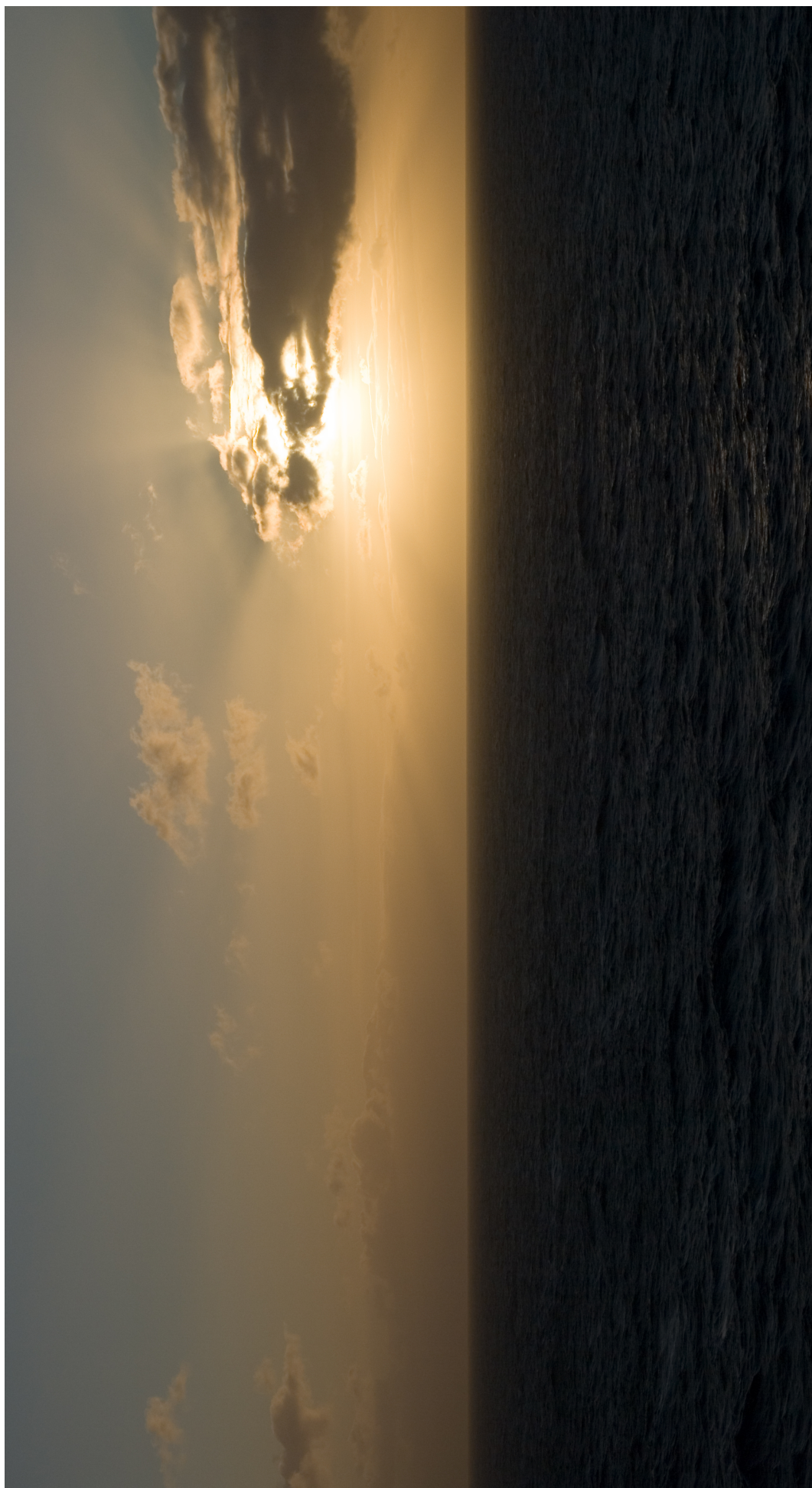
Photo: Vidar Karlsen

"In the sunset of these dark ages
mankind is roaring for mercy of all kinds
Who will come to rescue Earth?
Who will lighten up our next day?"

Amiga - The Bright Light of Tomorrow!

AmiKit on Windows

**#amiga guide magazine took an Amiga
IRC freak hostage, put him on bread and water and
forced him to write an article about AmiKit for Windows**

**Tekst: Alan Crandall
Norsk oversettelse:
Tommy Rølvåg Strand
tommy@naf.as**

Welcome to my first attempt at a review. The subject is Amiga emulation using AmiKit 1.5.

Now AmiKit is not the first to the market, that honor belongs to AmigaForever and it does the job well.What AmiKit does that is different is the addition of a lot of freeware/ shareware programs built in to the core program.It also updates itself whenever there are several new versions of the freeware/shareware programs in the AmiKit tree.

It has to be noted that even though AmiKit

is free, you will need an AmigaForever/AmigaXL/cd or any legal copy of Amiga OS 3.0/3.1/3.9 to install it.This is because AmiKit does not come with the roms and several other key bits that the Amiga OS needs to run.Now if you have a real Amiga this will not be a problem.

(Ed. Rem.: If you owns a classic Amiga, you can easily get the KickStart ROM content written to a ROM file usable for WinUAE and AmiKit (ROM = Read Only Memory aka «BIOS» in a way) by using the program Qsv099 for instance which you find at Aminet (http://aminet.net/). This way you get a legal copy of your KickStart written onto a file from your own classic Amiga. Just remember to rename the file Kick31.rom for instance. Then you can use the AmigaOS version delivered with your computer, or an even newer version of AmigaOS if you have bought it.)

(Ed. Rem.: It is ABSOLUTELY recommended to buy for instance AmigaOS3.9, which is the newest version of AmigaOS for the classic range of Amiga's, from an Amiga dealer such as Vesalia (http://vesalia.de/) or Amigakit (http://amigakit.com/). REMEMBER to take a backup of this CD for your own use and backup, and do try to install a separate installation of WinUAE with AmigaOS3.9 (without using AmiKit). It is in fact a LOT

OF FUN, and both VERY inspiring and learnes you a lot!)

Seeing that AmiKit is design to run mainly on Windows, it is advised not to look for pirated copies as this will open up the chance of you installing malware/viruses/trojans on your Windows machine. There is a way to install onto Linux but that will be another report, if I manage to do it. *(Ed. Rem.: AmiKit is totally free.)*

The first step will be to down load AmiKit from here: http://amikit.amiga.sk/download-mirrors.htm and then the second to get the required media.
AmigaForever is the only one still made and you can get it here http://www.amigaforever.com/
If after the install or before the install, you have questions, visit the forum at http://amikit.amiga.sk/forum/index.php

(Ed. Rem.: If you buy an AmigaOS3.9 CD like recommended above, you have got all what you need, if you in addition owns a classic Amiga where you can get the KickStart ROM file from)

Assuming that you have all the pieces in hand,now is the time to get started. On my machine I have a 4 gig fat32 partition just for AmiKit but that is not a requirement as you can set it to any path you like. The first thing to do is run the amikit #.exe and follow the prompts.This will install AmiKit and WinUae and then ask to copy the roms files from the source cd/dvd to the AmiKit/roms dir.It will then ask to start AmiKit. At the point it asks to pick your install media,install the media into the cd/dvd drive and pick that media that you are using.At this point it will install all the required files and ask for your screen mode and if you want to use Workbench or Magellan as your enviroment. Reboot.
At this point it will ask you for the registration info. *(Ed. Rem.: This information is registration key for Dopus Magellan only)*. If you don't have it, don't enter anything and it will work but not fully. You now have it running and all you need to do it set it up the way you like.

This next section is on how to slim down the install size wise.

To gain space in "cleaning" AmiKit or ITS WORKBENCH! A number of files are

installed by default with AmiKit but will not be useful to you at all. help files in foreign languages files intended for the translation foreign catalogs in language

Here thus some handling to make to gain invaluable bytes. If you use AmiKit with the installation by defect, i.e. by using a directory and not a file .HDF, you can then carry out this handling as well aside PC as on the Amiga side. In the event of use of a partition, of a file .HDF, these operations will have to be carried out Amiga side. - If you installed Opus Magellan, not a problem for you in the directories and to carry out their removal - If you use Workbench, open the directories ones with one or use research via Simplefind3 available in the Amikit directory: Utilities/Simplefind3

Attention, before carrying out all this operation, I very strongly advise you to backup your installation. If you have a doubt about one of removals, do not carry out it. Certain noted operations (WB) can also be carried out on any installation of Workbench 3.9

Cleaning of the help files (WB) (WB) Site: Amikit: local/help These directories contain help files in various languages. Personally, I preserved only my language. To remove these directories will have another effect, namely to improve time of posting of the help files under AmiStart. Indeed, this last will not have to charge all these useless directories.

Cleaning of the files catalogues and translation (WB) Amikit: local/catalogs (WB) a)This directory contains all the translations of the software in various languages. I preserved only my language If you do not want to launch it in the translation, carry out Simplefind3 and throw a research on *.cd You can erase without fear all these files which correspond to files of description necessary to the translation. Use for that, option DELETE available in SimpleFind3 (right button of the mouse) Also in Simplefind3,throw a search on *.ct You can without fear remove all these files which correspond to the translation of the files .cd in Amikit: Internet/Download, there is a file named AmiKit one LSD of 28ko which is not used for nothing, so delete.

Cleaning of the Software AWeb and IBrowse (WB) It is a question also here of

removing the files of translations which are not useful to us Handling is the same one for the owners of Workbench on Amiga Classic, only exchange the site
Aweb   Site: Amikit: Internet/AWeb_APL/catalogs Here, I preserved only my language
IBrowse   Site: Amikit: Internet/IBrowse/catalogs To preserve, my language
Cleaning of Directory Opus Magellan Here, removal of the useless files of translation Site: AmiKit: Utilities/EXPANSION/Opus5/catalogs   To preserve, my language Then, Site: AmiKit: Utilities/EXPANSION/Buttons/ To preserve my language

For purists (WB)
 Here of other possible research under Simplefind3 but for which, I advise you to remove the files on a case-by-case basis. *(Ed. Rem.: That is, if you really WANT to remove anything, that is....)* If you have a doubt about a file, in the worst case you do not remove it will leave only some bytes on your installation * seek on czech (remove for example the docs, the catalogues, the translations) * seek on deutsch (delete) * seek on svenska (delete) * seek on Magyar (delete) * seek on dansk (delete) * seek on polski (delete) * seek on italian (delete) (norsk, russian, nederland, espanol, hrvatski, slovak, swedish, spanish)

Other tricks
Here still some tricks to be followed if you still miss a little space. In a concern of offering the maximum of applications and the maximum of compatibility, AmiKit is delivered with certain applications in two dirs. According to you preferences, there is a whole whole of software for which, it is possible to make a choice: * To remove Yam (2.2 Mo) or SimpleMail (1.4 Mo) * To remove AWeb (3.4 Mo after the 1st cleaning) or IBrowse (6.4 Mo after the 1st cleaning) * MakeCD (2.0Mo) or FryingPan (1.3Mo) Attention, however, some of this software registered entries in the startup-sequence and to use-startup it, these files will thus have to be modified consequently. You do not launch in this operation: * that while having made a preliminary safeguard as indicated in the beginning of the article that while being sure of what you ridges.

The startup-sequence and to use-startup of AmiKit being rather complex, it would be very easy for you to prevent the correct

starting of AmiKit by a false handling.
Other software present at the installation can be of less interest, for example STFax (personally, ever used). As I indicated it previously to you, all depends on the use which you wish to make of your installation.
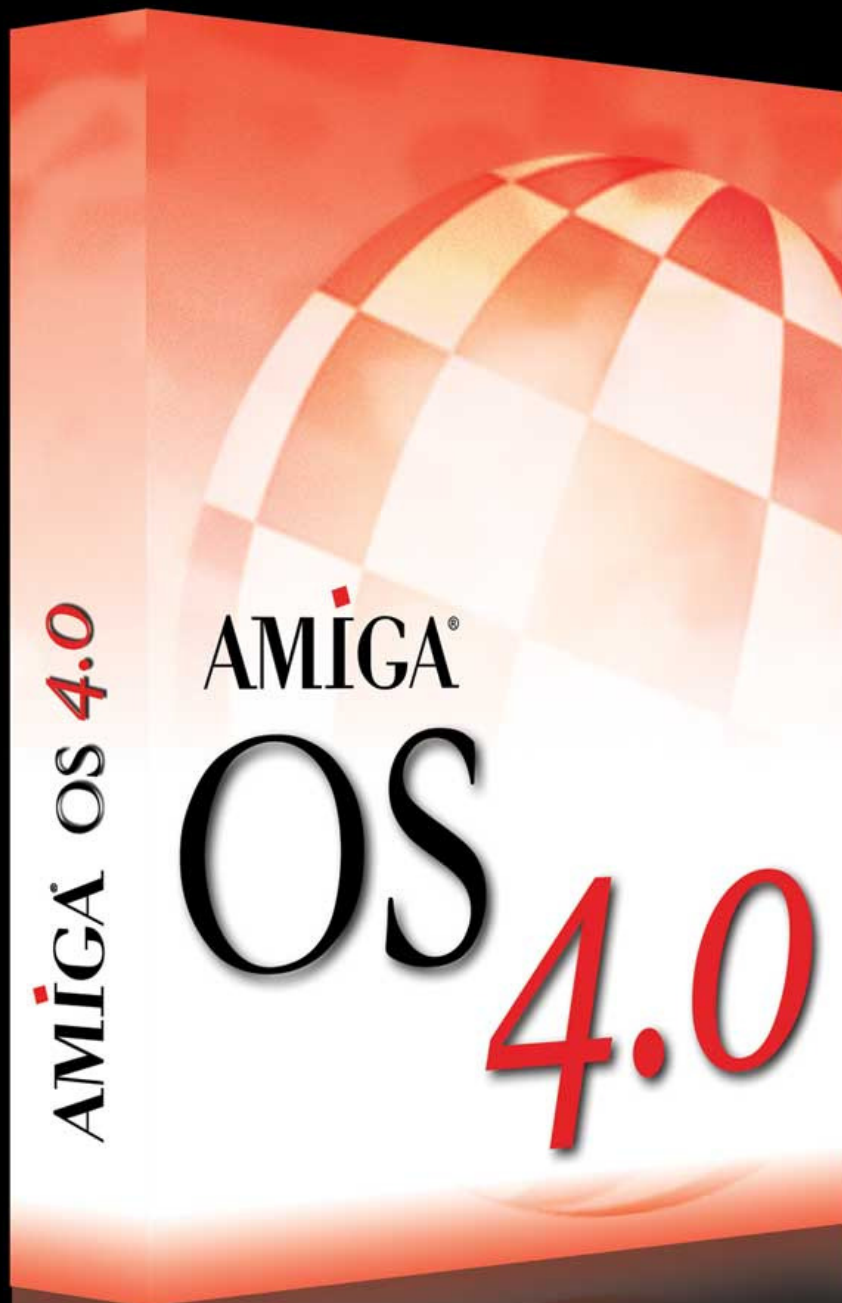
Additionally
Optional If you still miss space you can always remove the Demos directory which take up 5.8Mo

OK, so now we have it running and slimed down. Now is the time to speed thing up by installing the 060 files.
AmiKit does not really run at the 060 speed but can use that library.The first one I added was mu680x0libs.lha This will install the required libs and other pieces needed.Shut down, config WinUAE to use 060,save the config and boot AmiKit.Type "cpu" in a cli window to verify.You can then do a search for 060 on Aminet (http://aminet.net/) and install which ever programs you need/use.
Enjoy !

(Ed. Rem.: For those who don't feel comfortable doing the cleaning mentioned in the article regarding removal of the help and locale files, removal of programs and modifying startup scripts to save some space, you can rest assured that these operations possibly give more work than pleasure, esp. when you consider the fact that with todays low prices and huge capacity of hard disk drives, and considering that the operations described above will save a rather small amount of space compared to the work related to this. The editor don't think the author has considered effort of saving this space compared to availability of hard disk storage at the low cost of today. The author's advice regarding installing the 060 files still seems rather sensible. If you still want help (possibly from the author himself if he idles at IRC atm), you can contact us Amiga freaks at IRC channels #amiga and #AmigaWeb at the Efnet IRC network, or at IRC channels #amigaworld or #amigans at Amigaworld IRC network.)

AmigaOS on SAM440ep and interview of Max Tretene

Yo @ IRC channel #amigaworld and our own ike @ #AmigaWeb has put their heads together and come up with this article. Thanks to them

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Tekst: «Yo» of #amigaworld @ AmigaWorld IRC Network, and Michael Blackburn Heltne

---

This is a co-operative effort of AmigaWorld, AmigaRoundTable, and Amigaweb to increase communication and aid in dispersal of information throughout the Amiga community. AW, ART and Amigaweb jointly release these questions and answers which we hope will start an informative dialogue.

A Question and answer session with Max Tretene, ACube Systems Srl
ACube Systems as a business

(01) Long term do you see ACube Systems as both a distributor and a reseller?

We see ourselves as a manufacturer and distributor on a long term basis. At the moment we are still acting as a reseller to serve customers that don't have a reseller in their area but we are sure that things will improve soon in this field.

(02) If so can you elaborate on any changes you might make, such as the possible addition of a POS (point of sale) system to the website?

At the moment we are not interested in becoming a reseller, we are more focused in creating a network of reliable resellers in all major countries/areas.

(03) Is there any information you can share regarding usage of your products outside of the Amiga community, or comments about what role the Sam440ep might play in the automotive industry?

Automotive is really a different market than the embedded one. The rules and the requirements for the automotive products are really strict and at the moment we are not interested in entering such a market. On the embedded one, we have some interesting products going on.

(04) How successful have OS4 for classic and minimig been as products?

OS4 for Classic has been really a nice surprise. We did not expect so many Classic Amigas to be still around. Minimig is a small and niche product, it still has a good amount of requests and we are really happy about it.

(05) What made you decide to manufacture and sell the Minimig?

We believed (and still believe) that it is an excellent product that deserved a mass production.

(06) How many Cyberstorm/Blizzard PPC's have successfully been repaired?

Not so many, probably people preferred to wait for a new machine coming out instead of investing in such old hardware, Although I have to say that a 300Mhz Blizzard PPC is really impressive!

ACube Systems products - Sam440ep

(01) How does the Sam440ep@667MHz compare to the MicroGX @800MHz?

Very well, Sam has some important advantages over the Micro. Sam has a fast DDR memory interface, a fast SATA controller, a powerfull M9 graphic chip so the feeling when you use AmigaOS 4.1 is that of a faster system compared to the Micro. Obviously on simple computing power the Micro is more powerful but on overall system performances, Sam outperforms in many areas the Micro.

(02) Is the ATI M9 64 or 128 bit?
128 bit.

(03) Do you have any recommendation on a specific PCI riser card to use?
No.

(04) Can it triple boot OS4.1, AROS, and Linux easily?
Yes.

(05) The board is listed as "HIGH-SPEED USB 2.0 Certified". Is there anything other than software that would prevent implementation of USB2?

OS4.1 needs an EHCI driver to be able to use USB2 on the Sam.

(06) What is the maximum memory it can take/use?

The Sam440ep board can take 512 Mb RAM via a DIMM slot.

(07) Will the Sam440ep system bundle come with the proper I/O ports backplate?

Yes, we're working on it.

(08) For those building their own systems, will there be an ACube Systems official recommendation on parts, including case and a compatibility list?

We have a complete list of cases on our website. Regarding other parts: any widely available component can be used on the Sam, the only limitations are on the specific Operating System supported hardware.

(09) Why was the mini-pci slot removed from the final design?

On the embedded version it is available upon request.

ACube Systems products - Sam440ep-flex

(01) What is the approximate timetable and cost of the Sam440ep-flex?
Flex will be available before Christmas. Price hasn't been decided yet.

(02) Are bundles planned for Sam440ep-flex, as they are for the Sam440ep? Yes.

ACube Systems - the future

(01) Do you plan or consider further extensions to the SAM series?

We have a detailed business and development plan for the coming years.

(02) Have you considered a Sam440ep laptop and would this be feasible?

We have many options for current and future products. Laptop is one of these.

(03) Could you please tell us a bit about how and why the ADS5121/Hellrosa/Efika2 was on display by ACube Systems at Pianeta Amiga?

We, as hardware manufacturer, evaluate many different kind of processors. Since this is a reference board we are studying and evaluating it (as we are doing with other processors).

(04) Is AmigaOS4.x planned for this board?
As far as we know, no.

(05) Are there any plans for MorphOS V2.x for the Sam440ep or Sam440ep-flex?

We contacted the MorphOS team but at the moment they are focused on other developments.

(06) In a perfect world, what would you like to see accomplished with regards to the Amiga, both classic and next generation - hardware and software.

We would like to see new software for Amiga that fills the gap between us and other platforms. A complete web browser, an office suite and all other programs that are needed for everyday use. On the hardware side it would be nice to have some new and powerful
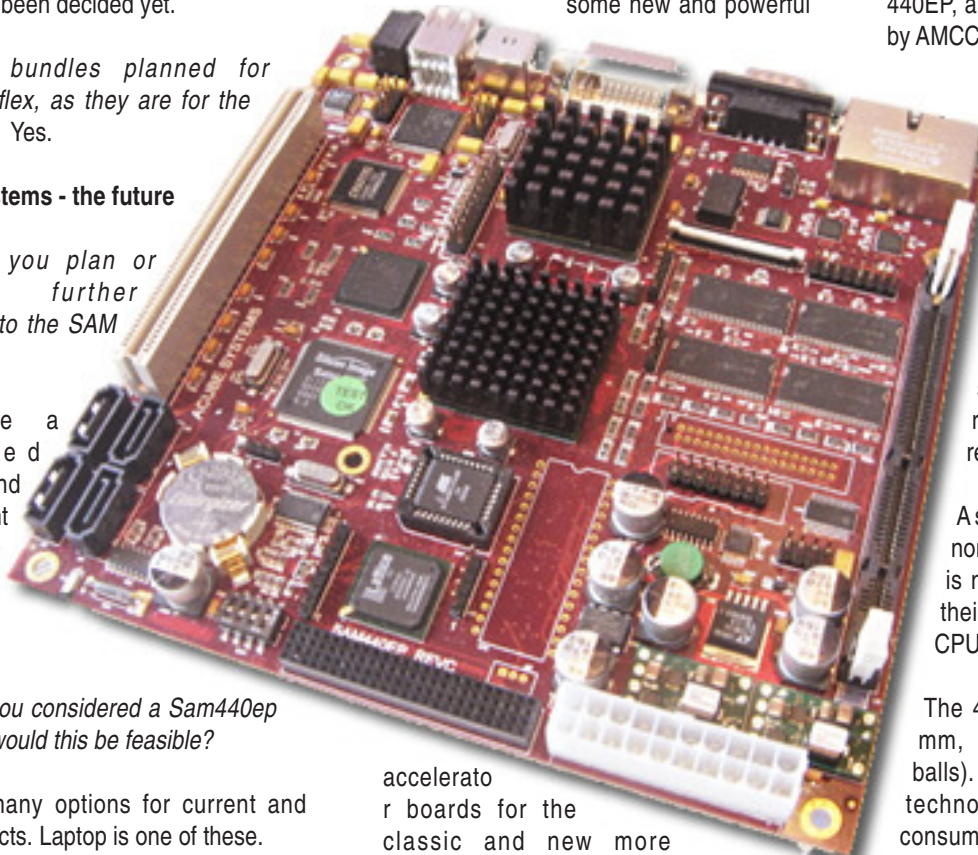
accelerator boards for the classic and new more powerful and cheaper NG hardware.

(07) How do you envision your relationship with Hyperion for the future?

We are working together to continue the evolution of the Amiga Operating System and hardware.

(08) What do you think about the NatAmi (http://www.natami.net) Is this something ACube Systems might consider getting involved in?

It seems an interesting idea but at this stage we prefer to focus on our own products. But obviously this could change in the future, who knows..

.
Max Tretene, ACube Systems Srl

ACube Systems
Sam440ep is the first modular motherboard produced by ACube Systems Srl.

The main characteristics are:
* low power consumption
* passive cooling
* scalability

The core of the board is the PowerPC 440EP, a System On Chip (SoC) produced by AMCC under license from IBM.

One of the main features of the PowerPC AMCC 440EP is the presence, together with the CPU, of a number of integrated peripherals. This allowed us to build a complete system with a huge savings of both development and debug time, with less components and space used on the PCB. This also results in a significant cost reduction for the customer.

As a consequence the northbridge/southbridge combination is not present on the board. Part of their functionalities are built into the CPU.

The 440EP chip has a size of 35x35 mm, with a PBGA packaging (456 balls). It is built with CMOS (0.13 um) technology, has a very low power consumption (only 3 Watts at 533Mhz) and it does not require any active cooling system.

SAM440ep

Technical Specifications

* MiniITX Form Factor (17x17 cm)
* CPU SoC AMCC 440ep
o Integrated DDR 266 memory controller
o Integrated PCI controller
o Integrated Flash memory devices controller
o Integrated USB 1.1 Host and 2.0 Device controller
o 2 integrated Ethernet 10/100 ports
o Up to 4 serial ports
o 2 I2C interfaces
o SPI interfaces
o 64 pin for I/O General Purpose
* 512 MB DDR soldered onboard (or in alternative a DDR DIMM 100 slot, max 512 MB)
* USB 2.0 OHCI/EHCI NXP PCI controller
* Audio Cirrus Logic CS4281 and Realtek ALC655 Codec
* Silicon Image 4 Serial ATA ports
* ATI RADEON Mobility M9 with 64mb RAM graphic chip
* Pericom 8150B PCI Bridge
* FPGA Lattice XP with 80 pin I/O expansion connector
* PCI Slot - 32 bits, 33 Mhz
* mini PCI Slot - 32 bits, 33 Mhz (optional)
* RTC with backup battery
* UBoot 1.3.1

Further information, FAQs, availability and price, media and other resources and driver downloads, please visit

http://www.acube-systems.biz/eng/sam.php

Amiga Dealers List

This is an alphabetical listings of all known dealers
who are selling OS4.x or SAM or both.

*Dealer: ACube
*Selling: OS4.0, OS4.1, SAM boards, other
*Contact Info: http://www.acube-systems.biz/eng/contacts.php

*Dealer: Alinea Computer GbR
*Selling: OS4.0, OS4.1, SAM boards, other
*Contact Info: http://shop.alinea-computer.de/

*Dealer: AmigaKit
*Selling: OS4.0, OS4.1, SAM boards, other
*Contact Info: http://amigakit.leamancomputing.com/catalog/amiga-shop.php

*Dealer: Computer Connection
*Selling: OS4.0 for Classic, OS4.1
*Contact Info: http://www.comp-connection.com/amiga/software.html

*Dealer: Gentle Eye
*Selling: OS4.0, OS4.1
*Contact Info: http://www.gentle-eye.fi/softa.html

*Dealer: Hast-Enterprises
*Selling: OS4.0 for Classic, OS4.1, other
*Contact Info: http://www.hast-enterprises.se
(Note: Site is in Swedish)

*Dealer: IMM
*Selling: OS4.0, SAM boards, Complete SAM systems, other
*Contact Info: http://www.informatique-imm.lu
(Note: Site is in French)

*Dealer: Relec
*Selling: OS4.1, Complete SAM systems, other
*Contact Info: http://www.relec.ch/
(Note: Site is in French)

*Dealer: Revanche LLC
*Selling: OS4.1
*Contact Info: http://revanchellc.com/

*Dealer: Vesalia
*Selling: OS4.0, OS4.1, SAM boards
*Contact Info: http://www.vesalia.de/

It's alive!
Ars reviews AmigaOS 4.1

Text: Jeremy Reimer

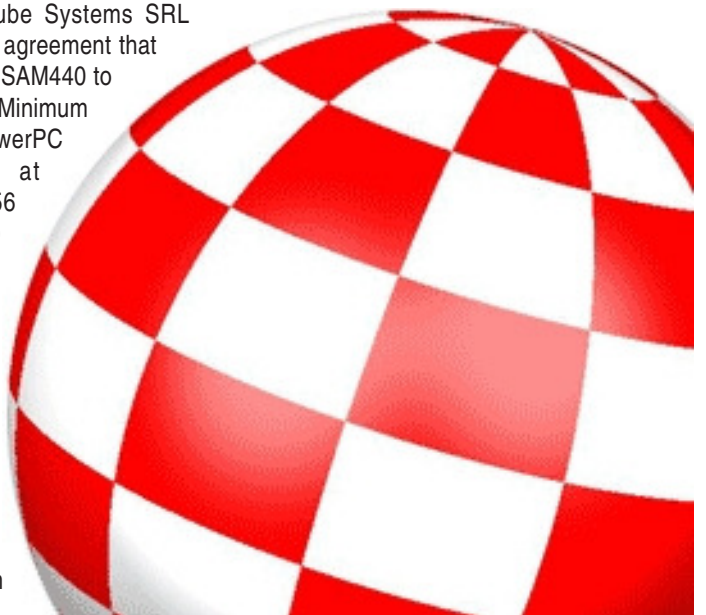**A new version of AmigaOS**
Introduction

From its very inception, the Amiga has been about defying conventional wisdom. In the early 1980s, everyone knew that personal computers weren't powerful enough to multitask, but the Amiga proved the naysayers wrong. In the 1990s it was accepted that PCs couldn't possibly edit production-ready video, but the Amiga's Video Toaster add-on changed that and revolutionized the industry.

Sadly, these days the Amiga is no longer breaking new ground technologically. However, the platform continues to defy conventional wisdom by its stubborn refusal to fade into the digital night. Long after most people had given it up for dead, companies such as Hyperion Entertainment Inc. are hard at work improving and enhancing the operating system. I had a chance to look at a preview copy of the latest release, AmigaOS 4.1, and it is an impressive piece of work.

Hardware requirements

At the time of writing, AmigaOS 4.1 is only supported on existing AmigaOne SE, XE, and AmigaOne Micro computers. As such, it is primarily an upgrade for existing AmigaOne owners. However, a recent announcement by ACube Systems SRL has confirmed an OEM agreement that will allow owners of the SAM440 to install and run OS 4.1. Minimum requirements are a PowerPC processor running at 400MHz or higher, 256 megabytes of RAM, 100 megabytes of hard drive space, and a Radeon 7000 video card. A Radeon 9250 is recommended, however, as AmigaOS 4.1 contains a new graphics subsystem that—like Windows Vista and Macintosh OSX—uses the card's 3D features for a graphics compositing layer.

The elephant in the room

At the time of writing, Hyperion is still in the middle of a lawsuit brought by the company that contracted the development of the OS, Amiga Incorporated. The lawsuit hinges on the original OS4 development contract, signed in the wake of the dotcom crash of 2001, when Amiga Inc. had lost its funding and did not appear to be financially viable going forward. The deal specified that if Amiga Inc. were to declare bankruptcy, Hyperion Entertainment (which prior to the development of OS4 specialized primarily in porting games from Windows to the Mac, Amiga, and Linux) would gain full control of the rights to the OS.

Amiga Incorporated survived, but only through some sleight of hand that involved being purchased by a shell entity known as KMOS, which acquired Amiga's assets piecemeal and then changed its name to Amiga Incorporated (Washington) once the original Amiga Incorporated (Delaware) dissolved. Now that we're in the middle of the second dotcom boom, the new Amiga Inc. has additional funding sources and wants control of the OS back. Hyperion, on the other hand, maintains that the "escape clause" should be in effect.

Making matters worse, the original hardware manufacturer, Eyetech, that produced the AmigaOne and AmigaOne Micro motherboards ran into trouble when a crucial chip manufacturer (Taiwan-based MAI Logic) went bankrupt. No new AmigaOne boards are being produced,

and while Amiga Inc. has announced that new, licensed, hardware for OS4 is underway, such announcements have been mere vapor so far.

Not giving up

Such a dismal situation would mean the end of most computer platforms, but Hyperion is not throwing in the towel. Not all is doom and gloom: the OS is solid and evolving, and there are many places it could go. The announcement of support for the SAM440 motherboards is just a start: there is a large existing base of PowerPC-based Macintoshes that could easily be made to run OS 4.1, and the low RAM requirements of the OS would make it perfect for running on Sony's PlayStation 3 or on any number of mobile platforms. After all, hardware is typically the easier side of the platform equation: it's the software side that takes the time. OS 4.0 was already a quantum leap forward for the Amiga operating system, but 4.1 takes it to the next level.

A new partnership

OS 4.1, while written by Hyperion Entertainment, is being marketed and distributed by the Italian company ACube, the makers of the Sam440 PowerPC motherboards. As mentioned, ACube has entered into an OEM agreement with Hyperion to bundle OS 4.1 with these machines. ACube also wrote the manual and created the box art for OS 4.1.

New features in 4.1
New memory management

The original AmigaOS was released in 1985, and despite the power of the Motorola 68000 and Amiga's custom hardware, there were certain unassailable realities that limited what the OS could do. Lack of a hardware memory management unit (MMU) in the 68000 made it impractical to add memory protection, where running tasks in the operating system are physically prevented from stomping over each other's memory space and causing a crash.

In updating AmigaOS to modern hardware, Hyperion has faced the same issue that stumped Apple when that company wanted to release Copland, an update to the Classic MacOS. Simply adding memory protection to the existing system wouldn't work, because many applications expected to operate in an environment where it wasn't present. Apple couldn't find a way to enable memory protection without breaking most MacOS applications, and the Copland project was eventually abandoned. Apple did actually add the ability for the kernel to use memory protection in OS9, but had to leave it disabled. Hyperion has done the same with the new memory manager they built for OS 4.1: memory protection is there, but the user can't turn it on.

One feature that you get basically "for free" with memory protection is virtual memory—the ability to substitute hard drive space for RAM in a pinch, allowing more applications to be loaded than could normally fit into memory. In the past, both Amiga and Macintosh applications had to roll their own virtual memory schemes if they wanted to get past the RAM ceiling. Photoshop on the Macintosh and ImageFX on the Amiga both used this method, and still do today. Apple added a more basic form of virtual memory to MacOS in System 7, and there were various third-party efforts to add this feature to AmigaOS. With the release of OS 4.1, Hyperion has written its own virtual memory system that any application can use, even without knowing it is there. When the system runs out of RAM it starts to use virtual memory automatically.

Although full memory protection is disabled, AmigaOS 4.1 does provide programs with limited protection against each other. If an application crashes, a debugger window called the Grim Reaper appears, allowing the user to kill the offending app. OS 4.1 adds resource tracking, a feature originally scheduled for the very first release of AmigaOS, but abandoned due to time constraints. This means that the OS can clean up resources used by an application that has quit and doesn't need them any more.

New display layer

One of the biggest selling features of OS X and Windows Vista is those operating systems' use of a composited window display layer, which uses the power of modern graphics cards to build up a layered picture of the desktop off-screen, then quickly blasts the result to the display. This prevents display artifacts such as window tearing, and gives the desktop the same smooth feel that PC gamers have known for years. It also allows for special effects, since each window is stored as a large, flat, 3D polygon.

When I heard that Amiga OS 4.1 would feature a composited window display, I was at the same time excited and trepidatious. After all, one of the big selling points of AmigaOS was the lightning-fast response of the user interface, and both OS X and Vista have been criticized for sluggish window performance, especially on low-end hardware.

I needn't have worried. The Workbench, AmigaOS' user interface, is just as fast as ever in composited mode. I was warned, however, that opening too many windows would quickly use up the limited graphics memory on board my Micro A1's integrated Radeon 7000. In testing, I found that I could open about four or five applications and an equal number of Workbench windows before video RAM was exhausted and the OS was forced to juggle between video and main memory. At this point, moving and dragging windows around became slightly sluggish. Users with discrete video cards such as the Radeon 9250 will not run into this problem unless they open a ludicrously large number of windows. It is possible to disable the 3D acceleration and fall back to standard 2D mode if one wishes to avoid these issues altogether.

AmigaOS 4.1 makes all windows except the foreground one very slightly transparent. When you drag a window around, it turns even more transparent until the user lifts the mouse button again. This is a subtle effect, but in practice it is less obtrusive than Vista's gaudy translucent title bars. Windows can be any shape, and the default AmigaOS windows now have rounded corners.

New file systems

The history of file systems is a whole article all by itself, and the Amiga has had its share. The designers of the original operating system made it easy to add new file systems, and this wisdom has allowed Hyperion to snap in support for a plethora of new ways to format drives of all sizes.

First up is the Swap file system, which takes its cue from Linux's dedicated swap partitions. The swap area is reserved for virtual memory, and cannot be used for storing regular files. This allows the virtual memory area to be optimized for speed, without the overhead of file names and other metadata.

Next up come two new forms of SFS,

which has evolved from its origins as the Smart File System and is now pedestrian enough to be called the Standard File System. SFS/00 is a slight tweak of SFS, and SFS/02 is a further refinement. The user can adjust the block size on both of these file systems to best match their partition size and the typical size of files on the volume.

The final new system is JXFS, which is a 64-bit file system. Despite the name similarities, it is derived neither from IBM's JFS nor SGI's XFS, but is, in fact, a brand new file system written by Hyperion's Jorg Strohmayer. JXFS has support for partitions of up to 16 terabytes, is journaled to prevent lost data if the computer is rebooted during writes, and it automatically expunges and reloads updated disk resources. It is also, as I found, much faster than SFS. Unfortunately, AmigaOS cannot rely solely on JXFS just yet—it requires an SFS partition to boot from. However, as the OS itself is quite small (a full install is less than 100MB) this allows users to keep all of their data on a more robust file system on any modern disk drive.

The underlying AmigaDOS file management code has also been revamped to be fully 64-bit internally—this means that for the first time, AmigaOS can handle files over 4 GB in size.

New USB stack
Universal Serial Bus support has also been updated in OS 4.1, meaning that most USB devices (mice, keyboards, headphones, USB key drives, and so forth) work simply by plugging them in. When a new device is installed, a window briefly pops up identifying it by name and function, after which the device is ready to use.

Installation and booting
Installation
migaOS 4.1 comes on a single CD. Installing is as simple as putting the CD in the drive, hitting the Escape key during the boot process, and using the menus in Uboot (the AmigaOne's BIOS) to select the CD drive as the first drive in the boot sequence. The CD works as both a LiveCD and an installation disc, booting to a stripped-down, but still functional, copy of AmigaOS 4.1 and running the installation script. This allows the entire install to proceed in graphical mode, using the same user interface as the rest of the OS. The
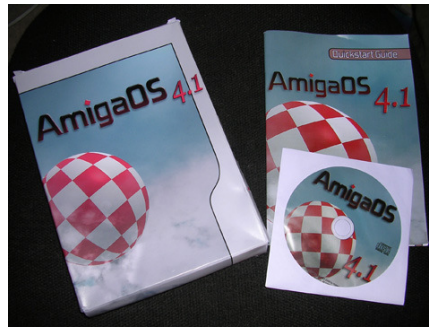
*There's a box!
And a printed
manual! !!!*

There is a new graphical boot screen to look at during this brief loading period:

Don't blink or you'll miss it

user can pause the installation at any time to check out the contents of the CD, use the disk partitioning and formatting tools, or run applications.

Earlier versions of AmigaOS required the user to run the partitioning program, Media Toolbox, and manually create and format partitions prior to installation. Because the new swap partition makes this an even more complex process, OS 4.1 includes what it calls "profiles" that automatically partition a drive with a recommended setup. These profiles can be loaded from a menu in Media Toolbox. While there are still a few tricky things to remember (such as installing the second-level boot loader from the CD), following the manual's step-by-step process is relatively straightforward. OS 4.1 supports dozens of

languages and international keyboard layouts.

The entire installation took about twenty-five minutes.

The OS 4.1 Desktop
Not much has changed in terms of the way the operating system looks and feels since the final version of OS 4.0. The operating system still boots up in under ten seconds to a fully functional desktop, making it a delightful change from other platforms.

The default desktop contains only the icons for various disk drives (including the built-in RAM disk on the left), and the AmiDock that is displayed by default on the bottom of the screen. The AmiDock can contain both applications and small utilities called
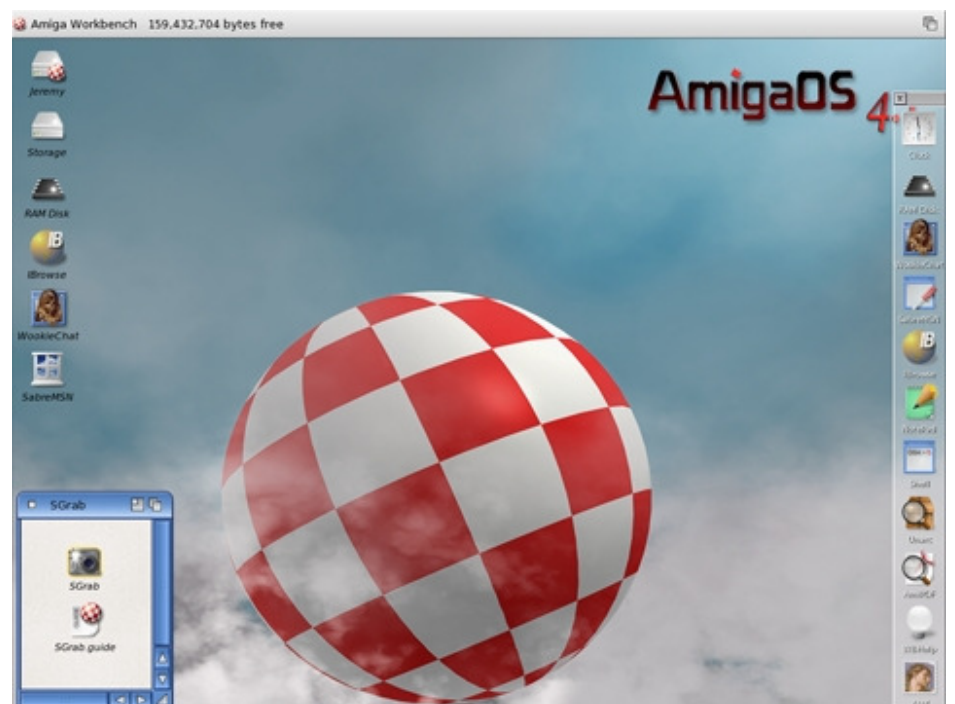
"Dockies," and these Dockies can display updated information such as a clock or CPU meter. I like to keep my AmiDock on the right:

The default desktop

Once you load up a bunch of windows, you can see the transparency effects in action. Windows can be dragged in place even if they are behind other windows—the Amiga's Workbench doesn't bring windows to the front automatically when you click on them unless you click the rightmost icon in the title bar. An optional utility called Click-to-Front brings windows to the foreground if you double-click anywhere on the window—I have this utility run automatically on startup.

Bundled and third-party applications

Bundled applications
Web browsers

No modern operating system is complete without a web browser, and OS 4.1 attempts to cover all bases by including three. AWeb is an open-source Amiga browser that is highly customizable and has for many years included some innovative features, such as the ability to configure any editor for entering text into any web form (this has only been recently replicated on other platforms with the Firefox extension It's Just Text!). iBrowse is a commercial Amiga web browser that has a bit more polished user interface that includes tabbed browsing.

OWB, the Origyn Web Browser, is the new kid on the block. Based on the popular WebKit rendering and Javascript engines, OWB finally brings Amiga browsing up to modern standards. Both AWeb and iBrowse are still waiting for updates that can properly parse CSS and modern Javascript, but OWB renders pages just as well as any WebKit-based browser (such as Safari or Google Chrome). With so many applications moving to the web, having a modern browser is essential for any platform.

Ars Technica the way it was meant to look

E-mail

YAM (Yet Another mailer) has come a long way from its pedestrian origins. This open-source project, available in a special OEM version OS 4.1, now has a familiar three-pane interface. Built-in spam filters help keep the user's mailbox tidy. One nice feature of YAM is that it displays the total disk space occupied by each mailbox folder, giving the user a handy overview when it comes time for spring mailbox cleaning.

Email handled sensibly

AmiPDF

AmigaOS 4.1 comes with a built-in PDF viewer called AmigaPDF. It correctly displayed all the PDF files I could throw at it, and performance has been dramatically improved in this version compared to the one that came with OS 4.0.

PlayCD

This simple application plays music CDs and grabs album and song information over the Internet.

UnARC

This file compression/decompression program supports drag and drop and is very speedy. I use it to extract application archives to the built-in RAM disk prior to installation.

DvPlayer (OEM version)

This is a media player that handles many video formats, including MPEG2 for DVD movie playback.

RawDisk

This handy utility works like Ghost on the PC, making exact copies of hard drives or partitions that can be cloned to other systems.

Third-party AmigaOS applications

WookieChat

New Zealander James Carroll, the developer of WookieChat, has continued to update his popular IRC application with new features, such as automatic smiley face graphics, web browser integration for hyperlinks (the client is the only one I know of that will accept a click on a URL, even if the text scrolls up in the time it takes you to click it), chat logging, custom sound notifications and colors, and a simple scripting ability that will let you automatically log on to a whole list of servers and channels, send nickname confirmation passwords, and so forth.

SabreMSN

From the developer of WookieChat comes SabreMSN, a Microsoft Network (now known as Windows Live Messenger) client that lets you annoy your friends with a perfect simulation of the "nudge" feature.

Photogenics

This graphics editor has many of the features of Photoshop, including multiple layers, alpha channel support, special
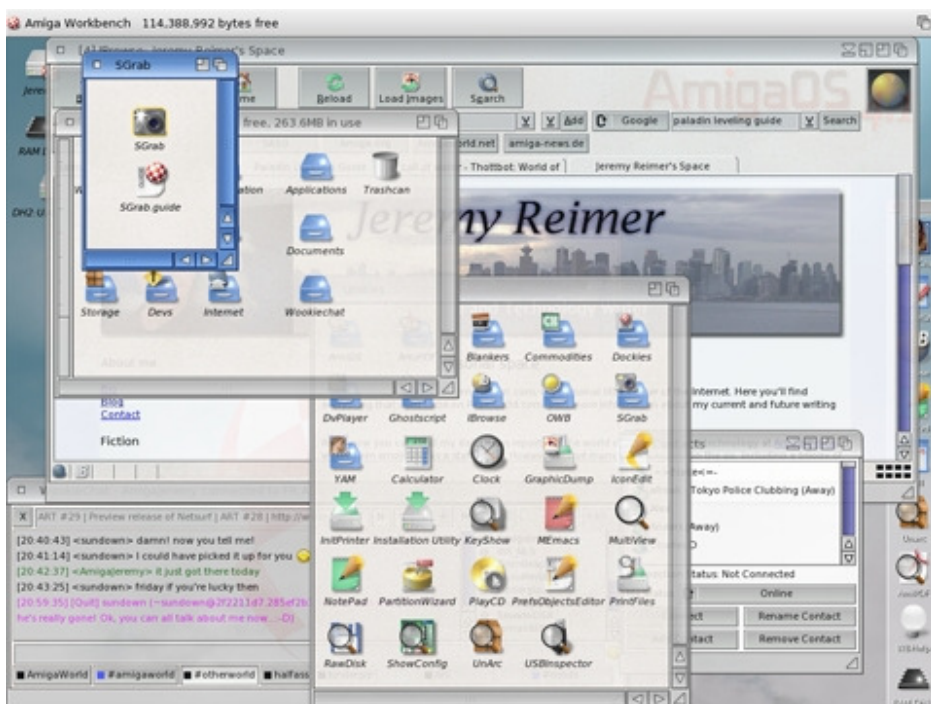
Left screen shot

Showing off the new graphics compositing system

effects filters, and clone brushes. Natural material brushes such as pastel and Wet Eraser make it easy to create digital art.

PageStream

This impressive desktop publishing program is still being developed, and the latest release, version 5.0, is available for AmigaOS, as well as Windows and Macintosh. Its clean interface belies a great deal of editing power. One of its major selling features is the ability to open, edit, and save PDF files with no conversions needed.

Hollywood + Designer

Hollywood is a commercial application developed specifically for AmigaOS and available only for that platform. The spiritual successor to SCALA, it supports animation scripts written for that legendary animation program. Designer is a graphical interface that allows users to easily create scripts. The resulting animations and multimedia presentations can be saved as an executable file that will run on Windows, OS X, or Amiga-based systems.

Rdesktop

This implementation of the Windows Remote Desktop Protocol (RDP) allows AmigaOS users to log in remotely to their Windows desktops and servers, using a low-bandwidth protocol that is much faster than other remote-control options such as VNC.

Samba

The AmigaOS implementation of Samba, the open-source clone of Microsoft's networking protocols, allows AmigaOS users to easily transfer files back and forth between Amiga and Windows-based machines over a network.

The future

One might ask, and many people do, why anyone would bother putting so much effort into continuing AmigaOS when Windows, OS X, and Linux are already available and well-entrenched? Such a question betrays a lack of imagination about the computer industry and assumes that nobody will ever be interested in alternative platforms. The continued existence of OS X and Linux shows this to be an incorrect assumption.

A more pertinent question would be this: is it financially viable to continue the Amiga platform as a commercial venture? Here, the answers are not quite so clear. Back in

the glory days of the platform, Commodore sold over five million Amigas, which at the time represented a healthy six percent of the market. However, with Commodore's bankruptcy in 1994, and the subsequent long and drawn-out battle for the purchase of its assets, many people left the platform.

With the release of the AmigaOne and AmigaOne Micro platforms in 2002 and 2003, it looked like at least a portion of them could be coming back. Eyetech sold every AmigaOne it could make, but technical issues and the collapse of chip maker MAI Logic led them to withdraw from the market. How many did they sell? Exact numbers aren't known, but they were small: likely under five thousand units.

The fate of NeXT hardware and the BeBox shows that numbers in that range (the BeBox sold only 800 units in total) aren't enough to sustain a business. Eyetech, at the time, was counting on embedded sales to make up the shortfall. AmigaOS is a natural fit for embedded devices, given its speed and low resource requirements, and the idea was (and still is) to make money with embedded sales and slowly grow the market for AmigaOS desktop users.

At the moment AmigaOS is still tied to the PowerPC, but that is not necessarily a bad thing: there is still a market (albeit a small one) of geeks who would be interested in a non-Intel platform, and the PPC continues to be developed in the embedded market. Embedded hardware is designed to be inexpensive to manufacture, and this allows products such as Genesi's $99 Efika, a tiny motherboard and CPU combination that currently runs the work-alike AmigaOS clone MorphOS, but could easily be made to run OS 4.1. The PlayStation 3, PowerPC Macintoshes, and mobile devices are also viable OS 4.1 targets. A Hyperion developer told me that not only has the OS been run on a PS3, but they have even tested support for the seven SPU units in the Cell processor.

Whatever the ultimate fate of AmigaOS, it has been a privilege and a joy to use it. I still use my AmigaOne on a daily basis, and consider it my "fun computer." Whenever Windows or OS X annoys me, it's right there, fast and friendly and accessible. It feels like a personal computer in ways that computers haven't felt like in over a decade.

Still don't understand? You'll have to read the book. (And yes, the next installment is coming very soon.)

Availability

AmigaOS 4.1 is available by mail or web order from ACube Systems. Price is 105.

An interview with Thomas Frieden

Thomas Frieden is one of the two lead developers on the OS 4 and OS 4.1 projects. I had a chance to ask him a few questions about his personal background, about OS 4.1, and where he sees the operating system going in the future.

How did you get started programming, and what drew you to the Amiga?

I got my first Amiga in 1989, but at that time, I of course never thought about the possibility to be professionally involved with it. I immediately started programming in Assembler and C.

I've always been interested in programming. I started with that in the late '70s on my dad's self-built microcomputer (had a then brand new Intel 8080). Later I got into mainframes (doing, gasp, COBOL), and the ZX Spectrum. When I wanted to get a new computer, I had the choice of Atari ST and Amiga. I went with a gut feeling and took the Amiga and immediately liked its powerful multi-tasking operating system (being used to simple time-sharing and batch systems, not to mention home computers).

What do you like about programming on the Amiga as opposed to other platforms? What keeps you developing for the Amiga?

I like the transparent nature of AmigaOS, and the effectiveness of the API's. You can really get down to the bottom of things if you want to, or use the high-level APIs.

Apple has gotten a lot of mileage out of open-source projects when developing OS X. Did you make use of open source code when developing OS 4?

We make use of several open source projects. Most prominently, we use gcc for compiling all our stuff. Of course, there's also Cairo [a device-independent graphics display library] that comes with 4.1.

I personally like open source projects like Cairo because they create a common basis that spans several operating systems. The

open implementation allows everyone to adapt it to their system, and subsequently allows application programmers to build their software cross-platform. That is one of the strengths of open source.

How did you implement system-wide virtual memory in AmigaOS?

The swapping was really a complex matter to build into AmigaOS.
First of all, AmigaOS was never meant to be used with paging in mind. It took a lot of research to make sure that memory that had to be available actually was available at the time it was needed. There were some rules in place about how to allocate memory, but these rules were over 15-years-old, and a lot of programs didn't stick to them.

Then, there was the issue of making it usable.

I went through a lot of different iterations of the pager to make sure it works optimally. For example, the very first version simply set aside a piece of memory that was used as "swap space" (as a proof of concept).

Subsequent versions swapped to disk, writing single pages. That was practically unusable since the hard disks are slow with small transfer sizes.

So the final iteration uses a caching mechanism that always tries to transfer with the disk's optimal transfer size (for example, 128kb chunks).

Is it ever going to be possible to get memory protection for new OS4 apps, even if old OS3 apps can't take advantage of it?

Probably, yes. This is, in fact, one of the things we are looking at for future versions of the OS. It's an active research topic right now, but it's high priority

Do you have future plans for AmigaOS?
Yes, there's several things we have planned. I can't of course talk about all of it, but we plan on bringing some new concepts into the system. The graphics layer is one of the most urgent ones, and with 4.1, we've started addressing that. Other areas include the kernel, OpenGL support, and others.

We'll also be focusing on enabling technologies, like, for example, Java.

Have you thought about running AmigaOS on mobile platforms?

Yes, in fact we already did a mobile version of OS4. We have a version of OS that runs on the IBM e-LAP, a PDA based on the PPC405. The fact that AmigaOS is working quite well on low-resource devices makes it a suitable candidate for mobile devices.

The Gerrman Frieden twins was in contact with #amiga guide magazine during AmiGBG in Gothenburg in 200%72005, and stated then that «it is not WE that is the core of the Amiga society, it is all of you out there that makes the true core!»

Below they both are working on AmigaOS.

AmigaOS 4.1

*Remember when computing was fun?*

AmigaOS

AmigaOS 4.1

COMPACT disc
DIGITAL DATA

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Features:

- Intelligent memory paging
- Hardware compositing engine (Radeon R1xx and R2xx family)
- Implementation of the "Cairo" device-independent 2D rendering library
- Picture Transfer Protocol (PTP) support for greater digital camera compatibility
- JXFS filesystem with the support for drivers and partitions of multiple terabyte size
- Improved Workbench functionality
- New and improved DOS functionality (full 64 bit support, universal notification support, automatic expunge and reload of updated disk resources)
- Improved 3D hardware accelerated screen-dragging
- Reworked AmiDock with true transparency
- Reworked Warp3D Radeon drivers with new functionality
- And much, much more.
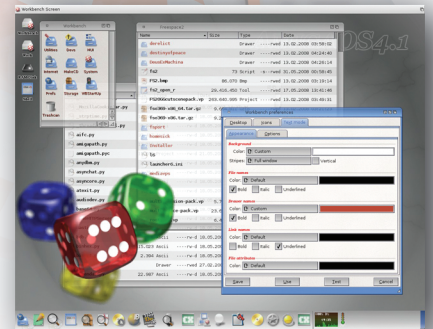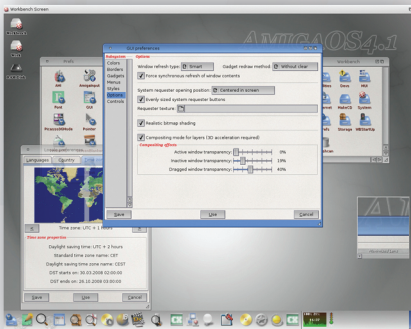
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