

## AmigaOS 4 developer interview: Why it endures and what the future holds

To the surprise of many, the Amiga operating system endures, with developers continuing to eye new features for the venerable OS. We caught up with AmigaOS 4's lead developer to talk about the system's survival.

Rohan Pearce (Computerworld) | 31 May, 2012 13:15

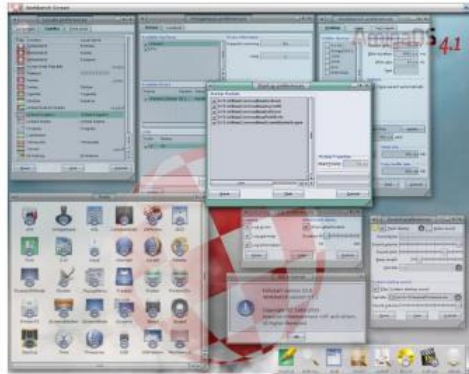


Image: Amigaos.net

The Cult of Apple is well known. People are not shocked to see massive lines outside Apple stores in the lead-up to the latest iDevice launch. But before that there was the Cult of Apple, back when the company was still Apple Computer Inc. there was the Cult of Mac, whose members, in the face of overwhelming Wintel dominance, doggedly refused to let go of what was then considered a doomed platform.

The Cult of Mac's birth can be traced to the release of the first Macintosh in 1984. With its fancy GUI, it was a revolutionary computer. But it wasn't the only historically significant personal computer released during the '80s. Nor was it the only one to evoke fierce loyalty among its fans. The 1980s also witnessed the birth of the Cult of Amiga, with the first Amiga system — the Amiga 1000 — released in 1985. Like the Macintosh, it was a revolutionary personal computer.

And amazingly, like the Macintosh, the Amiga endures — at least in a form. The Amiga operating system continues to be developed by Belgian software company Hyperion Entertainment, and an ecosystem of vendors are still creating hardware for the system.

The Amiga was originally produced by Commodore, which went bankrupt in the mid-1990s. A series of legal twists and turns culminated in 2009, when a settlement was reached between Amiga Inc. and Hyperion Entertainment. "I am not a lawyer but my understanding is that Amiga inc. retains ownership of AmigaOS 3.1 and earlier while Hyperion owns the changes it has made since," says AmigaOS 4 lead developer Steven Solie.

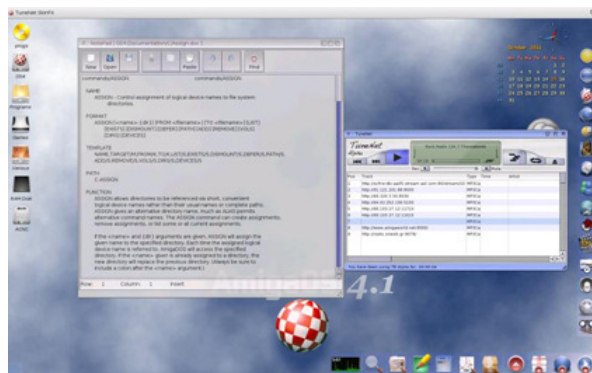
[Syllable OS developer interview: Building a better operating system](#)<sup>[1]</sup>

[The road to a successful open source project: Learning lessons from Drupal](#)<sup>[2]</sup>

[Open Source Ecology: Can open source save the planet?](#)<sup>[3]</sup>

"Some may notice that AmigaOS 3.5 and 3.9 are left out. Those releases were done by a contractor named Haage and Partner which is still in business today. The sources to those releases remain with H&P... Hyperion had to rewrite any of the components it wanted from those releases for the 4.x series."

The reason Amiga has managed to endure is simple: It's "purely because of the fans", says Solie. "Without them, the commercial investment would have already dried up. There are commercial companies still investing in AmigaOS such as ACube Systems, A-EON Technology and Hyperion Entertainment itself."



*Image: Amigaos.net*

Hyperion Entertainment has two full time developers dedicated to the OS, with other developers being either contractors or volunteers. "The [Open Amiga](#)<sup>[4]</sup> organisation has many examples of projects being developed outside the core team for possible inclusion in the OS itself."

"It is a true the vast majority of companies have long left the platform. But the core group of fans is what still keeps things going," says Solie.

## The hardware

Although Hyperion has been using serial numbers for copies of AmigaOS since 4.0, it won't reveal sales numbers. Solie's "personal guess" is that the system has 2000-5000 users.

"If you include all the various Amiga clones and emulators we would probably be talking about around 10,000 users [in] total," he adds. "It is really difficult to judge because a majority of the users are rather quiet."

"That said, I think there are still tens of thousands that still remember the Amiga in general. The brand itself is still quite strong to this day. So if you are talking about potential users, we are still looking at quite a large pool."

AmigaOS 4.0, which was released in October 2004 (AmigaOS 4.1 Update 4 was released in December 2011), is based off the 3.1 source code. Unlike the original version of the OS it runs on the PowerPC architecture; Amigas originally used Motorola 68k CPUs.

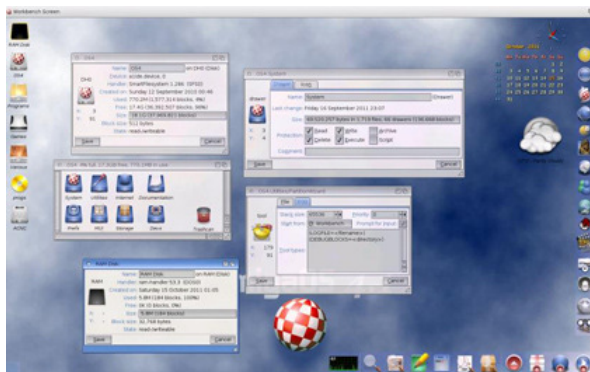
"The good news [with building off the 3.1 source] is you don't have to waste time cloning and reverse engineering everything — that's just a vast waste of time," Solie says. "The bad news is some of that code is 68k assembly and is in no shape to run on a modern PowerPC hardware platform."

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"What we have done is take the original designs and extend them where it makes sense. For example, the original Amiga shared library system is quite functional but also totally incompatible with everything else out there. Platforms like Windows can get away with this because they have a huge army of coders willing to do the necessary work to convert everything over to their systems."

"Instead, AmigaOS introduced a new shared object [.so] system which allows for the direct compilation of shared object libraries which are quite common. Of course, we would prefer developers use Amiga shared libraries but when you are the underdog, you sometimes need to bend the rules a bit to keep developers productive. Life is too short to rewrite libraries again and again just because your OS of choice is too stubborn to adapt."

The original systems for AmigaOS 4.0 were sold by Eyetech, and Solie said used models, such as the AmigaOne-XE and MicroA1-C, are still available. "There is also the Pegasos 2 created by bplan out of Germany which can run AmigaOS 4.1," he says.



*Image: Amigaos.net*

"New hardware models are currently made by ACube Systems. Their models include the AmigaOne 500 (Sam460ex based), Sam440ep and Sam440ep-flex. I use an AmigaOne 500 as my primary system and it is quite capable."

"A-EON Technology recently starting shipping its flagship model the AmigaOne X1000. The X1000 currently runs a preliminary version of AmigaOS. Demand for the X1000 was so great that A-EON needed it shipped as soon as possible. If all goes well, the X1000 will be the first Amiga system ever to support multiple cores as well."

In October Hyperion Entertainment announced an AmigaOS-based netbook. "Nothing much has been heard since then regarding the netbook but we do know it already runs AmigaOS."

"There are all sorts of rumours of additional hardware platforms and form factors from these companies," Solie says. "Hyperion is always on the lookout to increase its user base of course so any new hardware platforms that come along are seriously considered."

"You can still purchase brand new hardware and software from a small network of dealers. Most dealers deal with both the original Amiga hardware as well as the new stuff."

"It is a pretty tight community of users, dealers and developers."

The process for companies wanting to develop Amiga-friendly hardware normally involves a vendor contacting Hyperion when they have a new idea and negotiating an agreement to have AmigaOS ported. "The hardware providers usually provide the firmware; Hyperion provides the HAL [hardware abstraction layer] and of course the OS itself," Solie says. "Hardware drivers are written by either side of the equation or even third party contractors and volunteers."

"Hyperion's developers have provided input into new hardware developments in the past. Ultimately, it is up to the hardware developers to do what they think is best of course."

## The fans

Although the system remains closed source, since Solie took the role of AmigaOS Development Team Lead back in late 2010 he has made an effort to build a sense of community around the project, increasing communication between the AmigaOS team, the system's user base and other developers.

"Up until recently, all communication was rather one way, with community websites picking up the slack," he says. "Now, we have a [development blog](#)<sup>[5]</sup>, [informational website](#)<sup>[6]</sup>, a [support forum](#)<sup>[7]</sup> and a [documentation wiki](#)<sup>[8]</sup>." These resources are primarily maintained by volunteers, but Hyperion provides servers and bandwidth. "The Amiga community is what keeps AmigaOS alive and kicking," Solie says.

There "have been plans" to move to a semi-open or open source model for development. "However, given the complex history of source code ownership this isn't something you can rush into," Solie says.

"In the meantime, I have been trying hard to increase the number of developers and their involvement any way I can," he adds. "For example, some third party developers are given special access to the development team for questions and support."

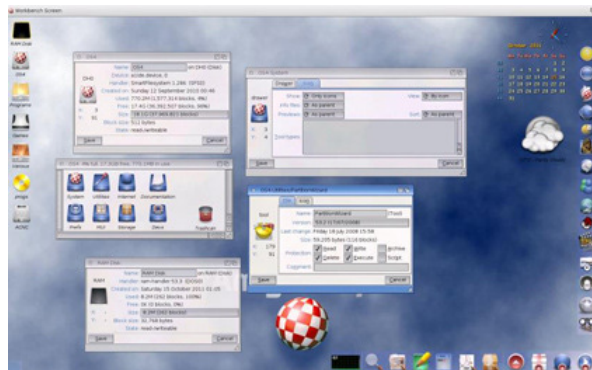


Image: Amigaos.net

Solie's first Amiga was the Amiga 1000. It was the first Amiga released by Commodore; it debuted in 1985, running a Motorola 68000 processor. "My last 68k-based Amiga was an A3000 which I used while earning my bachelor's degree," he says. "For my final project I actually developed an OSI-based protocol stack which ran on two Amiga 3000s and used Ethernet. I remember the Ethernet cards costing a fortune back then."

"My first PowerPC-based Amiga system was an AmigaOne-XE by Eyeteck. I was asked to join the beta testing team by Amiga Inc. back in the day. Over time, I took on more responsibility and had the chance to work on the OS source code itself."

"I was then asked by Hyperion to become the 'AmigaOS Development Team Lead' (a title I made up) to herd the cats if you will. I don't get a lot of time to code these days but I am still enjoying the experience."

Solie has heard of "pockets" of people using AmigaOS 4 for commercial work, but these days Amigas are primarily used by hobbyists. "It used to be that production studios used Amiga systems to create cutting edge graphics. Those days are long gone. This is purely for the fun of it now."

"I find primarily long-term fans still invest in AmigaOS and the Amiga hobby in general," he adds. "We also see some new customers returning to try out AmigaOS on the brand new PowerPC hardware platforms which are still available. Since the launch of the AmigaOS website, there have been a lot of people poking around and some go so far as to invest in some hardware."

"Once in a while we also see a brand new customer. Somebody completely new to the AmigaOS, i.e. young, and looking for something different. Since AmigaOS lacks applications, new guys can create a few applications and be treated like a rock star.

"There is a bit of money to be made as well in terms of donations and bounties. I think it is the instant fame and attention new user and developers receive is what convinces them to stay — again, the fans.

"The main draw is simplicity. AmigaOS is simple enough to be understandable and controllable without having to resort to experts all the time."

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## The future

Solie says the AmigaOS team is happy to borrow ideas from other operating systems. "For example, the memory subsystem borrowed the idea of slab allocation for memory management. The integration of Python into the operating system was also a borrowed idea."

Other operating systems can also learn from AmigaOS, he says. Primarily, "keep things simple and respond when the user clicks on something. One reason I keep returning to AmigaOS is because it is relatively simple.

"As more features are added it is difficult to keep things simple and efficient, but so far so good."

Solie can envisage a future where AmigaOS 4 shifted away from PowerPC to another platform. "However, there is also a lot of life left in PowerPC," he says, and switching hardware platforms is no guarantee of success for the system.

"I think a successful system is a combination of functionality, applications, operating system and supporting hardware all for an acceptable cost. If your target market is the hobbyist market then perhaps PPC isn't as bad as people think. It really depends on the fans and what they will accept."



Image: [Amigaos.net](http://Amigaos.net)

One gap he identifies in AmigaOS as it is now is good support for printing. PostScript printers are fine — but otherwise "you are in for a world of hurt". A system like [CUPS](http://CUPS.org)<sup>[9]</sup>, which made printing on Linux systems a less daunting prospect, would be great, he says.

Hyperion is currently working on AmigaOS 4.1 Update 5 is in the works now. "AmigaOS 4.2 will come later on which will introduce hardware accelerated 3D support, a vastly improved file system API and many other features," Solie says. The list of features that Solie would like to see added is "endless". A modern file system is one feature, and multi-core support, which is currently being worked on, is another.

"I don't imagine AmigaOS will ever become mainstream again," he says. "It is not that I am being defeatist. I'm just trying to be realistic. There are dozens of operating systems out there that are not mainstream and never will be.

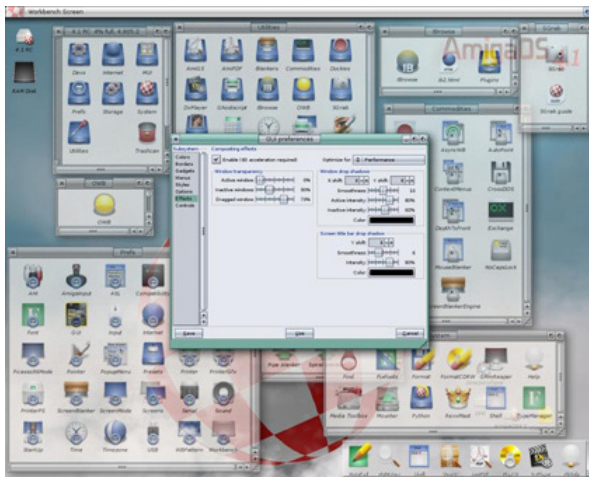


Image: [Amigaos.net](http://Amigaos.net)

"There isn't a huge amount of new hardware coming out to run AmigaOS but it is a steady flow. Keep your eye on ACube and A-EON because I don't think they are stopping any time soon.

"So for me at least, as long as AmigaOS remains fun to use I will continue to use it. It is a nice break from the grind of business where Unix and Windows rule."

As to whether an AmigaOS 5.0 will ever be released, "it all depends on the fans."

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## References

1. [http://www.computerworld.com.auhttp://www.techworld.com.au/article/398891/syllable\\_os\\_developer\\_interview\\_building\\_better\\_operating\\_system/](http://www.computerworld.com.auhttp://www.techworld.com.au/article/398891/syllable_os_developer_interview_building_better_operating_system/)
2. [http://www.computerworld.com.auhttp://www.techworld.com.au/article/411929/road\\_successful\\_open\\_source\\_project\\_learning\\_lessons\\_from\\_drupal/](http://www.computerworld.com.auhttp://www.techworld.com.au/article/411929/road_successful_open_source_project_learning_lessons_from_drupal/)
3. [http://www.computerworld.com.auhttp://www.techworld.com.au/article/410193/open\\_source\\_ecology\\_can\\_open\\_source\\_save\\_planet\\_/](http://www.computerworld.com.auhttp://www.techworld.com.au/article/410193/open_source_ecology_can_open_source_save_planet_/)
4. <http://openamiga.org>
5. <http://blog.hyperion-entertainment.biz>
6. <http://www.amigaos.net>
7. <http://support.amigaos.net>
8. <http://wiki.amigaos.net>
9. <http://en.wikipedia.org/wiki/CUPS>
10. <http://www.techworld.com.au/>
11. [https://twitter.com/rohan\\_p](https://twitter.com/rohan_p)
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