Mac Demos - 20 Minutes into the future

by
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I know you probably don't want to read this, it's such a strain on your eyes. and those little brain cells must hurt so...
Just sit back and relax for a minute. Just read the text, I'm sure the cute little pictures while keep you entertained. And the words should start your mind a-turning. When your done, you can grab a soda (something high in caffeine), and watch a demo or two. And tonight, right before your eye's close, you can think to yourself, 'I learned something new today'.

Let Us Begin

Demos could be called music videos for computers, but that would only be describing half of it. Demos are a combination of graphics and music, a digital Picasso of 3D effects, fractals/plasma, strangled ideas, and techno jives. Coded art, rising out of the one's and zero's locked away inside your computer, and dancing across your screen and speakers.
If you're a programmer, you're just gonna love it.
Demos are about programmers working bare knuckled, scrapping together everything they can think to make with every ounce of electron drenched CPU cycle time they can lay their hands on. Demo coders typically try to bypass the Operating System, access the screen directly, and write stuff in Assembly. If you don't know what that means, you probably don't need to.
I could sit here all afternoon and throw cliched poetics about how demos are, but to really experience them, you have to see them. Until very recently, the best you could do to see a demo was to run out and get yourself a 486 and run some PC demos. Or you could go 'old school', and grab some Amiga stuff. I know it's sacrilegious for a Mac site, but I'm gonna hand out a PC site URL. If you got a IBM compatible on your hands, then you should run on over to http://www.hornet.org . They have everything, not only demos, but documentation as well (for now, but maybe not for long, I'll get to that later). If your a programmer, then you'll want to check it out, for the massive amount of source code (PC mind you) and docs about programming effects.
Before we go any further, I should give you a run down on some terms.

Intros - Small demos, maybe one scene or two. They're mostly to say hi.
Effects - A simple program only written to show off one effect, mostly traded around by programmers.
Tracks - The music type usually used with Demos. They lay down several patterns of repeating sounds to create a song. There are some demos that don't use tracks, such as Megademo IV 2, which uses an audio file of random background noise, and 303 by Statix, which has a MPEG sound track.
Coder - Some one who codes, which is, to program.
Lamer - What you will be called if you compare demos to screen savers.

1998, Year of the Mac Demo?

Once you've looked around Hornet for awhile, you'll notice something about most of the vast archive of PC demos available. If you haven't noticed it yet, take a little look at the requirements column for most of those demos. You'll see that most want DOS and GUS. To refresh your PC tech history, GUS is a sound system

(by Gravis I believe), and the only place you'll find it is in your local computer store's morgue. That's right, it's a system that died when Sound Blaster took over as the PC 'standard', and a good chunk of demos prefer it.

Along with GUS is the desire for DOS. A lot of good demos will actually crash if you try to run them in Windows 95. To get some of the heavy coded DOS demos to work, you'd have to restart your Windows 95 machine in DOS mode, and even then some don't like the newer chips like the Pentium. Some demos don't even like certain clones. You can get demos that refuse to run on a Hewlet-Packard machine, and others that warn they may reset some versions of the system BIOS.

Remember that little riff I gave you about bare knuckled programming? Well, all of these incompatibilities are a direct result of that. There are two ways to make a program: Compatible or Fast.

Demo coders always choose fast.

Fare enough, you can't be dropping frames in the middle of a heavy animation. Speed keeps the look alive, slow demos are like Michelangelo with crayons. But with the speed they loose the compatibility. Demos are more incompatible then any other type of program out there. Which is why Windows 95 doesn't like a lot of them. Windows 95, like any modern Operating System, tries to keep control of the programs running on it. It assigns CPU time, and protected memory segments. Demo coders hate that.

Look it up. Compare the number of DOS demos to the number of Windows demos. Its like comparing rat and bald eagle populations.

Dos isn't dead, but it's heading in that general direction. Thankfully to Microsofts habits with legacy code, you'll be able to see the familar C:\\ prompt for the next 20 years. But still, its the decline of Rome, the end of an age. Remeber Hornet? The massive mecha for PC demo coding I mentioned earlier. In the midst of me writing this article they accounced they would begining to shut down. The files will still be archived on mirrors, but it's the end of the Hornet age. Some choose to see this closing as the end of the PC demo scene, other choose to see it as going back to the old days, when demo coders where a quilted network of freinds, partial aquainences and local bullitin boards.

This is where the Mac Demo scene comes in. The Mac demo scene could never even hope to beat the breadth and width of the DOS demo population, but there is hope to beat the Windows system. Wouldn't it be nice to have a population of software that is larger on the Macintosh then on the Windows platform?

Culture Shock

I'll get back to Mac demos in a few minutes. First, we need to get you some more education on the demo scene. First off, it's a 'scene'. A culture, a party, a mentality. Like that weird underbelly of culture that you scrape out of Star Trek conventions, the demo scene has it's own feel and groove. Like any social structure, there are heroes and famous coders, and there are losers and lamers.

To get a picture of the kind of people that hang out in demo coding, go to a techno rave party. Listen to some electronica and trance. It's a culture interested in artistic expression through computers, a post modern cyberpunk frenzy.

To help with the mental picture, think European. A good number of demo coders aren't American. One of the weird things in the PC demo scene are Parties. People get together in a dark room and play their demos for each other. It's a lot of loud music and special effects. You can find lists of upcoming parties on Hornet, you'll notice that most of them are in Europe. It's an interesting culture scape from Europe, but to my knowledge, there has never been a Mac demo party.

Don't worry about the perceived image of demo coders. Like any computer based population, the stereotypes are hardly ever really correct. You can be a neuroscience post graduate that listens to Bach and still enjoy demos.

Demo Bands

One man alone cannot win the war. It takes a team to make a demo. And giving the party/rave atmosphere

of the demo scene, it's not surprising that these programming groups are viewed like rock bands in their own rights. Can you see people waiting up at night waiting for the next production by Netware? Do they get people bouncing off newsgroups yelling 'I talked to their head programmer!!!'.... Ok a few people might, but they don't count, they're losers.

Typically there are about 4 jobs that need to be done in making a demo. You got to design it, envision the product, the way the effects will work together. You've got to have some one to program it. Of course programmers make lousy artists. And you'll also need somebody to do the music. You get a good team working and they can pump out master pieces that look like neo-trashed palettes for the imagination rocking on with electric licking cords, some cool stuff. Or you can get some crap.

Groups have names like BlackOut, Ozone, Majik 12, Nikad. Their members carry equally strange names, like: Chaos, Statix, and Trixter. It's a lot of show to keep the hyped out mystic atmosphere alive, after all, radIX sounds a lot cooler then Bob Smith.

Typical Demo Effects

Before you go out and sample the bouquet of demos available, you might want to take some wine tasting courses. An experienced palette feels the pleasure of a new flavor a tenfold more then that of the inexperienced drunk. Know your effects before you go out and see them.
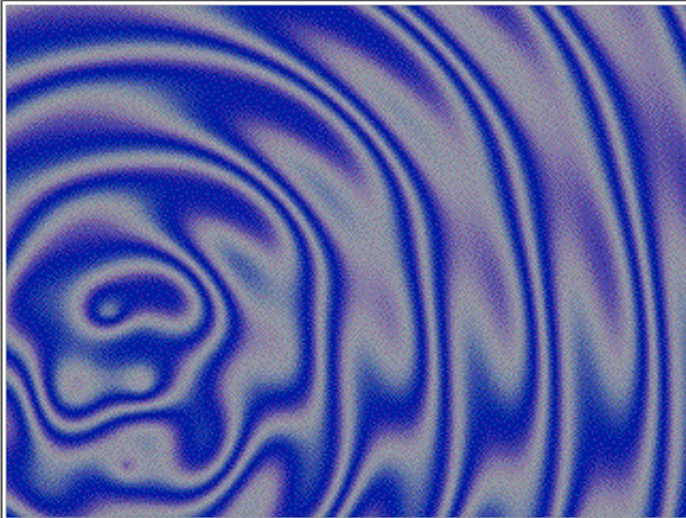
Demo coding is an art of mathematics. If you've taken some trigonometry, then you can appreciate this all a little bit more.

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Plasma - Plasma is a number matrix that obeys a set of rules that can seem to make it boil and flow like a lava lamp, or ripple like a pond. Each number on the 2-dimensional set represents a color. Any rainbow is possible, from the yellow and reds of a fiery sun, to the black and blues of a frigid oily mess.	
(Fire Lib - by kRat)	*Fire* - A type of plasma that moves upwards, and as it goes up converges and disappears, like the flames on a camp fire.
(Quasar by Nitrogen)	*Water* - Another type of plasma, but the rule system here makes it ripple outward from the point of origin.
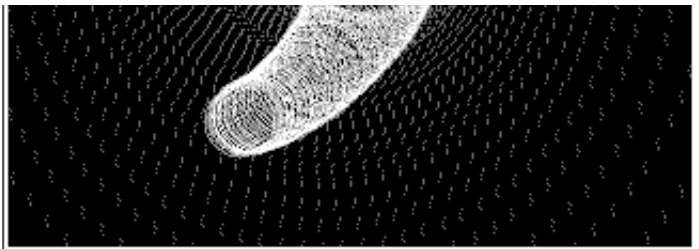
(Show by Majic 12)
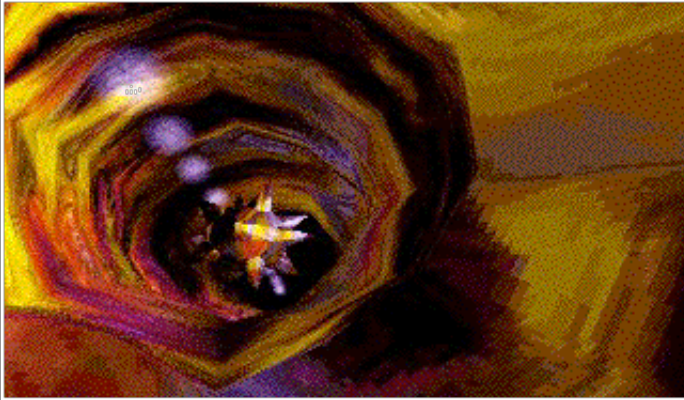
(Inside by CNCD)

Tunnels - Remember that dorky 'Fly Windoze' screen saver? That was a simpler version of a tunnel, called a star field. The basic idea of a tunnel is to make you feel like your screen is flying through something, from a star field to a drainage pipe.
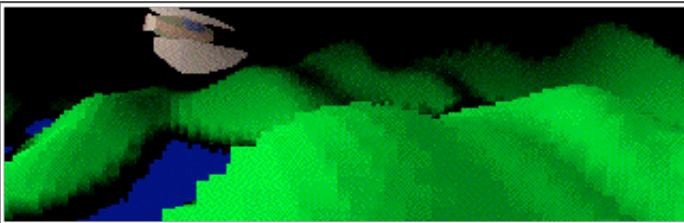
(Airframe by Prime)

Voxel Space - A special type of 3D that uses some simplification in the rendering to create a much more complex ground. It's great for drawing mountains, deserts, and water. Sometimes programmers also overlay some 'real 3D' onto it.

If you want more information on Mac Graphics programming you should visit The comp.sys.mac.programmer.games FAQ site http://www.geocities.com/SiliconValley/Park/3201/ And Anton Kirczenow 's page at http://zerius.com/~anton/HowToCodeAKewlMacDemo.html

What you can see on your local Mac

For the longest time some of the only real demos we had were Harassment and Erotomania by Zerius . There is a lot of old stuff that you can find in the Mac archives ftp://amug.org/pub/contrib/demos , but for the most part the early stuff is effects and intros.

Before the rabbits jump home, look, there is a change in the wind. In February, the Mac Demo HQ (http://www.multimedia.com/blopblop/main.html) was founded by Nicolas Bergeret. It's a great spot to get some of the newest Mac Demo news, and it also has a list of links and downloads. Any of the demos listed below can be found there.

For the programmer in you there is also a new mailing list dedicated to demo programming on the Mac. Some of the recent discussions include 'Changing resolution without Draw Sprocket', 'Relaying a message from S3 video card manufacturer', and 'Rotozoomers & Stuff'. To subscribe, send an email to MacDemos-subscribe@makelist.com

What's allready here....

This isn't just hype without substance, in the past few months we've seen the release of new Mac demos by

new Mac groups. Let's take a look at some of the demos for 1998.

Megademo IV 2
by
Artwork

This is the odd ball in the litter. Artwork is an Amiga demo group, and Megademo IV 2 was originally written for Amiga. But they used almost all ANSI C and released the source code to the general public. So several different individuals began the process of porting it. It's gone to Amiga68k, MS-DOS, WIN95/NT (directx), BeOS x86, BeOS PPC, Linux x86, and Amiga PPC (according to the readme). It was brought to the MacOS by Anton Kirczenow and Marcus Denny. Anton and Marcus worked independently, each made their own Mac port. Anton got the original sound to work, and Marcus has three different versions, including pixel doubled, interlaced, and interpolated.

Nikad
by
Galactic Dreams Software

It's eight minutes long, and uses 'thousands of colors'. It has phong shaded, dithered, Z-buffered 3D, all you have to know is thats some serious calculations to get done for 20,000 triangles. There have been some complaints about it's speed, compatibilty, and artistic value, but the fact that it was done by a 15 year old should really make some programmers jealous.
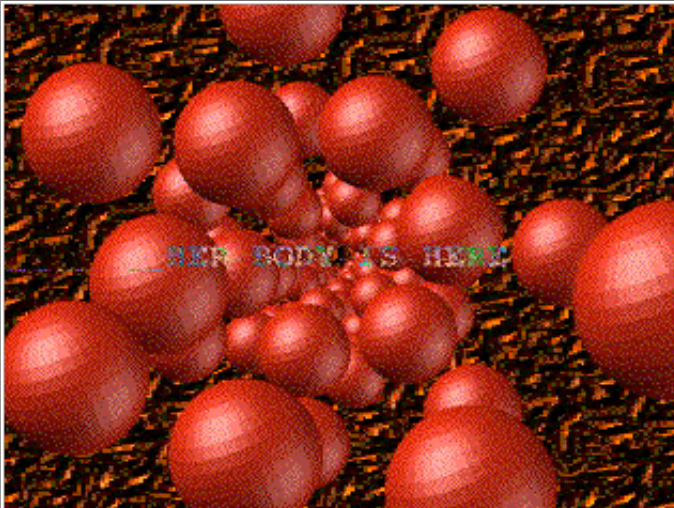
(Pyromania by kRat)

Pyromania
by
kRat

I'll admit right off the bat I have a definite bias towards this demo, it's my baby . It's a serial comic of poetry and fire effects. A few 3D effects and some water to make it all the more exciting. It's gotten a pretty strong responce on the Mac Demos list.
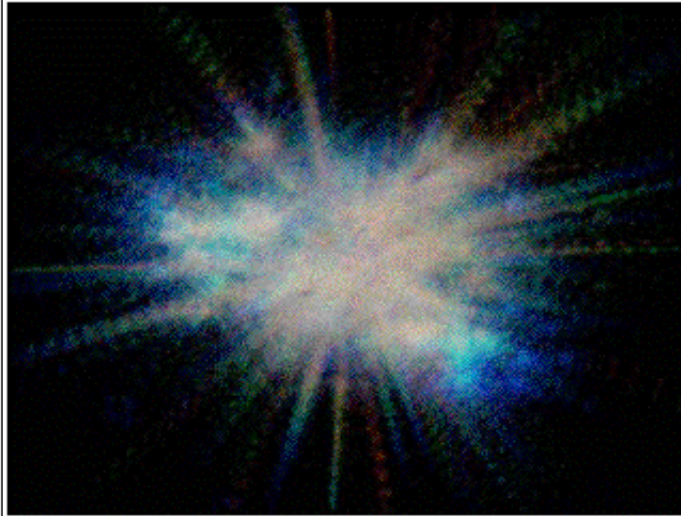
What to expect....

Code #13
by
Zerius

Anton Kirczenow, the head programmer on this project, is the same guy that ported a version of Megademo IV 2. It's been in the works for a while, and all that has been seen promises a very special demo.

(Code #13 by Zerius)

Fate
by
Frek Software

They're promising some never-before-seen-on-MacOS graphics. With a release date in a hopeful December 25th, 1998. But the grimreaper visited, and the computer holding the primary source crashed hard.

To all the little children out there, let this be a lesson, always back up your work. You never know when a hard drive crash will take out a great demo or the cure to cancer.
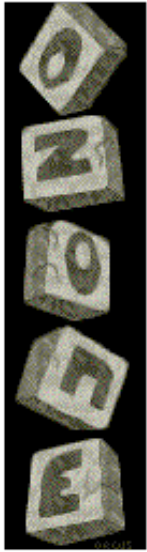
Quasar
by
Nitrogen
It's hard to say when it'll be out, but the screen shots they've handed out are definitely exciting.

(Quasar by Nitrogen)

(The Fish! by Ozone)

<something>
by
Ozone

I don't have a name yet and I haven't seen screen shots, but they seem to be excited about it. Their waiting for final graphics, and are promising another intro. They've already released a couple intros including 'Blue' and 'The Fish'.

A conclusion of sorts

It's that sence of newness, like waking up the day after a new crush. The world, for an instant, seems magical. The Pixies live in your computer. The candy cane lanes lines with gumdrops are a trail from your CPU to the screen. A tingle mellow chocolate laced glances dancing over silverware. Like the first time you see a first person view plunging into the depths of a network of steel tubes as the vision cross fades to a smiling face.

Demos cough up a mystic feel of gobbling up CPU time, amounts that people would have killed for in the 80s, only to throw an image on the screen. Some think demo coders should all give up on demo coding and start writing games, there's money in that. But demos have that certain magic that comes about because the programer can forget the user interface and concentrate on the art of sight and soundand the magic of the machine.