
PC Demoscene FAQ,
plain text version (v0.83),
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1. Meta Section

1.1. What is a FAQ anyway?

A structured list of (F)requently (A)sked (Q)uestions and their respective answers. They're comprehensive "everything you'd need to know about..." texts.

1.2. What's the purpose of this FAQ?

I started writing this FAQ because it appeared to me, that a lot of newbies ask the same questions over and over again and that there is no place on the web one can point them to, in order to get started. All existing scene FAQs were either obsolete or of very little content. So, I thought, it can't be a bad idea to write an all new FAQ, a more comprehensive and current one. A FAQ that is a knowledge base and starting point for newbies and fun to read for veterans.

1.3. Who's the author of this FAQ?

Me, Tomaes. However, I'd also like to thank the following sceners for additional ideas and new questions:

Mados/TAP^PAiN (who also maintains the php script for the online version), T\$, The update/copro^smash designs, MadMan/TAP, Zone/Marshals, Krash/ACME/tMA, Adok/Hugi.

1.4. Where can I contact the author in order to correct a mistake, ask a new question, add an important detail?

Feel free to send your mail to tomaes at 32x dot de.

1.5. Where can I get the latest version of this FAQ?

Take a look in the article section of my website: <http://tomaes.32x.de>. There's an online and a plain text version available.

1.6. What's the version history and status of this FAQ?

- 2004-06-16 - 0.83
Reacting on several important news (werkzeuge release, book projects...), I've updated the respective faq parts (and some others too...).
- 2004-06-01 - 0.82
Added [8.11.], several links added, some other additions too.
- 2004-03-30 - 0.81
Long time no updates. Farbrausch related questions block ([8.10.]) added, plus other minor changes not worth mentioning. :)
- 2004-01-14 - 0.80
[8.9.], [3.3.] and [5.12.] added. A lot of fixes, additions and minor changes. Also, I started to include some screenshots and pictures (online version only, of course). More/better pics to come.
- 2003-11-17 - 0.75
several additions, including new questions [8.3.] and [2.20.].
- 2003-08-03 - 0.74a: [2.19.], [2.18.] & [5.11.] added, merged [8.5.] with the content of 8.6., fixes and minor additions, new logo by Krash/ACME/tMA.

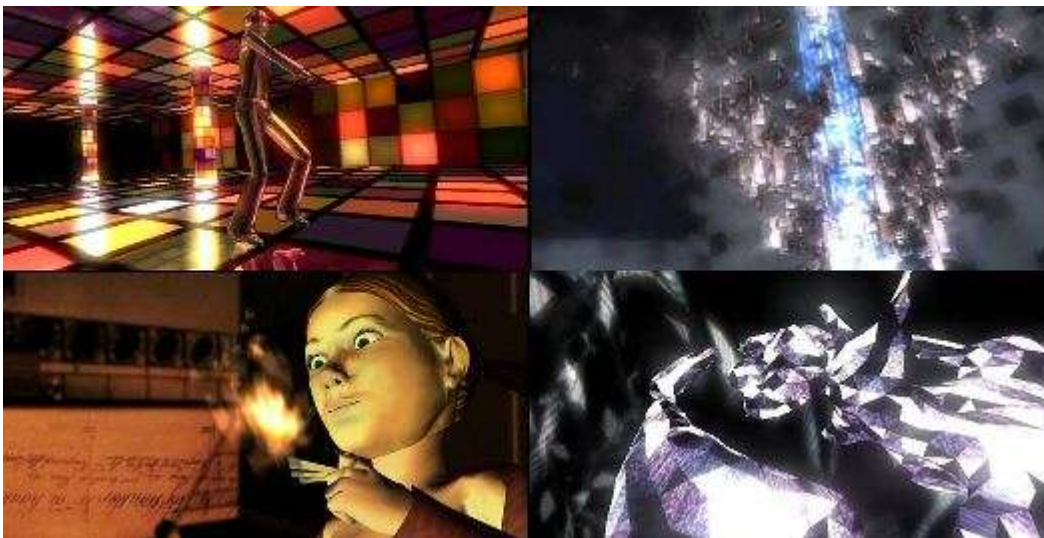
- 2003-07-13 - 0.7a
several fixes, added [5.8.], [5.9.], [2.17.], [8.7.].
 - 2003-07-09 - 0.06a
(first public release. hooray for releasing alpha/beta versions. :))
 - 2003-06-25 - 0.01a
(aka "let's just start typing and see how it turns out")
-
-

2. General Introduction

2.1. What is a demo?

Ultimately, a demo(nstration) in a demoscene sense, is a piece of free software that shows realtime rendered graphics, while playing music. Often, the music is tightly connected/synced to the visuals. Modern pc demos run linear from start to finish and are non-interactive. There is no whatsoever rule what a demo must/can show. The creator is free to decide whether he wants to show stylish and/or impressive effects, an epic story, funny/bizarre/satirical audiovisual artwork or a distorted mindfuck.

A scene demo is not a try-out version of a commercial application or game.



Exampel screenshots of a few demos (ripped from ths (see [7.7.]))
(from top/left to bottom/right: fr-025, a deepness in the sky, halla, variform):
http://tomaes.32x.de/text/dsfaq_democollage.jpg

2.2. What is the demoscene?

Short answer: A subculture in the computer underground culture universe, dealing with the creative and constructive side of technology, proving that a computer can be used for much more than writing a letter in MS-Word and hence emphasize on computer technology as just another medium that can transport ideas and styles, show off skills and express opinions etc.

Another theory says, that it's just a bunch of boozing computer nerds, programming weird, useless multimedia stuff. Errm. ;)

2.3. Where does the demoscene come from?

Short answer: It basically started with cracking games on home computers in the early 1980s (at least this is widely regarded to be the main root of the scene as we know it today). Crackers started to remove the copy protection of games for fun and competition with other crackers. Instead of just spreading the cracked games, they soon thought about 'labeling' their releases. Modified versions of title screens (saying "cracked by xyz") were soon followed by a more advanced version of showing the cracking/programming skill of a cracker: The crack-intro. Visual effects, music and long text scrollers filled with greetings and scene babbling. Later, cheat modes ("trainers") followed. Of course those kind of activities were (and still are) barely legal, so the crackers used pseudonyms instead of their real names. In case you have no idea how crack-intros looked like, visit <http://www.flashtro.com> for some accurate flash remakes of older amiga cracktros.

In the late 1980s the legal part of the cracking and warez scene slowly drifted away from the illegal part. Intros became more advanced, (mega-)demos (several advanced intros linked together) appeared. The demoscene was born... sort of. A few individuals are still active in both, demoscene and warez/cracking scene.

Long answer: See [7.3.].

2.4. What is the difference between a demo and an intro?

Today, an intro is usually limited to one executable 64kb (65536 bytes) file, while there is no such restriction for demos. Of course demoparty organisers DO set a filesize limit for them as well, currently between 10 and 20mb. Final versions or windows ports of older ms-dos intros might be bigger than 64kb.

The term 'intro' is historically determined by the early crack-intro(duction)s (see [2.3.] for a bit more about them...) and does not imply a `_specific_` filesize limit. Other common intro categories are 4kb (4096 bytes) and 256byte.

2.5. What is a dentro?

A dentro is a mixture of the characteristics of a '(DE)mo' and an 'i(NTRO)'. In other words, a big intro, often 256kb big. Just like intros, usually everything is packed in one executable file. Dentros are not very common these days anymore. Also, in the past, dentros were often previews of upcoming demo.

2.6. On what other hardware/software platforms does a demoscene exist?

Demosceners have programmed demos and intros on a large variety of hardware platforms and operating systems ranging from 8 bit machinery like c64, to game consoles like gameboy and dreamcast, to the latest pentium 4 class pc. Platforms with demoscene activities are/were:

- arcon archimedes
- amiga (various incl. ocs, ecs, aga, ppc...)
- amstrad cpc
- atari (various incl. xl/xe, st, falcon, lynx...)
- c64 (and other commodore machines incl. c128, c16, plus 4...)
- dreamcast
- gameboy (various incl. gbc, gba)
- gp32
- pc (ms-dos/windows/linux/beos...)
- playstation (1 and 2)
- macintosh
- mega drive (aka genesis)
- nes, snes (aka famicon / super famicon)
- vc20 (aka vic 20) (demos on video: <http://www.gudinna.com/~zyz/vic20>)

- zx spectrum (various...)
- xbox
- all kinds of mobile devices (cell phones, PDAs, ...)

...and a lot more incl. calculators (Texas Instruments models...) and all sorts of portable systems. Not to mention arcane things like typewriters.

The activity levels on all those platforms vary a lot. In most cases, the activity is pretty much proportional to the actual spread of the respective hardware. The time and area of the original release and the access to development software plays a certain role too. So you can imagine that there is not quite as much 'scene' on Msx than on Gameboy.

There are plenty of emulators for most technically obsolete and/or not-so-common systems available. Of course watching demos on the original hardware should be preferred.

However, most demoscene related releases are pc/windows ones, these days.

2.7. Are demos a form of art?

That's one of the most controversial questions in the scene these days. :) To put it bluntly: It's just like with books and films. Some are art, most are not.

2.8. What is the sense of demos and the motivation for being active in the demoscene?

Normal people have normal hobbies, strange people have strange hobbies. ;) While some people enjoy to climb up to the top of the highest mountains, others may enjoy collecting stamps. And some find it interesting to live out their creative potential: Painting, making music, writing etc. Demosceners blend those activities with their interest for & usage of computer technology.

Secondly, people always like to communicate with like-minded people, who share their interests. Competition is fun and motivating, just like working together on a project.

2.9. What exactly is the advantage of making demos run in realtime?

Challenge, competition, learning.

In addition, those demos and intros are a LOT smaller than a video recording of the content would be. How about a 64kb intro like fr-08 that runs for about 10 minutes? A divx snapshot that could cope with the realtime original quality wise would waste more than 100 times the space on your harddisk. Also, you can include hidden parts, provide additional options or randomize certain aspects of the demo, which is not possible with a cast-in-stone video.

2.10. Where can I download (the latest) scene demos?

Follow the news on <http://www.scene.org> and <http://www.pouet.net>.

2.11. Where can I download scene demos in divx/avi format?

For most pc demos, there's simply no video recording. However, some known takes of pc demos are:

- raw confessions/Coccon (requires Gforce 3 to run in realtime)
(http://cocoon.planet-d.net/raw/RawConfessions_Cocoon.avi)
- relais/Kolor (requires Gforce 3 to run in realtime, no ati support)
(can be found on [scene.org](http://www.scene.org))

Another opportunity is to purchase the mindcany DVD (see [7.2.])

Btw, Videos of Amiga demos can be found here:

- <http://www.amidemos.org> / <http://www.scene.org/dir.php?dir=/mirrors/amidemos>
-

2.12. Where can I find demo xyz?

In order to find a specific demo, you can try:

- <http://www.scene.org/search.php>
- <http://www.ojuice.org/search.htm?t=a>
- <http://www.pouet.net/prodlist.php> (or use the search box on the front page)

If you cannot remember the name of demo or the name of the group who has made it, you can try asking sceners on the web or usenet (see [7.6.]) for help.

2.13. Any suggestions what demoscene productions are worth downloading?

You might...

- read the reviews on <http://ths.demoscene.org>
 - follow the steady stream of information on <http://www.pouet.net> (or just click on "random" until you've found something interesting)
 - take a look at pouet.net's top-ten lists: <http://www.pouet.net/top10.php>
 - visit <http://www.scene.org/tips.php>
 - visit <http://www.monostep.org>
 - visit <http://www.calodox.org/demoo>
-

2.14. Where can I get the music from intro/demo xyz?

If you're lucky, you'll find it in the root or one of the sub directories ("/data" etc.) of the demo exe. In most cases, it's either an mp3/ogg file, or a module in xm/it format (see [5.2.]). If you cannot find it, you can:

- go to <http://www.dc5.org/demodulate>, a collection of demo soundtracks, probably you'll find it there.
 - try the archive of nectarine demoscene radio: <http://www.scenemusic.net>
 - ask the author of the tune (look into the readme file for mail addresses)
 - use a file ripper to try to find and extract the sound file
 - sneak into every file with a hex editor and look out for suspicious headers. Once you've found a file that, according to the hex data and the file size could be a mp3/ogg/xm/it file, just rename it and try playing it.
 - record the audio stream while the demo's running
 - in case you want to grab the music of the farbrausch intros, go and get their music collection "brullwurfel", it features several intro tracks including a oportunity to render them to wav files. Also, take a look at <ftp://ftp.scene.org/pub/music/groups/farb-rausch>.
-

2.15. Are there scene demos which I can view online?

You might try some alambik, shockwave or java demos. Some examples:

- <http://contest.alambik.com> (Alambik)
- <http://medcg.free.fr/woodsenders> (Alambik)
- http://www.i-arts.com/darkzone/dz_awkv1.htm (Shockwave)
- <http://www.komplex.org/java.html> (Java)

As for hardware dependent demos, don't forget the video streaming services, such as <http://demoscene.tv> or <http://ytv.yodel.net>

2.16. Where can I find demos that bring my latest hardware to full effect?

Since most demo coders are usually still busy with their education (read: students) they cannot afford the latest buzz from the hardware market. Since the commercial death of the home computer era, the demoscene has always been a certain bit behind the latest technology; f.e., the usage of 3d accelerators became common years after their establishment among gamers. Secondly, it's not easy at all, to try to keep up with the ongoing hardware development. And apparently, it does make more sense to focus on what can be done on "status quo" equipment.

In order to really get some eye-candy from your brand-new graphics card, you may look at some 'tech demos'. Usually, the graphics chip developers have some nice new-feature-show-off demos on their websites.

However, to test your cpu power, you can download some raytracing demos like the Federation against Nature ones: <http://www.realstorm.de/Download.html>.

2.17. What's the difference between hardware accelerated and software rendering demos?

Demos that only rely on software rendering do not make any use of special capabilities of the installed graphics card. Everything shown is computed by the cpu in contrast to 3d accelerated demos, where most of the actual computations are done by the graphics card. That's why it (almost) doesn't matter what kind of graphics card is installed when you run software rendered demos: It won't run faster after you've installed a newer graphics card. As a side effect, the compatibility and driver issues are minor.

To compensate for the high cpu load, software rendering demos usually run in a lower resolution and/or colour depth than their 3d graphics hardware accelerated counterparts. Note that most demos released before the year 2000 are software rendering ones.

Raytracing demos or demos that show simple 2d effects don't benefit much from additional graphics hardware power due to their technical nature (pun alert;)).

2.18. Are there commercial demos?

Yes, although this really doesn't happen very often, from time to time, sceners make money out of their hobby. Known 'incidents' are the Future Crew demo for Creative Labs (and further works for SSI and The Waite Group Press) and the Afri Cola Demo by members of Farbrausch.

2.19. What is the legal status of demoscene productions?

Generally spoken, demoscene productions are freeware. You can copy and distribute them, as long as it keeps free of charge (and warranty).

On the other hand, demoscene productions often contain copyrighted material

in one way or the other. Most notably, it's the (rather rare) case of ripped soundtracks and (more often) graphics. Several classic demos could not be presented on the Mindcandy DVD (see [7.2.]) or needed to be edited for this very reason.

2.20. What free tools for demo-making are available?

Please note, that most groups/individuals have their own tools, exclusively developed for in-house use. Only a small portion of the tools out there are actually publicly available. Some demo assembling tools are:

- Werkkzeug1 by farb-rausch
(<http://www.theprodukt.com>)
- Demopaja by Moppi Productions
(<http://moppi.inside.org/demopaja>)
- Smode by Virtual Emotion
(<http://smode.smousse.net>)

..or just have a look at:

<http://www.scene.org/dir.php?dir=%2Fresources%2Fdemomaker/>

3. Troubleshooting

3.1. Demo xyz won't run, what can I do?

- have a look at the readme/info files(s) that come along with the demo
 - does your hard- and software meet the requirements?
 - party versions are usually buggy, see if a fixed/final version has been released already
-

3.2. How can I get old ms-dos demos to run?

Crest wrote an informative article about this issue:

- <http://crest.untergrund.net/config.html>.

In case you have a powerful cpu, you can try a MSDOS-Emulator, such as dosbox:

- <http://dosbox.sourceforge.net>

A dosbox demo compatibility list can be found here:

- http://pain.scene.org/service_dosbox.php
-

3.3. Some old ms-dos demos refuse to run, I only get an "run time error 200". What's that?

It's a crt unit init error, likely to happen with demos coded using old borland (turbo) pascal versions. There are several ways to fix it. Here are a few of the many web pages that explain the issue and offer help:

- <http://www.brain.uni-freiburg.de/~klaus/pascal/runerr200/>
 - <http://www.merlyn.demon.co.uk/pas-r200.htm>
-

4. Events

4.1. What are demoscene parties?

In short: Demoscene meetings/festivals, where sceners meet. Usually, there is a big screen, compos you can participate in and lots of weird people from all over the world you can meet and talk to, exchange ideas and booze with. ;) Oh, and there's a network too (but not for gameing).



This pic (which is a section of a panorama picture, taken by chandra/orange juice) shows one half of the Mekka&Symposium 2002 party hall:
http://tomaes.32x.de/text/dsfaq_partypic.jpg

4.2. What are 'compos'?

Competitions at demoparties. The most common competitions, that take place on almost any demoscene party are:

- demo
 - 64kb intro (see [2.4.])
 - 4kb intro
 - wild demo (see [5.1.])
 - graphics (at least seperated compos for rendered and pixeled ones)
 - music (seperated compos for 'tracked' and mp3/ogg music)
 - all kinds of fast/surprise compos
-

4.3. What are the most important demoscene parties?

Currently, the big ones are:

- Breakpoint, Germany (100% scene, <http://breakpoint.undergrund.net>)
 - Assembly, Finland (gamers and sceners, <http://assembly.org>)
-

4.4. Where and when is the next demoscene party?

The following site provides all needed info:

- <http://www.ojuice.org/next/parties.htm>
-

4.5. Why is it, that compo results tend to get screwed up?

Often, you might wonder why a certain compo result seems to be fucked up. Bad stuff ranked high, while a much better production is nowhere near the place it deserved. This might be due to the following:

- People might not have been sober during voting

- People often DO have a strange taste
 - Some stuff looks much better/worse on the big screen/compo machine than on your home machinery (different colour/gamma intensity/more powerful hardware in the compo machine etc.).
 - People tend to vote for their own productions or for the production of their group or their friends. (aka self-voting, group-voting, buddy-voting). You can imagine that a group with 20 members can 'distort' the results of a 200 people party quite a bit.
 - People cheat (exploiting voting systems)
 - Never underestimate the fun-factor of a party. Technically and artistically bad productions might get a lot of votes if they're funny or just catch the mood of the audience.
 - The demo crashed the compo machine and most of the good stuff was yet about to follow. Does not happen very often though.
-

5. Terms

5.1. What is a 'wild' demo?

A wild demo can be pretty much everything. Some possibilities:

- It's any kind of film, usually available as divx/avi file (music videos, shorts, comedies, trash, prerendered animations...)
- It's a demo that requires very rare/strange hardware to run (c64 with scpu etc.)
- It's a demo that simply does not fit in any competition (and the applying rules) of a given demoparty. (30mb demo, although 15mb is the limit)
- Sometimes, live performances count as 'wild' demos too. ;)

However, in most cases, it IS a short film.

5.2. What are trackers?

Either people who use tracking software, or the software itself. Simply put, a tracker is a music composing software that combines sequencing and sampling. Patterns are used to arrange notes and effects, while the sources of the actual sounds/instruments are stored in samples. The so-called modules, files with extensions like it/xm/mod/s3m, which contain the notes, effects, patterns and also (unlike midi files) the sample data/instrument definitions can be used as soundtrack for demos, games, diskmags or 64kb intros (if they're small enough).

The main advantages of modules are hardware independency, small filesize (you can stuff 10 minutes of music in a 50kb file, if you're using sin-waves and other simple samples as your instrument sources) and their natural open source-ness (you can open a file with one of the many mod editors, press play and see how it's all arranged).

To play these modules, you can use

- xmplay (<http://www.un4seen.com/xmplay.html>)
- modplug player (<http://www.modplug.com>)

Much more about them here: <http://www.united-trackers.org/resources/handbook>

5.3. What are diskmags?

Diskmags could be described as electronic magazines or fanzines, made by sceners for sceners. They usually contain tutorials, interviews, news and party reports. Unlike newsletters, or articles on the web, the content is integrated in an unique interface with (hopefully pleasing) graphics and background music. Diskmags are a solid platform for scene related communication and information.

While diskmags have lost quite a bit of their importance on pc (information and communication is web-based nowadays), they are still a vital part of the c64/amiga/atari scenes.

related Links:

<http://pain.scene.org>

<http://www.hugi.scene.org>

5.4. What is a 'music disk'?

It's a collection of songs (ep, album or compilation) that comes with an unique interface/player. So called 'chip disks' contain chip tunes (see [5.5.]) only.

5.5. What are 'chip tunes'?

Tunes of the pre-sample era of electronic music, music which sounds are generated by computers, respectively their sound chips, or songs that imitate or resemble that characteristic sound.

Some chiptune resources are:

- <http://www.chiptune.de>

- <http://www.chiptune.com>

5.6. What do all those abbreviations (gfx...) mean?

Ok, here's a short list of abbreviations that you might run across:

- gfx (graphics...)
 - msx (music... unless they really refer to the msx hardware)
 - zik (muzik.. er, music or musician)
 - oj (orange juice, demoscene news website ...see [7.7.]
 - asm (Assembly... either the demoscene party in finland, or the programming language)
 - xm/mod/s3m/it (common trackers and/or their file formats... see [5.2.]
 - compo (Competition... see [4.2.]
 - csipd (Usenet newsgroup comp.sys.ibm.pc.demos)
 - GUS (Gravis Ultrasound, most sceners favourite sound card in the ms-dos era, can be emulated via gusemu: <http://listen.to/gusemu>)
-

5.7. What is ASCII/ANSI art?

ASCII art is text art, graphics that consist of ASCII characters. Most require a non-proportional font (f.e. "fixedsys") for correct viewing. The logo in front of this FAQ is supposed to be ascii art too. :)

ANSI includes additional formatting/displaying information, the most obvious difference is that ansi supports colours and the possibility to create animations.

In the days of bulletin board systems (read: pre-internet era), when bandwidth and processing power was limited, ascii/ansi art was an efficient and easy way to display graphical content. In the late 90s, ASCII art made a comeback as email signature and SMS.

ASCII art is often used to enrich info/readme files that come along with demoscene productions.

Further information and examples:

- <http://www.ascii-art.de>
- <http://www.thuglife.org>
- http://www.wikipedia.org/wiki/ASCII_art
- <http://www.outworldarts.com/ansi.php>
- <http://www.acid.org>
- <http://www.ice.org>
- <http://asciipr0n.com> (for adults only ;))

5.8. What is a cracktro?

See [2.3.].

5.9. What is a slideshow?

A slideshow is a graphics collection/presentation with an unique interface, often with background music. It's the graphical counterpart of a music disk (see [5.4.]).

5.10. What is an inv(i)tro?

Invtro (or invitro) is the abbreviation of 'ivitation intro'. The main purpose is to inform sceners about an upcoming demoscene party, when and where it will take place, what compos can be expected, entrance fee etc. Unlike normal intros (see [2.4.]), an invitation intro is usually not limited to a certain filesize.

5.11. What is a fast-intro?

On demoparties, one of funniest competitions are "fast" ones. In case of fast-intro competitions, the goal is to make a demo (see [2.1.]) within a given time limit. To increase the level of difficulty, the content has to meet a given theme or needs to have certain elements in it that are often related to events (or incidents ;)) on the party.

Just like invtros (see [5.10.]), fast-intros are rarely limited to a certain filesize, "fast-demo" would be probably a more appropriate term. :)

5.12. What is a textmode demo?

It's a demo which makes use of the classic MSDOS text mode for displaying its content. So, instead of pixels, you see ASCII characters on a 80x25 or 80x50 screen. There's a online competition exclusively dedicated to this kind of demos: <http://taat.fi/tmdc/>

6. Do it yourself(tm)

6.1. Can I make a demo/intro myself? What is required?

You'll need at least some solid knowledge of one programming language and a compiler/IDE (see [6.7.]). Plus, a lot of motivation. Imagination will help too. Note that In most cases, there are several persons working on a demo: At least one coder (programmer), taking care of all technical aspects, a graphic artist or designer and a musician composing the soundtrack. So, you might need someone to help you with one part or an other.

6.2. Can I make a demo in Flash/Shockwave etc.?

Yes and no. A lot of people in the scene have the opinion that such efforts are no 'real' demos at all, even if you make use of the scripting capabilities, while others think it's 'ok'. The main problem with flash is, that pixel-based manipulation is simply ultra-slow due to it's web/vector focus, making it hardly possible to create something that could catch up with an average java demo.

6.3. Can I make a demo without any programming skills?

Depends. You can try joining a group that has already a bunch of coders and demo-tools but lack designers/musicians or you can try some web/video/animation authoring/free demo development tools (demopaja, werkzeug1...) software.

6.4. How do I get started? What do I need to know in order to bring my own demo to life?

Ok, let's see:

- learn to code(tm)
No matter what language(s), just pick up the main principles for a start. In other words: Plain and sucky theory ahead. Buy a book, since online tutorials really can't cope with a good book. Write your first code, get angry, because the crap doesn't work as expected, try harder etc. :)
 - learn to code(tm) realtime graphics
Get to know 2D graphics programming first (yes, really). Write a plasma effect, and jump for joy if it finally works.
Get to know Direct3D, get to know Open GL. Chose your religion.
Buy a book again. Get angry again, because the crap does not work. That sounds familiar? ;)
-

6.5. What is the difference between Open GL and DirectX?

The main differences in brief:

- DirectX
 - An api package, that also includes sound, input etc, not just 3d graphics
 - Windows only (XBox too)
- Open GL
 - Cross platform
 - Most say it's a tad easier to learn
 - Only for 3d accelerated graphics

A lot boils down to "taste and preferences", so it might be a good idea to test both of them anyway.

In detail:

- <http://www.gamedev.net/reference/articles/article1775.asp>
- <http://www.xmission.com/~legalize/d3d-vs-opengl.html>

6.6. Any tutorials to help Open GL/DirectX beginners?

Often, people like to point demo beginners to:

- <http://nehe.gamedev.net> (Open GL tutorial)
- <http://msdn.microsoft.com> (DirectX documentation)

Furthermore, diskmags (see [5.3.]) often feature coding related articles. In the hugi issues 16, 17 and 19 you can find many tutorials for beginners, get them here: <http://www.hugi.scene.org>

6.7. What programming languages do demo coders use?

Usually it's C or C++, a few use Pascal or Delphi (aka OOP-Pascal), very few use Java or C#. ASM when it's needed too (f.e., for low filesize or speed optimisations).

6.8. How can I make a 4k intro?

You should stick to C/C++ and/or assembly language. In order to get more content in your 4k, you should consider coding everything in assembly language. All the things said about 64kb intros (see [6.9.]) apply for 4ks as well. Minus, that it is no crime anymore to use the General midi software wavetable via DirectX. ;)

A helpful tutorial, that also talks about 4k specific exe header compression:

- <http://www.ukscene.org/modules.php?name=Sections&op=viewarticle&artid=8>

Useful tools for filesize compression:

- <http://apack.cjb.net>
 - <http://20to4.net> (not yet...)
-

6.9. How can I make a 64kb intro?

For a start: Choose C/C++/Asm as your programming language(s). Although I have seen 64kb intros that are not written in those languages, you'll have a much easier and more confident way of writing compact code this way. Secondly, you'll need something for sound. You can use minifmod or mxmplay to play (and sync) modules in mod/xm format.

6.10. How is it possible to stuff a lot of content (textures, hi-quality sound etc.) into a 64kb intro?

The main trick is to avoid static data. No bmp/gif/png texture bitmaps, no mp3/ogg/wav streams. Instead, only 'meta-data' is saved in the final file, while the content will be created realtime or in a 'loading' sequence before the intro actually starts.

Instead of saving the actual pixel data of a texture, you just save 'the construction plan', the actions you've done in your texture generator in order to make the texture look like it does. The same principle applies for sound. Save just the note and other key data and reproduce the actual audio in realtime. Of course this requires you to write your own texture generator (or maybe not, there are quite some generators out there) and your own realtime software synthesizer. This way you'll save a LOT of data.

To save even more, you can:

- Config your compiler properly in order to avoid any ballast in your exe
- Use an executable packer like UPX
- Throw out compatibility code (erm...)

Related links:

- <http://www.hailstorm.net/papers/smallwin32.htm>

6.11. Where can I get source codes of demos or single effects?

Full demo source codes are rare items and often they're either obsolete, just consist of very few interesting things, are a pain to read, undocumented, won't compile etc. In other words, don't expect too much. :)

However, some examples for intro and demo sources are:

- <http://www.farb-rausch.de/fr010src.zip>
(intro 'art' by farbrausch and scoopex)
- <http://popsyteam.planet-d.net/u2/Vip2.htm>
(vip2 by popsy team, linux port: <http://www.sesse.net/vip2-linux>)
- http://fs.20to4.net/releases/freestyle_stoerfall_ost-src.zip
(stoerfall ost, 4k intro by freestyle)

...or just try the scene.org source repository:
- <http://www.scene.org/dir.php?dir=%2Fresources/>

6.12. How can I get music in my intro/demo?

Most people use either bass (<http://www.un4seen.com>) or fmod (<http://www.fmod.org>), both provide a rich set of features, including playback of mp3/ogg vorbis files and various tracker (see [5.2.]) formats.

For intros you can either code a realtime software synthesizer or take the easy way out and use mini-fmod (<http://www.fmod.org/fmoddownload.html#secc>). Midi is not recommended due to its hardware dependency. On Windows, you can make use of the DirectX software wavetable synth.

7. Resources

7.1. What other demoscene introductions/articles do exist?

You might take a look at these...

- <http://www.hugi.scene.org/main.php?page=intro>
- <http://www.oldskool.org/demos/explained>
and <http://www.oldskool.org/demos/pc/pcdemos.faq.shtml> (last update: 1998!)
- <http://www.ojuice.net/faq.htm>

7.2. What scene CD-ROMs/DVDs do exist?

Check this site: <http://www.fusecon.com/products/scenecds>. Concerning DVDs, check out mind candy: <http://www.mindcandydvd.com>.

7.3. Any books about the demoscene?

Although there are books that were written by demosceners ('pc underground' springs to mind) or books that slightly touch that topic, but there is no book ABOUT the demoscene.

This might be due to the fact, that the demoscene, in contrast to the 'hacker' and warez scene is unknown to a wider public audience and totally legal (and hence not 'thrilling' enough), decreasing a publishers' interest to 'close to zero'.

However, there are at least two book projects:

- "Demoscene: the art of real-time"
<http://www.evenlakestudios.com/books/>
 - "Freax"
<http://www.freax.hu>.
-

7.4. Any newsletters I can subscribe to?

You can subscribe to Static line, which is a more or less regulary published newsletter/text magazine: <http://staticline.scenespot.org>

7.5. What IRC channels do exist?

Some public channels are (IRCnet):

- #pouet.net
 - #demoscene
 - #thescene
 - #coders (coding related)
 - #pixel (graphics related)
 - #trax (music related)
-

7.6. What pc demoscene discussion boards and newsgroups are there?

Here we go...

Web:

- <http://www.scene.org/forums>
(note that the provided usenet feed does often not work)
- <http://www.pouet.net/bbs.php>
(not very scene related most of the time)
- <http://www.scenespot.org/modules/newbb>
- <http://www.ukscene.org/modules.php?name=Forums>

Usenet newsgroup:

- comp.sys.ibm.pc.demos

Many more at:

- <http://www.ojuice.org/forums/links.htm>
-

7.7. What are the most important pc demoscene websites/portals?

Here's a short list of the (imho) most important international ones:

- <http://www.ojuice.org>
(news, party list, scener database...)
- <http://www.pouet.net>
(demoscene productions database and flam..erm, discussions :))
- <http://www.scene.org>
(News, files, polls, discussion boards...)
- <http://www.scenemusic.net>
(demoscene radio...)
- <http://www.lmp.d2g.com>

(UK based demoscene radio)

- <http://www.scenespot.org>
(news and 'static line' (see [7.4.]))
- <http://www.ukscene.org>
(news, tutorials, forum)
- <http://ths.demoscene.org>
(demo reviews...)
- <http://monostep.org>
(demo suggestions...)
- <http://calodox.org/demoo>
(demo suggestions...)
- <http://www.scenet.de>
(news, articles, links...)
- <http://www.scenerep.org>
(online magazine)
- <http://www.demoscene.tv>
(demo video streamed)

...of course there's a LOT more. National scene portals, music sites dedicated to mods etc, etc. For more check: <http://www.ojuice.org/www/centers/links.htm>.

8. Misc

8.1. How many sceners are there?

It depends on what you count as 'demoscener'. Everybody who has watched at least one demo? Everbody who has been on a demoparty? Everybody who's participated in a demo production?

Pouet.net holds no less than 5500 accounts (we can savely assume that at least ~1/5 of them are fake/one-post-only/forgot-my-password-dammit ones). The orange juice scener database holds more than 10000 accounts. Those dimensions seem rather realistic to me. Most sceners are active on pc, followed by amiga and c64. Most sceners are NOT coders, but hobby music producers and designers or graphic artists.

8.2. Where do most sceners come from?

The majority of demosceners come from europe. There's only little (North America, Israel, Japan, Australia...) or no (known) activity in other parts of the world.

8.3. What's the average age of a scener?

The majority of sceners is 20 or older.

Find a related poll about this matter here:

<http://www.scene.org/news.php?answer=0&voted=1> (note that a lot of scene.org visitors are not sceners, but 'just' downloaders...).

8.4. What is the 'scene is dead' thing all about?

Although, this 'opinion' is nothing new (documented by tons of 'scene is dead' articles in diskmag see [5.3.]), recently, it became a running gag on the orange juice oneliner. Reasons to type these magical words might be:

- "I'm an old fart, I was active and mega-1337 2 decades ago. All you kids suck, your scene is not what I used to know as scene. Plus, I'm an old fart."
- "Hehe, look, just 3 words and they're all going mad!"
- "Hey, it's fun, isn't it?! ;)"
- "3D accelerators killed it. YOU HEAR ME??!!11"
- "[insert your favourite oldschool hardware] forever! Everything else sucks"
- "Future Crew is dead? Really? Oh, that sucks"

More seriously, many 'oldschoolers' might be concerned about...

- things getting just too easy with webtools, opengl/directx, it's not a hardcore-geek-only thing anymore
 - the scene is not THAT underground anymore (due to public websites, increasing media coverage... and FAQs)
 - many old scene parties turned into commercial lan-parties
-

8.5. What is 'scene poetry'?

There are different ways to design a demo or an intro. One of the (by now cliché) ways is to include wise/personal/political/whatever words on top of the scenes and effects. While some of them succeeded in transporting an emotion or a certain thought this way, many failed. That's why many demosceners have mixed feelings about them, to say the least. ;) Hence, it is not surprising that the 'Scene poetry' concept has been skitted several times. Some examples of 'scene poetry' can be seen in:

- almost any replay intro
 - heaven 7 / exceed (can be disabled in the final version)
 - backslide 7 / hellcore and omnicolor
-

8.6. What's the 'dutch colour scheme' and what are 'coder colours'?

The excessive use of orange/yellow/red in a demo or intro is called 'dutch colour scheme'. The phrase was used by Macaw on the usenet newsgroup comp.sys.ibm.pc.demos to make fun of dutch coders and their colour preferences. Since then, more people started using that phrase and it slowly but surely became a common scene term. ;)

And whenever a certain colour scheme is inconsistent, looks random or plain ugly, it was the coders' fault... probably. Next time he should consult a graphic artist or designer. ;)

8.7. How can I find hidden parts in scene productions?

A list of hidden parts in diskmag was published in hugi #24:
<http://www.hugi.scene.org/main.php?page=hugi24>

The "Quasi-Official List of Demo Hidden Parts, Keys, and Tricks" can be found here: <http://www.inf.bme.hu/~mandula/hidden.shtml>. Updates can be found in newer issues of the diskmag (see [5.3.]) PAiN.

8.8. On demoparties I heard people yelling 'foliba' or 'ficken', what does that mean?

Firstly, foliba is an abbreviation of (F)ake-(O)ber(li)ppen(ba)rt, which is German and means "fake-moustache". Visit <http://www.foliba.org> to see what it's all about. Oh, and as for "ficken": Go to an online dictionary, that translates German into English and educate yourself. ;)

Btw, there is a whole pouet.net forum thread dedicated to this topic:
<http://www.pouet.net/topic.php?which=918>

8.9. What was elitegroup all about?

Recently, it appeared to me, that many people either forgot or never really knew what the actual point of elitegroup was.

So, to break it down in a very simplified form:

At the end of the 1990s, a bunch of german sceners thought that the scene is dominated by mediocrity and suffers from a general lack of innovation, will for improvement and 'state of the art'. It was time for a wake-up call. A new (fake-)group was founded to kick the slumbering scene in the nuts. To achieve this, they reintroduced the concept of an arrogant badass super 1337 group and applied a touch of wild sarcasm to it: Elitegroup.

They started using hilariously arrogant handles ('herr weltherrschaft' = mr. world domination, 'gott' = god etc) and slogans ('we are very good') and tried to piss people off as good as possible. Soon, they announced their plan to gain 'world domination' at the end of 1999: To win the pc demo and playstation demo competitions at 'the party' in Aars/Denmark, next to Assembly and Mekka&Symposium the biggest demoscene event back then. On their road to 'world domination' they released an array of teaser demos, known as the R-Series. Although their pc demo 'kasparov' indeed won the competition (while generating heated discussions for years to come), their effort to win the playstation compo failed. The experiment 'elitegroup' ended in early 2000. The R-Series as well as 'Kasparov' inspired a lot of parodies.

Several former members, including kb/smash designs and chaos/sanity are now active in farbrausch, probably the most successful demoscene group today.

8.10. Farbrausch related questions

According to my log file, a lot of people look for info about farbrausch, the most popular demoscene group at the moment. Because I don't want to bloat this general pc demoscene faq with fr related questions, I decided to throw the most common farbrausch questions and answers in one block. :)

Q: FR-07?

A: It's farbrausch member rp's (aka Ronny Pries) son. Don't bother looking for download links. ;)

Q: FR-02, 03, 04?

A: Basically different working steps of the same demo. 02 'won' the ambience 2000 demo compo (by cheating). A working version is inofficially available, look in the corresponding pouet.net thread. 03 was not meant to be seen by a wider public audience either, but leaked by accident.

Q: What is it with the numbers of the demos and intros?

A: Projects get their number when they're started, not when they're finished. For example, fr-029 was released before the long-term project fr-025, which was started earlier.

Q: What are 'minus' releases?

A: Farbrausch 'minus' productions are their unserious releases. Just-for-fun productions, holdovers, demoparty hacks etc.

Q: farbrausch or farb-rausch?

A: Originally, farbrausch. When they noticed that the domain farbrausch.de was not available anymore, registering farb-rausch.de seemed to be the next best choice.

Q: What does farbrausch mean anyway?

A: The first part, 'farb' comes from 'farbe', the german word for colour. The word 'rausch' can be translated in various ways: Intoxication, flush, inebriation. Chaos/farbrausch writes on his web site (www.xyzw.de):

'[...] combining the two words inside farbrausch: farb and rausch. But that rausch is misinterpreted. Farbrausch has the meaning colorful trip, with rausch having the meaning of something that happens to you when abusing drugs and alcohol.'

Q: Are those the same guys that did kkrieger, the 96k first person shooter?

A: Yes.

Q: Where can I get some info about the various fr tools (werk(k)zeug etc.)?

A: Get your hands on chaos' assembly 2003 speech. You can download the video from scene.org ('a history of farbrausch tools') or buy the Assembly 2003 dvd. Also, you can visit www.theproduct.de for some additional information.

2004-06-16, update: Actually, they just released werkkzeug1 to the public, including the fr-025 data file: <http://www.theprodukt.com/>

8.11. What is 'windows 100%'?

'Windows 100%' is a japanese print magazine (imagine a wild mix of 'wired' and 'playboy' ;)) that started to feature scene demos several years ago. If your demo is featured in windows 100%, they'll send you the respective issue for free.
